

**APPENDIX A**  
**STAKEHOLDER DISTRIBUTION LIST**

**Swinging Bridge Hydroelectric Project (FERC No. 10482)**  
**Mongaup Falls Hydroelectric Project (FERC No. 10481)**  
**Rio Hydroelectric Project (FERC No. 9690)**  
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\* Contact receives a hard copy of the distribution via mail and an electronic copy of the distribution via email.

**APPENDIX B**  
**COMMENTS ON PSP**

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426  
December 6, 2017

OFFICE OF ENERGY PROJECTS

Project No. 9690-112–New York  
Rio Hydroelectric Project  
Eagle Creek Hydro, LLC

Project No. 10481-067–New York  
Mongaup Falls Hydroelectric Project  
Eagle Creek Hydro, LLC

Project No. 10482-117–New York  
Swinging Bridge Hydroelectric Project  
Eagle Creek Hydro, LLC

Mr. Robert Gates  
EVP Operations  
Eagle Creek Renewable Energy, LLC  
116 North State Street  
PO Box 167  
Neshkoro, WI 54960-0167

**Reference: Proposed Study Plan Comments**

Dear Mr. Gates:

On March 30, 2017, Eagle Creek Hydro filed a Pre-Application Document (PAD) in support of its intent to relicense the Rio Hydroelectric No. 9690-112, Mongaup Falls Hydroelectric No. 10481-067, and Swinging Bridge Hydroelectric Project No 10482-117, collectively the Mongaup River Projects. On September 12, 2017, Eagle Creek Hydro filed its proposed study plan (PSP) for studies on aquatic, fishery, terrestrial, recreation, and cultural resources. Eagle Creek Hydro held study plan meetings on October 4 and November 9, 2017, to discuss the PSP. Pursuant to 18 C.F.R. § 5.12 of the Commission's regulations, this letter contains comments on Eagle Creek Hydro's PSP for the Mongaup River Projects.

### Black Brook Dam

Under the existing license, Black Brook dam and its associated impoundment are included in the Mongaup Falls Hydroelectric Project. However, in 1984, the penstock that conveyed water from Black Brook Dam to the Mongaup Falls powerhouse failed and was subsequently removed. As a result, the Black Brook dam and impoundment do not currently serve a project purpose.

Section 4.41(h)(2) of the Commission's regulations specify that the boundary must enclose only those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources. Because Black Brook dam and the associated impoundment no longer serve a project purpose and Eagle Creek does not propose to restore function to this facility, Commission staff will evaluate the decommissioning of Black Brook dam in its environmental review of the final license application for the Mongaup Falls Project. In its comments filed July 31, 2017, the U.S. Fish and Wildlife Service requests, and we concur, that a dam removal alternative be considered in our decommission analysis of Black Brook dam.<sup>1</sup>

However, the information on the Black Brook dam and its associated impoundment provided in the PAD is largely inadequate and your PSP does not include methods to augment this information. As a result, we are concerned that we will not have the information needed to support a decommission analysis of the Black Brook dam and impoundment. Specifically, our analysis would need resource specific information that describes the current baseline condition and ongoing environmental effects of the Black Brook dam (e.g., water quality, fish passage).

To evaluate the benefits and drawbacks of dam removal we would need information regarding the existing environment and to the extent possible, the "pre-project" condition of Black Brook. For example, the PAD provides no information on the impoundment, associated wetlands, available aquatic and terrestrial habitat, or species that may reside there. This information is needed to allow us to evaluate the effects of a dam removal alternative on the existing habitat and resident species. In addition, having information on the pre-project stream channel (e.g., width, slope, elevation) within the vicinity of the impoundment, the natural hydraulic control for which the Black Brook dam currently sits upon, as well as a detailed description of how the dam has altered the

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<sup>1</sup> In its study requests filed July 28, 2017, the New York Department of Environmental Conservation requested that "[a] thorough analysis of the potential to improve aquatic connectivity by removing this dam should be included in the studies and considered...".

hydraulic control, would support a comparative analysis of the benefits and drawbacks of decommissioning the Black Brook dam in place and under a dam removal alternative.

As a result, we request that you consider including, in your revised study plan, methods to obtain and provide the information needed to support our decommissioning analysis of the Mongaup Falls Project's Black Brook dam with a dam removal alternative.

If you have any questions, please contact Quinn Emmering at (202) 502-6382, or via e-mail at [quinn.emmering@ferc.gov](mailto:quinn.emmering@ferc.gov).

Sincerely,

Timothy Konnert, Chief  
West Branch  
Division of Hydropower Licensing



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

3817 Luker Road  
Cortland, NY 13045



December 11, 2017

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**RE: Rio Hydroelectric Project (FERC No. P-9690-112)  
Mongaup Falls Hydroelectric Project (FERC No. P-10481-067)  
Swinging Bridge Hydroelectric Project (FERC No. P-10482-117)  
Comments on Proposed Study Plan**

Dear Ms. Bose:

The U.S. Fish and Wildlife Service (Service) has reviewed the September 12, 2017, *Proposed Study Plan* (PSP) submitted by Eagle Creek Hydro Power, LLC, Eagle Creek Water Resources, LLC, and Eagle Creek Land Resources, LLC, collectively referred to as Eagle Creek Hydro (Applicant) for the Rio (FERC No. 9690-112), Mongaup Falls (FERC No. 10481-067), and Swinging Bridge Hydroelectric Projects (FERC No. 10482-117). The three projects, collectively known as the Mongaup River Hydroelectric Projects (Project or Projects), are located on the Mongaup River in Sullivan and Orange Counties, New York. The Service attended the October 4, 2017, public study scoping meeting as well as an informal study planning meeting on November 9, 2017, with the Federal Energy Regulatory Commission (FERC) and the New York State Department of Environmental Conservation (NYSDEC), the presentations of which were largely filed by the Applicant with the FERC in the November 29, 2017, *Study Scoping Supplement Information* document (Supplement). We have reviewed the Supplement and have incorporated this information into our comments below.

### I. General Comments

The Service provided our comments on the Pre-Application Document (PAD) and requested studies in our July 26, 2017, letter to the Applicant as filed with the FERC. The PSP did not fully incorporate our requested studies.

Several of the proposed study requests were aggregated into a single study within the PSP. We recommend that the Applicant structure the Revised Study Plan (RSP) according to the study

requests of the stakeholders as they were submitted. These requests follow the study criteria required in 18 CFR §5.9(b) and have goals/objectives, nexuses, methodologies, etc., that stand alone as studies and become difficult to evaluate when combined as the Applicant has done.

We will address the studies proposed by the Applicant in relation to our original requests and indicate where we feel additional data collection is necessary based on the existing data provided by the Applicant and the proposed studies and methodology.

The Applicant frequently references the robust nature of the prior studies conducted in the 1980s and early 1990s in pursuit of the original license for the Projects as a justification for not conducting or limiting the scope of studies during the current relicensing. We agree that for datasets that adequately address the goals and objectives (as required in 18 CFR §5.9(b)) of the study requests submitted by the stakeholders, existing data can be utilized for these purposes. However, the majority of the existing data were collected prior to the implementation of notable operational changes required during the original licensing in 1992 and subsequently throughout the current license (e.g., minimum flows, impoundment level restrictions, decommissioning, and installation of powerhouses). Judicial precedent holds that each relicensing is a new opportunity to rebalance the resources at hand (*Yakima Indian Nation v. FERC*, 746 F.2d 466(9th Cir. 1984)). We view this relicensing as a significant opportunity to evaluate the current condition of the resources and potential impacts from the Projects *with the benefit of comparison to* baseline data collected in the 1980s and 1990s during the original licensing. We recommend that the Applicant collect additional data that are comparable to the existing data collected in the original licensing in order to facilitate analyses of changes due to the original licensing and over time in order to best inform future license conditions at the Projects.

The Applicant has stated that the FERC cannot require a study without a detailed methodology and estimate of effort and cost. We disagree with this determination by the Applicant in that the clear language of 18 CFR §5.9(b) indicates that a study request must contain an explanation of “how *any proposed* study methodology... is consistent with generally accepted practice...” and “*considerations of level of effort and costs, as applicable...*” [emphasis added]. It is clear that a detailed methodology and estimate of effort and cost are not required within a study request, but are helpful to FERC to determine the scope and feasibility of a requested study. Our requests included proposed study methodologies (i.e., “preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration”) noted as consistent with methodologies required in most FERC relicensings in New York and an assessment of their relative cost and level of effort, which fully address the requirements of the FERC in 18 CFR §5.9(b).

## II. Specific Comments by Study

### A. *Swinging Bridge Spillway Habitat Study*

The Applicant did not include this study in the PSP based on an opinion that this study is designed to evaluate a Protection, Mitigation, and Enhancement (PME) measure prior to determining if such a measure is warranted. The Applicant also cites a lack of Project nexus.

While we disagree that there is no nexus to project operations, we are willing to defer this request to PME discussions.

### *B. Bald Eagle Population and Winter Foraging Study*

The Service will be evaluating potential impacts to the bald eagle population at the Projects and the need for fish protection and passage measures that may be prescribed under our Section 18 authority. The existing bald eagle nesting data has not been updated since 2010, and there has apparently never been a thorough survey of the winter breeding population at the Projects. The Applicant did not include a bald eagle (*Haliaeetus leucocephalus*) study in the PSP based on an opinion that the existing data are sufficient and that the study lacks a Project nexus based largely on their position that efforts conducted during the original relicensing preclude the need for additional study (addressed above). The Service disagrees with these opinions and these issues were largely addressed in our initial study request. In order to clarify the requested study, address updated information in the Supplement, and request additional data needed based on our continued review of the existing data, we have updated our bald eagle population and winter foraging study request below. We recommend that the Applicant incorporate a bald eagle population and winter foraging study in the RSP.

#### *1. Goals and Objectives*

The goals of this study are to: 1) assess the current status and distribution of the bald eagle population in the vicinity of the Projects; 2) provide detailed information regarding the winter foraging and feeding activities of bald eagles at the Projects; and 3) determine the current forage base for bald eagles provided by entrainment of fish through the Projects during the winter months. The specific objectives of this study are to: 1) provide a map and updated status of all active and inactive bald eagle nest locations at the Projects; 2) provide maps of winter population and foraging areas and an estimate of the winter population of bald eagles at the Projects; 3) provide a detailed table of counts of bald eagle foraging activity by forage species/size by location and a figure of foraging activity for areas below each powerhouse in relation to generation at the Projects; 4) provide an analysis of the relationship of the observed winter forage activity in the context of the fish entrained through the Projects and Project operations; and 5) if requested by the Service, provide a detailed table of the current number of individuals of fish species by size entrained through the Projects in the winter months.

#### *2. Resource Management Goals*

Bald eagles are a federally protected species and managed by the Service under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) and the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703 et seq.). The Service is responsible for regulating any potential 'take'<sup>1</sup> of eagles under these regulations and manages the eagle populations in all eagle

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<sup>1</sup> 'Take' is defined as "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb".

'Disturb' is defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

management units in the United States to be stable or increasing from 2009 levels and to maintain the persistence of local populations throughout the range for the next 100 years<sup>2</sup>.

The Mongaup Valley is managed by the NYSDEC to protect both nesting and wintering habitat for a notable bald eagle population. Winter recreation at the Projects is known to be linked to viewing platforms provided by the NYSDEC for observation of bald eagles at the Mongaup Falls and Rio Projects.

### 3. *Public Interest*

The requestor is a resource agency.

### 4. *Existing Information*

The PAD provides some general information on bald eagles, but there is no site-specific information on nesting locations or winter activity presented. The Supplement indicates that there may be nesting and roosting data available from the NYSDEC and the Delaware Highlands Conservancy (DHC), but this information is not provided.

The Supplement also provides winter population estimates by the NYSDEC and DHC. The NYSDEC winter bald eagle counts in the Mongaup River System extend from 1978-2010 and show an increasing population since reintroduction efforts in the late 1970s with a jump from 25 to 80 bald eagles from 2009 to 2010. The DHC collected weekend-only counts of observations of bald eagles by trained volunteers from 2014 to 2017 at the Mongaup Falls and Rio bald eagle viewing areas. These data show a decline from 1,150 observations in 2014 to 200 observations in 2015, then a steady increase to 850 observations in 2017. Data are only provided separately for Mongaup Falls and Rio in 2014 and 2015, but Mongaup Falls had more observed eagles than Rio. We note that these most recent data have only been collected at the publicly provided viewing areas, and no data are provided for other areas at the Mongaup Falls or Rio Projects or at the Swinging Bridge Project. The existing data do not allow for an evaluation of winter foraging activity in relation to the Projects' operations as there are no data for other foraging areas or activities at the Projects.

The Applicant has provided data from the *1992–1993 Entrainment Studies: Mongaup Hydroelectric Projects* in the Supplement. The stated goal of this study was to evaluate the availability of entrained alewife for winter feeding of bald eagles. The Service identified the deficiencies of this study in detail in our original study request letter. Despite issues with sampling efficiency, study design, and data analysis, this study did show that alewife (*Alosa pseudoharengus*) was the most abundant species entrained through the Projects in the winter months and that these individuals were typically less than 10 cm in length. Additional anecdotal evidence suggests that the open water in the winter months and the alewife forage base entrained through the Projects are the primary reasons for the notable winter bald eagle population at the

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<sup>2</sup> U.S. Fish and Wildlife Service. 2016. Bald and Golden Eagles: Population demographics and estimation of sustainable take in the United States, 2016 update. Division of Migratory Bird Management, Washington D.C., USA.

Projects. Actual data regarding the foraging activities of bald eagles at the Projects, and the degree to which they feed on entrained fish and alewife, in particular, do not exist.

If wintering bald eagles are found to be foraging on potentially entrained fish species that are primarily not alewife, then an updated winter entrainment study may be needed. The general conclusions of the original entrainment study may be incorrect and/or entrainment rates may have changed at the Projects since the original licensing. We note that changes at the Projects since the original entrainment study such as the implementation of minimum flows (i.e. intake conditions, mortality through release structures), changes in powerhouse operation (e.g., decommissioning of Unit 1 at Swinging Bridge, minimum flow powerhouse at Rio), and any changes in the fishery over time may have changed winter species-specific entrainment rates at the Projects. Additional data regarding the species currently entrained through the Projects that are potential forage for the wintering bald eagle population at the Projects would be needed.

#### 5. *Nexus to Projects Operations and Effects*

Activities (e.g., tree clearing, maintenance activities, recreation enhancements) conducted by the Applicant may cause “take” of bald eagles if these activities occur in the vicinity of nesting, roosting, or feeding individuals. In order to prevent any “take” during the course of the license, the Service will coordinate with the Applicant to develop a management plan for the protection of the bald eagle population at the Projects; this plan should be incorporated into the new license. The development of this management plan will require a current assessment of the bald eagle population at the Projects. The Service and the NYSDEC may recommend particular PME measures based on the location of nesting sites and the areas of highest concentration of eagles.

The Projects entrain fish that have been anecdotally noted as a primary forage source for bald eagles in the vicinity of the Projects. The Service may prescribe fish passage and protection measures under our mandatory authority in Section 18 of the Federal Power Act of 1935 (16 USC 791 et seq.) in order to facilitate upstream and downstream passage of American eel as well as provide protection for resident species in the Projects’ impoundments. We require additional information in order to determine what effects fish passage and protection measures may have on fish entrainment (see Fish Protection and Downstream Passage Study) and additional information in order to determine what impacts these measures may have on the winter bald eagle populations at the Projects.

#### 6. *Methodology Consistent with Accepted Practice*

The Service recommends the following methodologies, consistent with standard avian survey, forage activity, and entrainment study methods found in the literature and in other FERC relicensings, for this study by objective:

Objective 1: The Service recommends that the Applicant collect all available data from the NYSDEC and the DHC regarding eagle active and inactive bald eagle nest locations in the vicinity of the Projects. The Applicant would then conduct one field season of study during the nesting season (December 1 through June 30) to identify the location and status (present/absent, active/inactive) of all nests in the vicinity of the Projects utilizing visual surveys. We

recommend that the Applicant follow the protocols found in the Service's *Bald Eagle Management Guidelines and Conservation Measures*<sup>3</sup>. We are not recommending aerial surveys or fledgling population estimates at this time due to the cost and risk for take during these methods; however, any observations of eagles during this survey should also be recorded and provided in the Study Report with other special status species survey results, as requested by the FERC. The Applicant could then prepare a map and summary of nest locations in the vicinity of the Projects symbolized by status.

Objective 2: The Service recommends that the Applicant conduct one field season (January – February) of observation of winter bald eagle activity in the impoundments, tailraces, and downstream areas of the Projects. We recommend that this survey be conducted for two total weeks (one week in January and one week in February) and that daily survey routes be followed to cover all areas across the Projects (e.g., upper reservoir, middle reservoir, lower reservoir, below powerhouse) each day utilizing standard avian survey techniques. Counts and locations of observations of bald eagles should be recorded with an indication of whether or not feeding/foraging activities are occurring. The Applicant could then prepare maps of the winter population (per survey effort per location) and winter activity of bald eagles at the Projects by plotting and interpolating the density of observations of bald eagles for all activity and for feeding/foraging activity, separately.

Objective 3: The Service recommends that the Applicant conduct one field season (January – February) of observations of all bald eagle foraging activity across all of the Projects. This study will be most useful if the Applicant can identify forage species and size whenever possible. Observations should be recorded of all forage species regardless of taxonomic identity, but general categories are acceptable (e.g., fish, mammal, bird). For fish species, we recommend collection of data related to species identity, especially for alewife, if possible, but best estimates of the size of fish are needed. We suggest that size intervals be recorded (i.e., 0 – 10 cm, 10 – 30 cm, etc.) whenever possible. The Service recommends a staggered approach to this methodology. We recommend that any incidental observations of forage species be noted during the 2 weeks of survey for Objective 2, as described above. While unlikely, if all or nearly all foraging activity is not associated with areas near or immediately downstream from the Projects' powerhouses, bald eagles are likely not using entrained fish as a forage base and further study may not be required, if determined by the Service and the NYSDEC. Otherwise, we recommend this study continue for an additional week immediately following each survey week for Objective 2, focusing specifically on forage species in areas identified as the highest concentrations of eagle activity. The Service recommends all observations during the week of focused survey be collected on a continuous basis during daylight hours at each location surveyed during this period. Generation should be noted for each location associated with a downstream area from any Project's powerhouse. It is important that survey efforts be designed to capture the effects of project operations such that observations of foraging overlap with periods with and without generation. The Applicant could then prepare: 1) a detailed table of counts of bald eagle foraging activity by forage species/size by location; and 2) a figure of foraging activity for any surveyed areas below a Project powerhouse in relation to generation across the days surveyed.

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<sup>3</sup> <https://www.fws.gov/northeast/ecologicalservices/eagleguidelines/recreation.html>

Objective 4: The Service recommends that the Applicant provide an analysis of the relationship of the observed winter forage activity of bald eagles at the Projects and fish entrained through the Projects due to project operations. The Service recommends that this analysis fully incorporate the data and results from Objectives 2 and 3.

Objective 5: The Service recommends a staggered approach to this Objective. If the Service and the NYSDEC determine that the analysis in Objective 4 supports the general conclusion from the original entrainment study, in that all or nearly all of the forage fish species recorded below the Projects' powerhouses are alewife generally less than 10 cm in length, then the Service believes that the existing information is sufficient for our analysis of entrainment effects on the foraging activity of bald eagles at the Projects. Otherwise, the Service recommends that the Applicant conduct an updated study of winter entrainment at the Projects, in consultation with the Service and the NYSDEC. This study may be a desktop analysis of entrainment (see our Fish Entrainment and Downstream Passage study request), if survey data for the winter fishery population is sufficiently robust, as determined by the Service and the NYSDEC. Otherwise, the Service recommends that the Applicant conduct a field-based study. This study may employ net-capture methods, radio tagging, or any other method approved by the agencies, but we recommend that any method chosen must have a collection efficiency of greater than 80%, be conducted under the full range of conditions (e.g., minimum flow release, one to four turbine generation (as applicable)), and be conducted across multiple days during the peak foraging season (January – February) at each location.

#### *7. Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The cost and level of effort will likely be low. Objective 1 will require 2 to 4 weeks for one to two trained biologists to gather data, conduct surveys, and prepare a map and summary. Objectives 2 – 4 will require two to four trained biologists 4 weeks for surveys and 3 to 5 weeks for data analysis and report preparation. If Objective 5 is requested, the cost and effort will depend on the methods employed, but could range from low cost and effort for 1 to 2 weeks with one biologist to conduct a desktop analysis of entrainment based on other data collected in the fisheries surveys, to a relatively high cost and effort involving a team of biologists developing and conducting a field-based entrainment study and preparing reports over several months to a year.

The FERC submitted a study request for Special-status Wildlife Species and Habitat Assessment, which the Service supports. Objective 1 of this study request is complimented by this larger request from the FERC, and we provide more detail regarding bald eagles in our request with a similar expectation of effort during the breeding season. The Applicant has proposed to collect incidental observations and document encountered bald eagle nest locations during the summer and fall. However, this survey effort would largely occur outside of the nesting season (December 1 through June 30) and as proposed may exclude known nesting locations. Objective 2 may additionally be complimented by the FERC's request. The FERC references that bald eagles may use all five reservoirs during the winter months. The Service recommends the collection of additional information to understand eagle foraging and habitat use at the Projects. The Applicant has proposed not to survey bald eagles in the winter months. No alternative studies have been proposed to address winter foraging and the relationship to entrainment as

requested in Objectives 3 – 5. The data collected for Objectives 3 – 5 will necessarily provide the data for Objective 2 based on our recommended methodology.

### *C. Black Brook Dam Removal Study*

The Applicant did not include this study in the PSP based on an opinion that this study is designed to evaluate a PME measure prior to determining if such a measure is warranted. The Applicant also cites a lack of Project nexus. In its comments filed December 6, 2017, the FERC concurred with our request to evaluate the Black Brook Dam for decommissioning and requested studies to support this evaluation. The Service supports this request by the FERC and looks forward to consulting with the Applicant regarding the potential to remove this dam.

### *D. Base and Bypass Reach Flows*

The applicant did not include this study in the PSP based on the adequacy of the existing data and referenced the 1988 Instream Flow Incremental Methodology (IFIM) study conducted during the original licensing. The Service proposed a Delphi study in our original study request. The material below is being provided as a supplement and modification to our original study request.

The Applicant stated in the PSP that they believe the existing IFIM study is sufficient, in conjunction with additional data being collected during this relicensing, to make flow recommendations at the Projects. This statement is built on the assumption by the Applicant that there have been no significant changes in the downstream reaches in the last 30 years; however, no evidence has been presented to verify this assumption. Additionally, the existing IFIM study utilized methods that were generally standard at that time; however, significant advancements in the IFIM, stream assessment, and modeling techniques have been made since that time.

The Service still recommends the Applicant include a base and bypass reach flow study in the RSP. Flows are one of the central resource issues being evaluated at the Projects, and these studies are needed to assess any changes in flows that may result from this relicensing. We suggest a structured approach to addressing the goals and objectives of this study.

If the Applicant does not wish to initially pursue a Delphi-type study up front, the Service recommends that the Applicant verify the adequacy of the existing IFIM study to address the goals and objectives outlined in our original study request. We would recommend that the Applicant verify that the existing channel conditions are indeed unchanged compared to those observed in the existing IFIM study. This would involve relocating and resampling a subset of the transects in select study reaches. The resampled transects should have an overall error of less than five percent (95% confidence) compared to the original study. We recommend that transects selected to cover the extent of the reach and the variability within the reach be resampled in selected study reaches. The Service recommends that transects be resampled in Black Lake Creek below Toronto Dam, the Mongaup Falls bypassed reach, the Rio bypassed reach, and the Mongaup River downstream of the Rio powerhouse. This will focus sampling on the reaches mostly likely to have changed and the most well studied reaches in the existing IFIM study. One of the fundamental underpinnings of an IFIM study is the ability to assess available

habitat for species and life stages selected by the stakeholders. The Applicant has stated that they are able to do this with the existing IFIM data. The Service infers that this statement, along with the ability to validate the transect measurements, means that the Applicant is in possession of the raw data for each transect measured for each studied reach. We recommend that the availability of this data be verified and provided to the Service and the NYSDEC, if requested.

Additionally, we recommend that the assumptions and methods in the existing IFIM study be updated as needed and compared to current IFIM guidelines. This would involve verifying that the habitat suitability index curves for the target species are current, but may also involve the recalibration of the wetted surface perimeter models and resultant weighted usable area curves. The Service recommends that the Applicant thoroughly review the methods outlined in the *Instream Flows for Riverine Resource Stewardship* (2004) to ensure that the existing data meet current standards for the IFIM.

If the Applicant can demonstrate the adequacy of these existing data, the Service would support its acceptance as a component in the larger data collection. However, IFIM studies are not meant to be used as the sole basis for flow decisions, and we would caution the use of these results in that manner. The IFIM was primarily developed as a tool to aid in negotiations among the stakeholders.

The Service recommends that the Applicant include a placeholder in the flow study for the agencies to review any validation of the existing IFIM study, current fishery and water quality data, and the outputs from the Reservoir Water Level Fluctuation/Operation model prior to requests for additional study. We recommend this review occur after the end of year one in the study period. The results of the ongoing studies will address the quantity of water available for allocation to different uses, any potential changes in target species, and help determine whether any additional studies to assess potential changes in flow are needed. The Service may request additional study in Black Lake Creek below Cliff Lake, reanalysis of target reaches using the existing IFIM, and/or individual-based models for target species, if appropriate.

The Service recommends that this study should provide the agencies with the opportunity to observe the existing minimum flows across all of the affected reaches, and to observe any final proposed flow modifications, if requested.

#### *E. Reservoir Water Level Fluctuation/Operation Study*

The Applicant has proposed this study to address study requests by multiple stakeholders, as well as the FERC. The Service generally supports this study. We note that the Applicant included study requests to look at the impacts of the Projects on the Delaware River through gauge data; however, they are only proposing to look at flows, and did not identify which gauges would be used. The National Park Service requested that the Applicant also evaluate temperature data, as available, in the Delaware River, and we recommend that these data be included in this analysis. Additionally, the presentation of these data may require more than a single plot. We recommend analyzing Project generation versus changes in streamflow in the Delaware River based on percentage of flow provided and amount of daily variation resulting from Project operations. Lastly, the Service requested a log of scheduled release dates compared to actual releases to

evaluate the impacts of changes in release schedules on the Delaware River. These data are partly being requested under our obligations under the Endangered Species Act (ESA) for potential impacts to the federally listed dwarf wedgemussel (*Alasmodonta heterodon*).

We also recommend that the table to be developed with volumes released from the reservoirs in a typical year include data for the volumes released for whitewater releases and show a range of generation volumes including low, typical, and high generation years. This data will allow for the stakeholders to evaluate the impacts of whitewater releases on reservoir levels in comparison with minimum flows, especially under drought conditions.

#### *F. Aquatic Habitat Assessment Study*

The Applicant has combined several study requests into this study plan. We urge the Applicant to separate out the individual studies within this larger study to meet the FERC's requirements for study requests and to provide clarity to the requestors and the FERC regarding what data are being collected and why.

The Service recommends that the Applicant not only verify the National Wetlands Inventory and NYSDEC wetlands within the Projects' boundaries, but also map any additional wetlands encountered, per our original study request. The information contained in these two databases is not always complete enough to address project impacts.

The Applicant proposed in the PSP to opportunistically survey the shoreline habitat of the reservoirs based on water levels. We note in the Supplement that the Applicant has incorporated our recommendation at the Study Planning Meeting to use additional techniques that do not require a full reservoir drawdown to acquire these data. We appreciate this improvement to the methodology and look forward to this addition in the RSP. The Service recommended that the Applicant identify erosional areas within the impoundments as part of our study request in order to determine areas within the Projects' boundaries that may be negatively impacting water quality. Please incorporate the collection of these data into the RSP. We are concerned that the period of observation has been proposed to be limited to summer and fall. Reservoir levels vary dramatically over the course of the year, and we encourage the Applicant to sample over a whole year, at different reservoir levels, with multiple sampling techniques, to obtain the data needed to address the goals and objectives of this study.

The FERC requested a Special-status Wildlife Species and Habitat Assessment, which the Service supports. The Service recommends that the Applicant include any necessary updates to these studies in the RSP and indicate that they will consult with the Service regarding potential impacts to federally listed species. We appreciate the opportunity to provide technical assistance regarding federally listed species and any surveys that may be necessary during the study period.

#### *G. Fisheries Survey Study*

The Applicant included this study in the PSP; however, we note two particular areas of concern: 1) the fisheries survey does not incorporate a spring sampling period; and 2) there are no surveys planned in the downstream reach of the Mongaup River below the Rio powerhouse. This study

design will preferentially exclude most of the data related to migratory fish species [i.e., American shad (*Alosa sapidissima*) and American eel (*Anguilla rostrata*)] that are found below the Rio dam. We recommended targeted surveys of these species. The Service is concerned that the lack of data during the spring migratory period will limit our ability to inform any potential fishway prescriptions under our Section 18 authority. For American eel, we recommend that the abundance, size, lifestage, and areas of concentration related to the tailrace and the base of the Rio dam be collected. We note specifically that size and timing of American eels during upstream and downstream migration varies across watersheds and these data strongly influence license conditions for upstream fishways for this species. The Applicant has not provided any additional existing information to address this gap in the PSP fisheries survey methodology.

We are also concerned that a lack of spring sampling will prevent any assessment of spawning for American shad below the Rio dam. Spawning for this species is strongly influenced by flows and temperatures that are largely controlled by Project operations. Additionally, spring surveys are standard protocol for the NYSDEC for assessing bass species [largemouth bass (*Micropterus salmoides*) and smallmouth bass (*M. dolomieu*)] in New York State. Bass species are two of the primary game species in the reservoirs and current license conditions related to reservoir elevations have been conditioned in order to promote this fishery.

The NYSDEC has noted that the Mongaup River below the Rio powerhouse is a popular recreational fishery as well as a noted whitewater recreation area. We are concerned with the proposed lack of a survey in this reach, in particular, in that these competing interests and the effects of Project operations on the fishery will not be able to be assessed.

The Service recommended a full year of fisheries data in our original study request. We again recommend that late fall/winter, early spring data should be collected as these species may be the entrained forage base for bald eagles and understanding the current condition of this seasonal fishery may preclude the need to conduct field-based entrainment studies for winter entrainment. Additionally, alewife are generally thought to be the forage base for the fisheries in the reservoirs. The current status of the alewife populations must be understood in order for the NYSDEC to manage the fishery in the reservoirs. Based on this need and our continued review of the existing data, the Service wishes to add a recommendation for surveys for alewife to the study methodology for the Fisheries Survey.

The Applicant has largely proposed to conduct the fisheries survey through the use of electrofishing and gill nets. We recommended in our study request that the Applicant utilize a variety of methods to sample the fishery (e.g., seines, trap nets). The Service additionally recommends that the Applicant seek to utilize methods that are consistent with the previous survey efforts by the NYSDEC and during the original relicensing, in order to facilitate comparisons of trends over time.

#### *H. Fish Passage Study*

The Applicant included this study in the PSP, although we are concerned that this study did not address our original study request or the information contained within it adequately. The Applicant excluded migratory species including American eel and American shad from the

resource management goals for this study. These migratory species occur below the Rio dam, and American eel historically occurred throughout the Mongaup River. The Applicant has not addressed our concerns regarding the shortcomings of the existing entrainment study other than to say that they expect the results will be the same. The Applicant has not provided any additional information to address our study request as it was written. We recommend that the Applicant incorporate our recommended study into the RSP as this information is necessary for our review under our Section 18 authority.

#### *I. Water Quality Study*

We largely support this study which the Applicant included in the PSP. We recommend that water quality information be collected at both the upstream and downstream end of all studied reaches in order to assess changes in water quality throughout the reaches. This is especially important for water temperature in trout streams. The Service recommends that continuous water quality data be collected in the immediate vicinity and at the level of the intakes to evaluate the dissolved oxygen and temperature conditions at the intakes related to generation, and changes due to continuous minimum flow releases implemented in the original licensing. Concurrent with our recommendation for spring fisheries information, we recommend water quality information be collected throughout the year in order to determine what effect water quality may be having on the fisheries during those seasons. We request that water quality be monitored on a 15-minute interval as generation periods are relatively short during each day, and 1-hour intervals may not adequately capture the variation associated with generation. This should add little cost and effort to the overall study. The Service supports FERC's request to collect ambient air temperature to relate to the water temperature data collected in this study. Air temperature data should also be relatively easily collected with little additional cost or effort.

#### *J. Macroinvertebrate and Mussel Survey Study*

The Applicant included this study in the PSP, and we largely support the methods in this study. We recommend specifically that additional survey locations for both benthic macroinvertebrates and mussels be placed within the impoundments and in the Mongaup River from the Rio powerhouse to the confluence with the Delaware River. These data are needed to evaluate the water quality and forage base for the fishery, and under our obligations under the ESA to assess any potential impacts to the federally listed dwarf wedgemussel in the downstream reaches of the Mongaup River.

#### **Foregoing Studies in Lieu of Protection, Mitigation, and Enhancement Measures**

We anticipate that the Applicant will pursue a settlement agreement for these Projects. As such, during the development of the Study Plan, there may be an opportunity to reduce some of these studies in scope, or even forego some of them, if agreements can be reached up front regarding certain PME measures. The Service recommends that, prior to the development of the RSP, the Applicant convenes a meeting with the stakeholders to determine which studies could be reduced or eliminated in return for agreements to proceed with certain PME measures.

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We recommend that the RSP developed by the Applicant incorporate all of the comments above. We appreciate the additional details provided by the Applicant in the Supplement and encourage the Applicant to be as detailed as possible in the RSP to ensure that all the stakeholders understand what data is being collected.

Thank you for the opportunity to comment on this PSP. If you have any questions or desire additional information, please contact John Wiley at 607-753-9334.

Sincerely,



David A. Stilwell  
Field Supervisor

cc: TU, Plattsburgh, NY (W. Wellman)  
NYSDEC, New Paltz, NY (J. Murray)  
NPS, Boston, MA (K. Mendik)  
DOI, SOL, Newton, MA (A. Tittler)

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## Division of Environmental Permits, Region 3

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December 11, 2017

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Re: Rio Hydroelectric Project (FERC No. 9690)  
Mongaup Falls Hydroelectric Project (FERC No. 10481)  
Swinging Bridge Hydroelectric Project (FERC No. 10482)

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Dear Mr. Gates:

The New York State Department of Environmental Conservation (NYSDEC) has reviewed the September 12, 2017 *Proposed Study Plan* (PSP), and the submitted by co-licensees Eagle Creek Hydro Power, LLC; Eagle Creek Water Resources, LLC; and Eagle Creek Land Resources, LLC (collectively referred to as "Eagle Creek" or "The Applicant") for relicensing the existing Rio Hydroelectric Project (FERC No. 9690), Mongaup Falls Hydroelectric Project (FERC No. 10481), and Swinging Bridge Hydroelectric Project (FERC No. 10482). The three projects, collectively referred to as the "Mongaup River Hydroelectric Projects", are located on the Mongaup River in Sullivan County, New York and a portion of the Rio Project is located in Orange County, New York.

The NYSDEC attended the October 4, 2017 Proposed Study Plan Meeting for the Mongaup River Hydroelectric Projects as well as an informal study planning meeting on November 9, 2017, with the Federal Energy Regulatory Commission (FERC) and the United States Fish and Wildlife Service (USFWS), the presentations of which were largely filed by the Applicant with the FERC in the November 29, 2017, *Study Scoping Supplement Information* document (Supplement).

### **I. General Comments**

The NYSDEC provided our comments on the Pre-Application Document (PAD) and requested studies in our July 28, 2017, letter to the Applicant as filed with the FERC. The PSP did not fully incorporate our requested studies. Specifically, the PSP did not adopt



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the following studies requested by NYSDEC: 1) Bald Eagle Management Study; 2) Black Brook Dam Removal Study; and 3) a Base and Bypass Flow Study. NYSDEC reiterates are request to include these studies in the final study plan and provides further discussion on the importance of these studies below.

The Applicant frequently references the “robust” nature of the prior studies conducted in the 1980s and early 1990s in pursuit of the original license for the Projects as a justification for not conducting or limiting the scope of studies during the current relicensing. However, the majority of the existing data were collected prior to the implementation of notable operational changes required during the original licensing and throughout the current license (e.g., minimum flows, impoundment level restrictions, decommissioning and installation of powerhouses). Judicial precedent holds that the FERC cannot consider relicensing as merely a continuation of the *status quo* and that each relicensing is a new opportunity to rebalance the resources at hand (Yakima Indian Nation v. FERC, 746 F.2d 466(9th Cir. 1984)). The NYSDEC views this relicensing as a significant opportunity to evaluate the current condition of the resources and potential impacts from the Projects *with the benefit of comparison to* data collected during prelicensing conditions. Conditions have changed considerably since the projects were originally licensed (recreational uses, opportunities and demands, wildlife habitat, development, power demands and changes to weather and natural conditions), so if the applicant provides almost no new data, FERC will not have an adequate factual basis upon which to base a licensing decision. NYSDEC recommends that the Applicant collect additional data that is comparable to the existing data collected in the original licensing, and that which has become standard practice in relicensings since the early 1990s, in order to facilitate analyses of changes due to the original licensing and over time in order to best inform future license conditions at the Projects.

In addition, several of the proposed study requests were combined into a single study within the PSP. For example, the Aquatic Habitat Assessment Study Plan (Section 6 of PSP) consists of elements from both the NYSDEC requested Wetland Delineation Study and Impoundment Fluctuation Studies. The NYSDEC recommends that the Revised Study Plan (RSP) be restructured according to the study requests of the stakeholders as they were submitted so that their specific goals/objectives, nexuses and methodologies are readily accessible by the reader of the RSP.

## **II. Draft Application for Amendment License: Swinging Bridge Hydroelectric Project (FERC No. 10482) – November 1, 2017**

Concurrent with the FERC relicensing of the “Mongaup River Hydroelectric Projects” is a proposed amendment in support of a new minimum flow unit and powerhouse to replace

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the existing Unit No. 1 at the Swinging Bridge Hydroelectric Project. It appears Eagle Creek is pursuing the amendment through a separate amendment process, as compared to the relicensing process, given the existing contract between Eagle Creek and the New York State Energy Research and Development Authority (NYSERDA) that requires that the new unit be operational by July 2019. Therefore, in order to have the new equipment commissioned and operational by the contract deadline, the Draft Application for Amendment License for Swinging Bridge Hydroelectric Project (dated November 1, 2017) proposes a construction schedule in which construction of the new powerhouse, new penstock, and installation of Unit No. 3 at Swinging Bridge commences in 2018.

Since all studies proposed within the Proposed Study Plan are also scheduled to be conducted during 2018, the Proposed Study Plan must be revised to acknowledge the submission of the Draft Application for Amendment of License for Swinging Bridge Hydroelectric Project (dated November 1, 2017) and the potential of its proposed construction activities to affect the study results of the PSP. The Schedule for Conducting Proposed Studies (Table 15-1 of the PSP) should be revised to include the construction of the new minimum flow unit.

Due to the potential for construction activities to affect study results of the PSP, the construction schedule of the new minimum flow unit at Swinging Bridge must not conflict with the PSP's Schedule for Conducting Proposed Studies. Studies conducted during the relicensing process must provide information that reflect conditions occurring during normal operation of the Mongaup River Hydroelectric Projects. Therefore, the construction of proposed amendment will need to occur outside the time period in which studies proposed to occur within the vicinity of Swinging Bridge are conducted (i.e. Reservoir Water Level Fluctuation/Operation Study; Aquatic Habitat Assessment Study; Fisheries Survey Study; Fish Passage Study; Water Quality Study; and Macroinvertebrate and Mussel Survey Study). Correspondingly, the proposed amendment must not conflict with the proposed Bald Eagle Management Study (see Section IV.H of this letter) which NYSDEC requests to be included in the RSP and conducted during the winter months.

In addition, please be aware that the construction of the new minimum flow unit may require Eagle Creek to conduct a second season of studies (e.g. Water Quality Study) in order to access and compare conditions at the Swinging Bridge Hydroelectric Project pre and post construction.

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**III. Black Brook Dam Removal**

The Applicant did not include this study in the PSP based on an opinion that this study is to evaluate a Protection, Mitigation, and Enhancement (PME) measure prior to determining if such a measure is warranted and due to a lack of project nexus. In its comments filed December 6, 2017, the FERC concurred with the USFWS request to evaluate the Black Brook Dam for decommissioning and requested studies to support this evaluation. NYSDEC supports this request by the FERC and look forward to consulting with the Applicant regarding the potential to remove this dam.

**IV. Study Request Comments**

**A. Fish Surveys**

While this study was included in the PSP, multiple areas of concern were noted with the overall plan: 1) the proposed general timeframe of surveys was limited to late summer/early fall, 2) there were no surveys proposed for Black Brook and limited surveys proposed for the Mongaup River below Rio Reservoir; and 3) electrofishing and gill nets are the only gear types proposed to be utilized. Also, these surveys are only scheduled to be conducted during one year with no provision for a second year of surveys. A second year of surveys should be repeated if the resulting data is deemed to be inadequate.

The timeframe of late summer/early fall for which the proposed surveys will be conducted is inadequate. The timeframe should include spring, summer, fall and winter if conditions allow and as originally requested. The timeframe and methods used to conduct these surveys should be consistent with prior NYSDEC surveys and surveys conducted during the original relicensing. Centrarchids (bass and sunfish) provide the primary gamefish in many of the project lakes, and NYSDEC protocol is to sample these species in spring with night boat electrofishing, when water temperatures are between 59 and 71 degrees (NYSDEC Centrarchid Sampling Manual 1989). Walleye, which also provide a popular sportfish in Swinging Bridge and Rio Reservoirs, are best sampled with a combination of methods, including night boat electrofishing during the fall when water temperatures range from 50 to 64 degrees. The protocols for this are outlined in the NYSDEC Percid Sampling Manual 1994.

Additionally, there are no surveys proposed for Black Brook and a lack of surveys proposed for the Mongaup River below Rio Reservoir. The Mongaup River is popular with anglers and is subject to highly variable flows due to whitewater releases. This section of river is utilized by migratory species such as American shad and American Eel as well as resident, wild brown trout. Spring, summer and fall sampling periods should be utilized to

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determine the extent these species utilize this section of river and what effect the highly variable flows has on these species. Currently, no surveys are proposed to be conducted on Black Brook. Wild trout have been documented below the Black Brook dam which currently acts as an impediment to upstream movement of fish in this system. The fish community, with an emphasis on trout, should be examined upstream and downstream of the dam to determine any effect on fish distribution in the system.

Finally, trout streams, such as Black Brook, Black Lake Brook and the Mongaup River are typically sampled using stream electrofishing gear in the mid to late summer period. Stream electrofishing gear must be selected so as to provide adequate coverage of the stream section being sampled. Backpack electrofishing gear may be suitable for small narrow sections of stream, but multiple electrofishing gear types may need to be deployed simultaneously for wider stream sections with deeper heavier flow. Protocols for assessing trout streams in New York can be found in the publication by New York State DEC titled Guidelines for Stocking Trout Streams in New York State (Engstrom-Heg 1990). Ideally suitable length sections of stream (100 meters or more) should be isolated and temporarily blocked from fish emigration or immigration with nets, so a population estimate can be made. These sections should be representative of the stream section being studied and multiple sites should be sampled in each study section.

The gear types currently proposed to conduct these surveys is inadequate. Additional gear types such as seines and trap nets should be used to sample the wide variety of fish species found in these waterbodies. These gear types are ideal to collect species that may not be vulnerable to boat electrofishing and gill nets. For example, seines are ideal to sample near shore zones of lakes and reservoirs for smaller fish such as various minnow species and any young of year fish.

NYSDEC recommends following survey methods outlined in Lake and Pond Fish Community Survey Protocols (Holst and Loukmas 2013). *"These procedures describe standard equipment and methods to be used in the field for all Fish Community Surveys in lakes. The ability of any particular gear to capture fish is affected by fish species, size and behavior, the in-water physical and hydrological conditions of the sampling site, and other seasonal variables. No single gear is effective for all the potential species that may be found in a lake. However, when they are used in combination, these gears will effectively sample the majority of fish species found in New York's inland lakes and ponds. These procedures will minimize variability and ideally collect 95% or more of all fish species present in a lake. The remaining 5% of fish species are the cryptic species or those at such low densities that their probability of capture is very low overall."*

The forage base for predatory fish in many of the reservoirs in the Project are based on the Alewife population. Alewife are also an important forage for Bald Eagles. The

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abundance of Alewife and their distribution seasonally within the reservoir, especially in proximity to the intake structures, also effects our understanding of how this species is entrained. Alewife abundance and seasonal distribution within the reservoirs is not adequately being studied in the PSP. It is the position of NYSDEC that the most effective, and maybe only way to design a study to understand the current status of this species and how it is affected by the Project is by using hydro-acoustic surveys. Absent another technique that would answer these questions equally well, it is the position of the NYSDEC that hydro-acoustic surveys for alewife should be included.

### 1. *Goals and Objectives*

The goals and objectives of this study are to provide information on the existing fishery and resources in the vicinity of the Mongaup River Projects, including areas upstream and downstream of the dam, to aid in the determination of what the impacts of this Project may be. The information to be collected should include both temporal and spatial aspects of species distribution; age, size, sex and condition data; habitat utilization; and fish movement patterns. Reference reaches should be established in streams below each dam and population and abundance (numbers of fish and biomass) estimates that are representative of the section be conducted for each fish species. These population and abundance estimates should then be compared to other fisheries of the area.

### 2. *Resource Management Goals*

NYSDEC's mission is *"to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."* The natural resource management goals within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

Specific management goals for each project water are as follows:

***Swinging Bridge Reservoir:*** Swinging Bridge is currently managed as a warmwater fishery with an emphasis on naturally reproducing walleye and centrarchid species including largemouth bass, smallmouth bass and black crappie. Common carp are also a target by shore anglers, as was found in a NYSDEC Creel Survey conducted in 2014/15. At that time, common carp were being targeted by 32% of the shore anglers and anglers targeting "anything" comprised 41% to 55% of the three angling groups analyzed for (boat, shore, and ice).

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**Mongaup Falls Reservoir:** Mongaup Falls is currently managed for coldwater and warmwater fish species. Brown trout represent the coldwater fishery and are stocked on an annual basis. Largemouth bass and smallmouth bass are the predominant warmwater fish species the reservoir is managed for, but walleye are now also a potential target. The oxygenated coldwater volume of water that enters this reservoir via release from Swinging Bridge Reservoir undoubtedly plays a role in maintaining conditions for trout to survive through the summer in this reservoir.

**Rio Reservoir:** Rio is currently managed for naturally reproducing centrarchid species including smallmouth and largemouth bass as well as walleye which are stocked on an annual basis with hopes of establishing a naturally reproducing population. Fishing is prohibited from Dec 1 through March 31 to protect an eagle nesting area.

**Toronto Reservoir:** Toronto is currently managed as a warmwater fishery with smallmouth bass as the primary gamefish. Large chain pickerel are also a target, especially since the existing State record chain pickerel was caught from this reservoir.

**Cliff Lake:** Cliff Lake is currently managed for centrarchid species including largemouth bass, smallmouth bass and various sunfish species. Popularity of this reservoir for fishing may be limited by the existing difficulty in accessing this water for both shore fishing and with a boat. DEC Fisheries would like to see this access improved and expanded expanded as long as other Natural Resource objectives, particularly regarding Bald Eagles are met.

**Mongaup River:** Mongaup River is currently managed as a coldwater fishery in all sections with brown trout as the primary focus. This fishery depends upon coldwater releases from Swinging Bridge, Mongaup Falls and Rio Reservoirs to maintain trout populations here. These releases must remain both cold enough and of high enough quality (dissolved oxygen., pH, etc.) from the base of each of these reservoirs all the way to the confluence with Delaware River. The river is stocked above Swinging Bridge Reservoir on a yearly basis with brown trout. The section below Swinging Bridge is assumed to be comprised of wild and stocked brown trout, but this needs to be further assessed. The stocked fish likely come from the Mongaup Falls Reservoir stocking which occurs at the Forestburgh Rd bridge on a yearly basis. The rest of the river is considered a wild brown trout fishery with a few stray stocked fish mixed in.

**Black Lake Creek:** This creek is managed as a wild brook trout fishery and is maintained from coldwater releases from Toronto Reservoir and Cliff Lake. This fishery is best managed through assuring an adequate volume of high quality water

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flow (particularly dissolved oxygen and temperature) is maintained from the base of each dam through its entire length.

**Black Brook:** This creek is managed as a wild trout fishery with brook and brown trout present.

### 3. *Public Interest*

The requestor is a state resource agency.

### 4. *Existing Information*

There is limited recent information regarding fisheries in the vicinity of the Mongaup River Projects. Any recent collections have not been comprehensive, and have had a very limited fisheries objective in mind. There are some data available from the original licensing in the 1980s; however, 30 years of changes in angling pressure, angling regulations, stocking efforts, water quality, water quantity, habitat availability, minimum flows, and seasonal impoundment fluctuation limits have likely altered the fishery. Data from the original licensing will be helpful in determining changes and trends over the last 30 years. However, the data that was collected in conjunction with the original license did not utilize the methods that have now been established by NYSDEC (as cited above). Using these updated methods will help DEC compare these waters to other waters throughout the New York State and within the Mongaup system as we move forward in time.

DEC Fisheries has provided a summary of all historic fisheries survey data in their files pertaining to the fisheries resources within the project area. Additional detailed fisheries information can be provided via specific requests for both within and outside the project area. This will enable the applicant to compare changes in the fish populations to different reservoir release regimes through time and to other comparable local fisheries resources in the area.

### 5. *Nexus to Project Operations and Effects*

The Mongaup River Projects' dams serves as a barrier to upstream and downstream migration to fish. Fish moving downstream are subjected to potential mortality from impingement and entrainment. The Project alters flows in the bypassed reach, modifies flows downstream from the Mongaup River Projects, and impacts habitats in the impoundment via fluctuations.

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*6. Methodology Consistent with Accepted Practice*

The Applicant should conduct comprehensive fisheries surveys within the vicinity of the Mongaup River Projects. Comprehensive sampling for fisheries data collection should include, but not be limited to, the use of electrofishing, gill netting, trap netting, minnow traps, seining, and angling. The survey work should be done for at least 1 full year; with an option for a second year of study should the data collected be deemed inadequate upon review by the NYSDEC and the USFWS. The survey should cover at least three seasons (spring, summer, and fall), and all four seasons, if possible. The information collected should include species identification, size, age, sex, and condition, as well as movement patterns and habitat utilization. Standard water quality data (e.g. water temperature, dissolved oxygen, pH, and conductivity) should also be collected in conjunction with these surveys. These studies should focus on the general fishery resources.

The recommended study uses standard scientific collecting techniques used in most hydro licensing activities.

NYSDEC recommends using protocols outlined in the following:

- Guidelines for Stocking Trout Streams in New York State (Engstrom-Heg 1990)
- Lake and Pond Fish Community Survey Protocols (Holst and Loukmas 2013)
- NYSDEC Centrarchid Sampling Manual 1989
- NYSDEC Percid Sampling Manual 1994.

*7. Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort would involve one field crew sampling on a seasonal basis. The study would last for 1-2 years. The actual cost is unknown and would depend upon the gear types used, number of sampling locations, local labor costs, the ability to combine multiple studies (e.g., fisheries, macroinvertebrates and water quality) into one task, etc. The existing literature is inadequate to fully address project impacts, and there are no alternatives to conducting standard fishery surveys. However, the Applicant has flexibility to design the most cost-effective way to acquire the necessary data.

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**B. Macroinvertebrate Surveys**

The Applicant included this study in the PSP, and NYSDEC largely supports the methods in this study. However, NYSDEC strongly recommends that additional survey locations for both benthic macroinvertebrates and mussels be placed within the impoundments and in the Mongaup River to the confluence with the Delaware River. These data are needed to evaluate the water quality and forage base for the fishery, and under our obligations under Article 11 of NYS Environmental Conservation Law (ECL) to assess any potential impacts to the state listed mussel species in the downstream reaches of the Mongaup River.

*1. Goals and Objectives*

The goals and objectives of this study are to provide information on the existing benthic macroinvertebrate populations upstream and downstream of the facilities that are impacted by Mongaup River Projects operations. This information will be used to assess impacts the Mongaup River Projects may have on the aquatic ecosystem, assess if current water quality standards are impaired and determine mitigation for these impacts. This information is necessary to the §401 WQC application for the Projects and their compliance with State water quality standards.

*2. Resource Management Goals*

NYSDEC's mission is *"to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."* The natural resource management goals within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

Information regarding the aquatic insects and mussels in the flowing waters of the State of New York are of great importance to the NYSDEC achieving its mission.

*3. Public Interest*

The requestor is a state resource agency.

*4. Existing Information*

The PAD/PSP/Supplement provides some information related to benthic macroinvertebrates, but there is no recent site specific information regarding

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freshwater mussels and other macroinvertebrate species in the basin. Sampling is needed in the vicinity of the dam, in the by-passed reach and the impoundment are necessary to help determine minimum flow needs and the macroinvertebrate data will be considered by NYSDEC in connection with its review of the §401 WQC application for the Project.

### *5. Nexus to Project Operations and Effects*

The Mongaup River Projects alter the natural flows upstream and downstream. These areas are important for macroinvertebrate propagation and survival. Fish and wildlife species rely on the macroinvertebrate community as a food source and can be impacted by reductions in macroinvertebrate production. Freshwater mussels depend on fish host species and the Mongaup River Projects' dams blocks fish movement both upstream and downstream. The turbine intakes may impinge or entrain fish, resulting in mortality. The Mongaup River Projects may also affect the amount of habitat available for mussels within the Mongaup River Projects boundaries in the impoundment.

### *6. Methodology Consistent with Accepted Practice*

Information is needed regarding macroinvertebrate (e.g. aquatic insects, mussels... etc.) populations in the impoundment and downstream of the dam and tailrace as well as the by-pass reaches of the Mongaup River Projects. A critical evaluation (both qualitative and quantitative) of macroinvertebrate communities in all instream habitats affected by the operation of the Mongaup River Projects is needed.

Sampling should be conducted seasonally and include the use of both shallow water and deep water sampling gear. Collections should be stratified by microhabitat (sediment size). Macroinvertebrates will be identified to species. Since any one sampling year may experience atypical environmental conditions (dry year verses wet year; low water verses high water; colder verse warmer temperature years) the Department recommends more than 1 year of data collection to try to capture typical environmental conditions and to establish current baseline conditions in the flowing waters affected by the Mongaup River Projects.

The recommended study uses standard scientific collecting techniques used in most hydro licensing activities.

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*7. Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort would involve one field crew sampling on a seasonal basis. The study would last for 1-2 years. The actual cost is unknown and would depend upon the gear types used, number of sampling locations, local labor costs, the ability to combine multiple studies (e.g., fisheries, macroinvertebrates, and water quality) into one task, etc. The existing literature is inadequate to fully address projects impacts, and there are no alternatives to conducting standard macroinvertebrate surveys. However, the Applicant has flexibility to design the most cost-effective way to acquire the necessary data.

**C. Fish Protection, Upstream and Downstream Passage Studies**

The Applicant included this study in the PSP, although we are concerned that this study did not address the original study request by USFWS or the information contained within it adequately. The Applicant excluded migratory species including American eel and American shad from the resource management goals for this study. These migratory species occur below the Rio dam, and American eel historically occurred throughout the Mongaup River. The Applicant has not addressed the USFWS concerns (that NYS DEC concurs with) regarding the existing entrainment study other than to say that they expect the results will be the same. The Applicant failed to address our request to explore alternatives to reduce fish entrainment and impingement within the project. The Applicant has not provided any additional information to address the study request as it was written by USFWS. We recommend that the Applicant incorporate the recommended study as presented in USFS's original request as this information is necessary for review under their Section 18 authority.

*1. Goals and Objectives*

The goals and objectives of this study are to provide information on potential fish passage and protection structures that could be utilized at these sites. The information obtained will allow NYSDEC aquatic biologists and USFWS's fishway engineers to evaluate the potential effectiveness of various options.

This study should include a literature search of available passage designs for the species of concern, as well as information on the relative effectiveness of each design. Existing facilities at other dams should be investigated. Careful attention should be paid to attraction flows, guidance mechanisms and velocities. The fish moving downriver must be diverted away from the turbines and guided to the downstream passage facility. Adequate attraction and conveyance flows must be provided. The passage facility should not create a bottleneck that would delay downstream movement or expose the fish to excessive predation. All passage facilities should be

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designed to prevent blockage from ice and debris and should be as maintenance-free as is feasible. They must be able to operate under all flow conditions experienced in the Mongaup River Basin.

In addition to literature review and on-site investigations of existing facilities, the Applicant should collect site-specific data from the Mongaup River Projects to aid in the design of protection and passage facilities. This information should include flows, velocities, water depths, and substrates.

The Applicant should also collect information on the passage requirements of the fish species found in the Mongaup River Basin. This information should include swimming speeds (including burst speeds), where in the water column these fish are likely to be moving, different forms of attractants or repellents (e.g., sound, light, ...etc.) that may help guide each species ... etc.

### 2. Resource Management Goals

NYSDEC's mission is *"to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."* The natural resource management goals within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

### 3. Public Interest

The requestor is a state resource agency.

### 4. Existing Information

The PAD does not provide any information regarding protection and passage options. There is little information in the PAD regarding Black Brook Dam or its impoundment. The potential to remove Black Brook Dam is unknown.

The New York State Department of Environmental Conservation concurs with the conclusion made by the U.S. Fish and Wildlife Service (USFWS) regarding the reliability and usefulness of the entrainment study referenced in Section 5.4.1 of the PAD. An updated analysis with current fishery data is needed.

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### 5. *Nexus to Project Operations and Effects*

Dams block fish movements both upstream and downstream. The turbine intakes may impinge or entrain fish, resulting in mortality. The existing minimum flow release structures may not be adequate for fish passage.

New licenses issued for projects on similar rivers throughout New York State, have incorporated 1" –clear spaced trashracks to physically exclude most adult fish from the turbines, alternate downstream passage routes, and other features (e.g., reduced approach velocities, adequate plunge pools, ... etc.) to encourage safe downstream fish passage.

### 6. *Methodology Consistent with Accepted Practice*

The recommended study uses standard literature reviews and site-specific data collection techniques common to most hydro licensing activities.

### 7. *Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort would involve moderate literature review, discussions with fishway engineers, discussions with fisheries biologists, and site-specific data collection. The study could be completed in less than 1 year, but may require more time to design effective facilities. The actual cost is unknown and would depend upon the number of alternatives examined. The existing information in the PAD is inadequate to allow a thorough examination of alternatives. However, most of the information needed should be available in the existing literature.

## D. **Base Flow Studies and Habitat Analysis**

The Applicant did not include this study in the PSP based on the adequacy of the existing data and referenced the 1988 Instream Flow Incremental Methodology (IFIM) study conducted during the original licensing. The USFWS proposed a Delphi study in their original study request and NYSDEC requested a recalculated IFIM study and possible follow-up Delphi study. The material below is being provided as a supplement and modification to our original study request.

The Applicant stated in the PSP that they believe the existing IFIM study is sufficient, in conjunction with additional data being collected during this relicensing, to make flow recommendations at the Projects. This statement is built on the assumption by the Applicant that there have been no significant changes in the downstream reaches in the last 30 years; however, no evidence has been presented to verify this assumption. It is the position of NYSDEC that there is sufficient reason to believe that changes to

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downstream reaches could have occurred over the last 30 years. Additionally, the existing IFIM study utilized methods that were generally standard at the time; however, significant advancements in the IFIM method, stream assessment, and modeling techniques have been made since that time.

NYSDEC still recommends the Applicant include a base and bypass reach flow study in the RSP. Flows are one of the central resource issues being evaluated at the Projects, and these studies are needed to assess any changes in flows that may result from this relicensing. It is the position of NYSDEC that IFIM studies should be conducted for each stream below each dam (Toronto, Cliff, Swinging Bridge, Mongaup Falls and Rio) and suggest this quantitative approach be followed by a structured qualitative approach to verify that the goals and objectives of this study are addressed.

NYSDEC recommends that the Applicant verify the adequacy of the existing IFIM study to address the goals and objectives outlined in our original study request. We would recommend that the Applicant verify that the existing channel conditions are statistically similar to those observed in the existing IFIM study. This would involve relocating and resampling a subset of the transects in each reach to be studied. NYSDEC recommends that transects are selected to cover the extent of the reach and the variability within the reach, and then resampled in selected study reaches. NYSDEC recommends that transects be resampled in Black Lake Creek below Toronto Dam, the Mongaup Falls bypassed reach, the Rio bypassed reach, and the Mongaup River downstream of the Rio powerhouse. This will focus sampling on the reaches mostly likely to have changed and/or the most well studied reaches in the existing IFIM study. One of the fundamental underpinnings of an IFIM is the ability to assess available habitat for species and life stages selected by the stakeholders. The Applicant has stated that they are able to do this with the existing IFIM; however, the USFWS and NYSDEC infers that this statement, along with the ability to validate the transect measurements, means that the Applicant is in possession of the raw data for each transect measured for each studied reach. NYSDEC recommends that the availability of this data be verified.

Additionally, NYSDEC recommends that the assumptions and methods in the existing IFIM be updated as needed and compared to current IFIM. This would minimally involve verifying that the habitat suitability index (HSI) curves for the target species are current, but may also involve the recalibration of the wetted surface perimeter (WSP) models and resultant weighted usable area (WUA) curves. NYSDEC recommends that the Applicant thoroughly review the methods outlined in the Instream Flows for Riverine Resource Stewardship (2004) to ensure that the existing data meet current standards for the IFIM.

If the Applicant can show the adequacy of this existing data, the NYSDEC would support its acceptance as a component in the larger data collection effort to negotiate downstream flows at the Projects.

NYSDEC recommends that the Applicant include a placeholder in the study for agency review of the validated existing IFIM study, current fishery and water quality data, and the outputs from the Reservoir Water Level Fluctuation/Operation model to request potential additional study. The results of these studies will largely influence the amount of water available for discussion, any potential changes in target species, and help determine

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whether any study to assess potential changes in flow are needed. NYSDEC requests additional study in Black Lake Creek below Cliff Lake, reanalysis of target reaches using the existing IFIM, and/or individual based model for target species, if appropriate.

NYSDEC feels strongly that this study should give the agencies the opportunity to observe the existing minimum flows across all of the affected reaches, and to observe any final proposed flow modifications, if requested.

### 1. Goals and Objectives

The goals and objectives of this study are to determine whether the existing base flow requirements provide appropriate protection for aquatic resources, or whether a different flow regime is necessary.

Flow studies should be conducted to determine whether the existing flows are the appropriate minimum base flows. The base flow studies should be presented in a manner that will allow the regulatory agencies to determine the effect in which the minimum base flow requirements, appearing in the future license and 401 Water Quality Certification, will have on downstream habitat, tailrace habitat, impoundment habitat, and all existing and potentially modified recreational uses of the aquatic resources. NYSDEC recommends a thorough analysis of all available historic survey data and information obtained during biological and geomorphic surveys associated with this relicensing process.

Flow study data should be obtained by either the use of the Delphi approach or the Instream Flow Incremental Methodology (IFIM).

The Applicant should also conduct habitat mapping for the downstream study reach. This mapping should identify the type of habitat in each section (e.g., run, riffle, pool) along with depths, velocities, and substrates. The information will need to be collected and presented in a manner that will allow it to be incorporated into analysis of the current base flow regime. Predicted summer water temperatures during minimum flow and power generation releases through the bypass reach and main stream should be modeled under all proposed release scenarios. This should be done for each stream reach below each of the five dams with a minimum release, all the way to the Delaware River.

### 2. Resource Management Goals

NYSDEC's mission is *"to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their*

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*overall economic and social well-being.*" The natural resource management goals within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

#### 3. *Public Interest*

The requestor is a state resource agency.

#### 4. *Existing Information*

The PAD provides no information regarding how the minimum flows required by the current license for Black Lake Creek were developed, nor does it describe the benefits of these flows or the impacts of not having higher flow releases.

A detailed IFIM study was conducted for the Mongaup River during the original licensing. The current flows in the Mongaup River were determined largely by their inclusion by the NYSDEC in the 401 Water Quality Certifications for the Projects, and were greater than the flows proposed by the previous applicant and recommended by the FERC, but less than the flows recommended by the USFWS.

However, the majority of the existing data were collected prior to the implementation of notable operational changes required during the original licensing and throughout the current license (e.g., minimum flows, impoundment level restrictions, decommissioning and installation of powerhouses). Other conditions that have changed considerably since the projects were originally licensed include: recreational uses, opportunities and demands, wildlife habitat, development, power demands, major flood events, and changes to weather and natural conditions. If the applicant provides almost no new data, FERC will not have an adequate factual basis upon which to base a licensing decision or will NYSDEC have sufficient information for conditions in their 401 Water Quality Certification.

The available habitat, fisheries resources, and issues at the Mongaup River Projects have likely changed since the original licensing. The flow releases from these Mongaup River Projects have multiple benefits to a variety of species as well as to water quality, and the appropriate flow regimes will be determined as part of a holistic look at all of the competing issues.

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### 5. *Nexus to Project Operations and Effects*

Operation of the hydroelectric project results in a somewhat variable flow regime downstream from the Project. The existing base flows may or may not provide adequate mitigation for these fluctuations. This study is necessary to determine the appropriate mitigation for these impacts.

### 6. *Methodology Consistent with Accepted Practice*

The recommended study uses a standard IFIM and Delphi study design that has been used in many hydro licensing activities.

### 7. *Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort and cost will be moderate (especially in light of the 30-year length of time that these licenses are written for), and will depend on the details of the implemented studies. The Delphi approach would be less costly than the IFIM process; however, the complexity of the resources and issues involved in this relicensing necessitate a more formal, quantitative study.

## E. Water Quality

While this study was included in the PSP, multiple areas of concern were noted with the overall plan. We recommend one full year of baseline water quality studies be conducted. Currently, water quality is only proposed to be taken from June through Sept. The streams below all reservoirs in this system provide popular trout fisheries for anglers, and the water quality should be taken year-round to assure proper water quality requirements for trout and other species are met.

NYSDEC recommends that continuous water quality data be collected in the immediate vicinity and at the level of the intakes to evaluate the dissolved oxygen conditions at the intakes related to generation and changes due to continuous minimum flow releases implemented in the original licensing. NYSDEC request that water quality be monitored on a 15-minute interval as generation periods are relatively short during each day, and 1-hour intervals may not adequately capture the variation associated with generation. This should add little cost and effort to the overall study. NYSDEC support FERC's request to collect ambient air temperature to relate to the water temperature data collected in this study. Air temperature data should also be relatively easily collected with little additional cost or effort.

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Additionally, methods for mitigating water quality problems (i.e. modifications to infrastructure, or changes to existing operations) should be fully explored and modeled as to their potential effectiveness. Also, these surveys are only scheduled to be conducted during one year with no provision for a second year of surveys. A second year of surveys should be repeated if the resulting data is deemed to be inadequate. This will especially be important since the potential for normal operations might be difficult if construction associated with a minimum flow turbine being installed at Swinging Bridge Reservoir occurs during this study period. Also, the likelihood of capturing the variability of conditions that can exist from year to year is unlikely (or impossible) to capture during only one year of study.

### 1. Goals and Objectives

The goals and objectives of this study are to provide baseline water quality information.

Baseline water quality studies are needed to allow a proper determination of potential project impacts. These studies should include water temperature and dissolved oxygen (DO) on a continuous basis for at least 1 full year, along with monthly sampling of other parameters such as pH, turbidity, and conductivity. An additional year of monitoring may be needed based on a review of the first year's study results. This information will be used to document baseline water quality conditions and to determine potential impacts from the Projects operations. Data should be collected from the impoundments, the by-passed reaches and the areas upstream and downstream from the Mongaup River Projects. Below each of the five impoundments, temperature, flow, and existing water quality information collected in support of issuance of Section 401 Water Quality Certification will need to be summarized in a manner that will allow appropriate analysis of the current flow regime. Methods for mitigating water quality problems (i.e. modifications to infrastructure, or changes to existing operations) should be fully explored and modeled as to their potential effectiveness.

### 2. Resource Management Goals

NYSDEC's mission is *"to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."* The natural resource management goals within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

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### 3. *Public Interest*

The requestor is a state resource agency.

### 4. *Existing Information*

The Applicant has been conducting ongoing water quality monitoring below the powerhouses for all three Mongaup River Projects. This data will continue to be collected during the study period. There are no data available for the bypassed reaches, Black Lake Creek, in the impoundments, or in the tributary streams to the Mongaup River.

### 5. *Nexus to Projects Operations and Effects*

The existing Mongaup River Projects impounds the Mongaup Creek and its tributaries in multiple locations. These impoundments and releases have the potential to impact such water quality factors as temperature and DO, which are critical to the quality of the aquatic habitat. This is of particular concern during summer with low flows.

The streams below all reservoirs in this system provide popular trout fisheries for anglers.

### 6. *Methodology Consistent with Accepted Practice*

The recommended study uses standard water quality sampling techniques commonly used in most hydro licensing activities.

### 7. *Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort would be low and would involve a crew monitoring continuous measurement devices and collecting monthly samples while undertaking other work such as fisheries or macroinvertebrate surveys. In addition, temperature and DO loggers would be installed, with data being periodically downloaded. The actual cost is unknown but would be relatively low. The existing data for the immediate vicinity of the Mongaup River Projects are limited. Consideration should be given to installing USGS gaging stations below each of the dams for both the short term needs of this study as well as future monitoring.

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**F. Wetland Delineation**

The Wetland Delineation was requested by the USFWS and NYSDEC. This study was not adopted by Eagle Creek as a standalone study, but Eagle Creek is proposing to verify National Wetland Inventory (NWI) and NYSDEC mapped wetlands as part of the Aquatic Habitat Mapping Study. NYSDEC is concerned that this dilutes and partially obscures the goals and objectives of the Wetland Delineation. The NYDEC recommends that Eagle Creek separate out the Wetland Delineation from within this larger Aquatic Habitat Mapping Study to provide clarity to the NYSDEC and the FERC regarding what data is being collected and why.

The NYSEC request that the Applicant not only verify the National Wetland Inventory and NYSDEC wetlands within the Projects' boundaries, but also identify any additional wetlands encountered with particular attention to locations where any physical modification to the land throughout the current and future license may be proposed (i.e. Draft Amendment, Public Access, etc.).

*1. Goals and Objectives*

The goals and objectives of this study are to identify key aquatic habitat areas in the Projects vicinity. The study will provide information on the extent and quality of wetlands and aquatic vegetation and the impacts to these habitats by current and future operations.

To clarify terminology, NYSDEC typically considers a "wetland delineation" to be a specific process where qualified individuals on the site in person assess vegetation, soils and physical indicators of hydrology in order to determine the precise location of the wetland's regulatory boundary. The boundary is then physically marked, mapped by a surveyor and placed on project plans. NYSDEC requires a delineation be performed if there is a specific proposal near a wetland regulated by New York State. NYSDEC does not expect that all wetlands within the project area be marked, surveyed and transferred to maps. The NYDEC will require a formal wetland delineation (as defined above) for wetlands located in proximity to any physical land modification to the land proposed throughout the current and future license.

*2. Resource Management Goals*

NYSDEC's mission is *"to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."* The natural resource management goals

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within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

#### 3. *Public Interest*

The requestor is a state resource agency.

#### 4. *Existing Information*

The PAD provides the National Wetland Inventory (NWI) and NYSDEC delineations of wetlands within the boundaries of the Mongaup River Projects, however, no formal surveys of wetland vegetation or aquatic plants have been undertaken for the Project. Generally, NWI and NYSDEC delineations are not precise enough to capture all regulated wetlands, thus there is a need for wetland vegetation and aquatic plant surveys for these Mongaup River Projects.

#### 5. *Nexus to Project Operations and Effects*

Operation of this Project affects water levels and velocities, as well as the timing and location of releases. These factors can impact aquatic vegetation and wetlands, which can be important habitats for fish and wildlife. The information will be used to determine what, if any, impacts the Mongaup River Projects may have on these resources and what the appropriate protection and mitigation measures might be.

#### 6. *Methodology Consistent with Accepted Practice*

The New York State Department of Environmental Conservation and NWI maps are frequently used as the starting point in delineating wetlands. The NYSDEC expects the Applicant to use techniques commonly accepted by the scientific community.

The applicant should document all wetlands within the Projects vicinity. An accurate analysis of the location and type of freshwater wetland resources is necessary to determine current and future affects to the wetland resources and the wildlife that inhabit them. The NYSDEC and the USFWS's wetland maps were consulted. However, the NYSDEC Freshwater Wetland Regulatory Maps are only intended to show the approximate location of state regulated wetlands and therefore should not be considered a source to characterize the presence of wetland habitat in the hydroelectric project area. Although the USFWS National Wetland Inventory (NWI) is intended to characterize freshwater wetland habitats it is based primarily on remote sensing so that it should be considered a large scale, general and approximate habitat

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inventory. The USFWS NWI Maps are not intended to represent federal jurisdiction of wetland areas by the United States Army Corps of Engineers and Environmental Protection Agency. Locations where any physical modification to the land throughout the current and future license terms may require wetland delineations that will need to be field verified. The Applicant should also identify any aquatic vegetation found in the Mongaup River Projects vicinity. This information is necessary to characterize the aquatic habitats in the Mongaup River Projects vicinity.

### *7. Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort and associated costs should be relatively low. Much of the readily available information is already presented in the PAD, and the remaining information can probably be collected during field work related to other studies. No alternative studies have been proposed.

## **G. Public Access and Recreation Study**

The Applicant included a Recreation Facility Inventory, Recreation Use and Needs Assessment, and Reservoir Surface Area Assessment Study Plan within Section 11 of the PSP. The NYSDEC largely support the methods in this study with a few important exceptions.

Eagle Creek proposes to conduct a recreation use and needs assessment for the Projects using a combination of methods – spot counts, visitor intercept surveys, and actual use numbers for recreation sites where use numbers are collected. However, the field work for this study is proposed to be conducted only between the months of April 2018 through October 2018. This limited time period does not capture or provide a “snapshot” of winter recreation activities (i.e. Bald eagle viewing, ice/winter fishing, etc.) occurring within the vicinity of the Mongaup River Projects (within 1 mile upstream and downstream of the Project’s boundary). Therefore, the NYSDEC requests that the time period in which spot counts are to be conducted at each survey location be expanded to include the winter months (i.e. December 1<sup>st</sup> – February 28<sup>th</sup>). This request for expanding to include the winter will result in additional effort, as opposed to only redistributing the same level of effort over a longer period of time.

Similarly, the Draft Recreation User Survey (Figure 11-5 of PSP) should also be revised to include questions regarding activities conducted by users during the winter months. Therefore, the table appearing in Question 11 of the Draft Recreation User Survey should be revised to include winter activities (i.e. ice/winter fishing, skiing, snowshoeing, etc.) and expanded to include a column for winter months. Likewise, the table appearing in

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Question 16 in the Draft Survey for Abutting Shoreline Property Owners (Figure 13-1 of PSP) should also be revised.

Recreational Access studies should include an inventory and assessment of current signage at each access point, as well as wayfarer signage along major roads that can alert people of the route to take to each access point. Complaints have been raised that some access sites are not clearly marked, or the routes to find them can be difficult to navigate. The recreational assessment should identify these limitations if they exist and provide suggestions on ways to improve them.

In addition, the NYSDEC requested an evaluation of alternatives for improving access to Cliff Lake Reservoir (i.e. access from other roads, new parking areas, expanded access for shore fishing, etc.) and expansion of stream access below all the Projects (i.e. Public Fishing Rights easements, parking areas, etc.). The NYSDEC agrees with the Applicant that such an evaluation would be considered during the development of the Recreation Management Plan if the recreation study determines that there is a need. Therefore, the NYSDEC is willing to defer this request to Protection, Mitigation, and Enhancement (PME) discussions. However, to prepare for the discussion of alternatives for public access to Cliff Lake in the forthcoming Recreation Management Plan, NYSDEC recommends that specific questions be added to the Draft Recreation User Survey to assess the public interest and potential obstacles associated with current recreational access to Cliff Lake.

### 1. *Goals and Objectives*

The goals and objectives of this study are to provide information on the existing public access facilities in the vicinity of the Mongaup River Projects (within 1 mile upstream and downstream of the Project's boundary), including the potential to create additional public access where feasible; and to assess the current condition of the existing public access facilities and the need for improvements, especially upgrades that would be necessary to ensure the facilities are Universally Accessible and are ADA compliant.

### 2. *Resource Management Goals*

The NYSDEC's Bureau of Fisheries delivers a diverse program and annually conducts a wide array of activities to accomplish its mission to: *"Conserve and enhance New York State's abundant and diverse populations of freshwater fishes while providing the public with quality recreational opportunities."*

### 3. *Public Interest*

The requestor is a state resource agency.

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### 4. *Existing Information*

Section 5.7.3 in the PAD describes the recreational facilities within the Project Boundary and the surrounding area. The Applicant has produced a brochure showing the recreational facilities surrounding the project, but is not required to submit the Licensed Hydropower Development Recreation Report Form 80.

The PSP provides figures depicting the locations of the recreational facilities within Project Boundary and the surrounding area (Figures 11-1, 11-2, and 11-3) and draft forms and draft surveys proposed to be used to collect information (Figures 11-4, 11-5, 12-1, and 13-1) Results of the finalized surveys and the information they provide are forthcoming.

### 5. *Nexus to Projects Operations and Effects*

The 2014-2019 NYS State Comprehensive Outdoor Recreation Plan (SCORP) was written by the New York State Office of Parks and Recreation and Historic Preservation (NYSOPRHP) and Sullivan County and Orange County, New York is listed as having a moderate to slightly high need for additional fishing, boating, and swimming access as referenced in Table 3.10 (Relative Index of Need) in the SCORP. The Mongaup River Projects utilize a public resource and most licensees are required to provide public access to the extent practicable within constraints of protection of life and property.

The Mongaup Valley has a noted population of bald eagles during both the winter and breeding seasons. The highly visible and accessible annual winter concentration of eagles in the Mongaup River Projects' vicinity from December through March is a valuable recreational asset and has resulted in the installation of multiple viewing blinds and areas by the NYSDEC.

Ice fishing is an allowable use at Swinging Bridge Reservoir and Toronto Reservoir providing opportunities for winter recreation within the project boundaries.

### 6. *Methodology Consistent with Accepted Practice*

The NYSDEC largely support the methods proposed within the studies with the few important exceptions discussed above (i.e. failure to assess winter recreation activities). The recommended studies use standard techniques used in most hydro licensing activities.

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### *7. Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort would involve field site visits to the existing facilities with the parties of interest and recreational surveys of use as well as investigating the potential to add new access sites. The actual cost is unknown and would depend upon the number of observational and interview surveys to be conducted. The NYSDEC request for additional studies during the winter will result in additional effort, as opposed to only redistributing the same level of effort over a longer period of time. The existing literature is inadequate to fully address project impacts, and there are no alternatives to conducting standard recreation surveys. However, the Applicant has flexibility to design the most cost-effective way to acquire the necessary data.

### **H. Bald Eagle Management Study**

The Applicant did not include a Bald Eagle Management Study in the PSP based on an opinion that the existing data is sufficient and lack of a project nexus based largely on their general argument that efforts conducted during the original relicensing preclude the need for additional study. The NYSDEC disagrees with these opinions and these issues were largely addressed in our initial study request. In order to clarify the requested study, address updated information in the Supplement, and request additional data needed due to our continued review of the existing data, we have updated our bald eagle study request below. NYSDEC recommends that the Applicant incorporate a bald eagle study that assesses population and winter foraging in the RSP.

#### *1. Goals and Objectives*

NYSDEC requests that the Applicant conduct a study that will provide information regarding the current winter roosting and nesting locations on and near the Mongaup River Projects. The study should discuss and describe foraging activities of bald eagles in the reservoirs and near the tailraces of the Projects powerhouses. The goals and objectives of this study are to provide current and specific information regarding the bald eagle population and habitat use within the vicinity of the Mongaup River Projects. This study will collect data related to the effects of the Mongaup River Projects on both breeding and winter eagle use of the area. The study will also assess the availability of food resources, specifically entrained alewives and other fish species, for wintering bald eagles and relate this resource availability to eagle foraging activities and winter overnight roost site selection. Information from this study will guide and improve management of this important resource.

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This study would involve collecting any existing data from the NYSDEC, and other available sources. NYSDEC recommends conducting 1 additional year of targeted field observations of bald eagle foraging activities in the vicinity of the Mongaup River Projects, noting the location, number of eagles, and identity of food resource, if possible. Additionally, the study would identify, through field observations, important winter overnight roost sites and assess the current forage bases (alewife abundance) in the Mongaup River Projects' reservoirs and the current and projected (with the potential installation of modified intake trashracks) fish entrainment rates as they relate to current and future bald eagle winter use of the area.

The specific objectives of this study are to: 1) provide a map and updated status of all active and inactive bald eagle nest locations at the Projects; 2) provide maps of winter population and foraging areas and an estimate of the winter population of bald eagles at the Projects; 3) provide a detailed table of counts of bald eagle foraging activity by forage species/size by location and a figure of foraging activity for areas below each powerhouse in relation to generation at the Projects; 4) provide an analysis of the relationship of the observed winter forage activity in context of the fish entrained through the Projects and project operations; and 5) a detailed table of the current number of individuals of fish species by size entrained through the Projects in the winter months.

### 2. Resource Management Goals

NYSDEC's mission is *"to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."* The natural resource management goals within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

Bald eagles are a protected species under federal and State law. The Mongaup Valley has a noted population of bald eagles during both the winter and breeding seasons. The highly visible and accessible annual winter concentration of eagles in the Mongaup River Projects' vicinity from December through March is a valuable recreational asset and has resulted in the installation of multiple viewing blinds and areas by the NYSDEC.

### 3. Public Interest

The requestor is a state resource agency.

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### 4. Existing Information

The PAD provides some information bald eagles generally, but no site-specific information on nesting, winter roosting, or feeding activity is presented. One of the stated goals of the 1992 entrainment study during the last relicensing was to evaluate the availability of entrained alewife for winter feeding of bald eagles. There is no current information related to the importance of this resource to the bald eagles in the vicinity of the Projects.

The Supplement provides winter population estimates by the NYSDEC and Delaware Highland Conservancy (DHC). The NYSDEC winter bald eagle counts in the Mongaup River System extend from 1978-2010 and show an increasing population since reintroduction efforts in the late 1970s with a jump from 25 to 80 bald eagles from 2009 to 2010. The DHC collected weekend-only counts by trained volunteers of observations of bald eagles from 2014 to 2017 at the Mongaup Falls and Rio bald eagle viewing areas. These data show a decline from 1150 observations in 2014 to 200 observations in 2015 and a steady increase to 850 observations in 2017. Data is only provided for Mongaup Falls and Rio separately in 2014 and 2015, but Mongaup Falls had relatively more observations than Rio. It appears that this most recent data has only been collected at the publicly provided viewing areas, and no data is provided for other areas at the Mongaup Falls or Rio Projects or at the Swinging Bridge Project. The existing data does not allow for an evaluation of winter foraging activity in relation to the Projects' operations as there is no data for other foraging areas or activity at the Projects.

The Applicant has provided data from the *1992–1993 Entrainment Studies: Mongaup Hydroelectric Projects* in the Supplement. The stated goal of this study was to evaluate the availability of entrained alewife for winter feeding of bald eagles. USFWS have noted the deficiencies of this study in detail in their original study request letter. Despite issues with sampling efficiency, study design, and data analysis, this study did show that alewife (*Alosa pseudoharengus*) was the most abundant species entrained through the Projects in the winter months and that these individuals were typically less than 10 cm in length. Additional anecdotal evidence suggests that the open water in the winter months and the alewife forage base entrained through the Projects are the primary reasons for the notable winter bald eagle population at the Projects. Actual data regarding the foraging activities of bald eagles at the Projects, and the degree to which they feed on entrained fish and alewife, in particular, do not exist.

If wintering bald eagles are found to be foraging on potentially entrained fish species that are primarily not alewife, then an updated winter entrainment study may be

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needed. The general conclusions of the original entrainment study may be incorrect and/or entrainment rates may have changed at the Projects since the original licensing. It appears that changes at the Projects since the original entrainment study such as the implementation of minimum flows (i.e. intake conditions, mortality through release structures), changes in powerhouse operation (e.g., decommissioning of Unit 1 at Swinging Bridge, minimum flow powerhouse at Rio), and any changes in the fishery over time may have changed winter species-specific entrainment rates at the Projects. Additional data regarding the species currently entrained through the Projects that are potential forage for the wintering bald eagle population at the Projects would be needed.

### 5. *Nexus to Projects Operations and Effects*

The Projects entrain fish that have been anecdotally noted as a primary forage source for bald eagles in the vicinity of the Projects. Therefore, any mitigation measures related to fluctuations and entrainment may influence this protected species. Additional information is required in order to determine what effects fish passage and protection measures may have on fish entrainment (see Section IV.C: Fish Protection, Upstream and Downstream Passage Studies above) and additional information in order to determine what impacts these measures may have on the winter bald eagle populations at the Projects.

Activities (e.g., tree clearing, maintenance activities, recreation enhancements) conducted by the Applicant may cause 'take' of bald eagles if these activities occur in the vicinity of nesting, roosting, or feeding individuals. In order to prevent any 'take' during the course of the license, the Service will coordinate with the Applicant to develop a management plan for the protection of the bald eagle population at the Projects to be incorporated into the new license. The development of this management plan will require a current assessment of the bald eagle population at the Projects. The NYSDEC may recommend particular measures based on the location of particular nesting locations and areas of highest concentration of eagles.

### 6. *Methodology Consistent with Accepted Practice*

The NYSDEC recommends the following methodologies, consistent with standard avian survey, forage activity, and entrainment study methods found in the literature in other FERC relicensings, for this study by the objective noted above:

Objective 1: a) collect all available data from the NYSDEC and the DHC regarding eagle active and inactive bald eagle nest locations in the vicinity of the Projects; b) conduct one field season of study during the nesting season (December 1 through

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June 30) to identify the location and status (present/absent, active/inactive) of all nests in the vicinity of the Projects utilizing visual surveys. NYSDEC recommends that the Applicant follow the protocols found in the USFWS's *Bald Eagle Management Guidelines and Conservation Measures*. NYSDEC is not recommending aerial surveys or fledgling population estimates at this time due to the cost and risk for take during these methods; however, any observations of eagles during this survey should also be recorded and provided in the Study Report with other special status species survey results; c) prepare a map and summary of nest locations in the vicinity of the Projects symbolized by status.

Objective 2: a) conduct one field season (January – February) of observation of winter bald eagle activity in the impoundments, tailraces, and downstream areas of the Projects. NYSDEC recommends that this survey be conducted for two total weeks across both months of survey and that daily survey routes be followed to cover all areas across the Projects each day; b) counts and locations of observations of bald eagles should be recorded indicating whether or not feeding/foraging activities were occurring; c) prepare maps of the winter population (per survey effort per location) and winter activity of bald eagles at the Projects by plotting and interpolating the density of observations of bald eagles for all activity and for feeding/foraging activity, separately.

Objective 3: a) conduct one field season (January – February) of observations of all bald eagle foraging activity by forage species/size across all of the Projects; b) observations of all forage species should be recorded regardless of taxonomic identity, but general categories are acceptable (e.g., fish, mammal, bird). For fish species, we recommend collecting additional data related to species identity, especially for alewife, if possible, but estimates of the size of fish are needed. We recommend intervals of sizes be recorded (e.g., 0 – 5 cm, 5 – 10 cm, 10 – 20 cm, 20 – 50 cm); c) NYSDEC recommends a staggered approach to this methodology. Any incidental observations of forage species should be noted during the two weeks of survey for Objective 2, as described above. While unlikely, if all or nearly all foraging activity is not associated with areas near or immediately downstream from the Projects' powerhouses, bald eagles are likely not using entrained fish as a forage base and further study may not be required, if determined by the NYSDEC; c) otherwise, NYSDEC recommends this study continue for an additional week immediately following each survey week for Objective 2, focusing specifically on forage species in areas identified as the highest concentrations of eagle activity; d) Observations of bald eagles during these times can be added to the population estimate for Objective 2 for these locations; e) NYSDEC recommends observations during the week of focused survey be collected on a continuous basis at each location surveyed during this period. Project generation should be noted for each location associated with a

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downstream area from any Project's powerhouse; f) prepare a detailed table of counts of bald eagle foraging activity by forage species/size by location; g) prepare a figure of foraging activity for any surveyed areas below a Project powerhouse in relation to generation across the days surveyed

Objective 4: a) provide an analysis of the relationship of the observed winter forage activity in context of the fish entrained through the Projects and project operations; b) The NYSDEC recommends that this analysis fully incorporate the data and results from Objectives 2 and 3.

Objective 5: a) The NYSDEC also recommends a staggered approach to this Objective. If NYSDEC determines that the analysis in Objective 4 supports the general conclusion from the original entrainment study, in that all or nearly all of the forage fish species recorded below the Projects' powerhouses are alewife, generally less than 10 cm in length, then the NYSDEC believes that the existing information is sufficient for analysis of entrainment effects on the foraging activity of bald eagles at the Projects; b) otherwise, the NYSDEC recommends that the Applicant conduct an updated study of winter entrainment at the Projects, in consultation with the USFWS and the NYSDEC; c) this study may be a desktop analysis of entrainment, if survey data for the winter fishery population is sufficiently robust as determined by the USFWS and the NYSDEC; d) otherwise, the NYSDEC recommends that the Applicant conduct a field-based study; e) this study may employ net-capture methods, radio tagging, or any other method approved by the agencies, but we recommend that any method must have a collection efficiency of >80%, be conducted under the full range of conditions (minimum flow release, one to four turbine generation (as applicable)), and be conducted across multiple days during the peak foraging season (January – February) at each location.

### *7. Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The cost and level of effort will likely be low. Objective 1 will require two to four weeks for one to two trained biologists to gather data, conduct surveys, and prepare a map and summary. Objectives 2 – 4 will require two to four trained biologists four weeks for surveys and three to five weeks for data analysis and report preparation. The cost and effort of Objective 5 will depend on the methods employed but could range from low cost and effort for one to two weeks and one biologist to conduct a desktop analysis of entrainment based on other data collected in the fisheries surveys to relatively high cost and effort involving a small team of biologists developing and conducting a field-based entrainment study and preparing reports over several months to a year.

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The FERC submitted a study request for Special-status Wildlife Species and Habitat Assessment, which the NYSDEC supports. Objective 1 of this study request is complimented by this larger request from the FERC, and we provide more detail regarding bald eagles in our request with a similar expectation of effort during the breeding season. The Applicant has proposed to collect incidental observations and document encountered bald eagle nest locations during the summer and fall. However, this survey effort would largely occur outside of the nesting season (December 1 through June 30) and as proposed may exclude known nesting locations. Objective 2 may additionally be complimented by the FERCs request. The FERC references that bald eagles may use all five reservoirs during the winter months, but does not clarify the amount of effort required to evaluate the status of the winter population or whether the existing information is sufficient. The Applicant has proposed not to survey bald eagles in the winter months. No alternative studies have been proposed to address winter foraging and the relationship to entrainment as requested in Objectives 3 – 5. The data collected for Objectives 3 – 5 will necessarily provide the data for Objective 2 based on our recommended methodology.

#### **I. Impoundment Fluctuation Studies**

The Applicant has proposed this study to address study requests by multiple stakeholders, as well as the FERC. The NYSDEC generally supports this study. NYSDEC note that the Applicant included study requests to look at the impacts of the Projects on the Delaware River through gauge data; however, they are only proposing to look at flows, and did not identify which gauges would be used. The National Parks Service (NPS) requested the Applicant also evaluate temperature data, as available, in the Delaware River, and we recommend these data be included in this analysis. Additionally, the presentation of this data may require more than a single plot. NYSDEC recommends linking project generation to changes in streamflow in the Delaware River that looks at percentage of flow and amount of daily variation resulting from project operations. Lastly, the NYSDEC requested a log of scheduled release dates compared to actual releases to evaluate the impacts of changes in release schedules on the Delaware River.

NYSDEC also recommend that the table to be developed with volumes released from the reservoirs in a typical year include data for the volumes released for whitewater releases and show a range of generation volumes including low, typical, and high generation years.

As part of the Impoundment Fluctuation Studies, NYSDEC requested the identification of the extent of the changes in, and adjacent to, the impoundment areas, substrate and type of habitat, the depth at various pond levels, and any important habitat types (i.e., wetlands and submerged aquatic vegetation) that may be present. However, Eagle Creek is proposing to conduct a combination of field surveys and desktop analysis to identify and map aquatic habitats within the Projects' reservoirs fluctuation zones as part of the

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Aquatic Habitat Mapping Study. NYSDEC is concerned that this dilutes and partially obscures the goals and objectives of the Impoundment Fluctuation Studies. The NYDEC recommends that Eagle Creek separate out the habitat mapping element of the Impoundment Fluctuation Studies from within this larger Aquatic Habitat Mapping Study to provide clarity to the NYSDEC and the FERC regarding what data is being collected and why.

The Applicant proposed in the PSP to opportunistically survey the shoreline habitat of the reservoirs based on water levels. NYSDEC notes that the Applicant has incorporated our comments from the Study Planning Meeting to use additional techniques that do not require a full reservoir drawdown to acquire these data in the Supplement. NYSDEC looks forward to this addition in the RSP.

The NYSDEC is concerned that the period of observation has been proposed to be limited to summer and fall. Reservoir levels vary dramatically over the course of the year, and NYSDEC encourages the applicant to sample over a whole year, at different reservoir levels, with multiple sampling techniques, to obtain the data needed to address the goals and objectives of this study.

The Service recommended that the Applicant identify erosional areas within the impoundments as part of our study request. Please incorporate this data into the study plan.

#### 1. *Goals and Objectives*

The goals and objectives of this study are to provide information regarding the habitat in the impoundments and how it is impacted by changes in water levels. This information will then be used to determine what impacts need to be addressed and whether an alternative operational mode may be more desirable.

The NYSDEC recommends that the Applicant conduct an impoundment fluctuation study. This study will assist in the determination of what fish and wildlife resources are being impacted and to what degree. The study should consist of mapping the aerial extent and habitat in the fluctuation zones at full pond and at drawdowns consistent with Project operations. The maps should identify the extent of the changes in, and adjacent to, the impoundment areas, substrate and type of habitat, the depth at various pond levels, and any important habitat types (i.e., wetlands and submerged aquatic vegetation) that may be present. Steep slopes, fluctuations in stream flow, and fluctuations in reservoir elevations can lead to mass movement, and we recommend that eroding or potentially erodible areas within the fluctuation zone be evaluated and included in the maps.

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The NYSDEC recommend that the Applicant study the range of flow releases evaluated in the flow studies in relation to the potential for impoundment fluctuations at the Projects. This would involve deriving a calculation of storage at the Mongaup River Projects at different depths and the degree to which different flow releases can be maintained at differing starting elevations. Estimates should be quantitative and based on million gallons per day estimates of the releases in relation to total storage. This would be an extension of the current draft operating plan.

The NYSDEC recommends that the Applicant prepare a consolidated figure or table that presents all of the relevant elevations for Mongaup River Project operations. This figure or table should include the dam crest, maximum and minimum fluctuation ranges, any intake/outlet gate inverts (and height), any required seasonal limitations on fluctuations and their duration, and the target elevations proposed by the Applicant and their duration.

In addition, the NYSDEC recommends that the Applicant develop a table or chart that clearly shows the volume released from each reservoir (i.e. Cliff Lake, Toronto Reservoir, and Swinging Bridge Reservoir) to meet the minimum flow target over the course of the year compared to the amount released for generation on a typical year. This should also be modelled to show the range of likely operations during high and low power demand years. Ideally these volumes would be graphically represented to show how they relate to vertical drawdowns in each waterbody. This could also be done to account for typical high and low water years.

## 2. Resource Management Goals

NYSDEC's mission is "*to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being.*" The natural resource management goals within the Mongaup River Projects areas, as well as immediately outside of those areas, will be consistent with our mission while focusing on protecting and enhancing fish and wildlife habitat, and improving public access.

## 3. Public Interest

The requestor is a state resource agency.

## 4. Existing Information

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The PAD provides information related to the maximum and target fluctuation levels of the Projects. Additionally, there is a draft operations plan that provides information related to refill rates based on seasonal targets in reservoir elevations. There are no data provided regarding habitat within the impoundments that may be affected by the Projects operations.

### *5. Nexus to Projects Operations and Effects*

The Projects operate in a ponding fashion and large fluctuations occur in the reservoirs that impact shoreline habitats in the vicinity of the Projects. Additionally, this comparison should help to put into perspective some of the public concerns that the existing minimum flow releases are the bulk of the reason for the drawdown elevation dropping significantly at times.

The Mongaup River Projects have large maximum and target fluctuation ranges. These fluctuations create a zone around the impoundment shoreline that is periodically dewatered. The habitat in this zone is usually not as valuable to aquatic organisms and plants as the habitat with more constant water levels. These fluctuations can impact wetlands and shallow littoral vegetation, as well as the invertebrates, fish, birds, mammals, amphibians, and reptiles that use these habitats.

### *6. Methodology Consistent with Accepted Practice*

The recommended study uses standard study techniques used in many hydro licensing activities at projects with ponding operations.

### *7. Level of Effort, Cost, and Why Alternative Studies Will Not Suffice*

The level of effort would be moderate and would involve one crew surveying the impoundments as well as the preparation of a desktop analysis of the effect of different elevations on habitat and flows on elevations. The actual cost is unknown but would depend on the variety of habitats found in the impoundments.

## **Foregoing Studies in Lieu of Protection, Mitigation, and Enhancement Measures**

Under the Integrated Licensing Process being used for this relicensing, the Licensee is required to file and have approved by the Federal Energy Regulatory Commission a formal Study Plan. As such, there may be an opportunity to reduce some of these studies in scope, or even forgo some of them, if agreements can be reached up front regarding certain Protection, Mitigation, and Enhancement (PME) measures. The New York State

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Department of Environmental Conservation recommends that the Applicant convene a meeting with the stakeholders prior to developing the Revised Study Plan to determine which studies could be reduced or eliminated in return for agreements to proceed with certain PME measures.

The Revised Study Plan developed by the Applicant should incorporate all of the above-listed studies. The study proposals incorporated into the Revised Study Plan should be as detailed as possible so that all parties know exactly what is being agreed to when the Study Plan is approved.

Thank you for the opportunity to comment on this Proposed Study Plan and further clarify our study requests. If you have any questions or desire additional information, please contact me at (845) 256-3040.

Sincerely,



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Mike Flaherty, NYSDEC  
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## United States Department of the Interior



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Kimberly D. Bose, Secretary  
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Non-ER  
December 11, 2017  
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**RE: Rio Hydroelectric Project (FERC No. P-9690-112)  
Mongaup Falls Hydroelectric Project (FERC No. P-10481-067)  
Swinging Bridge Hydroelectric Project (FERC No. P-10482-117)  
Comments on Proposed Study Plan**

Dear Secretary Bose:

The National Park Service (NPS) has reviewed the September 12, 2017, *Proposed Study Plan* (PSP) submitted by Eagle Creek Hydro Power, LLC, Eagle Creek Water Resources, LLC, and Eagle Creek Land Resources, LLC, collectively referred to as Eagle Creek Hydro (Applicant) for the Rio (FERC No. 9690-112), Mongaup Falls (FERC No. 10481-067), and Swinging Bridge Hydroelectric Projects (FERC No. 10482-117). The three projects, collectively known as the Mongaup River Hydroelectric Projects (Project or Projects), are located on the Mongaup River in Sullivan and Orange Counties, New York. The NPS attended the October 4, 2017 public study scoping meeting. An informal study planning meeting was held on November 9, 2017, with the USFWS, FERC and the NYSDEC. The presentations from that meeting were largely filed by the Applicant with the FERC in the November 29, 2017, *Study Scoping Supplement Information* document (Supplement). We have reviewed this supplementary document and have incorporated this information into our comments below. On July 24, 2017, the NPS filed comments on the PAD, Study Requests and an Appendix which set out the NPS statement of interests and NPS unit resources affected by the projects.

The Applicant frequently references the “robust” nature of the prior studies conducted in the 1980s and early 1990s in pursuit of the original license for the Projects as a justification for not conducting or limiting the scope of studies during the current relicensing. However, the majority of the existing data were collected prior to the implementation of notable operational changes required during the original licensing and throughout the current license (e.g., minimum flows, impoundment level restrictions, decommissioning and installation of powerhouses). Judicial precedent holds that the FERC cannot consider relicensing as merely a continuation of the *status*

*quo* and that each relicensing is a new opportunity to rebalance the resources at hand (Yakima Indian Nation v. FERC, 746 F.2d 466(9th Cir. 1984)). The NPS views this relicensing as a significant opportunity to evaluate the current condition of the resources and potential impacts from the Projects *with the benefit of comparison to* data collected during relicensing conditions. Conditions have changed considerably since the projects were originally licensed (recreational uses, opportunities and demands, wildlife habitat, development, power demands and changes to weather and natural conditions), so if the applicant provides almost no new data, FERC will not have an adequate factual basis upon which to base a licensing decision. We recommend that the Applicant collect additional data that is comparable to the existing data collected in the original licensing, and that which has become standard practice in relicensings since the early 1990s, in order to facilitate analyses of changes due to the original licensing and over time in order to best inform future license conditions at the Projects.

The Applicant frequently indicates that the FERC cannot require a study without a detailed methodology and estimate of effort and cost. We disagree with these determinations by the Applicant in that the clear language of 18 CFR §5.9(b) indicates that a study request must contain an explanation of “how *any proposed* study methodology... is consistent with generally accepted practice...” and “*considerations of level of effort and costs, as applicable...*” [emphasis added]. It is clear that a detailed methodology and estimate of effort and cost are not required within a study request, but are helpful to FERC to determine the scope and feasibility of a requested study. Our requests included proposed study methodologies noted as consistent with methodologies required in most FERC relicensings in New York and an assessment of their relative cost and level of effort, which fully address the requirements of the FERC in 18 CFR §5.9(b).

### **NPS Requested Studies Not Addressed in the PSP**

In our comments on the Pre-Application Document (PAD) filed with the FERC on July 24, 2017, the NPS requested specific studies needed to assess potential impacts on resources and values that the NPS is charged with stewardship of under the Wild and Scenic Rivers Act (WSRA 16 USC 1278). The PSP did not adequately incorporate our requested studies.

### **Flows Study**

One of these NPS requests was for a flows study to evaluate base flows and controlled releases in the Mongaup River, and their influence on upstream and downstream Delaware River conditions (Discharge-cubic feet per second, stage height, water temperature) at seven USGS gages on the Delaware system upstream of the Mongaup River, and five USGS gages on the Delaware River downstream of the Mongaup River. This request followed the study criteria required in 18 CFR §5.9(b), and included goals and objectives, the relevance to resource management goals of the NPS, nexuses, methodologies, and consideration of effort/cost.

This study request was combined by the Applicant with other study requests into a proposed single study entitled *Reservoir Water Level Fluctuation/Operation Study Plan* within the PSP. This proposed combined study is inadequate for meeting the specific goals and objectives of the

NPS study request. We recommend that the Applicant structure the Revised Study Plan (RSP) according to the stand alone study requests of the stakeholders as they were submitted.

Rio water releases to the Mongaup River flow directly into the Delaware River, and occur within a system with strict rules governing flow management established by the *Amended 1954 Supreme Court Decree* (<https://water.usgs.gov/osw/odrm/decreed.html>). The Rio releases count towards the USGS Montague Gage flow target 16 miles downstream of the mouth of the Mongaup River. The USGS River Master factors these Rio flows, along with base flow and other inputs, into what is needed to meet the Montague flow target, and develops daily flow designs calling for corresponding additional water releases from New York City (NYC) reservoirs on the East and West Branches of the Delaware needed to meet, but not exceed, the Montague target (<https://water.usgs.gov/osw/odrm/intro.html#duties>). Rio releases therefore directly influence the volume of water called for by the USGS River Master in directed releases from NYC reservoirs on the East and West Branches of the Delaware River to meet the Montague target. This has a direct influence on flow volumes in the East and West Branches of the Delaware River below the reservoirs and on the 69 miles of the main stem Delaware River above the Mongaup River. This reach of the Delaware River contains trust species such as the state and federally-endangered dwarf wedgemussel (*Alasmidonta heterodon*), which occupies habitat subject to dewatering with inadequate flows.

Further, the Delaware River downstream of the Mongaup is potentially impacted by lower than normal water when planned Rio releases provided to the USGS River Master three days in advance, and factored into the flow design, are later cancelled or reduced, which happens frequently. There is no way for the River Master to make up those flow volumes counted upon to meet the Montague flow target within a short timeframe, resulting in a deficit at the Montague gage and lower flows in the Delaware River 77.44 miles downstream of the Mongaup River all the way to Easton, PA, the upstream-most point where directed releases from the Lehigh River system can make up for deficient Delaware River flows.

In addition to fish and wildlife resources potentially being impacted, recreational resources on the main stem Delaware River are also subject to being degraded by inadequate flows. The Delaware River supports the largest canoe livery industry in the United States, and inadequate flows can result in boaters having to get out and drag boats over shallow riffles and gravel bars, negatively impacting their recreational experience. This dragging and walking can also negatively impact benthic aquatic life, such as mussels and aquatic insects.

This project has the potential to affect the entire 73.4 miles of the Upper Delaware Scenic and Recreational River, the 40 miles of the Middle Delaware Scenic and Recreational River, and the upper 10 miles of the Lower Delaware Scenic and Recreational River, extending down to Easton, PA.

## **Conclusion**

We anticipate that the Applicant will pursue a settlement agreement for these Projects. As such, during the development of the Study Plan that must be approved by the FERC during the Integrated Licensing Process, there may be an opportunity to reduce some of these studies in scope, or even forego some of them, if agreements can be reached up front regarding certain PME measures. The NPS recommends that, prior to the development of the Revised Study Plan,

the Applicant convene a meeting with the stakeholders to determine which studies could be reduced or eliminated in return for agreements to proceed with certain PME measures.

Questions or comments should be addressed to Kevin Mendik at [kevin\\_mendik@nps.gov](mailto:kevin_mendik@nps.gov) or Don Hamilton at [don\\_hamilton@nps.gov](mailto:don_hamilton@nps.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "K Mendik", is positioned above the typed name.

Kevin Mendik  
NPS Northeast Region  
Hydro Program Manager

December 11, 2017

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**STEVEN D. WILSON**

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**VIA ELECTRONIC FILING**

Hon. Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**RE: Swinging Bridge Hydroelectric Project (FERC No. P-10482-117)  
Mongaup Falls Hydroelectric Project (FERC No. P-10481-067)  
Rio Hydroelectric Project (FERC No. P-9690-112)**

**Comments of Swinging Bridge Property Owners Association on  
Proposed Study Plan**

Dear Secretary Bose:

Eagle Creek Hydro Power, LLC, Eagle Creek Water Resources, LLC, and Eagle Creek Land Resources, LLC (collectively "Eagle Creek") are the owners and operators of the Swinging Bridge, Mongaup Falls, and Rio Hydroelectric Projects (collectively "Mongaup River Hydroelectric Projects" or "Projects"). The licenses issued by the Federal Energy Regulatory Commission ("FERC" or the "Commission") for the Mongaup River Hydroelectric Projects will expire on March 31, 2022 and Eagle Creek is pursuing new licenses for each of the Projects. On September 12, 2017, Eagle Creek filed the Proposed Study Plan (PSP) with the Commission pursuant to the Commission's Integrated Licensing Process (ILP) and 18 CFR § 5.11.

Pursuant to §5.12 of the Commission's regulations (18 CFR § 5.12), Swinging Bridge Property Owners' Association (SBPOA) hereby files its comments on the PSP. SBPOA is an association of approximately 132 homeowners located on the Swinging Bridge Reservoir – the site of one of the three Mongaup River Projects – and, therefore, has a direct stake in the outcome of this proceeding.<sup>1</sup>

Of utmost importance to SBPOA is maintenance of adequate water levels on the Swinging Bridge Reservoir. SBPOA's main focus in this ILP is, therefore, to ensure that

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<sup>1</sup> The Commission's regulations state, "[c]omments on the potential applicant's proposed study plan, including any revised information or study requests, must be filed within 90 days after the proposed study plan is filed. This filing must also include an explanation of any study plan concerns and any accommodations reached with the potential applicant regarding those concerns. Any proposed modifications to the potential applicant's proposed study plan must address the criteria in §5.9(b)." 18 CFR § 5.9(b). The SBPOA offers general and limited comments and does not propose any information or study request. Accordingly, satisfaction of Section 5.9(b) of the Commission's regulations should not be required.

minimum flows are set at a level supporting aquatic resources in, and recreational use of, the Mongaup and Delaware Rivers while at the same time avoiding depletion of the Swinging Bridge Reservoir during dry conditions, the impacts of which are shown in the adjacent images.

SBPOA generally supports Eagle Creek's applications for new licenses for the Mongaup River Hydroelectric Projects. When Eagle Creek filed its Pre-Application Document, SBPOA objected to Eagle Creek's position that no new studies were warranted with respect to water levels in the reservoirs. With the addition of § 5 in the PSP, *Reservoir Water Level Fluctuation/Operation Study Plan*, SBPOA is satisfied that the necessary analyses will be conducted – the results of which will allow the Commission to make an informed decision on the license applications.

The PSP also contains a proposal (§ 13) to conduct a *Shoreline Management Assessment Study Plan*, as requested by the Commission. As part of this analysis, Eagle Creek will utilize, among other things, a questionnaire entitled *Draft Survey for Abutting Shoreline Property Owners* (Figure 13-1). PSP § 13 states Eagle Creek will consult with interested stakeholders, including property owner representatives, in the development of the questionnaire. SBPOA has been in contact with Eagle Creek and its environmental consultant regarding the questionnaire and offers the following comments for the record in this proceeding and respectfully requests that the proposed changes be incorporated:

- Question 1: SBPOA understands that the survey will also be provided to landowners not owning property directly on the waterfront of any of the reservoirs. SBPOA therefore recommends that this question either be revised, or another question be added, such that the person responding can indicate whether their property is waterfront or non-waterfront. If non-abutting landowners are also eligible to complete this survey, the title should also be changed for abutting and non-abutting property owners.
- Question 2: The term "Year Round" should be qualified, *e.g.* greater than six months.
- Question 6: This question should be modified to read as follows: "Do others utilizing the adjacent reservoir and abutting lands (including public or private access) for recreation purposes affect your property?"
- Question 7: There should be some differentiation between weekday and weekend/holiday use.
- Question 8: There should be some differentiation between weekday and weekend/holiday use. In this question, or somewhere else in the survey, the issue of littering, abuse of access, *etc.* should also be addressed.
- Question 12: The option for zero days per year should be added.
- Question 20: This question is framed too broadly. During years when water levels are high, those using the reservoir are likely satisfied with water levels with the opposite (*i.e.* dissatisfaction) occurring during years with low water levels. Accordingly, an answer of "Satisfied" could lead the reviewer to

erroneously conclude that the respondent is satisfied every year. This question should be refined to elicit satisfaction levels based on differing conditions.

- Question 27: This question should be separated into two questions, one addressing public opportunities and the other addressing private opportunities.

The SBPOA appreciates the opportunity to comment on the PSP and looks forward to working with Eagle Creek Hydro and other stakeholders during the remainder of this ILP.

Respectfully submitted,

/s/ **Steven D. Wilson**

Steven D. Wilson

*Attorney for Swinging Bridge Property  
Owners Association*

cc: Party List

**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

Eagle Creek Renewable Energy  
Application for New License

Swinging Bridge Hydroelectric Project (No. 10482)  
Mongaup Falls Hydroelectric Project (No. 10481)  
Rio Hydroelectric Project (No. 9690)

**AMERICAN WHITEWATER, APPALACHIAN MOUNTAIN CLUB, AND KAYAK  
AND CANOE CLUB OF NEW YORK COMMENTS IN RESPONSE TO PROPOSED  
STUDY PLAN FOR THE MONGAUP RIVER HYDROELECTRIC PROJECTS  
(FERC PROJECT NOS. P-10482, P-10481, AND P-9690)**

American Whitewater (AW), Appalachian Mountain Club (AMC), Kayak and Canoe Club of New York (KCCNY) submit the following comments in response to the Proposed Study Plan filed by Eagle Creek Renewable Energy for the Mongaup Hydroelectric Projects. We incorporate by reference our comments and study request submitted on July 28, 2017 (FERC Accession No. [20170728-5107](#)), and we request that the Licensee revise and amend its Proposed Study Plan to reflect the deficiencies in the proposed plan that fail to adequately address the ecological and recreational impacts of project operations in and below the project boundary.

Under the current FERC license, a continuous minimum flow of 100 cfs or less is released into the bypassed reach, altering the natural hydrology by substituting an artificial steady state habitat for the natural flow regime and eliminating naturally variable flows. The project rarely spills into the bypassed reach above the required minimum flows. There is a minimum flow turbine in the bypassed reach. The project penstock leads to a 10 MW powerhouse containing two turbines each capable of releasing 435 cfs into the Mongaup River below the project. Eagle Creek is required to schedule generation to provide weekend whitewater releases on 15 days annually between April 15-October 31, alternating between 435 cfs (one turbine) and 870 cfs (two turbines) for four hours every other week during this period.

**Whitewater Boating Study**

- AW/AMC/KCCNY Study Requests

Our organizations submitted a timely request for a controlled-flow whitewater boating study in the natural river channel (bypassed reach) below the Rio Dam. We are seeking to determine whether the bypassed reach has the potential to provide a high-quality whitewater boating experience once sufficient flows are provided. In addition, we requested that the Licensee study the adequacy of the existing recreational releases on the reach between the Rio powerhouse and the confluence with the Delaware River. Our study request sought the following goals & objectives:

- Assess the effects of a range of optimal and acceptable flows on whitewater recreation opportunities for whitewater paddling in the natural river channel, including the bypassed

reach, from the Rio Dam to the confluence of the Mongaup River with the Delaware River;

- The frequency, timing, duration and predictability of optimal and acceptable paddling flows under current, proposed, and alternative modes of operation;
- Identify the need for, and define adequate put-in and take-out points that promote car-top boating, and also identify the needs for parking areas;
- The location, challenge, and other recreational attributes associated with specific rapids and other river features;
- The access needs of whitewater boating use and the current and potential river access options for whitewater and other paddling;
- The flow information needs of whitewater boating and the current and potential flow information distribution system.

Our stakeholder groups requested that the Licensee study existing and potential future opportunities for whitewater boating on two sections of the Mongaup River in the Rio development: 1) Rio bypassed reach between the Rio Dam and the project tailrace, and, 2) below the tailrace and the confluence with the Delaware River.

The 1.5-mile long bypassed reach below the Rio Dam drops approximately 84 feet, or approximately 56 feet per mile. When combined with the 3-mile long lower reach below the powerhouse, the 4.5-mile reach from the dam to the Delaware would provide a high-quality whitewater boating opportunity with sufficient flow, as the Licensee acknowledges that the gradient in the bypassed reach is similar to the gradient of the lower Mongaup reach below the Rio Project tailrace. The Rio project profoundly alters the natural hydrology in the bypassed reach, creating an artificial steady state habitat through the release of 100 cfs or less from the minimum flow powerhouse. Missing is all of the natural variability that would be present in the river but for the project flow alteration, including spring freshet high flows and periodic pulses following significant rain events. Also missing is all recreation boating opportunity, as 100 cfs fails to provide a sufficient boating flow.

Our organizations, FERC, and other stakeholders are requesting a controlled flow whitewater boating study in the bypassed reach to determine the minimum acceptable and optimal boating flows. The gradient of this reach as compared to the lower Mongaup suggests that flows between 500 and 1500 cfs may be in the range of boatable flows, with flows in the higher range likely providing a better boating experience; however, the only way for FERC, stakeholders and the Licensee to determine the most appropriate boating flows is to conduct a controlled flow study following well establish protocols as articulated by Whittaker, *et al.*

In response to the study requests by FERC, our organizations, and other stakeholders, the Licensee purports to “study” the whitewater boating potential of the bypassed reach by conducting a literature review and surveying boaters. Given that the Licensee has spilled flows in excess of the 100 cfs minimum flow perhaps once in the past decade after Hurricane Irene, it is unclear who the Licensee plans to survey to determine the boating potential of this reach. Furthermore, neither the American Whitewater rivers database nor any other guidebooks of which we are aware contain any description of the flows, features, or difficulty of the bypassed

reach. As such, the Licensee’s “proposed study plan” will provide no more useful information than could be obtained by reviewing Google Earth imagery.

The Licensee states the following in response to requests by American Whitewater and other stakeholders for an on-water controlled flow study following the Whittaker, *et al.* protocols:

AW/AMC/KCCNY requested a controlled flow whitewater boating assessment, including multiple on water-flow assessments. The Licensee is not proposing to conduct an on-water controlled flow evaluation at this time as the need for such is dependent on the results of this assessment.

While a desktop analysis is an initial step in the Whittaker *et al.* protocol, we already know that the reach between the dam and the powerhouse is a viable reach of reasonable difficulty and presumed value with recreational unknowns that require on water studies.

The Proposed Study Plan fails to elaborate on how its supposed literature review or its structured interviews of boaters who are unable to boat on the bypassed reach due to a lack of flows will somehow inform the need for an on-water boating assessment. What limited anecdotal information is available from 2011 suggests that the reach is boatable when there is sufficient spill, but there is insufficient information to determine minimum acceptable and optimal boating levels among a range of skill levels from novice to expert and a range of watercraft including, kayaks, canoes, cataraft, and SUP.

In *Flows & Recreation: A Guide to Studies for Recreation Professionals*, Whittaker *et al.* specify the step-wise approach to conducting whitewater boating studies, as follows:

- Level 1 – “desk-top” options: This is the initial information collection and integration phase. It usually focuses on “desk-top” methods using existing information, or limited interviews with people familiar with flows and recreation on the reach.
- Level 2 – limited reconnaissance options: This increases the degree of resolution through limited reconnaissance-based studies, more intensive analysis of existing information, or more extensive interviews.
- Level 3 – intensive studies: This substantially increases the degree of resolution through more intensive studies, which may include multiple flow reconnaissance, flow comparison surveys, or controlled flow studies.

In this case, the Licensee proposes to limit its study to a Level I desktop analysis. According to the protocols specified in the paper, the decision to proceed from a Level 1 to a more intensive analysis rests on answers to the following questions:

1. Are there flow-dependent recreation opportunities on the river segments?
2. Are flow-dependent opportunities affected by project operations?

3. Are flow-dependent recreation opportunities “important” relative to other resources or foregone power generation?
4. Does Level 1 information precisely define flow ranges and potential project effects for each flow-dependent opportunity?

In the case of the Rio bypassed reach, the answers to these questions are already known. Recreation opportunities in the bypassed reach is a flow-dependent activity. The Licensee acknowledges that the gradient and character of the bypassed reach is similar to that of the lower reach below the project tailrace and that whitewater boating is currently occurring below the project. Project operations adversely impact on whitewater boating opportunities in the bypassed reach as the project diverts all but minimum flows into a penstock for power generation, depriving the bypassed reach of flows that could otherwise be used for whitewater boating. Stakeholders, including FERC and AW/AMC/KCCNY have identified that studying the opportunity for whitewater boating is important, and there is no agreement among stakeholders and agencies to forego studying whitewater boating relative to other resource needs. Finally, there is a lack of precise information on flow ranges in the bypassed reach that would enable the Licensee, FERC and stakeholders to determine the minimum acceptable and optimal boating flows.

While the Licensee asserts that a decision on whether to proceed to an on-water study of the bypassed reach is dependent on the results of its Level 1 analysis, the answers to the questions specified by the protocols are already known. As such, the Licensee should be required to conduct an on-water controlled flow analysis as part of its whitewater boating study. In addition, the Licensee should assess whether modifications to existing facilities, possibly including modifications to spillways, flashboards, outlet valves, or the installation of a gate, would facilitate whitewater boating releases from the Rio Dam. The Licensee should also utilize its operations model to determine the availability of flows and the impact on project generation resulting from scheduled whitewater boating releases into the bypassed reach.

- Lower Mongaup Below the Rio Powerhouse

The 3-mile section of the Mongaup River between the Rio powerhouse and the confluence with the Delaware River provides a high-quality whitewater boating opportunity when sufficient flows are provided. Under the current Article 401 in the current license, the Licensee is required to provide a one-turbine release of 435 cfs below the Rio powerhouse tailrace on one day every other weekend between April 15 and October 31 for four hours during alternating Saturdays and Sundays. In 2004, FERC ordered the Licensee to study the feasibility of providing two-turbine releases from the powerhouse, and in 2007, required the Licensee to provide a two-turbine release once a month below the project.

We recognize that both one-turbine and two-turbine releases provide different whitewater boating opportunities. The Licensee should be required to analyze boater sign-in logs, survey boaters at scheduled releases, and develop an online boater survey in order to assess boater preferences for release levels under the current license requirements. The Licensee should use this data to determine the appropriateness and the adequacy of the current releases in order to determine whether there is demand for an increase in the number of releases or changes to flows.

In addition, the Licensee should conduct an on-water controlled flow whitewater boating evaluation of the lower Mongaup reach as part of the on-water assessment of the bypassed reach) to determine minimum acceptable and optimal boating flows. An on-water evaluation of both the upper and lower reach is important because it will allow for an evaluation of a range of flows over the entire reach, not just one or two turbine releases from the tailrace as provided currently. An evaluation of the entire 4.5-mile reach from the dam to the Delaware did not occur in the prior boating study and should be conducted because doing so would be qualitatively different than an evaluation of only two test flows on just the lower portion.

In refusing to conduct a robust whitewater boating study as requested by stakeholders, the Licensee identifies the following deviations from stakeholders' study requests, stating the following:

- *AW/AMC/KCCNY requested a controlled flow whitewater boating assessment, including multiple on water-flow assessments. The Licensee is not proposing to conduct an on-water controlled flow evaluation at this time as the need for such is dependent on the results of this assessment.*
- *AW/AMC/KCCNY requested that the Licensee evaluate opportunities to modify or enhance the current whitewater flow release schedule, boater access facilities, and/or boating information. The Licensee is not proposing to evaluate such opportunities at this time because the need for modifications or enhancements, if any, is dependent on the results of this assessment.*

The Licensee is plainly disinterested in conducting serious study of whitewater boating opportunities impacted by project operations. In refusing to conduct an on-water assessment, and in addition, refusing to study the adequacy of current release schedules, access, and flow information, the Licensee seeks to avoid collecting data that would evaluate the adequacy of current recreational opportunities and the need for additional measures under a new license. The purpose of the studies is to provide FERC with sufficient information with which to complete its NEPA analysis, and the Licensee's unwillingness to complete a robust study will prevent FERC from performing an adequate environmental review of the project.

- FERC Study Requests

FERC similarly requested that the Licensee evaluate the opportunity for whitewater boating in the bypassed reach below the Rio Dam, including the adequacy of existing whitewater releases below the tailrace, as follows:

- Evaluate the adequacy and appropriateness of the current whitewater boating opportunities at the Project, including flow releases and access facilities.
- Assess whitewater boating opportunities in the bypassed reach between the Rio Project minimum flow powerhouse tailrace and the main powerhouse tailrace.
- Identify potential measures to enhance whitewater boating opportunities.

- Include consultation with stakeholder groups to develop a whitewater boating-specific addendum to the recreation use/user survey instrument that would rate satisfaction with the current whitewater boating flow release schedule, access facilities, and boating information.
- The study report should include an assessment of opportunities to modify or enhance the current whitewater flow release schedule, boater access facilities, and/or boating information

The Licensee fails to acknowledge that its Proposed Study Plan fails to achieve any of the goals identified in FERC's study request. With regard to existing whitewater boating opportunities at the project, the Licensee does not propose to study the adequacy or appropriateness of current whitewater boating opportunities as its survey instrument fails to collect information on minimum acceptable or optimal boating flows, the adequacy of current release schedules, or the adequacy of current flow information. The Licensee does include an entire section in the survey seeking information on boating in the bypassed reach; however, little or no useful information will be collected given that the Licensee is unwilling to conduct an on-water boating assessment of the bypassed reach and natural spill greater than 100 cfs is virtually nonexistent. Although FERC requests that the Licensee assess whitewater boating opportunities in the bypassed reach, the Licensee will be unable to do so without an on-water boating assessment at various flow levels.

Furthermore, the Licensee does not propose to identify measures to enhance whitewater boating opportunities as part of this study, such as releasing flows into the bypassed reach or increasing the number of scheduled whitewater releases from the powerhouse. Notably, the Licensee's proposed study report does not include an assessment of opportunities to modify or enhance the current whitewater flow release schedule, boater access facilities, and/or boating information as requested by FERC. Instead, the Licensee inadequately proposes to describe whitewater boating flows in the bypassed reach without assessing minimum acceptable or optimal boating flows, nor does it propose to collect information on demand for additional boating opportunities. While it purports to include recommendations on the need for an on-water controlled flow evaluation, it provides no basis for doing so.

The Licensee proposes to rely on the results of the 1990 boating study, but that study did not include the bypassed reach at various flow levels. In addition, whitewater boats and boating have fundamentally changed in the 18 years since the last study with a greater emphasis on "playboating" rather than river running, and the results of the 1990 study are no longer a valid measure of recreational boating on the lower reach. In order to evaluate the entire reach from the Rio Dam to the Delaware confluence in terms of flow levels, features, and length in comparison to other regional boating resources, a new boating study should be conducted as part of this relicensing. The Licensee has not included a copy of the 1990 whitewater boating study referenced in its Proposed Study Plan. It should file a copy of this study report with its response to these comments.

### **Operations Model Study**

The Licensee should revise its proposed Operations Model study to include alternative modes of operation that would enhance whitewater boating opportunities in the bypassed reach and below the Rio powerhouse. While the current license requires 15 scheduled releases during the April 15 – October 31 boating season, alternative modes of operation under a new license may require significantly more releases from either the powerhouse or at the Rio Dam. The Licensee should study the impact of additional releases on reservoir elevation levels and generation under alternative modes of operation in its Operations Model Study in order to determine the feasibility of enhancing whitewater boating opportunities in and below the project boundary.

### **Base and Bypass Flow Study**

The Licensee contends that a Base and Bypass Flow Study is unnecessary because the prior Licensee completed an IFIM study nearly 30 years ago. Requiring a new IFIM study in this relicensing would be appropriate and allow FERC to evaluate the impact of significant flood events including Hurricane Irene in 2011. In addition, a new IFIM would allow for an assessment of habitat in the bypass reaches and downstream of project tail races to determine whether existing base flows are adequate, as well as the need for variable flows in the Rio Dam bypassed reach.

### **Fisheries Survey Study**

The Licensee proposes to conduct its Fisheries Survey Study solely in the late summer/early fall period, which is the driest period of the year. Contrary to the Licensee's assertion, this period will not "provide the information necessary to understand the fish populations associated with the Projects." By ignoring the spring season as well as much of the summer and fall, the Licensee will be unable to collect sufficient information on various fish species at various life stages under various flow conditions. In addition, the Licensee should extend the study area down to the confluence of the Mongaup with the Delaware River, as generational flows may impact on aquatic habitat in the lower Mongaup section.

### **Water Quality Study**

The Licensee is proposing to monitor water quality only in the upper sections of the bypassed reaches. Given that the project limits flows in the bypassed reaches to minimum flows of 100 cfs, changes in dissolved oxygen and temperature may occur between the upper extent of these reaches and project tailraces that impact on aquatic habitat, particularly in the bypassed reach below the Rio Dam. Similarly, studying water quality immediately below the Rio Dam tailrace may not be sufficient, as peaking operations may impact water quality down to the confluence of the Mongaup with the Delaware River.

### **Conclusion**

American Whitewater, Appalachian Mountain Club, and Kayak and Canoe Club of New York respectively request that the Licensee revise its Proposed Study Plan to address these comments

and concerns in order to provide FERC with sufficient information to conduct its NEPA analysis of project impacts.

Respectfully submitted this 11th day of December, 2017.

Bob Nasdor  
Northeast Stewardship & Legal Director  
American Whitewater  
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Ken Kimball  
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**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

Eagle Creek Renewable Energy  Application for New License	Swinging Bridge Hydroelectric Project (No. 10482) Mongaup Falls Hydroelectric Project (No. 10481) Rio Hydroelectric Project (No. 9690)
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**CERTIFICATE OF SERVICE**

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, I hereby certify that I have this day caused the foregoing **American Whitewater, Appalachian Mountain Club, and Kayak and Canoe Club of New York's Comments in Response to the Proposed Study Plan for the Swinging Bridge, Mongaup Falls and Rio Hydroelectric Projects (P-10482, P-10481, and P-9690)** to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated this 11th day of December 2017.



Megan Hooker  
American Whitewater

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

Eagle Creek Hydro, LLC, Eagle Creek  
Water Resources, LLC, and Eagle  
Creek Land Resources, LLC

Project No. 9690-112  
Project No. 10481-067  
Project No. 10482-117

**COMMENTS OF HOMEOWNERS ON TORONTO  
ON PROPOSED STUDY PLAN**

Homeowners on Toronto, Inc. (“HOOT”) submits these comments on the Proposed Study Plan (“PSP”)<sup>1</sup> submitted in the above-captioned projects by Eagle Creek Hydro, LLC, Eagle Creek Water Resources, LLC, and Eagle Creek Land Resources, LLC (collectively, “Eagle Creek” or “Applicant”). The PSP proposes ten studies—an improvement on Eagle Creek’s Pre-Application Document, which set a low bar by proposing to conduct *no* studies and instead urging stakeholders and the Commission to rely on studies that were conducted at the last relicensing thirty years ago. HOOT appreciates the PSP’s adoption of some parts of HOOT’s study request regarding Toronto Reservoir Recreation Needs and Impacts<sup>2</sup> in its proposed Recreation Facility Inventory, Recreation Use and Needs Assessment<sup>3</sup> and Reservoir Water Level Fluctuation/Operation Study.<sup>4</sup>

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<sup>1</sup> Eagle Creek Renewable Energy, LLC, Proposed Study Plan (Sept. 12, 2017), eLibrary No. 20170912-5144.

<sup>2</sup> Homeowners on Toronto, Inc., Comments on Pre-Application Document, Scoping Comments, and Study Requests at 18-19 (July 31, 2017), eLibrary No. 20170731-5187 (“July 2017 HOOT Comments and Study Requests”).

<sup>3</sup> PSP at 70-95.

<sup>4</sup> *Id.* at 27-33.

The PSP, however, is still inadequate. As discussed below, Eagle Creek should be required to conduct the Socioeconomic Impacts study requested by HOOT. In addition, Eagle Creek should be directed to correct inappropriate limitations on scope and methodology, and to provide greater specificity, with respect to the studies it now proposes to perform.

**A. *Eagle Creek Should Perform the Socioeconomic Impacts Study Requested by HOOT***

The PSP rejects several of the formal study requests that were submitted (PSP at 10-22), including HOOT’s proposed Socioeconomic Impacts study (*id.* at 20-22). Eagle Creek should, at minimum, be directed to perform the Socioeconomic Impacts study requested by HOOT.

Eagle Creek’s assertion that the Socioeconomic Impacts study fails to adequately meet the requirements of 18 C.F.R. § 5.9(b)(5)—i.e., to “[e]xplain any nexus between project operations and effects . . . on the resource to be studied, and how the study results would inform the development of license requirements”—is incorrect. As explained in the July 2017 HOOT Comments and Study Requests (at 20), “Toronto Reservoir elevation levels and fluctuations have a significant impact on the availability of recreation at the reservoir, which in turn affects the local economy and property tax base. Quantification of that impact will inform the Commission’s decisionmaking with respect to both Toronto Reservoir operating regime and recreation-related license requirements.” As further pointed out in the July 2017 HOOT Comments and Study Requests:

Toronto Reservoir levels have a significant impact on the local economy . . . . HOOT members’ anecdotal observations (as well as common sense) indicate that tourism is adversely affected by low water levels at Toronto Reservoir. “[A]rts, entertainment, and recreation

and accommodation and food services” represent 10.3% of employment in Sullivan County. Increased recreational visits produced by enhanced reservoir access, facilities, and aesthetics could have significant impacts on this sector of the local economy.

In addition, the residential development in the vicinity of Toronto Reservoir provides a substantial share of the property tax revenues for the Town of Bethel. Reduced water levels in Toronto Reservoir have a significant adverse effect on nearby residents’ quality of life, and thus, presumably, depress property values and new development near the reservoir, as well as local government property tax revenues.

*Id.* at 13-14 (footnotes omitted).

The Commission has previously recognized the existence of a nexus between reservoir levels and impacts on the local economy, property values, and tax revenues, on the same grounds as those noted in the July 2017 HOOT Comments and Study Requests. According to the Commission’s Environmental Impact Statement (“EIS”) for the relicensing of the Catawba-Watauga Hydroelectric Project:<sup>5</sup>

Higher reservoir water levels year-round are more desirable to both visitors and residents resulting in more recreational use, visitor spending, income to local recreation-related businesses, recreation-related employment, and higher property values and tax revenues. On the other hand, lower reservoir levels would be associated with less recreation use, spending, income, employment, property value, and tax revenue.

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<sup>5</sup> Final Environmental Impact Statement for Hydropower License at 380, Project No. 2232 (July 23, 2009), eLibrary No. 20090723-4001. *See also* Final Environmental Assessment for Hydropower License at 202, Project No. 2503-154 (Mar. 28, 2016), eLibrary No. 20160328-4002 (“Keowee-Toxaway EA”); Final Environmental Impact Statement for Hydropower Licenses at 233-34, Project Nos. 2197-073, 2206-030 (Apr. 18, 2008), eLibrary No. 20080418-4000 (“Yadkin EIS”). *See also* Request for Studies and Additional Information at A-1 (July 27, 2017), eLibrary No. 20170727-3011 (“Staff Study Requests”) (project operations model should support an assessment of potential project effects on resources including land use).

Analyses of the types of socioeconomic impacts that HOOT has requested Eagle Creek to study have been conducted in other relicensing proceedings and used by the Commission to understand and evaluate project impacts. The EIS for the Yadkin Hydroelectric Project, for example, included: a multiple regression analysis that evaluated the effect of different reservoir level management scenarios on the price of nearby homes and the property tax revenues of local taxing districts;<sup>6</sup> survey-based estimates of the loss of business revenue associated with lower reservoir levels and reduced recreational use;<sup>7</sup> and an analysis of the economic effects of recreational spending changes from different reservoir levels, using the IMPLAN input-output impact assessment modeling system.<sup>8</sup> Similar studies have been performed in other relicensing proceedings.<sup>9</sup>

There are particularly compelling reasons to perform such analyses here. The Mongaup River Project reservoirs are in close proximity to large urban population centers and are heavily used for recreation. In addition, there is a significant amount of existing and potential future shoreline development at the Swinging Bridge Project, and the potential to significantly expand recreational use at Toronto Reservoir during any new

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<sup>6</sup> Yadkin EIS at 236-238.

<sup>7</sup> *Id.* at 234.

<sup>8</sup> *Id.* at 235.

<sup>9</sup> See also Keowee-Toxaway EA (methods used to examine socioeconomic impacts in that Environmental Assessment included: IMPLAN modeling of the economic impacts of recreational spending (Keowee-Toxaway EA at 202), and an evaluation of recent studies of the relationship between housing values and project reservoir levels (*id.* at 203-205)); Final Environmental Impact Statement for Hydropower License at 3-320 to 3-339, Project Nos. 2155-024, 2101-084 (Mar. 14, 2008), eLibrary No. 20080314-4000 (“Upper American River and Chili Bar EIS”) (examining socioeconomic impacts of proposed construction, property value impacts of proximity to proposed power lines, etc.); Study Plan Determination for the Martin Dam Hydroelectric Project, Appendix A at 10-13, Project No. 349-150 (Apr. 17, 2009), eLibrary No. 20090417-3036 (describing approved socioeconomic study examining, *inter alia*, effects of reservoir elevations on property values).

license term.<sup>10</sup> Given all this, the Socioeconomic Impacts study requested by HOOT is crucial to helping build an adequate record for any Commission decision in this proceeding.

Eagle Creek cites four cases (PSP at 21) in support of its assertion that the Socioeconomic Impacts study (as well as other requested studies it rejected) fails to satisfy the nexus requirement for study requests; all four are inapposite. None of the cases involves the development of a Study Plan under the Integrated Licensing Process (“ILP”)—the licensing process Eagle Creek chose for the Mongaup River Projects, which requires the license applicant to perform pre-application studies, but provides greater “pre-filing finality to the issue of what information gathering and studies will be required by the Commission to provide a sound evidentiary basis on which the Commission and other participants in the process can make recommendations and provide terms and conditions.”<sup>11</sup> Indeed, three of the cases cited by Eagle Creek involve *post*-licensing studies ordered by the Commission as part of a license *issuance*, and whether the particular license conditions requiring such studies were (or would be) supported by the

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<sup>10</sup> See July 2017 HOOT Comments and Study Requests at 9-10 (“Since the turn of the century . . . tourism to Sullivan County has been making a recovery. Today, in addition to the existing community of nearly 1,000 homes near the reservoir, there are more than 100 homes on or very near the shoreline of Toronto Reservoir, with hundreds more as-yet-undeveloped lots in the Chapin Estate subdivision, and a 50-room resort hotel in the works.”) (footnotes omitted).

<sup>11</sup> Hydroelectric Licensing Under the Federal Power Act, Order No. 2002, 68 Fed. Reg. 51,070, 51,078 (Aug. 25, 2003), FERC Stats. & Regs. ¶ 31,150, P 78 (2003), *clarified*, Order No. 2002–A, 69 Fed. Reg. 5268 (Feb. 4, 2004), 106 FERC ¶ 61,037 (2004).

evidentiary record of the underlying licensing proceeding.<sup>12</sup> Rather than justifying rejection of HOOT's Socioeconomic Impacts study request, the cases highlight the importance of ensuring that appropriate studies are performed in the relicensing process, so that the Commission has a sufficient record to develop and support the terms and conditions required in any new licenses issued to Eagle Creek.

For pre-application study requests, while the ILP requires that there be a "nexus" between project operations and effects on the resource to be studied,<sup>13</sup> the Commission has stated that "a common sense approach . . . informed by the professional judgment of qualified agency, Commission, and tribal staff, should ensure that this criterion is

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<sup>12</sup> In *City of Centralia v. FERC*, 213 F.3d 742, 748-50 (D.C. Cir. 2000) ("*Centralia*"), the Court held that the Commission could not impose a license condition that required the licensee to pay for a costly, potentially inconclusive post-licensing study to determine whether to construct a tailrace barrier, where the Commission's own studies had failed to uncover a problem that could be addressed by a tailrace barrier, a stakeholder's studies showed that there was no problem warranting a tailrace barrier, and the Commission's Environmental Assessment in support of license issuance had concluded that such a barrier was not justified. Likewise, *City of Jackson*, 105 FERC ¶ 61,136 (2003), involved not a pre-licensing study, but rather the licensee's post-licensing request to delete license conditions requiring a fish mortality study and compensatory mitigation. At the time the request for deletion was made, studies had already demonstrated no significant damage from hydro projects to fish populations in the relevant stretch of the Ohio River, and a decision on appeal (*City of New Martinsville v. FERC*, 102 F.3d 567 (D.C. Cir. 1996)) had held, with respect to two other projects on the same stretch of the Ohio River, and based on same fish studies, that there were no adverse project effects on fish resources, and thus no justification for requiring compensatory mitigation. The Commission accepted the request to delete the license conditions. See also *Allegheny Energy Supply Co., L.L.C.*, 109 FERC ¶ 61,028, P 9 (2004) (where "relevant studies on entrainment and turbine mortality have been conducted" and "there is no finding in this proceeding of significant adverse impacts to the fish population," neither a proposed license condition requiring compensatory mitigation payments for fish mortality, nor an alternative request that licensee be required to conduct additional post-licensing studies, should be included in license).

The fourth case, *FPL Energy Maine Hydro, LLC*, 95 FERC ¶ 61,016, at 61,031 n.15 (2001) (mis-cited in PSP (at 11, 21) as 95 FERC ¶ 61,106), cites *Centralia* for the general proposition that FERC is not obligated to require the license applicant to collect or provide evidence that might support future recommendations of resource agencies. That decision, however, pre-dated the creation of the ILP; and in adopting the ILP, the Commission expressly decided that although "the Commission has no statutory obligation to provide a record to support other agencies' decision making, or to require studies that it does not deem necessary to evaluate the public interest in light of the record evidence and argument provided by other parties," Order No. 2002, P 92, under the ILP, "judgment calls on study requests will be made 'in light of the principle that the integrated licensing process should to the extent reasonably possible serve to establish an evidentiary record upon which the Commission and all agencies or Indian tribes with mandatory conditioning authority can carry out their responsibilities.'" *Id.*

<sup>13</sup> 18 C.F.R. § 5.9(b)(5).

reasonably applied.”<sup>14</sup> Commission Staff has also made clear that it does not expect members of the public to identify or recommend specific, scientifically valid methodologies to conduct the studies they request as part of the ILP.<sup>15</sup>

The applicable standards for study requests are met with respect to the Socioeconomic Impacts study HOOT requested. Eagle Creek should be directed to perform it.

***B. Eagle Creek Should Be Required to Correct Deficiencies in the Studies It Now Proposes to Perform***

Although Eagle Creek now proposes to perform some studies in connection with its relicensing application, several of them are inappropriately limited or inadequately specified. Eagle Creek should be required to correct those deficiencies.

**1. Reservoir Water Level Fluctuation/Operation Model Study**

The proposed Reservoir Water Level Fluctuation/Operation Model Study could provide valuable information regarding the effects of different project operating protocols on Toronto Reservoir resources. Eagle Creek, however, made clear at the October 4 PSP meeting that it intends to study only the operating scenarios that it selects. In response to questions from a HOOT member who attended that meeting, Eagle Creek indicated that it does not contemplate allowing stakeholders to propose additional scenarios, nor has it committed to provide stakeholders with access to the model.

If Eagle Creek can cherry-pick the operating scenarios that it studies, the resulting data may be inadequate to allow members of the public, the resource agencies, and the

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<sup>14</sup> Order No. 2002, P 98.

<sup>15</sup> See Transcript of 7p Scoping Meeting in Monticello, New York at 48 (Aug. 3, 2017), eLibrary No. 20170803-4004.

Commission to evaluate the Applicant's license application. To ensure that the Commission has the information it needs to understand the effects of different operating regimes on power supply, recreation, land use, aesthetics, aquatic habitat, and other beneficial public uses, Eagle Creek should be required to use its Reservoir Water Level Fluctuation/Operation Model Study to evaluate a broad range of operating scenarios, including, without limitation, run-of-river operation for the Toronto Reservoir, as well as the operating protocol that HOOT proposed in its July 2017 Comments and Study Requests: i.e., maintenance of Toronto Reservoir water level at 1,218 msl, plus or minus 2 feet, during the recreation season; and at 1,215 msl, plus or minus 5 feet, year-round.

## 2. Aquatic Habitat Survey and Assessment

The Applicant's proposed Aquatic Habitat Survey and Assessment is also deficient. Eagle Creek proposes a single set of field surveys following Labor Day in 2018 "as hydrology and operations allow," and it proposes not to draw down the reservoirs for this study.<sup>16</sup> This methodology will not provide the information that the Commission needs to evaluate Eagle Creek's licensing proposal.

As Staff explained, conditions at full-pool must be studied to establish a baseline condition and the health of the aquatic habitat within the project reservoirs.<sup>17</sup> During the period 2010-2016, however, Toronto Reservoir has never been at full-pool following Labor Day, and in one year the elevation of the reservoir was only 1,200 msl at the end of

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<sup>16</sup> PSP at 39.

<sup>17</sup> See, e.g., Staff Study Requests at A-4 to A-6.

August—i.e., twenty feet below full-pool.<sup>18</sup> Studying Toronto Reservoir habitat in September 2018 “[a]s conditions allow” (PSP at 39), without specifying that the reservoir be at full-pool at the time of the field survey, will therefore likely produce an inaccurate baseline picture of aquatic habitat in that reservoir.

Eagle Creek also proposes *not* to draw down each reservoir for purposes of the Aquatic Habitat Survey and Assessment. As a general matter, HOOT members of course prefer that high reservoir levels be maintained at Toronto Reservoir, particularly during the recreation season. But Eagle Creek must study the effects of any reservoir levels it intends to propose in its license application, including the “lower target elevation”<sup>19</sup> it intends to propose for Toronto Reservoir.<sup>20</sup> Eagle Creek has previously identified extreme drawdowns as within “normal” Toronto Reservoir operations—up to 50 feet below full-pool, more than four times the average maximum drawdown of the other Mongaup River Project reservoirs.<sup>21</sup> If Eagle Creek intends to propose a similar range in this relicensing proceeding, then studying only a narrow range of reservoir elevations will not provide an accurate picture of the impacts of that proposal.

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<sup>18</sup> See USGS data included in Attachment A of July 2017 HOOT Comments and Study Requests. Notwithstanding a 2009 commitment by the licensee to use its “best efforts” to achieve a “target reservoir elevation” of 1,215 msl, plus or minus 5 feet, from Memorial Day to Labor Day, even that relaxed standard has been met in less than half the recreation seasons since the commitment was made. At the end of August 2012, for example, the elevation of Toronto Reservoir was only 1,200 msl; at the end of August 2010, it was 1,208.6 msl. HOOT July 2017 Comments and Study Requests, Att. A at A-5, A-7.

<sup>19</sup> PSP at 39.

<sup>20</sup> Accordingly, if Eagle Creek intends to propose that the Commission grant it a new license with a “lower target elevation” for Toronto Reservoir identical to the low-end of its current target reservoir elevations (i.e., 1,170 msl (*id.* at 30); *see also* Eagle Creek Renewable Energy, LLC, Study Scoping Supplemental Information at 9, 14 (Dec. 1, 2017), eLibrary No. 20171201-5213), Eagle Creek should be required to adequately study the impacts of such operations.

<sup>21</sup> Eagle Creek Renewable Energy, LLC, Pre-Application Document, Appendix D at 9-11 (Mar. 30, 2017), eLibrary No. 20170330-5442.

Accordingly, Eagle Creek should: (1) specify that its Aquatic Habitat Survey and Assessment will be performed for each reservoir at full-pool; and (2) provide for field surveys and desktop analysis of the fluctuation zone it intends to propose in its license application by conducting such studies when the reservoirs have been drawn down to such levels. Eagle Creek has previously informed HOOT members and others that it intends to draw down Toronto Reservoir to make repairs to the gate tower.<sup>22</sup> Such a drawdown would appear to provide an opportunity to perform needed studies of lower reservoir elevations without requiring a separate drawdown especially for the purposes of this relicensing study.

3. Special-Status Wildlife Species and Habitat Assessment  
and Special-Status Plant Species and Noxious Weed  
Assessment

Eagle Creek proposes to address “Special-Status Wildlife Species and Habitat Assessment” and “Special-Status Plant Species and Noxious Weed Assessment” only as part of its proposed Aquatic Habitat Mapping Study. PSP at 24, 34-35, 41. At the PSP meeting, Eagle Creek clarified that it intends only to keep an eye out for terrestrial plants and non-aquatic wildlife while conducting the proposed Aquatic Habitat Mapping Study; it does not propose to conduct any kind of systematic survey of such resources.

This proposal is inadequate. Special-status species are, by definition, rare. Eagle Creek’s proposed methodology—to rely on the casual observations of personnel in the field to study aquatic habitat—is unlikely to yield reliable data about special-status terrestrial wildlife and plants. Eagle Creek’s proposal does not ensure that all habitats

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<sup>22</sup> See, e.g., Transcript of 9a Scoping Meeting in Monticello, New York at 67 (Aug. 4, 2017), eLibrary No. 20170804-3002.

with the potential to support special-status terrestrial species are surveyed; that the personnel keeping a look-out for such species have the necessary expertise and familiarity with native terrestrial wildlife and plants; or that those conducting the Aquatic Habitat Mapping Study also have experience with analyzing hydroelectric project impacts on terrestrial species.

It is also unclear whether the proposed timing of the Aquatic Habitat Mapping Study is consistent with the needs of a terrestrial species survey. Eagle Creek does not propose to study aquatic habitat in winter.<sup>23</sup> As Staff observed, however, the New York State Department of Environmental Conservation (“NYSDEC”) has indicated that bald eagles use all five project reservoirs in the winter,<sup>24</sup> and there may well be other special-status species that do so. Particularly given that the reservoirs’ maximum drawdown is generally in the winter, it is important to understand the impacts of project operating protocols on special-status species that may be present—and potentially at their most vulnerable—during that season.

#### 4. Recreational Use

Eagle Creek’s draft recreational user survey (PSP at 91-95) is inadequate to capture the effects of reservoir levels on recreational use. The PSP improperly rejects the National Park Service’s request that Eagle Creek survey individuals who do not currently use the projects for recreation (*id.* at 81). This creates significant sample bias—only those willing to recreate at the reservoir at then-current water levels will answer the

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<sup>23</sup> PSP at 41 (“[a]quatic habitat field surveying will occur in the summer and fall of 2018”).

<sup>24</sup> Staff Study Requests at A-17; *see also* NYSDEC, Comments on Pre-Application Document, and Scoping Document 1 Study Request for the Mongaup River Projects at 16-17 (July 28, 2017), eLibrary No. 20170728-5213.

survey. As suggested by some agencies at the PSP meeting, Eagle Creek should survey by mail using zip codes to reach everyone within a particular radius; and it should consider development and use of an online survey in order to maximize responses.<sup>25</sup> In addition, the Applicant's proposal only to conduct spot counts and survey recreational users between April and October of a single study season<sup>26</sup> will provide an incomplete picture of recreational use.

The proposed draft survey instrument also fails to ask the right questions. For example, instead of, or in addition to, asking users whether they had noticed reservoir fluctuations "today,"<sup>27</sup> the survey should ask about fluctuations over time, since water levels changing over the course of a single day have far less impact on recreational use levels than do unpredictable or consistently low reservoir levels.<sup>28</sup> Additional issues that should be covered in the survey include:

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<sup>25</sup> These approaches have been used in other relicensings in recent years. *See, e.g.*, FERC, Staff Comments on the Proposed Study Plan for the County Line Road Hydroelectric Project at A-2, Project No. 14513-001 (Dec. 10, 2015), eLibrary No. 20151210-3018; FERC, Study Plan Determination for the County Line Road Hydroelectric Project at B-37, Project No. 14513-001 (Mar. 2, 2016), eLibrary No. 20160302-3031; Bear Swamp Power Co., Bear Swamp Project, Revised Study Plan § 9.6.3.2, Project No. 2669-085 (Sept. 30, 2015), eLibrary No. 20150930-5205 (approved by FERC, Study Plan Determination for the Bear Swamp Project, Project No. 2669-085 (Oct. 30, 2015), eLibrary No. 20151030-3023).

<sup>26</sup> PSP at 78.

<sup>27</sup> *Id.* at 94.

<sup>28</sup> Based on HOOT members' observations, water levels this fall have been higher than in many recent autumns. The licensee ordinarily draws Toronto Reservoir down by several feet by this time of year; this year, it has not done so, and HOOT members estimate that water levels are roughly 10 feet above where they were at this time last year (*see* Water Year Summary for Toronto Reservoir, Water Year 2017, USGS, [https://waterdata.usgs.gov/nwis/wys\\_rpt?wys\\_water\\_yr=2006&site\\_no=01433100&agency\\_cd=USGS&ad](https://waterdata.usgs.gov/nwis/wys_rpt?wys_water_yr=2006&site_no=01433100&agency_cd=USGS&ad) (Use "Select a water year" drop down box to navigate to water year 2017, and click box for "62614 Elevation, lake/res, (Ins.)" for "Available Parameters," and click "Go."), a copy of which is attached hereto). HOOT members' observations also indicate that Toronto Reservoir is being used more heavily than it has ever been at this time of year, to their knowledge; for example, each weekend morning, several boats are launched from the Moscoe Road public access point. It is possible that some of the unusually high usage is due to the somewhat warmer-than-average temperatures this year; a valid survey instrument, administered at various times of year for more than one year, would help tease apart the effects of these variables.

- Whether and how low or unpredictable reservoir levels have affected the survey respondent's decisions regarding whether, when, and how to recreate at Toronto Reservoir;
- Whether the survey respondent has had, during the current or prior recreational seasons, difficulty launching or removing boats, including but not limited to getting stuck in the mud at the launch site, due to low reservoir levels; and
- Whether and to what extent the survey respondent has noticed an impact of reservoir levels on project aesthetics.

The PSP states that Eagle Creek will develop a future recreational demand estimate “by analyzing prior and current Project use data; trend data from state, regional, and national resources, as applicable; and population growth data, as applicable.”<sup>29</sup> *Id.* at 80. It is unclear from that description, however, whether the methodology could reasonably estimate what future recreational use would be if the elevation of Toronto Reservoir were consistently maintained at a level appropriate for recreation. Simple descriptive statistics and linear projections based on existing levels of recreational use are unlikely to be adequate, particularly given the sampling bias and survey design issues discussed above. Eagle Creek's PSP, however, does not indicate whether it plans to undertake the more sophisticated modeling needed to develop a future demand estimate that reflects both current use and unmet demand. Eagle Creek should provide more detail on its proposed analysis of future demand, so that the Commission and stakeholders can assess the adequacy of the proposed Recreation Use and Needs Assessment.

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<sup>29</sup> It is unclear whether Eagle Creek intends to use “population growth data” for Sullivan County, New York State, or the United States. And it is doubtful that the draft future recreational demand assessment would capture the increased recreation demand resulting from increased tourism to the region, including demand related to the planned hotel on Toronto Reservoir (*see supra* note 10) and Resorts World Catskills, a hotel and casino under construction near Monticello that is slated to open in 2018 (Resorts World Catskills, Property, <https://rwcatskills.com/property.html> (last visited Dec. 5, 2017)).

## 5. Shoreline Management Assessment Study

The proposed Shoreline Management Assessment Study would collect information from residential shoreline property owners regarding reservoir shoreline management, private recreation use of the reservoir, and reservoir levels. PSP at 107-117. HOOT appreciates Eagle Creek's proposal to consult with HOOT representatives and others regarding the most effective way to distribute the questionnaire. *Id.* at 110.

The draft survey instrument itself, however, suffers from some of the same problems as the proposed recreational use survey. It asks only for information on recreational use under the reservoir's current operating regime; it does not ask questions designed to elicit information on unmet demand. The draft question on the number of boats "typically docked at your dock" (*id.* at 114), for example, will significantly underestimate demand for boat access at Toronto Reservoir. First, there have been recreational seasons during which reservoir levels have been too low, at times, for any boats to be safely docked at many homeowners' docks, causing early removal of boats. The question should therefore be clarified to ask about the number of boats typically docked during a specified recreational season. Second, current boat ownership levels are driven in part by the licensee's historical reservoir operations. Homeowners are less likely to invest in a boat if reservoir levels may be too low to safely enjoy it during some years. The unpredictable—and frequently low—elevation of Toronto Reservoir may well have discouraged some homeowners from investing in boats. Other survey questions, which focus exclusively on recreational usage under the current reservoir operations regime, suffer from similar defects.

The survey should be supplemented with questions to address recreation issues including:

- Whether and how low or unpredictable reservoir levels have affected the decisions of the residential property owner's household members regarding whether, when, and how to recreate at Toronto Reservoir;
- Whether and to what extent the residential property owner has noticed an impact of reservoir levels on project aesthetics;
- Whether and how low or unpredictable reservoir levels have affected the residential property owner's decision whether to acquire a boat;
- Whether reservoir fluctuations have required the residential property owner to remove a boat from the reservoir prematurely or unexpectedly, or required the residential property owner to delay putting a boat back into the reservoir;<sup>30</sup> and
- If the residential property owner uses a boat, whether there have been occasions upon which the property owner's dock length has been inadequate due to low reservoir levels, and whether the homeowner has had to lengthen a dock, or use heavy equipment to move a dock, during the recreational season, due to low reservoir levels.

In addition, while the draft survey asks for respondents' impressions of Eagle Creek's "shoreline management practices,"<sup>31</sup> it fails to identify the specific areas covered by those practices, and many respondents may be unaware of the extent of Eagle Creek's shoreline management criteria and responsibilities. Therefore, to the extent the questionnaire seeks responses regarding Eagle Creek's existing shoreline management practices, those questions should clearly describe the particular substantive criterion the survey respondent is being asked to evaluate (e.g., Eagle Creek's implementation of a specific vegetation management requirement, erosion prevention measure, or guideline for structures within the water and on land, etc.). Any such questions should also clarify

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<sup>30</sup> Boats are generally removed from the reservoir for the winter to prevent ice damage.

<sup>31</sup> PSP at 116, Question 19.

whether the respondent is being asked to evaluate the appropriateness of the criterion, as opposed to Eagle Creek's practices and performance in implementing the criterion.

The proposed survey of shoreline residential property owners provides an opportunity to collect information on the relationship of recreational use and aesthetics to reservoir elevation levels over time. In contrast to users responding to a spot survey at a designated public recreation site—some of whom may have visited the project reservoir only once or a few times—a high percentage of the owners of property abutting the project reservoirs have lived there for years and have therefore experienced a wide range of reservoir water elevation levels in all seasons.<sup>32</sup> The proposed survey for abutting shoreline property owners should be supplemented to better capture their insights about the relationship of water levels to recreation and aesthetics.<sup>33</sup>

## CONCLUSION

Eagle Creek's Proposed Study Plan, while an improvement over its Pre-Application Document proposal to conduct no studies, is inadequate and should be modified and supplemented as discussed above. This relicensing proceeding is a once-in-a-generation opportunity to establish the terms and conditions that will govern the operation of the Mongaup River Projects. It therefore is vital that Eagle Creek's Study Plan provide for appropriate rigorous studies, with sufficiently specific methodologies

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<sup>32</sup> Indeed, the proposed survey could elicit information about recreational use of the reservoirs in winter, and about particular winter recreation activities such as snowshoeing and cross-country skiing, without appreciably increasing the cost of the survey.

<sup>33</sup> The current draft survey includes a single question (*id.* at 116, Question 20) that asks respondents, "how satisfied are you with the reservoir water levels on the reservoir adjacent to your property." The question is not tied to any particular time period or reservoir elevation level. It would therefore be unclear to survey respondents whether the question asks only about reservoir elevation at the time the survey is administered, or reservoir elevation over some longer historical period.

and metrics to allow the Commission and stakeholders to assess the impacts of continued operation of the projects, as well as alternative operating scenarios.

Respectfully submitted,

/s/ Rebecca J. Baldwin

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December 11, 2017

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**USGS DATA FOR TORONTO RESERVOIR,  
WATER YEAR 2017**



## USGS Water-Year Summary 2017

## 01433100 TORONTO RESERVOIR NEAR BLACK LAKE, NY

LOCATION - Lat 41°37'15", long 74°49'55" referenced to North American Datum of 1927, Sullivan County, NY, Hydrologic Unit 02040104, at dam on Black Lake Creek, and 2.5 mi southeast of village of Black Lake.

DRAINAGE AREA - 22.9 mi<sup>2</sup>.

## SURFACE-WATER RECORDS

PERIOD OF RECORD - January 1926 to September 2013 (month-end elevations and contents). October 2013 to current year (daily observation elevations).

REVISED RECORDS - WSP 1552: 1951-54. WSP 1702: 1959 (M). WDR NY-85-1: 1984. WDR NY-86-1: 1985. WDR NY-90-1: Drainage area.

GAGE - Nonrecording gage read daily. Datum of gage is NGVD of 1929 (levels by Orange and Rockland Utilities, Inc.).

COOPERATION - Elevation record and capacity table (1952) provided by Alliance Energy New York.

REMARKS - Reservoir is formed by an earthfill dam completed July 24, 1926. Storage began Jan. 13, 1926. Usable capacity, 1,098.2 mil ft<sup>3</sup> between elevations 1,165.0 ft, minimum operating pool, and 1,220.0 ft, top of permanent flashboards. Capacity below elevation 1,165.0 ft, minimum operating pool, about 26.8 mil ft<sup>3</sup>. Figures given herein represent usable contents above 1,165.0 ft. Reservoir is used for storage of water for power.

Capacity table (elevation, in feet, and usable contents, in millions of cubic feet)

<u>Elevation</u>	<u>Contents</u>	<u>Elevation</u>	<u>Contents</u>
1,165.0	0.0	1,205.0	644.5
1,175.0	68.7	1,215.0	929.2
1,185.0	211.4	1,220.0	1,098.2
1,195.0	400.0	1,222.5	1,190.2

EXTREMES FOR PERIOD OF RECORD - Maximum contents observed, 1,186.4 mil ft<sup>3</sup>, Apr. 4, 2005, elevation, 1,222.4 ft; minimum contents observed (after first filling), about -26.8 mil ft<sup>3</sup>, Nov. 15, 1928, elevation, 1,144.5 ft.

U.S. Department of the Interior  
U.S. Geological Survey

Suggested citation: U.S. Geological Survey, 2017, National Water Information System data available on the World Wide Web (USGS Water Data for the Nation), accessed [December 5, 2017], at URL [https://nwis.waterdata.usgs.gov/nwis/wys\\_rpt?dv\\_ts\\_ids=105370&adr\\_begin\\_date=2016-10-01&adr\\_end\\_date=2017-09-30&site\\_no=01433100&agency\\_cd=USGS](https://nwis.waterdata.usgs.gov/nwis/wys_rpt?dv_ts_ids=105370&adr_begin_date=2016-10-01&adr_end_date=2017-09-30&site_no=01433100&agency_cd=USGS)

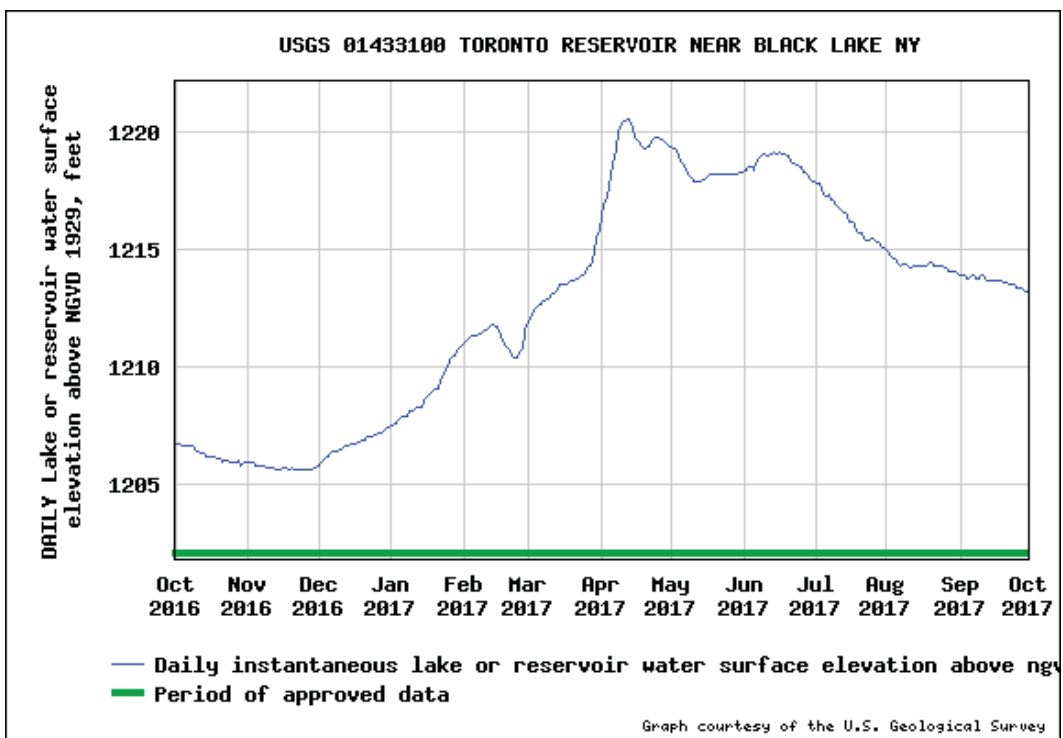
## Water-Data Report 2017

01433100 TORONTO RESERVOIR NEAR BLACK LAKE, NY -- Continued

LAKE OR RESERVOIR WATER SURFACE ELEVATION ABOVE NGVD 1929, FEET  
 YEAR 2016-10-01 to 2017-09-30  
 DAILY INSTANTANEOUS VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
	2016	2016	2016	2017	2017	2017	2017	2017	2017	2017
1	1,206.70	1,205.90	1,205.80	1,207.50	1,211.00	1,211.90	1,216.40	1,219.40	1,218.40	1,217.90
2	1,206.70	1,205.90	1,205.90	1,207.50	1,211.10	1,212.20	1,216.90	1,219.30	1,218.40	1,217.80
3	1,206.70	1,205.90	1,206.00	1,207.60	1,211.20	1,212.40	1,217.30	1,219.20	1,218.50	1,217.80
4	1,206.60	1,205.80	1,206.10	1,207.70	1,211.30	1,212.50	1,217.70	1,219.00	1,218.50	1,217.60
5	1,206.60	1,205.80	1,206.20	1,207.80	1,211.30	1,212.70	1,218.20	1,218.80	1,218.40	1,217.40
6	1,206.60	1,205.80	1,206.30	1,207.90	1,211.30	1,212.70	1,218.60	1,218.60	1,218.70	1,217.30
7	1,206.60	1,205.80	1,206.40	1,207.90	1,211.30	1,212.80	1,219.30	1,218.40	1,218.90	1,217.40
8	1,206.60	1,205.80	1,206.40	1,207.90	1,211.40	1,212.80	1,220.00	1,218.20	1,219.00	1,217.10
9	1,206.50	1,205.70	1,206.40	1,208.10	1,211.50	1,212.90	1,220.20	1,218.10	1,219.10	1,217.10
10	1,206.40	1,205.70	1,206.50	1,208.10	1,211.60	1,213.00	1,220.40	1,217.90	1,219.10	1,216.90
11	1,206.40	1,205.70	1,206.50	1,208.20	1,211.60	1,213.10	1,220.50	1,217.90	1,219.00	1,216.80
12	1,206.30	1,205.70	1,206.60	1,208.30	1,211.70	1,213.10	1,220.60	1,217.90	1,219.10	1,216.70
13	1,206.30	1,205.60	1,206.60	1,208.30	1,211.80	1,213.30	1,220.60	1,217.90	1,219.10	1,216.60
14	1,206.20	1,205.60	1,206.60	1,208.30	1,211.80	1,213.50	1,220.20	1,218.00	1,219.20	1,216.60
15	1,206.20	1,205.60	1,206.70	1,208.50	1,211.70	1,213.50	1,219.80	1,218.00	1,219.10	1,216.40
16	1,206.20	1,205.70	1,206.70	1,208.70	1,211.50	1,213.50	1,219.70	1,218.10	1,219.20	1,216.20
17	1,206.20	1,205.70	1,206.70	1,208.80	1,211.30	1,213.50	1,219.60	1,218.20	1,219.10	1,216.20
18	1,206.20	1,205.60	1,206.80	1,208.90	1,211.10	1,213.60	1,219.40	1,218.20	1,219.10	1,216.00
19	1,206.10	1,205.60	1,206.80	1,209.00	1,210.90	1,213.70	1,219.30	1,218.20	1,219.00	1,215.80
20	1,206.10	1,205.70	1,206.90	1,209.10	1,210.80	1,213.70	1,219.30	1,218.20	1,219.00	1,215.70
21	1,205.90	1,205.60	1,206.90	1,209.10	1,210.60	1,213.80	1,219.40	1,218.20	1,218.80	1,215.70
22	1,206.00	1,205.60	1,207.00	1,209.40	1,210.50	1,213.80	1,219.60	1,218.20	1,218.70	1,215.50
23	1,206.00	1,205.60	1,207.00	1,209.50	1,210.40	1,213.90	1,219.70	1,218.20	1,218.60	1,215.40
24	1,205.90	1,205.60	1,207.00	1,209.80	1,210.40	1,213.90	1,219.80	1,218.20	1,218.60	1,215.40
25	1,205.90	1,205.60	1,207.10	1,210.00	1,210.60	1,214.00	1,219.80	1,218.20	1,218.50	1,215.50
26	1,205.90	1,205.60	1,207.10	1,210.20	1,210.80	1,214.20	1,219.70	1,218.20	1,218.30	1,215.50
27	1,205.90	1,205.60	1,207.20	1,210.40	1,211.50	1,214.30	1,219.70	1,218.20	1,218.30	1,215.40
28	1,206.00	1,205.60	1,207.20	1,210.50	1,211.80	1,214.50	1,219.60	1,218.20	1,218.20	1,215.30
29	1,205.80	1,205.70	1,207.30	1,210.70		1,214.90	1,219.50	1,218.20	1,218.00	1,215.20
30	1,205.90	1,205.70	1,207.40	1,210.80		1,215.50	1,219.40	1,218.30	1,217.90	1,215.10
31	1,205.90		1,207.40	1,210.90		1,215.90		1,218.30		1,215.10
Mean	1,206.24	1,205.69	1,206.69	1,208.88	1,211.21	1,213.52	1,219.34	1,218.32	1,218.73	1,216.34
Max	1206.70	1205.90	1207.40	1210.90	1211.80	1215.90	1220.60	1219.40	1219.20	1217.90
Min	1205.80	1205.60	1205.80	1207.50	1210.40	1211.90	1216.40	1217.90	1217.90	1215.10

Day	Aug	Sep
	2017	2017
1	1,214.90	1,213.90
2	1,214.80	1,213.90
3	1,214.70	1,213.90
4	1,214.60	1,213.80
5	1,214.50	1,213.80
6	1,214.40	1,213.90
7	1,214.30	1,213.90
8	1,214.40	1,213.80
9	1,214.40	1,213.80
10	1,214.30	1,213.90
11	1,214.20	1,213.90
12	1,214.30	1,213.80
13	1,214.30	1,213.70
14	1,214.30	1,213.70
15	1,214.30	1,213.70
16	1,214.30	1,213.70
17	1,214.30	1,213.70
18	1,214.30	1,213.70
19	1,214.50	1,213.70
20	1,214.50	1,213.60
21	1,214.30	1,213.60
22	1,214.30	1,213.50
23	1,214.30	1,213.50
24	1,214.30	1,213.50
25	1,214.30	1,213.40
26	1,214.20	1,213.40
27	1,214.10	1,213.40
28	1,214.10	1,213.30
29	1,214.10	1,213.20
30	1,214.10	1,213.20
31	1,214.00	
Mean	1,214.35	1,213.66
Max	1214.90	1213.90
Min	1214.00	1213.20



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## **CERTIFICATE OF SERVICE**

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated on this 11th day of December, 2017.

/s/ Rebecca J. Baldwin

Rebecca J. Baldwin

Law Offices of:  
Spiegel & McDiarmid LLP  
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Washington, DC 20006  
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**APPENDIX C**  
**NYSDEC MONGAUP SYSTEM FISHERIES SURVEY DATA**

<b>NYSDEC Fish Surveys Performed in Mongaup River System (1988-2016)</b> <b>Summary of Number of Surveys, Gear Type Used, and Species Encountered</b>									
		<b>Toronto Reservoir</b>	<b>Cliff Lake Reservoir</b>	<b>Swinging Bridge Reservoir</b>	<b>Mongaup Falls Reservoir</b>	<b>Rio Reservoir</b>	<b>Mongaup River</b>	<b>Black Lake Creek</b>	<b>Black Brook</b>
<b>Gear Type</b>	<b>Number</b>	<b>Number of Fish Surveys Per Gear Type</b>							
Gill Net	22			14	4	4			
Electrofishing	8		1				5	1	1
Boat Electrofishing	31	2		19	2	8			
Seine	1						1		
<b>Total</b>	<b>62</b>								
<b>Species</b>	<b>40</b>	<b>Fish Present During Survey (Y = YES)</b>							
Alewife		Y	Y	Y	Y	Y			
American Eel							Y		
Black Bullhead				Y					
Black Crappie		Y	Y	Y	Y	Y			
Blacknose Shiner		Y							
Bluegill		Y	Y	Y	Y	Y	Y		
Brook Trout							Y	Y	Y
Brown Bullhead		Y	Y	Y	Y	Y	Y		
Brown Trout		Y		Y	Y	Y	Y	Y	Y
Chain Pickerel		Y	Y	Y	Y	Y	Y		
Common Carp				Y	Y	Y			
Common Shiner							Y		
Creek Chub							Y		
Cutlip Minnow							Y		
Eastern Blacknose Dace							Y		
Eastern Silvery Minnow				Y	Y	Y			
Emerald Shiner				Y					
Fallfish				Y			Y		
Gizzard Shad							Y		

<b>NYSDEC Fish Surveys Performed in Mongaup River System (1988-2016)</b> <b>Summary of Number of Surveys, Gear Type Used, and Species Encountered</b>									
		<b>Toronto Reservoir</b>	<b>Cliff Lake Reservoir</b>	<b>Swinging Bridge Reservoir</b>	<b>Mongaup Falls Reservoir</b>	<b>Rio Reservoir</b>	<b>Mongaup River</b>	<b>Black Lake Creek</b>	<b>Black Brook</b>
Golden Shiner		Y		Y	Y	Y			
Green Sunfish		Y		Y	Y	Y			
Largemouth Bass		Y	Y	Y	Y	Y	Y		
Longnose Dace							Y		
Margined Madtom							Y		
Pumpkinseed		Y	Y	Y	Y	Y		Y	Y
Redbreast Sunfish		Y	Y	Y	Y	Y	Y	Y	
Redfin Pickerel				Y					
Rock Bass		Y	Y	Y	Y	Y	Y		
Shield Darter							Y		
Smallmouth Bass		Y	Y	Y	Y	Y	Y		
Spotfin Shiner				Y					
Spottail Shiner				Y	Y				
Striped x White Bass				Y	Y	Y			
Tessellated Darter				Y			Y		
Walleye		Y		Y	Y	Y			
White Catfish		Y		Y	Y	Y			
White Perch				Y					
White Sucker		Y	Y	Y	Y	Y	Y	Y	
Yellow Bullhead		Y	Y	Y	Y	Y	Y		
Yellow Perch		Y	Y	Y	Y	Y	Y	Y	

<b>Survey Location</b>	<b>Survey Date</b>	<b>Gear Type</b>	<b>Purpose</b>	<b>NYSDEC Survey No.</b>
Toronto Reservoir	1995-05-11	Electrofishing (Boat)	Centrarchid sampling plan	395014
Toronto Reservoir	2009-05-28	Electrofishing (Boat)	Centrarchid sampling plan	309024
Cliff Lake Reservoir	1991-05-23	Electrofishing	General biological survey	391002
Cliff Lake Reservoir	1991-08-27	Hach Kit	Water chemistry profile	391028
Swinging Bridge Reservoir	1988-10-06	Gill Net	Assess striped bass x white bass	388990
Swinging Bridge Reservoir	1989-09-20	Gill Net	General biological survey	389044
Swinging Bridge Reservoir	1989-09-28	Gill Net	Assess Alewife	389045
Swinging Bridge Reservoir	1989-10-24	Gill Net	Assess striped bass x white bass	389046
Swinging Bridge Reservoir	1990-05-15	Electrofishing (Boat)	General biological survey	390008
Swinging Bridge Reservoir	1990-08-30	Meter/Hach Kit	Water chemistry profile	390046
Swinging Bridge Reservoir	1990-09-19	Gill Net	Alewife assessment	390028
Swinging Bridge Reservoir	1991-08-27	Hach Kit	Water chemistry profile	391027
Swinging Bridge Reservoir	1991-10-03	Gill Net	Alewife and hybrid striped bass x white bass assessment	391018
Swinging Bridge Reservoir	1992-08-07	Meter/Hach Kit	Water chemistry profile	392046
Swinging Bridge Reservoir	1992-10-01	Gill Net	General biological survey	392042
Swinging Bridge Reservoir	1993-06-02	Meter/Hach Kit	Water chemistry profile	393036
Swinging Bridge Reservoir	1993-09-29	Gill Net	General biological survey	393033
Swinging Bridge Reservoir	1994-09-02	Meter/Hach Kit	Water chemistry profile	394049
Swinging Bridge Reservoir	1994-10-12	Gill Net	General biological survey	394042
Swinging Bridge Reservoir	1995-09-28	Gill Net	General biological survey	395042
Swinging Bridge Reservoir	1997-04-08	Electrofishing (Boat)	Assess walleye population	397032
Swinging Bridge Reservoir	1998-03-31	Electrofishing (Boat)	Assess walleye population	398035
Swinging Bridge Reservoir	1998-04-29	Gill Net	Document movement of alewife	398036
Swinging Bridge Reservoir	1998-10-07	Electrofishing (Boat)	Percid sampling	398037
Swinging Bridge Reservoir	1999-04-07	Electrofishing (Boat)	Evaluate exp stocking water	399003
Swinging Bridge Reservoir	1999-10-06	Electrofishing (Boat)	Percid sampling	399027
Swinging Bridge Reservoir	2000-10-25	Electrofishing (Boat)	Percid sampling	300049
Swinging Bridge Reservoir	2000-11-02	Gill Net	Alewife assessment and document hybrid striped bass x white bass	300071
Swinging Bridge Reservoir	2001-10-11	Electrofishing (Boat)	Percid sampling	301023
Swinging Bridge Reservoir	2001-11-14	Gill Net	Alewife assessment and document hybrid striped bass x white bass	301062
Swinging Bridge Reservoir	2003-10-09	Electrofishing (Boat)	Percid sampling	303023
Swinging Bridge Reservoir	2004-10-13	Electrofishing (Boat)	Document success of walleye reproduction	304037
Swinging Bridge Reservoir	2007-10-24	Electrofishing (Boat)	Assess fish community after dam failure in 2005	307014
Swinging Bridge Reservoir	2008-10-14	Electrofishing (Boat)	Percid sampling	308019

Survey Location	Survey Date	Gear Type	Purpose	NYSDEC Survey No.
Swinging Bridge Reservoir	2009-10-21	Electrofishing (Boat)	Assess fish community after dam failure in 2005	309022
Swinging Bridge Reservoir	2011-10-18	Electrofishing (Boat)	Document success of walleye reproduction	311007
Swinging Bridge Reservoir	2012-10-03	Electrofishing (Boat)	Percid sampling	312013
Swinging Bridge Reservoir	2013-10-17	Electrofishing (Boat)	Percid sampling	313007
Swinging Bridge Reservoir	2014-10-16	Electrofishing (Boat)	Percid sampling	314007
Swinging Bridge Reservoir	2015-10-29	Electrofishing (Boat)	Document success of walleye reproduction	315017
Swinging Bridge Reservoir	2016-09-20	Gill Net	Assess status of white perch and walleye population	316013
Swinging Bridge Reservoir	2017-10-26	Electrofishing (Boat)	Percid sampling	317025
Mongaup Falls Reservoir	1989-10-26	Gill Net	General biological survey	389043
Mongaup Falls Reservoir	1990-05-25	Meter/Hach Kit	Water chemistry profile	390044
Mongaup Falls Reservoir	1990-10-02	Gill Net	General biological survey	390058
Mongaup Falls Reservoir	1991-09-24	Gill Net	Alewife assessment	391030
Mongaup Falls Reservoir	1992-08-18	Gill Net	General biological survey	392040
Mongaup Falls Reservoir	1993-05-17	Electrofishing (Boat)	Centrarchid sampling plan	393032
Mongaup Falls Reservoir	1994-09-02	Meter	Water chemistry profile	394050
Mongaup Falls Reservoir	2004-05-26	Electrofishing (Boat)	Centrarchid sampling plan	304030
Rio Reservoir	1989-10-31	Gill Net	General biological survey	389042
Rio Reservoir	1990-05-29	Meter/Hach Kit	Water chemistry profile	390045
Rio Reservoir	1990-10-04	Gill Net	General biological survey	390059
Rio Reservoir	1991-08-27	Meter/Hach Kit	Water chemistry profile	391026
Rio Reservoir	1991-09-26	Gill Net	Assess alewife population	391029
Rio Reservoir	1992-08-20	Gill Net	General biological survey	392041
Rio Reservoir	1993-05-05	Electrofishing (Boat)	Centrarchid sampling plan	393031
Rio Reservoir	1994-09-02	Meter	Water chemistry profile	394051
Rio Reservoir	2010-04-01	Electrofishing (Boat)	Document spawning walleye	310001
Rio Reservoir	2011-10-20	Electrofishing (Boat)	Document natural recruitment of walleye	311008
Rio Reservoir	2012-10-10	Electrofishing (Boat)	Percid sampling	312015
Rio Reservoir	2013-10-16	Electrofishing (Boat)	Percid sampling	313006
Rio Reservoir	2014-10-09	Electrofishing (Boat)	Percid sampling	314008
Rio Reservoir	2015-10-27	Electrofishing (Boat)	Percid sampling	315018
Rio Reservoir	2017-10-19	Electrofishing (Boat)	Percid sampling	317024
Mongaup River	1989-09-14	Electrofishing	Document presence of striped bass and white bass hybrids	389047
Mongaup River	1996-07-24	Electrofishing	CROTS survey	396012
Mongaup River	1996-07-24	Electrofishing	CROTS survey	396014

<b>Survey Location</b>	<b>Survey Date</b>	<b>Gear Type</b>	<b>Purpose</b>	<b>NYSDEC Survey No.</b>
Mongaup River	1998-08-05	Electrofishing	CROTS survey	398039
Mongaup River	1999-09-14	Electrofishing	Population estimate	399028
Mongaup River	2005-08-01	Seine	General biological survey	305903
Black Lake Creek	1997-07-16	Electrofishing	General biological survey	397025
Black Brook	2016-08-02	Electrofishing	EBTJV Survey	316292

# **Swinging Bridge Reservoir Creel Survey 2014-15**

## **Final Report**

**Robert K. Angyal**  
**Senior Aquatic Biologist**



Federal Aid to Sportfish Restoration

**Grant F-62-R-1**

Warmwater Fisheries Research and Management

**Study 2**

**Job 2-4.1**

Swinging Bridge Reservoir Creel Survey

New York State Department of Environmental Conservation

Bureau of Fisheries

Region 3

New Paltz, NY 12561

August 2016

**Abstract:** Swinging Bridge Reservoir (886 ac) was first experimentally stocked with Walleye (*Sander vitreus*) in 1993, with successful wild recruitment first documented in 2000. A recreational fishery for Walleye developed which anecdotally attracted anglers from central New York as well as Pennsylvania, areas which have a greater preponderance of existing Walleye fisheries. The Walleye fishery had reportedly declined in recent years, especially since 2005 when the reservoir suffered a partial dam failure and subsequent partial dewatering. A May – October 2014 open water season and February – March 2015 ice season creel survey was conducted with the objective of documenting the current condition of the fishery. The combination roving/access point survey documented an estimated total open water fishing pressure of 25,593 hr (6,324 trips), comprised of 15,508 boat angler hours (2,770 trips) and 10,085 shore angler hours (3,554 trips). The total estimated fishing pressure for the ice fishery was 896 hr (277 trips). Additionally, angler boating was estimated to comprise almost 57% of the total boating on the reservoir during the period of the survey. Walleye were targeted by 25% of the boat anglers, with 22% specifically targeting Black Bass (*Micropterus* spp.). Common Carp (*Cyprinus carpio*) were targeted by 32% of shore anglers. Anglers targeting “anything” comprised 41% to 55% of the three angling groups analyzed for (boat, shore, and ice). Open water shore anglers were primarily local (44%) or from the NYC metropolitan area (37%). A total of 14,648 fish were estimated to have been caught during the open water season, with an additional 327 fish estimated to have been caught during the ice fishing season. The open water catch consisted of 5,150 Smallmouth Bass (*Micropterus dolomieu*), 4,726 Black Crappie (*Pomoxis nigromaculatus*), 683 Walleye, 364 Common Carp, and 167 White Perch (*Morone americana*). The estimated ice fishing catch consisted entirely of Black Crappie (252), Yellow Perch (*Perca flavescens*) (54), and Walleye (21). Notable single species release rates include 98.4% of Black Bass (93.5% legal released), 61.0% of Black Crappie (54.4% legal released), and 64.6% of Walleye (57.4% legal released). Seventy three percent of all open-water caught Black Crappie, 43% of Smallmouth Bass, and 71% of Walleye either creeled or reported released were of legal size for those species in Swinging Bridge Reservoir. Notable open water directed catch rates include 1.03 Black Bass/hr by anglers targeting Black Bass, and 0.09 Walleye/hr by anglers targeting Walleye. The release rate for legal Black Crappie during the winter was 27.5%. No legal Walleye were caught during the winter. Examination of the length frequency distribution of Walleye indicates that young-of-year and likely one-year-old Walleye were present in the 2014 open water catch, even though Walleye of these age classes were not present in 2013 and 2014 fall boat electrofishing samples, demonstrating that some low level of Walleye natural recruitment continues. Recommendations from this survey include the reestablishment of a Walleye fingerling stocking program to reestablish Walleye numbers, and the further investigation of the White Perch population status through directed fisheries surveys.

## ***Introduction:***

Swinging Bridge Reservoir is an 886 acre impoundment of the Mongaup River located in Sullivan County, NY in the Towns of Bethel, Thompson, Lumberland, and Forestburgh (Figure 1). Swinging Bridge is the uppermost in a series of three hydroelectric reservoirs currently operated by Eagle Creek Renewable Energy, LLC, with the two following reservoirs being Mongaup Falls Reservoir and Rio Reservoir, respectively. Swinging Bridge is long (approximately eight miles) and narrow, with a maximum depth of 120 ft.

Located at an elevation of 1,070 ft MSL, Swinging Bridge Reservoir is maintained within 5 ft of spill during the summer months to preserve safe pleasure boat navigation. Water level fluctuations beyond that do occur at other times of the year.

Swinging Bridge Reservoir is publically accessible without cost via two utility-provided access sites: 1) a concrete boat ramp with a large parking area located on the east shore approximately mid-reservoir, and 2) a rudimentary dirt ramp on the northwest corner of the reservoir (Figure 1), with both sites also offering some shore fishing opportunities. Additionally, there are two private fee marinas with boat ramps available on the west side of the reservoir. There are no restrictions on vessel type or vessel horsepower at this reservoir.

Approximately  $\frac{3}{4}$  of the shoreline is privately owned, with the remainder (southwest  $\frac{1}{4}$ ) being contained within the Mongaup Valley Wildlife Management Area. The upper northeast corner can be characterized as being moderately to more densely built up with lakeside (both primary and second home) residences. The southeastern and western shorelines (exclusive of the Mongaup Valley Wildlife Management Area land) contain more recently constructed homes (generally within the last ten years) sited on generally larger wooded lots, with the houses set back from the reservoir's shore.

Swinging Bridge Reservoir was constructed on the Mongaup River in 1926, and was first surveyed by the Department in 1956, with the historic fish species list presented in Table 1. Since then, the Department has experimented with a variety of management strategies, documented in the following summaries:

Trout: Based on a 1967 survey which noted the presence of a considerable "trout" zone, the Department stocked 10,000 Lake Trout (*Salvelinus namaycush*) yearlings from 1968 through 1972, when it was decided to terminate the policy due to the apparent decline of summertime Lake Trout habitat.

Tiger muskellunge: Based on the Department's then-new ability to intensively raise tiger muskellunge (*Esox masquinongy X lucius*), it was decided in 1980 to implement an annual 6,000 fingerling tiger muskellunge stocking policy. It was recognized at the time that the chances of establishing a fishery were somewhat poor due to persistent water level fluctuations and a lack of littoral vegetation, but a sub-objective of this policy was to add to the information base on the performance of tiger muskellunge in a variety of waters. A summer 1983 fisheries survey failed to collect a single tiger muskellunge, after which the policy was terminated.

Striped Bass X White Bass hybrid: In 1983 a limited number of these hybrids (hybrid Striped Bass) (*Morone saxatilis x chrysops*) were made available to the NYS hatchery system. Swinging Bridge Reservoir was considered a good candidate for an experimental stocking policy because of its Alewife (*Alosa pseudoharengus*) forage base, which is ideal for these pelagic predators. The initial stocking was

11,700 spring fingerlings, with the policy then being reduced to 8,600 spring fingerlings annually through 1988. This stocking program did manage to establish a fishable population of hybrid Striped Bass in the reservoir, which was anecdotally popular with anglers.

The hybrid Striped Bass stocking program was terminated after 1988 for three reasons:

1. Concerns were raised during this stocking period that the hybrid Striped Bass population had depressed the abundance of Alewife in the reservoir, which are an important food source for wintering Bald Eagles in the valley. Specifically, Alewives became entrained some years in the penstock to the lowermost turbine unit, being discharged into the tailrace below (and the Mongaup River). It was observed that this entrainment was apparently reduced some winters, although significantly reduced Alewife numbers in the reservoir were never documented by Department gillnet surveys.
2. Concerns were raised about potential genetic contamination via back-crossing of the Delaware River native Striped Bass (*Morone saxatilis*) stocks, as the Mongaup River is a direct tributary to the Delaware River. Even though these hybrids are technically sterile, with all Delaware River Striped Bass spawning apparently occurring well downstream of the New York section, this question was never resolved.
3. The source of these fish (State of Virginia) was no longer available to the NYS hatchery system at the time.

Hybrid Striped Bass were regularly caught in Department gillnet surveys as late as 2001, when the last gillnet survey was conducted. Anecdotal accounts of angler-caught hybrid Striped Bass continued for some time afterwards, especially during two popular fishing tournaments held on the reservoir (one summer and one winter, ice permitting). As of this writing, it has been some time since a hybrid Striped Bass was noted to have been caught from the reservoir.

Walleye: Walleye (*Sander vitreus*) were first experimentally stocked into Swinging Bridge Reservoir in 1993, with this annual 20,000 summer pond fingerling policy continuing through 1997. Additionally, five million surplus Walleye fry were stocked in 1998, with this water being the subject of a more intensive investigation of fry stocking methodologies to avoid Alewife predation (Brooking and Olson, 1999). Quite unexpectedly, natural reproduction of Walleye in Swinging Bridge Reservoir was documented by the collection of young-of-year (YOY) Walleye in a boat electrofishing survey conducted in the fall of 2000. Walleye typically will not successfully reproduce in Alewife dominated waters because the pelagic Walleye larvae are consumed by the filter-feeding Alewife in the weeks following hatch-out. The specific factors in Swinging Bridge reservoir which have allowed larval Walleye survival in the past have not been identified.

Wild YOY Walleye were also collected in electrofishing surveys in 2001 – 2004, and again in 2007 and 2008. No YOY were collected in 2009, with a very small number collected in 2011. No YOY have been collected in annual surveys since then.

Other issues:

2005 dam failure and subsequent dewatering: In May 2005 a sinkhole was detected in the Swinging Bridge Reservoir dam which necessitated an emergency lowering of the reservoir water level. The issue turned out to be leakage from the Unit 1 hydroelectric unit penstock which ran from the deepest point in the reservoir (120ft of depth) through the very bottom of the dam. Apparently, this penstock had been causing the facility owners' problems since the dam was constructed, and the ultimate solution was to remove the Unit 1 generating facility, while filling the Unit 1 penstock with concrete. During the dewatering and subsequent dam repair, the reservoir level was dropped to the point to where it was essentially the Mongaup River flowing through the reservoir bed, with little pool habitat remaining. While navigation on the remaining water and trespass on the reservoir bed were formally prohibited by the utility for safety reasons, anecdotally many foot anglers illegally took advantage of the apparently concentrated fish population in the newly limited habitat, with an unquantified harvest.

Current fisheries issues since refill: Since the refilling of Swinging Bridge Reservoir, two fisheries issues have developed which required further study:

1. *Apparent decline of the Walleye fishery:* Once the experimental Walleye fingerling stockings beginning in 1993 established a fishable Walleye population, this fishery became quite popular with the public. Past personal encounters at the access points indicated that anglers were travelling from Central NYS for the Walleye fishery, which is telling since there are numerous other Walleye opportunities in Central New York.

The documentation of successful Walleye reproduction during the 2000 and later fall boat electrofishing surveys was very encouraging, indicating the objective of establishing a reproducing Walleye population was met. The documentation of wild YOY continued for a few years after the 2007 refill of the reservoir, albeit at a much lower catch per hour than the earlier years.

Concurrent with the observed decline in wild YOY production was the decline in older Walleye electrofishing catch per hour, along with an increase in anecdotal angler complaints about declining Walleye fishing quality.

2. *Appearance of new species (White Perch):* White Perch (*Morone americana*) were first documented in Swinging Bridge Reservoir in 2001, with the source of this invader being unknown. They did not reappear in the DEC samples until 2011, when Age 1+ fish were collected in the fall electrofishing sample. Age 1+ and 2+ fish were again collected in the fall of 2012, with none collected in 2013 and 2014.

The presence of White Perch *may* be adversely affecting Walleye recruitment in Swinging Bridge Reservoir by consuming young Walleye, but the data set on White Perch is currently too sparse to determine that. The initial White Perch documentation in 2001 was made during a gillnet survey with the objective of documenting Alewife catch per effort, but these surveys ended at that time. Boat electrofishing may not be the best method for collecting pelagic White Perch because of their open water habitat preference, so the more recent boat electrofishing surveys may be underrepresenting White Perch abundance in Swinging Bridge Reservoir.

### *Fishing Regulations:*

Fishing regulations at Swinging Bridge Reservoir are Statewide, with the exception of Walleye which are regulated under an 18" minimum size limit and a daily bag limit of three. This is the standard more restrictive regulation which is imposed on waters in which it is desired to establish or enhance a reproducing Walleye population (Festa et al. 1987).

The purpose of this survey was to investigate the observed Walleye decline in both Department samples, along with the anecdotal accounts of declining Walleye fishing gave the Department reason to conduct a full season creel survey of Swinging Bridge Reservoir to document the 2014 fishery. This is the first creel survey to be conducted here, and will serve as a baseline for comparison to any future creel surveys.

### **Methods:**

The 2014 Swinging Bridge Reservoir creel survey was designed as utilizing a "roving-roving" methodology for shore anglers, with roving boat angler pressure counts combined with primarily access point interviews of boat anglers (Lockwood 1999). Details are as follows:

*Schedule:* The creel survey was scheduled to run from May 3, 2014 (opening day of NYS Walleye season) through November 30, 2014, and again for some period in the winter to sample the ice fishery if one developed. As it turned out, very cold conditions during the winter of 2014/15 allowed sufficient ice thickness to develop to allow for a winter ice fishery, and the period from January 29, 2015 through April 1, 2015 was sampled to represent the ice fishery.

The open water fishery was scheduled to be sampled every weekend day and holiday each administrative week (Thursday – Wednesday), along with two randomly selected weekdays each administrative week (one weekday during holiday weeks). Therefore, it is possible that a given calendar week may not have exactly two weekdays sampled. Each workday was ten hours long, with the workday being either an "early" day (starting at sunrise) or a "late" day (ending at sunset). "Early" or "late" was determined by randomly selecting that stratum for the first sample day of each administrative week, then alternating for the rest of that sample week.

Pressure (angler) counts were made twice each working day from a vehicle, with the start times separated by 3 hours. Additionally, the actual start time for each pressure count was systematically rotated over 3 hours within each 8 hour day, preserving the 3 hour start-time differential between the two pressure counts. The creel agent started at the dam on the southern end of the reservoir, driving up the eastern shore to the public ramp, then continuing up along the developed shoreline, passing two private marinas. After backtracking from a dead end, the agent continued north, crossed the tributary Mongaup River, and moved down the northwestern side to another dead end approximately 25% down the reservoir. Discreet viewpoints included the dam, and main boat ramp looking south and into the western cove. However, the agent was instructed to maintain an essentially continuous accumulating count along the route since there was much overlap in most of the views.

Anglers were separately noted as being on the shore or in boats, and a separate count was kept of non-angler boats for comparison. Additionally, the number of vehicles were noted at the two utility-owned access points. While the entirety of the reservoir was not visible from the designated route, especially

in the large cove on the western side, it was decided that this method afforded the best count of anglers needed to estimate total fishing pressure. While the count run took on the order of 45 minutes to complete, the data was treated as instantaneous.

The only potential alternative to the method used was to have a boat docked at the reservoir for use in counting anglers (or trailer a boat there each working day). As a comparison check of the above-described count methodology to the “boat only” method, three days were selected when both methods were utilized simultaneously (two weekend days and one weekday).

The winter (ice) fishery was run in a similar fashion as the open water fishery, with the exception that the schedule was reduced by one-half. One weekend day and one weekday were randomly sampled during the nine week period that the ice was safe enough to support anglers.

Total fishing pressure (as hours) was calculated by averaging the two instantaneous angler counts (separately by shore or boat) for each sampled day, then expanding that day’s average to the total number of daylight hours for that day. Therefore, the total fishing pressure estimates are for daylight hours only. Opening day, weekend/holidays, and weekdays were all analyzed as separate strata to reduce the estimated variance of the fishing pressure estimates.

The estimated fishing pressure for each day was then expanded to the total number of days within the time stratum. Boat and shore fishing hours were summed to yield a total open water season fishing pressure estimate. Ice fishing pressure was calculated in the same manner, with only one category of angler. Completed trip lengths were averaged by both overall season and month for boat/shore/winter separately, and these average completed trip lengths were then used to calculate total estimated number of trips by these same strata.

Anglers were interviewed by the creel agent when the pressure counts were not being conducted. Data collected from each angler party (Appendix 1) included:

- Time of interview (pre filled out before contact)
- Time party started fishing
- Boat or Shore
- Trip complete?
- Origin of trip (along reservoir)
- Lure or natural bait
- First interview?
- Zip code of residence
- Target species

Additionally, the creel agent collected data on species caught, numbers, and angler-reported lengths of all released fish, plus actually measured any fish in the anglers’ creel. Scale samples were taken from all harvested Walleye, Largemouth Bass (*Micropterus salmoides*), Smallmouth Bass (*Micropterus dolomieu*), and Brown Trout (*Salmo trutta*) whenever possible. First interview information was collected to avoid multiple counts of angler origins (i.e. only one “zip code of residence” was collected per angler for the entirety of this survey).

Since the vast majority of boat angler interviews were complete (anglers interviewed as they were retrieving their boats), catch rates for boat anglers were all calculated as the ratio-of-means (Lockwood 1999). Shore angler interviews were 54% incomplete, and a t-test was conducted between complete vs. incomplete trip anglers which did not indicate a significant difference ( $p=0.05$ ) between all fish catch rates. Therefore, all shore interview catch rates were calculated as the mean-of-ratios, as were the ice fishing interviews. Catch rates were calculated separately for the two categories of anglers (shore versus boat).

Multiple-day estimators instead of daily estimators were utilized in the calculation of catch rates and total catch, since relatively few interviews were collected each day, especially toward the end of the open water season (Lockwood et al. 1999). Estimated total catch is calculated for period  $p$  the same way for both complete and incomplete angler trips as follows:

$$\widehat{C}_p = \widehat{E}_p R_p$$

where,

$\widehat{E}_p$  = estimated effort for period  $p$ , and

$R_p$  = appropriate catch rate,

and the estimated variance is:

$$\widehat{Var}(\widehat{C}_p) = R_p^2 \widehat{Var}(\widehat{E}_p) + \widehat{E}_p^2 \widehat{Var}(R_p) - \widehat{Var}(\widehat{E}_p) \widehat{Var}(R_p).$$

### **Results:**

During the open water season a total of 53 weekdays and 65 weekend/holidays were sampled. A total of 178 boat interviews and 219 shore interviews were concurrently collected, representing 934 individual anglers. A total of 1,566 fish were reported or observed by the creel agent during these interviews. During the winter 2015 ice fishing season eight weekdays and nine weekend/holidays were sampled, during which 22 angler interviews were conducted representing 42 individual anglers. A total of 61 fish were reported or observed by the creel agent during these interviews.

The 2014 Swinging Bridge Reservoir creel survey results describe a mixed (boat and shore) fishery that coincides with some non-fishing pleasure boat use. From May 2015 – November 2015 boat anglers expended approximately 1.5 times as much fishing effort (15,508 hr or 2,770 trips) as shore anglers (10,085 hr or 3,554 trips), which calculates to 17.5 hr/ac for boat angling and 11.4 hr/ac for shore angling (Table 2). Average completed boat trip length was 5.6 hr, while the average completed shore trip length was 2.8 hr. Total estimated ice fishing pressure was 896 hr (277 trips), which calculates to 1.0 hr/ac with an average overall completed trip length for winter (ice) anglers being 3.2 hr.

Total angler boat use (as boat hours, NOT angler hours) was estimated to be 8,046 boat hours (56.6% of the total), exceeding the estimated non-angling boat use of 6,175 hours for the entire season (43.4% of the total). If just the warmer season months of June, July, and August are analyzed, the pattern basically remains the same with angler boat usage comprising 53.5% of the total estimated boat usage. Results from the concurrent shore- and boat-based fishing pressure counts were highly variable (Table 3), with no consistent pattern. Two weekdays and one weekend day were sampled in this fashion.

When raw fish numbers observed by or reported to the agent are ordered (Table 4) black bass combined accounted for the greatest number of fish of any category, with 708 combined fish observed or reported, comprising 45% of the total open water sample. Of these, Smallmouth Bass comprised a minimum of almost 82% of the total Black bass catch, since 52 were reported as “Unidentified Bass” to the creel agent by uninformed anglers. The second most caught species in the open water fishery was Black Crappie (*Pomoxis nigromaculatus*), comprising almost 26% of the total catch. This was followed by Yellow Perch (*Perca flavescens*) (6%), Walleye (5%), with 11 other species caught less frequently. The winter ice fishery catch was comprised of Black Crappie (77%), Yellow Perch (16%), and Walleye (7%).

Overall seasonal fish catch rates are presented by fishing type and intended target (Table 5). The overall all-species catch rate for shore anglers was 0.88 fish/hr, for boat anglers it was 0.58 fish/hr, and for ice anglers it was 0.37 fish/hr. Since species-specific catch rates would be expected to be highly dependent upon the species the angler is targeting, catch rates are presented for the various species/species groups by some combination of target species.

The 2014 Swinging Bridge Reservoir open water fishery exhibited an overall release rate of over 80% for all fish species caught (Table 6). The fish species or species groups presented in Table 6 were selected because they represented the major categories documented during this survey. Notable single species release rates include 98.4% of Black Bass, with 93.5% of the legal size catch released. Other release rates included 61% of Black Crappie, and 64.6% of Walleye. The one notable open water creel rate was 76.5% of all Common Carp caught being creeled. Over fifty seven percent of all legal size Walleye were released, as were 54.4% of all legal size Black Crappie. Black Crappie were the only fish to be documented as being creeled during the winter ice fishery at a rate of 61.7%. No Yellow Perch or Walleye were documented to have been creeled during the winter.

The distributions of angling techniques for boat and shore anglers, respectively, are presented in Figure 2. The majority of boat angler parties (57%) fished with lures exclusively, while the majority of shore angler parties (52%) fished with bait exclusively. Bait types were dominated by worms and corn (roughly equal), with only 13% of the bait angler parties using baitfish. Thirty percent of the angler parties utilizing mixed techniques utilized baitfish. Overall, just over 12% of all open water angler parties utilized baitfish either exclusively or in combination with other methods.

Baitfish used included “minnows”, Golden Shiner, “shiners”, “herring” (one party), Yellow Perch (one party), and Fathead Minnows. Baitfish were not always available for inspection by the agent, and may not always have been easy to identify as to exact species. No crayfish were noted to be used.

Exactly 50% of the ice anglers fished with bait exclusively, with the remainder using lures or mixed techniques. “Shiners”, “minnows”, and Fathead Minnows were noted to be used as baitfish by the ice angler parties.

Overall expanded numbers of fish caught (both creel and released) (Table 7) follows the pattern of raw numbers reported or observed (Table 4). A combined total of 6,116 Black Bass were estimated to have been caught by anglers during 2014, of which 5,150 were estimated to be Smallmouth Bass. The second most numerous species in the catch was Black Crappie, with an estimated 4,726 caught in 2014. Only 683 Walleye were estimated to have been caught in the open water fishery. Sunfish in general – Bluegill (*Lepomis macrochirus*), Pumpkinseed (*Lepomis gibbosus*), Redbreast Sunfish (*Lepomis auritus*), and Sunfish (*Lepomis* spp.) – were cumulatively estimated to have accounted for 829 fish caught between all the categories.

Length frequency distributions of selected species (Figures 6 – 9) generally illustrate a fishery with a good proportion of larger fish being caught by the anglers. For example, 73% of all open-water caught Black Crappie, 43% of Smallmouth Bass, 45% of Largemouth Bass, and 71% of Walleye either creel or reported released were of legal size for those species in Swinging Bridge Reservoir.

The creel agent only managed to collect a small number of scale samples (Table 8). Of note are the 23 age estimates from walleye with a narrow size range of 16.9- 24.5 in, which included ages 3+ through 6+.

The majority of anglers fishing Swinging Bridge Reservoir in 2014, including the 2014/15 ice fishery, were essentially “local” (western Hudson Valley, Sullivan and western Orange Counties) or from the neighboring Hudson Valley (Ulster, Dutchess, Putnam, and eastern Orange Counties) (Figure 3). The distribution of the origins of three groups of anglers is presented in Figure 3 for the following three groups: All open water anglers; all open water anglers targeting Walleye; and all winter anglers. The Walleye-targeting group was selected for presentation because of the earlier observation of out-of-area anglers coming to Swinging Bridge Reservoir specifically for the Walleye fishery.

When broken down on a finer basis to separate open water shore versus boat anglers, Hudson Valley/Western Hudson Valley anglers constituted 77% of the boat angler sample (Figure 4). In contrast, this same angler demographic constituted only 50% of the shore angler sample, while anglers from the New York City (NYC) metropolitan area constituted 37% of the shore angler sample. Anglers from other parts of New York State, as well as anglers from Pennsylvania (areas which might produce anglers specifically targeting Walleye) in sum accounted for approximately 3% each of the shore and boat angler samples.

The distribution of claimed anglers’ fishing targets presented in Figure 5 is, not surprisingly, dominated by the category “Anything”. Anglers specifically targeting Walleye accounted for 25% of the boat angler parties and 32% of the winter angler parties, testifying to the continued popularity of this fish at Swinging Bridge Reservoir. Combined Black Bass were targeted by 22% of the boat anglers, essentially the same as walleye. Common Carp were targeted by 32% of the shore anglers, closely following the percentage of shore anglers from the NYC metropolitan area noted above. The remainder of the winter anglers not targeting Any or Walleye were roughly evenly split targeting the popular ice fishing targets of Chain Pickerel (*Esox niger*), Yellow Perch, or Black Crappie.

### ***Discussion:***

Since 2014 was the first year the Department surveyed the public use of the Swinging Bridge Reservoir fishery, comparisons to past years' use are not possible. Since the 2014 weather during the open water season was not characterized by any great anomalies, reservoir water levels were consistent at least during the June through August period. With fuel prices relatively low for both vehicular and boating needs, these results can be considered a representative baseline for fishing and boating pressure at this current general time.

The winter of 2014/2015 was perhaps unusual in the severity and duration of cold temperatures, and as a result an ice fishery developed which was first sampled on January 29, 2015, and finally sampled on April 1, 2015. This two month sampled season actually extended well past what might be expected in a more "typical" year by likely a month, although some years the ice fishery might develop sooner. The February – March estimated expanded fishing pressure estimate of 896 hours (277 trips; 1.0 hr/ac) is therefore likely representative of any two month period of good ice conditions on Swinging Bridge Reservoir, with the total winter pressure obviously being dependent on the total length of the ice season in any given year.

Since quantitative comparisons to past Swinging Bridge Reservoir fishing use estimates are impossible, comparisons to other waters must be made. Whitney Point Reservoir (Broome County) was the subject of a full year (open water plus ice fishing) creel survey in 1999-2000 (Bishop and Lemon, 2003), and appears to be a suitable candidate based on several factors. Similar in size to Swinging Bridge Reservoir, Whitney Point Reservoir is a flood control reservoir located in Central New York maintained at a pool area of 1,200 ac May – November, and 900 ac otherwise at the time of the survey. Recreational boating access is also accommodated, albeit with a 25 hp powerboat limit. Fish species present are also similar between the two reservoirs, including the presence of a self-sustaining walleye population at Whitney Point Reservoir. Notable differences include a maximum depth of only 20 ft (versus 120ft at Swinging Bridge Reservoir), and a higher predicted productivity as evidenced by total alkalinity readings near 70 ppm versus typical Swinging Bridge Reservoir total alkalinities of 13 ppm or less.

When the 1999/2000 Whitney Point Reservoir creel survey pressure data are parsed to the May – November 1999 period along with the February – March 2000 period to align with the 2014/15 Swinging Bridge Reservoir sampled months it is evident that Whitney Point Reservoir hosted much higher fishing pressure. The 1999 open water period at Whitney Point Reservoir saw 49,390 hr of total fishing pressure (41.2 hr/ac) versus 25,593 hr of total fishing pressure (28.9 hr/ac) at Swinging Bridge Reservoir. The 1999 extracted two-month ice season at Whitney Point Reservoir attracted an even greater proportion of anglers than the 2015 ice season at Swinging Bridge Reservoir: 7,024 hr (7.8 hr/ac) at Whitney Point versus 896 hr (1.0 hr/ac) at Swinging Bridge.

The distribution of angler origins at Swinging Bridge Reservoir (Figures 3 and 4) illustrates one perhaps unanticipated result being the preponderance of local or near-local anglers participating in almost all aspects of the open water fishery – these would be the category "Western Hudson Valley" (mostly Sullivan County), or Hudson Valley in general (remainder of DEC Region 3). The remainder of the open

water angler origins are roughly split between the NYC metropolitan area and the remainder of the Hudson Valley (including NYC suburban Rockland and Westchester Counties).

Relatively high visitation from the general NYC metropolitan area, including Northern New Jersey, has always been a constant of Region 3's more popular fisheries. It is unquantified how many of these anglers make day trips versus overnight stays, or may be second homeowners claiming Metropolitan area primary residence. Presumably many Swinging Bridge Reservoir resident boat anglers were underrepresented in the sample of boat interviews since they would not have had any contact with the creel agent at the main boat ramp.

Of the Walleye-specific open water anglers, 80% were from DEC Region 3. Interestingly, no self-identified Walleye anglers travelled from Pennsylvania or central New York State, which was expected prior to this survey. Swinging Bridge Reservoir's reputation as a Walleye fishery may have declined to the point where this destination may not be so appealing to anglers who have to travel. Another interesting outcome from this survey is the relatively high proportion of NYC metropolitan anglers in the shore fishery. Although not specifically qualified, this corroborates the creel agent's observation of numerous anglers of apparent Russian, Eastern European, or Baltic ethnicity travelling specifically (and repeatedly) to Swinging Bridge Reservoir to fish for Carp at the upper, shallow end of the reservoir which is accessible by local road.

The Hudson Valley generated 52% of the anglers from the 2014/15 ice fishery, with 39 % being essentially local (Western Hudson Valley). This indicates that Swinging Bridge Reservoir is more of an ice fishing draw for anglers slightly distant, perhaps because there are many more small Sullivan County ice fishing lakes available to the public than "unlimited" boating opportunities, which may not draw the attention of non-local anglers

The distribution of lure versus bait usage (Figure 2) by boat, shore, and winter anglers indicates typically expected results. Shore anglers and winter anglers exhibited similar distributions, with roughly half of both groups using bait exclusively. The generally low percentage of baitfish users (just over 12% of all open water angling parties), along with the observation of bait species mostly being the commercially available (and assumed legal) shiners and fathead minnows, should theoretically predict a minimal chance of exotic species introductions via bait bucket.

As a general guide to the status of the 2014/2015 Swinging Bridge Reservoir fishery, the raw numbers of fish observed by or reported to the creel agent show an overall catch dominated by Smallmouth Bass followed by Black Crappie (Table 4). The decline of the Walleye fishery is demonstrated by the only 5% representation of this species in the open water fishery, and 6.5% representation in the winter ice fishery.

Catch rates for the major species or species groups (Table 5) are presented by target groupings as well as overall, since species-specific catch rates would be expected to vary greatly by target. The overall all-species catch rate of 0.58 fish/hr for boat angler parties and 0.88 fish/hr for shore angler parties compares favorably to what is assumed to be a "satisfactory" catch rate of 0.5 fish/hr in NYS used for the management of trout streams, although those are fundamentally different fisheries. The highest individual species group catch rate was realized by boating Black Bass angler parties, catching 1.03 Black

Bass/hr. This contrasts with Black Bass catch rates of 0.32 fish/hr by all anglers, 0.55 fish/hr by anglers targeting Gamefish, and 0.11 fish/hr by anglers specifically targeting “Any”.

Other notable catch rates include 0.09 Walleye/hr by boat anglers specifically targeting Walleye, and a Walleye catch rate of essentially zero for all shore anglers combined (actually, two walleye were caught by these anglers, resulting in an average catch rate too low to register at the resolution of this table). The Black Crappie catch rate of 0.14 fish/hr based on all boat anglers is relatively low compared to black bass, but the shore anglers’ Black Crappie catch rate of 0.39 fish/hr is the highest single species catch rate for all shore anglers. Black Crappie also accounted for the highest catch rate of 0.28 fish/hr of any individual species in the winter ice fishery, while Yellow Perch and Walleye catch rates were quite low.

Compared to the 1999/2000 Whitney Point Reservoir fishery, these results indicate some considerable differences between the two fisheries, albeit 15 years apart. Swinging Bridge Reservoir general boat anglers enjoyed almost three times the success, per hour, fishing for Black Bass (0.32 Bass/hr) than general Whitney Point Reservoir boat anglers (0.12 Bass/hr). Swinging Bridge boat anglers specifically targeting Black Bass also enjoyed three times the success rate (1.03 Bass/hr) than Whitney Point boat anglers specifically targeting Black Bass (0.36 Bass/hr).

On the other hand, Whitney Point Reservoir boat anglers targeting Walleye enjoyed a catch rate of 0.57 Walleye/hr compared to the same angler category’s Swinging Bridge catch rate of 0.09 Walleye/hr, and all Whitney Point boat anglers enjoyed a catch rate of 0.76 Black Crappie/hr compared to 0.14 Black Crappie/hr for all Swinging Bridge boat anglers. Whitney Point Reservoir was clearly a more productive fishery in 1999 for these two species groupings than Swinging Bridge Reservoir was in 2014, and in fact it is stated that Whitney Point is specifically known for its Walleye and Crappie fishing (Bishop and Lemon, 2003).

Festa (1987) generally characterizes New York State open water Walleye angler catch rates of 0.05-0.10 fish/hr as “fair”, 0.10-0.25 fish/hr as “good” to “very good”, and 0.25 fish/hr as “excellent”. Thus, the best Swinging Bridge Reservoir categorical Walleye Catch rate of 0.09 fish/hr (by boat anglers specifically targeting Walleye) is at best rated fair. In contrast, the 1999 Whitney Point Reservoir open water Walleye catch rates, whether overall or by specifically targeting anglers, are clearly well into the “excellent” category.

Another comparison which can be made is to Oneida Lake, whose anglers in 2014 enjoyed targeted Walleye catch rates of 0.31/hr and 0.59/hr in June and July, respectively, along with targeted Smallmouth Bass catch rates of 0.49/hr and 0.25/hr in June and July, respectively (Jackson et. al. 2015). Oneida Lake is perhaps best known for its Walleye fishery, as evidenced by these catch rates, although it is noted that Smallmouth Bass are increasing in abundance. The Swinging Bridge Reservoir black bass catch rate compares very favorably to the corresponding Oneida Lake catch rate.

The sunfish catch in general – Bluegill, Pumpkinseed, Redbreast Sunfish, and “Sunfish” –seems like it should have been higher, especially in relation to some other species’ estimated catches, but this might be explained by the general lack of aquatic vegetation in this reservoir, the preferred habitat of these fish. However, spawning success is likely not limiting since small Sunfish (including young-of-year) are consistently abundant in the annual fall boat electrofishing surveys of this reservoir. Other panfish species, notably Black Crappie, were caught in large numbers, with these fish being not so dependent on

vegetated habitat as the other sunfishes. A total of 21 Brown Trout were estimated to have been caught, with this species being known to inhabit Swinging Bridge Reservoir in limited numbers, especially seasonally. Summertime trout habitat is limited to nonexistent many years, but the major tributary Mongaup River immediately above the reservoir is stocked by DEC each spring.

One surprising finding was the low number (167) of White Perch estimated to have been caught in 2014. Once White Perch become established in a waterbody, they can reproduce to the extent they effectively dominate the pelagic fish community (Wong et. al. 1999). The first documentation of White Perch in Swinging Bridge Reservoir in 2001 has allowed ample time for them to become established, and the presence of this species is one suspected reason for the observed decline in Walleye. This may occur through direct predation of Walleye eggs (Schaeffer and Margraf 1987) or through possible competition for food resources. The low number caught in 2014 may indicate White Perch abundance is not as high as it was feared.

The extent of the 2014 Black Crappie and Black bass fisheries was somewhat unanticipated, based both on total numbers handled and general angler catch rates. However, a lack of other Regional catch rate data prevents a direct comparison to any other nearby waters. It would be desirable to collect angler data on these self-sustaining species which are widely found in the Region, but not studied as much as the species such as introduced Walleye which are often the subject of special studies.

The length distribution for Black Crappie (Figure 7) indicates a fishery yielding larger fish than are typically collected in the Department's annual fall boat electrofishing surveys. A majority of the Black Crappie reported or seen were of legal size (9in), with fewer being sub-legal. In contrast, the average size of Black Crappie collected during fall boat electrofishing surveys from 2007 – 2013 ranged from 3.8-5.8 in.

The size distribution of the Black Crappie documented during the 2014 creel survey may be indicative of a dominant year class approaching the top of this species' age structure in the reservoir in 2014 – likely age four or five. Crappie populations are known to be somewhat cyclical, although we have no other evidence of this occurring in this reservoir.

The Walleye length frequency distribution (Figure 6) shows the mode of the distribution (approximately 19") corresponding to age 3 or age 4 Walleye, although ages 3 – 6 lengths seem to clump around the 19" – 20" size. Three 28" individuals were reported, likely female fish since Walleye exhibit different growth rates based on gender. A most interesting finding is the smallest part of the distribution (6" – 11"), which would correspond to age 0 or age 1 Walleye, none of which were documented in the fall of 2013 or 2014 boat electrofishing surveys intended to look for them. These creel survey results indicate that Walleye are still successfully recruiting to the Swinging Bridge Reservoir population at least at some low level that is not being detected by the fall electrofishing surveys.

The winter 2015 ice fishing length frequency distribution (Figure 7) presents a Black Crappie length distribution even more heavily weighted towards larger fish than the open water length distribution, providing further evidence of a quality population. This figure also shows that no legal size Walleye (18") were caught during the winter ice fishery.

One somewhat unanticipated result of the 2014 Swinging Bridge Reservoir open water creel survey was the finding that over 55% of the boating pressure was expended by anglers. This pattern even held during the peak of the summer (June – August), with angler boating constituting over 53% of total estimated boating pressure. This period is when non-angler pleasure boating might be expected to peak within the year, as school is out, water and air temperatures are highest, and seasonal residents might be expected to be spending the most time at the reservoir.

Although the number of docked boats at the two marinas and the numerous residences along the shore have not been quantified as to total number or apparent intended use, it has been this author's observation over the years that the majority of the boats docked on the reservoir appear to be intended for largely non-angling uses (i.e. personal watercraft, "party" pontoon boats, and ski boats). The distribution of permanent vs. seasonal or weekend residences on the reservoir is not known. Therefore, it is somewhat surprising that even in the warm months over 50% of the estimated boating activity was angling, a pattern which would be more expected in the cooler "off season" months of autumn. In fact, the utilities which have operated the reservoir for power generation have had an agreement to keep the reservoir within five feet of full pool elevation for some period mid-year, reportedly terminating at Labor Day each year specifically to accommodate recreational boating.

An additional factor to consider is the limited number and proximity of other publically accessible waterbodies which allow essentially unlimited powerboating as does Swinging Bridge Reservoir. In Sullivan County, these are primarily the nearby 283 acre White Lake (DEC access available) located eight miles away in the Town of Bethel, and 82 acre Lake Huntington located 16 miles away in the Town of Cocheton, also with DEC access available. White Lake very likely experiences a "denser" recreational boating experience due to its smaller size, denser residential development, presence of two boat rental facilities, and proximity to two hamlets with a more "summer vacation" culture (i.e. presence of obvious summer rentals along with a bar/restaurant selection). Lake Huntington seems to have a more residential than "vacation" setting about it, its DEC access facility is quite small with limited parking due to lot constraints, and the lake's small size should tend to limit its appeal to water skiers, boarders, and users just wanting to go fast.

These factors concerning the other Sullivan County DEC-accessible power boating lakes should perhaps favor general pleasure boating pressure being naturally directed to Swinging Bridge Reservoir, but the main utility-owned boat ramp is in somewhat poor condition, especially at lower water levels, to the extent that some users report damage to their trailers when launching or retrieving. A third Sullivan County unlimited power boat option might be considered to be the almost-adjacent 834 acre Toronto Reservoir (ten miles away by road), but this reservoir poses a sometimes limiting launch situation from the Moscoe Road access because of often severely reduced water level during summer months exposing hazards to navigation, and the area of almost one-half the reservoir is closed to public access since all rights to that half are privately held (result of past court decision).

Beyond Sullivan County, the nearest inland waterbodies which might provide a similar unlimited powerboating experience include 2,000 acre Greenwood Lake, partially located in the Town of Warwick, Orange County, 40 miles away. There is fee-only private access to Greenwood Lake, and it likely experiences intense recreational boat usage due to its closer proximity to the NYC metropolitan area, and very dense residential development. 5,700 acre Lake Wallenpaupack is located 30 miles away in

Pike/Wayne Counties, Pennsylvania, with good public access and accommodating local vacation-oriented private development.

It should be noted that both White Lake and Lake Huntington (as well as Greenwood Lake and Lake Wallenpaupack in Pennsylvania) are managed for fisheries which are somewhat unique unto themselves, and actively promoted by their respective States. Both White Lake and Lake Huntington contain good warmwater fisheries, and both are stocked by DEC with Brown Trout. Additionally, White Lake is also stocked by DEC with Lake Trout. Thus, anglers with power boats have other options besides Swinging Bridge Reservoir if their primary interest are the fish.

The limited test samples of days at Swinging Bridge Reservoir in which both the usual shore counts were made in addition to simultaneous (within the hour) boat counts were made reveal an inconsistent pattern of agreement and disagreement (Table 3). This lack of any consistent pattern between the count methodologies prevents the application of any sort of a correction factor for the shore-based counts, at least based on this small sample size of simultaneously sampled days. If such a comparison is desired in any future user surveys here, it should be more rigorously conducted to hopefully achieve more consistent results.

Constraints of the shore-based count methodology included incomplete views of some of the reservoir areas, especially the one large western cove and some of the southern basin for boat counts. Constraints of the boat-based count methodology, besides the complications and costs of the basic logistics of boating, include the need to slow down in some areas for navigational safety, plus it became apparent that navigation was very slow to impossible in some of the northern reservoir section because of the shallow depth. This resulted in some missed shore anglers in a section which turned out to be popular shore fishing area. This also resulted in the boat counts taking more time than initially anticipated, approaching the time of the shore-based counts, somewhat negating the hoped for advantage of a more “instantaneous” count.

The problem of adequately sampling the fishing pressure on a reservoir such as Swinging Bridge remains unresolved. Perhaps the emerging remote drone technology might show some promise as drone technology matures and legal issues become resolved. A reliable aerial drone flying a pre-programmed route, recording a wider angle video, should be able to cover all areas of a waterbody in a more rapid fashion while allowing for later visual analysis of the video files.

***Summary:***

1. Total estimated fishing pressure from May 2014 –November 2014 was estimated to be almost 29 hr/ac, with 60% (17.5 hr/ac) expended by boat anglers. Ice anglers were estimated to have expended 1.0 hr/ac.
2. Angler boats were estimated to have comprised almost 57% of all boating pressure during this same period.
3. A total of 14,648 fish were estimated to have been caught (released or creeled) during the open water period. Of these, Smallmouth Bass comprised 35% and Black Crappie comprised 32%. Only 648 Walleye were estimated to have been caught.

4. Highest individual catch rates (based on all anglers, irrespective of target) were for Black bass and Black Crappie, both at over 0.3 fish/hr. The extent of the Black Crappie fishery was unexpected.
5. A total of 327 fish were estimated to have been caught during the February-March 2015 ice fishing season, which were comprised of 77% Black Crappie. Only 21 Walleye were estimated to have been caught, which were all sublegal based on the Walleye reported to the creel agent.
6. Over 80% of all fish caught during the open water season were released.
7. The origins of the boat anglers were roughly evenly split between essentially local anglers (Western Hudson Valley), and the remainder of the Hudson Valley.
8. The origins of the open water shore anglers were dominated by local anglers (44%) and anglers from the NYC metropolitan area (37%).
9. 41% of the open water boat anglers were targeting Anything, 25% targeted Walleye, and 22% targeted Black Bass.
10. 55% of the open water shore anglers were targeting Anything, while 32% were targeting Carp. The extent of the Carp fishery was unanticipated.
11. Significant fishing pressure directed at Walleye from anglers coming from outside the Hudson Valley did not materialize.
12. A low number of White Perch were estimated to have been caught between both the open water season and the ice fishing season – only 167 fish. This may indicate that White Perch have not established in this reservoir to the extent originally feared. It is recommended that additional gillnet survey(s) be conducted to collect additional data on this species, to compare to gillnet catch rates for other White Perch inhabited waters (including Ashokan Reservoir and Sturgeon Pool, Ulster County; Greenwood Lake, Orange County; as well as six Croton system NYC reservoirs).
13. The length frequency distribution of angler-caught Walleye indicates that likely young-of-year or age 1 walleye were present in the catch, which are both year classes which failed to show up in 2013 and 2014 fall boat electrofishing surveys. Thus, some Walleye recruitment to the post-Alewife predation vulnerable stage is apparently occurring.

***Recommendations:***

1. Continue the 18"/3 minimum size/possession limit regulation for Walleye in Swinging Bridge Reservoir to protect more Walleye until maturity, consistent with the Percid Plan's recommendation for limited or developing populations.
2. Further thought and study should be directed at trying to identify specific factors which might enhance natural Walleye recruitment.
3. The reestablishment of a fingerling Walleye stocking program at 20/ac should be considered to enhance the Walleye catch rate, and hopefully reestablish a "critical mass" of spawning stock. The objective would be to restore Swinging Bridge Reservoir as a Walleye target for anglers beyond the immediate area, as it reportedly was prior to the 2005 drawdown.
4. Continue to sample Swinging Bridge Reservoir with the objectives of 1) Documenting and quantifying Walleye natural reproduction, 2) Following the status of the invasive White Perch, and 3) Follow the status of the locally important Black bass and Black Crappie fisheries.
5. Continue to monitor the popular shore fishery for Carp, and consider ways to minimize potential conflicts with local property owners.

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**Table 1. Historic fish species present in Swinging Bridge Reservoir  
based on New York State surveys 1956 - present.**

<b>Alewife</b>	<i>Alosa</i>	<i>pseudoharengus</i>
<b>Brown Trout</b>	<i>Salmo</i>	<i>trutta</i>
<b>Redfin Pickerel</b>	<i>Esox</i>	<i>americanus americanus</i>
<b>Chain Pickerel</b>	<i>Esox</i>	<i>niger</i>
<b>Tiger Musky</b>	<i>Esox</i>	<i>lucius x masquinongy</i>
<b>Common Carp</b>	<i>Cyprinus</i>	<i>carpio</i>
<b>Eastern Silvery Minnow</b>	<i>Hybognathus</i>	<i>regius</i>
<b>Golden Shiner</b>	<i>Notemigonus</i>	<i>crysoleucas</i>
<b>Emerald Shiner</b>	<i>Notropis</i>	<i>atherinoides</i>
<b>Spottail Shiner</b>	<i>Notropis</i>	<i>hudsonius</i>
<b>Spotfin Shiner</b>	<i>Cyprinella</i>	<i>spiloptera</i>
<b>Fallfish</b>	<i>Semotilus</i>	<i>corporalis</i>
<b>White Sucker</b>	<i>Catostomus</i>	<i>commersonii</i>
<b>White Catfish</b>	<i>Ameiurus</i>	<i>catus</i>
<b>Black Bullhead</b>	<i>Ameiurus</i>	<i>melas</i>
<b>Yellow Bullhead</b>	<i>Ameiurus</i>	<i>natalis</i>
<b>Brown Bullhead</b>	<i>Ameiurus</i>	<i>nebulosus</i>
<b>White Perch</b>	<i>Morone</i>	<i>americana</i>
<b>Striped Bass X White Bass hybrid</b>	<i>Morone</i>	<i>saxatilis x chrysops</i>
<b>Redbreast X Pumpkinseed hybrid</b>	<i>Lepomis</i>	<i>auritus x gibbosus</i>
<b>Rock Bass</b>	<i>Ambloplites</i>	<i>rupestris</i>
<b>Redbreast Sunfish</b>	<i>Lepomis</i>	<i>auritus</i>
<b>Green Sunfish</b>	<i>Lepomis</i>	<i>cyanellus</i>
<b>Pumpkinseed</b>	<i>Lepomis</i>	<i>gibbosus</i>
<b>Bluegill</b>	<i>Lepomis</i>	<i>macrochirus</i>
<b>Smallmouth Bass</b>	<i>Micropterus</i>	<i>dolomieu</i>
<b>Largemouth Bass</b>	<i>Micropterus</i>	<i>salmoides</i>
<b>Black Crappie</b>	<i>Pomoxis</i>	<i>nigromaculatus</i>
<b>Tessellated Darter</b>	<i>Etheostoma</i>	<i>olmstedii</i>
<b>Yellow Perch</b>	<i>Perca</i>	<i>flavescens</i>
<b>Logperch</b>	<i>Percina</i>	<i>caprodes</i>
<b>Walleye</b>	<i>Sander</i>	<i>vitreus</i>

**Table 2. Swinging Bridge Reservoir estimated expanded user pressure (hours) with Standard Errors for May - November, 2014, and February - March, 2015, with associated standard errors.**

	(1)			(1)				
	SHORE	SHORE	Completed trip	BOAT	BOAT	Completed trip	ANGLER	NON ANGLER
	anglers (hr)	# trips	length (hr)	anglers (hr)	# trips	length (hr)	boats (hr)	boats (hr)
<b>May</b>	<b>2526</b>	<b>787</b>	<b>2.8</b>	<b>1928</b>	<b>314</b>	<b>6.0</b>	<b>1136</b>	<b>540</b>
SE:	234	84	N=10	135	15	N=20	76	55
<b>June</b>	<b>2104</b>	<b>792</b>	<b>2.4</b>	<b>3483</b>	<b>596</b>	<b>6.2</b>	<b>1879</b>	<b>1106</b>
SE:	147	29	N=24	184	14	N=40	112	89
<b>July</b>	<b>2422</b>	<b>932</b>	<b>2.5</b>	<b>4147</b>	<b>751</b>	<b>5.3</b>	<b>1957</b>	<b>2040</b>
SE:	168	37	N=25	356	30	N=31	155	225
<b>August</b>	<b>1647</b>	<b>442</b>	<b>4.0</b>	<b>2992</b>	<b>580</b>	<b>5.2</b>	<b>1482</b>	<b>1484</b>
SE:	97	21	N=14	126	12	N=34	69	159
<b>Sept</b>	<b>684</b>	<b>258</b>	<b>2.4</b>	<b>2176</b>	<b>353</b>	<b>6.2</b>	<b>1160</b>	<b>677</b>
SE:	40	13	N=12	149	13	N=31	76	72
<b>Oct</b>	<b>510</b>	<b>219</b>	<b>2.4</b>	<b>663</b>	<b>181</b>	<b>4.0</b>	<b>333</b>	<b>182</b>
SE:	30	11	N=14	46	15	N=7	24	19
<b>Nov</b>	<b>192</b>	<b>26</b>	<b>9.7</b>	<b>119</b>	<b>20</b>	<b>6.1</b>	<b>100</b>	<b>146</b>
SE:	26	12	N=2	13	5	N=3	11	19
<b>Annual open water sum:</b>	<b>10085</b>	<b>3544</b>	<b>2.8</b>	<b>15508</b>	<b>2770</b>	<b>5.7</b>	<b>8046</b>	<b>6175</b>
SE:	130	34	N=101	178	18	N=166	88	117
<b>hr/acre</b>	<b>11.4</b>			<b>17.5</b>				
<b>Winter sum:</b>	<b>896</b>	<b>277</b>						
SE:	66	17						
<b>hr/acre</b>	<b>1.0</b>							

1. . "Boat" hours differ from "Angler boat hours" in that the former represents individual vessels, which can then be compared to "Non angler boat" hours as a use comparison. "Boat angler hours" represents individual anglers, used in the calculation and comparison of fisheries statistics.

**Table 3. Simultaneous daily pressure estimates (with standard errors), as hours, from both shore-based counts and boat-based counts**

	Shore angler hours		Boat angler hours		Angler boat hours		Non Angler boat hours	
	Shore count	Boat count	Shore count	Boat count	Shore count	Boat count	Shore count	Boat count
<b>May 1: (Weekday)</b>	<b>15</b>	<b>138</b>	<b>22</b>	<b>102</b>	<b>15</b>	<b>51</b>	<b>0</b>	<b>65</b>
SE:	10	5	15	21	10	5	0	5
<b>June 1 (Weekday)</b>	<b>31</b>	<b>31</b>	<b>15</b>	<b>54</b>	<b>8</b>	<b>31</b>	<b>46</b>	<b>77</b>
SE:	22	22	11	5	5	0	11	11
<b>Aug 2: (Weekend)</b>	<b>122</b>	<b>95</b>	<b>197</b>	<b>109</b>	<b>95</b>	<b>68</b>	<b>109</b>	<b>122</b>
SE:	29	67	24	38	19	19	10	19

Table 4. Swinging Bridge Reservoir 2014/2015 creel survey raw fish numbers reported or observed presented by species.

<b>Summer 2014</b>	
Species	Raw number
Smallmouth Bass	579
Largemouth Bass	77
Unknown Bass	52
<i>Black Bass</i>	<i>708</i>
Black Crappie	405
Yellow Perch	92
Walleye	79
Brown Bullhead	76
Common Carp	51
Redbreast Sunfish	30
Bluegill	27
Pumpkinseed	18
White Perch	18
Unknown Catfish	15
White Sucker	13
Sunfish	9
Chain Pickerel	8
Chub	6
Fallfish	4
Brown Trout	3
Unknown Perch	2
Channel Catfish	1
Unknown Fish	1

<b>Winter 2015</b>	
Black Crappie	47
Yellow Perch	10
Walleye	4

**Table 5. Mean 2014/15 Swinging Bridge Reservoir season catch rates (as fish/hr) for selected species presented by method and target.**

	# Parties	CR	SE
Boat Fishing:			
Target UNSPECIFIED (1), fish ALL SPECIES	178	0.58	0.0015
Target UNSPECIFIED, fish BLACK BASS	178	0.32	0.0011
Target UNSPECIFIED, fish BLACK CRAPPIE	178	0.14	0.0006
Target UNSPECIFIED, fish WALLEYE	178	0.04	0.0001
Target WALLEYE, fish WALLEYE	39	0.09	0.0023
Target BLACK BASS, fish BLACK BASS	36	1.03	0.0190
Target GAMEFISH, fish BLACK BASS	81	0.55	0.0044
Target GAMEFISH, fish WALLEYE	81	0.06	0.0006
Target ANY, fish ALL SPECIES	49	0.19	0.0043
Target ANY, fish BLACK BASS	49	0.11	0.0034
Target ANY, fish CRAPPIE	49	0.05	0.0013
Target ANY, fish WALLEYE	49	0.02	0.0007
Shore Fishing:			
Target UNSPECIFIED for ALL SPECIES	109	0.88	0.0147
Target UNSPECIFIED for BLACK BASS	109	0.17	0.0080
Target UNSPECIFIED for BLACK CRAPPIE	109	0.39	0.0130
Target UNSPECIFIED for WALLEYE	109	0.00	0.0002
Target CARP for CARP	36	0.15	0.0084
Ice fishing:			
Target UNSPECIFIED for ALL SPECIES	22	0.37	0.0195
Target UNSPECIFIED for BLACK CRAPPIE	22	0.28	0.0188
Target UNSPECIFIED for YELLOW PERCH	22	0.06	0.0047
Target UNSPECIFIED for WALLEYE	22	0.02	0.0023

**1. Targets include:**

- *UNSPECIFIED (includes all interviews)*
- *WALLEYE*
- *BLACK BASS (Largemouth Bass and Smallmouth Bass)*
- *GAMEFISH (includes Walleye, black bass, and Brown Trout)*
- *ANY (anglers specifically stated they were fishing for anything)*

**Table 6. Swinging Bridge Reservoir distribution of creeled versus released fish presented by species, based on raw numbers observed or reported.**

	<b>Total Num Fish</b>	<b>Creeled</b>	<b>Released</b>	<b>Legal Released</b>
<b>Open water season:</b>				
All Fish:	1566	19.8%	80.2%	
Black Crappie:	405	39.0%	61.0%	54.4%
Black Bass:	706	1.6%	98.4%	93.5%
Carp:	51	76.5%	23.5%	
Walleye:	79	35.4%	64.6%	57.4%
Other spp:	374	29.7%	70.3%	
<b>Winter season:</b>				
All Fish:	61	47.5%	52.5%	
Black Crappie:	47	61.7%	38.3%	27.5%
Walleye:	4	0.0%	100.0%	--
Yellow Perch:	10	0.0%	100.0%	

Table 7. Estimated total catch (both creel and released) of all fish species reported, presented by month.

	Brown Bullhead		Bluegill		Brown Trout		Common Carp		Chain Pickerel		Channel Catfish		Chub	
	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>
May	220	89	16	22	8	15	113	65	0	0	0	0	33	36
June	13	22	52	44	13	22	101	49	45	42	0	0	13	17
July	131	67	58	51	0	0	123	61	12	18	9	21	0	0
Aug	91	58	49	44	0	0	13	18	0	0	0	0	0	0
Sept	24	22	0	0	0	0	12	12	0	0	0	0	0	0
Oct	22	19	11	15	0	0	0	3	0	0	0	0	0	0
Nov	0	0	12	13	0	0	1	5	0	0	0	0	12	13
Annual sum:	500	55	198	38	21	12	364	46	56	22	9	9.8	58	17
Winter	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Black Crappie		Fallfish		Largemouth Bass		Pumpkinseed		Redbreast Sunfish		Smallmouth Bass		Sunfish	
	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>
May	2320	292	31	33	41	34	0	0	154	77	1078	193	0	0
June	1105	190	0	0	195	81	33	33	95	56	2017	262	0	0
July	281	111	0	0	135	77	116	64	14	24	768	191	55	52
Aug	777	153	0	0	109	59	32	38	84	48	388	119	22	28
Sept	153	80	0	0	156	82	0	0	6	16	846	193	0	0
Oct	54	35	6	10	0	0	11	15	11	15	54	35	0	0
Nov	35	23	0	0	0	0	0	0	0	0	0	0	0	0
Annual sum:	4726	173	37	14	637	66	191	37	364	47	5150	192	76	27
Winter	252	103	0	0	0	0	0	0	0	0	0	0	0	0

	Unknown Bass		Unknown Catfish		Unknown Fish		Unknown Perch		Walleye		White Perch		White Sucker		Yellow Perch	
	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>	<u>Num</u>	<u>SE</u>
May	8	15	222	92	0	0	18	26	154	67	6	15	17	26	239	86
June	320	111	0	0	0	0	0	0	199	88	0	0	0	0	249	88
July	1	6	0	0	0	0	0	0	85	62	71	58	16	25	173	86
Aug	0	0	11	16	0	0	0	0	205	80	90	55	25	25	6	17
Sept	0	0	0	0	0	0	0	0	41	42	0	0	4	7	12	18
Oct	0	0	0	0	3	8	0	0	0	0	0	0	2	5	25	21
Nov	0	0	0	0	0	0	6	1	0	0	0	0	2	7	53	29
Annual sum:	329	54	232	38	3	2	23	11	683	68	167	35	65	19	757	68
Winter	0	0	0	0	0	0	0	0	21	30	0	0	0	0	54	47

**Table 8. Swinging Bridge Reservoir 2014 fish age estimates based on scale analysis.**

<b>Species</b>	<b>Age</b>	<b>Number</b>	<b>Avg Length (in)</b>
<b>Largemouth Bass</b>	5	1	15.6
<b>Smallmouth Bass</b>	4	3	13.9
<b>Smallmouth Bass</b>	5	1	16.5
<b>Walleye</b>	3	1	19.5
<b>Walleye</b>	4	10	19.4
<b>Walleye</b>	5	10	21.1
<b>Walleye</b>	6	2	19.8

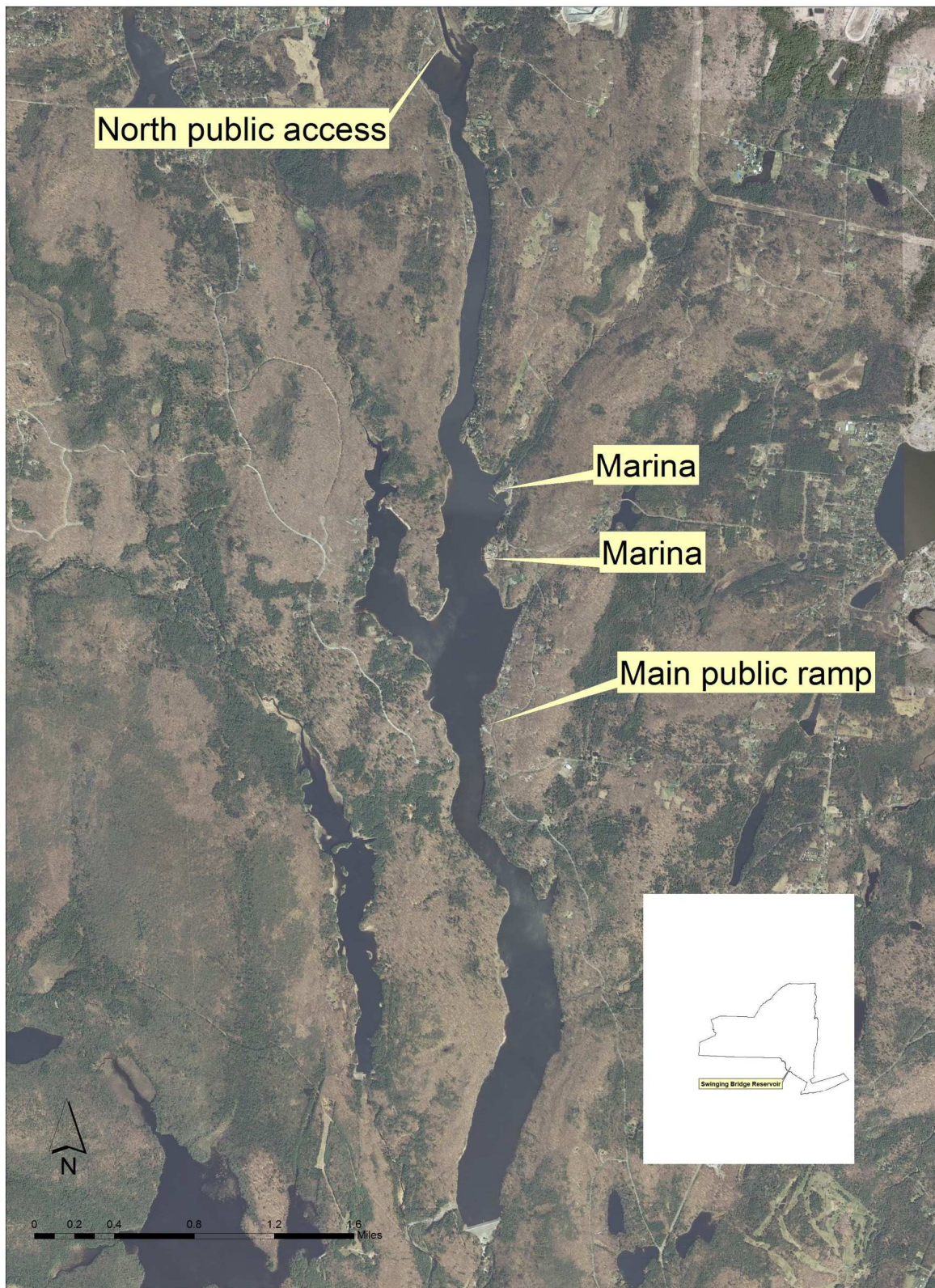
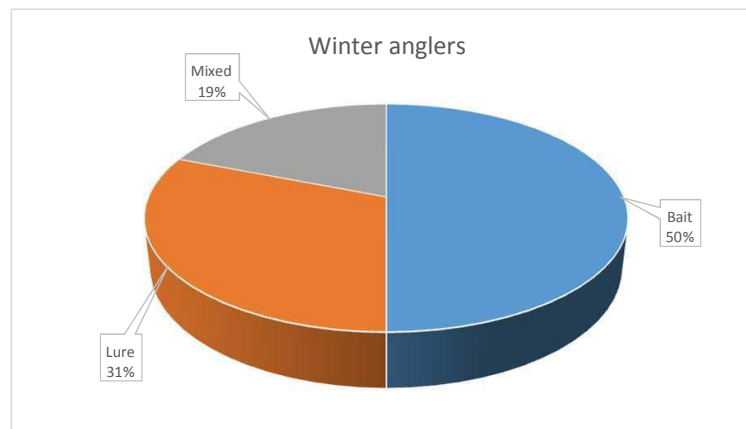
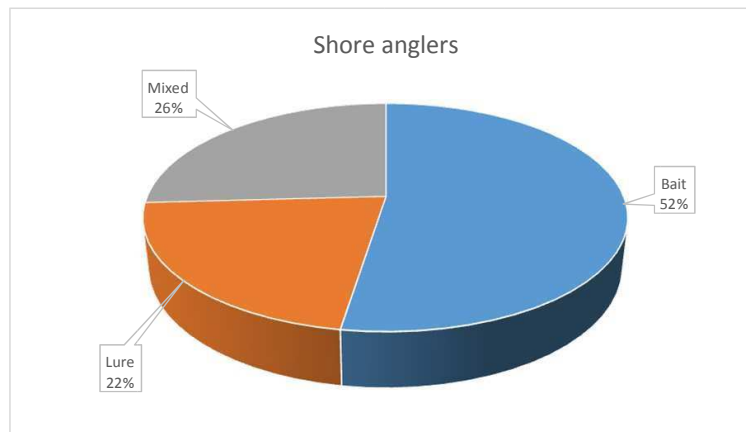
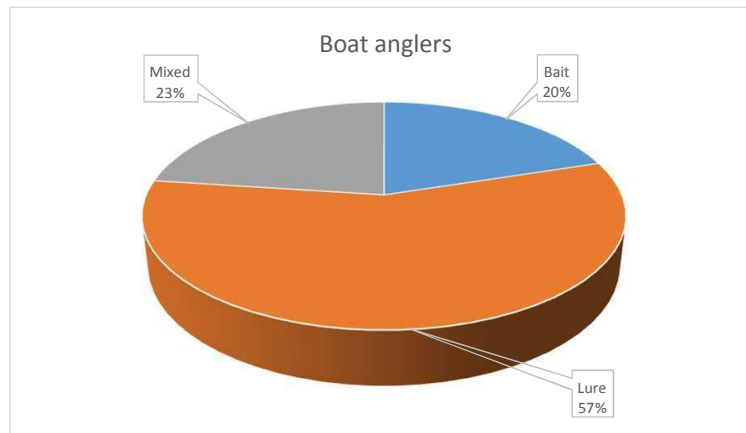
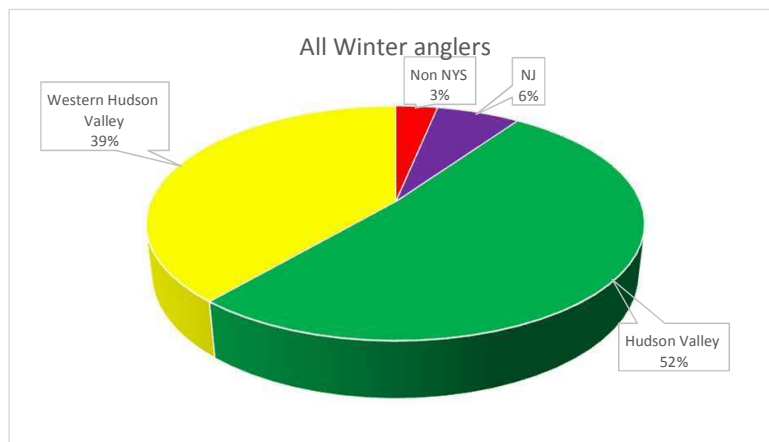
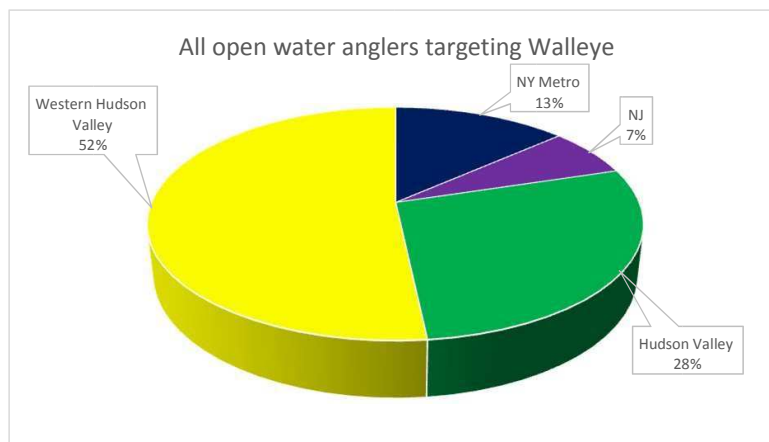
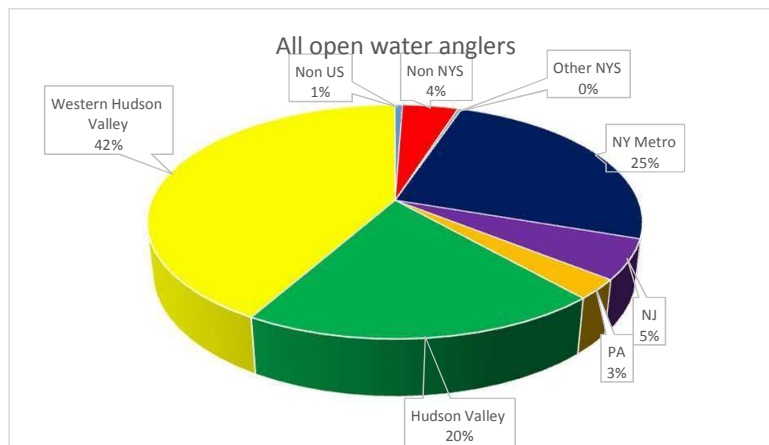


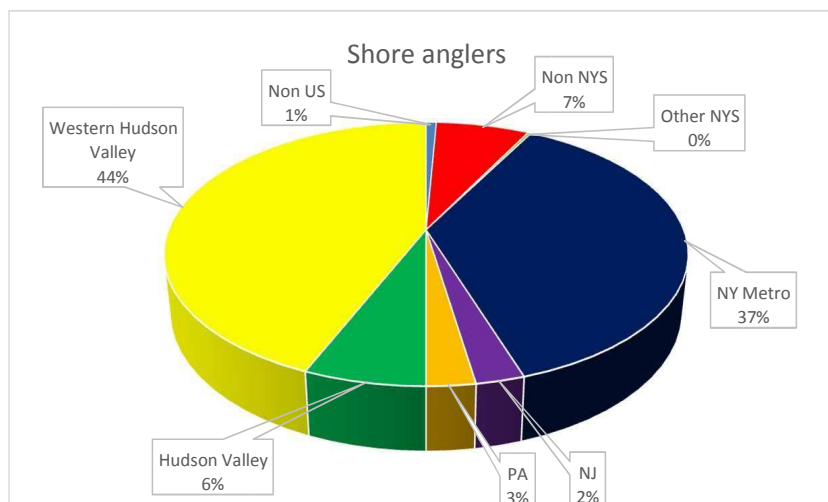
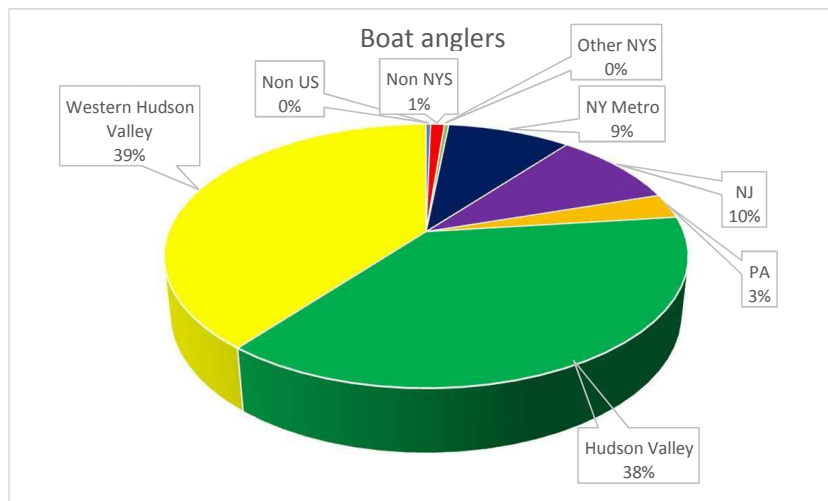
Figure 1. Swinging Bridge Reservoir, Sullivan County, NY.



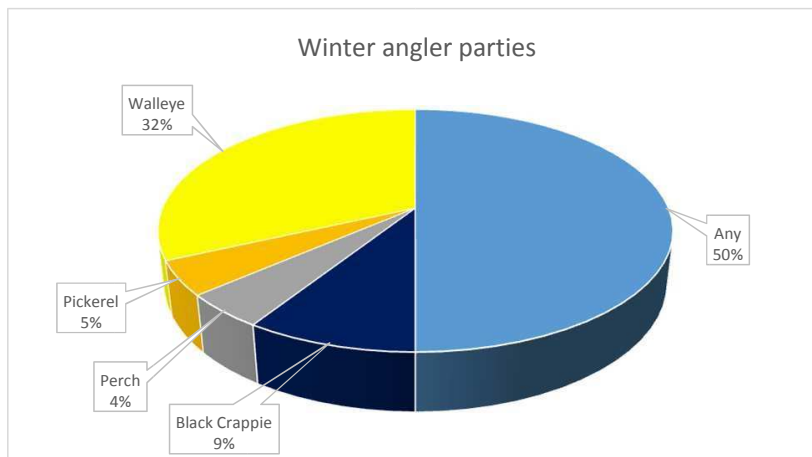
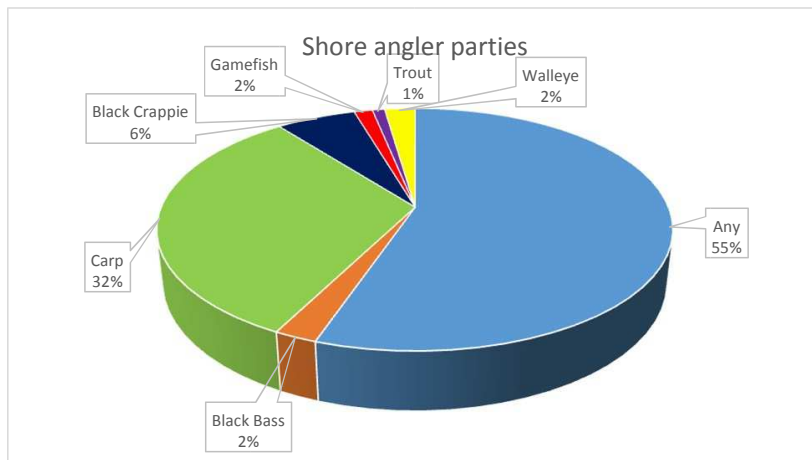
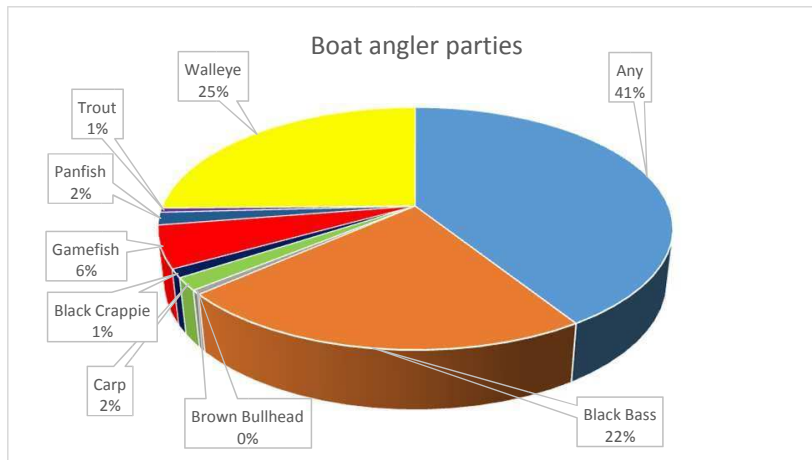
**Figure 2. Swinging Bridge Reservoir 2014/15 angling technique distribution for boat and shore anglers, respectively.**



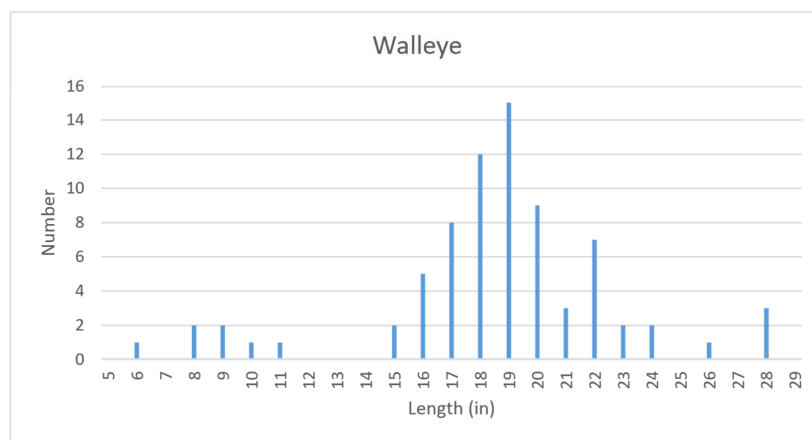
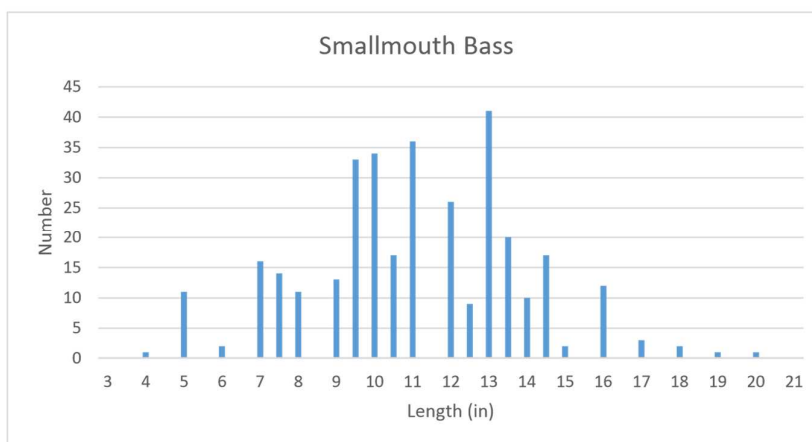
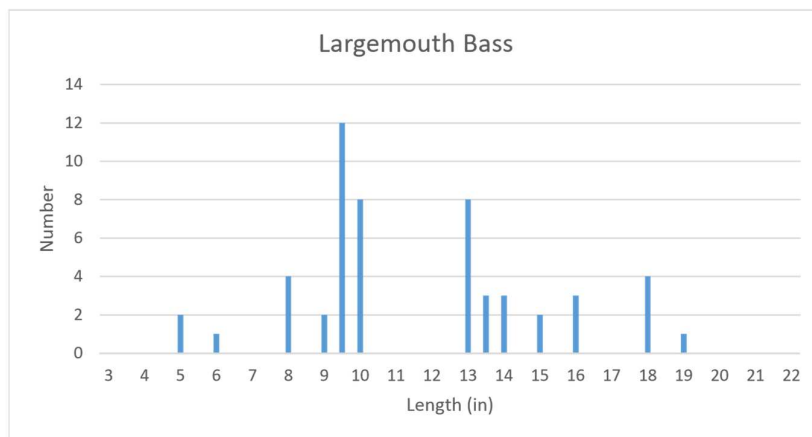
**Figure 3. Swinging Bridge Reservoir 2014/15 angler origin distribution for open water and winter anglers, respectively.**



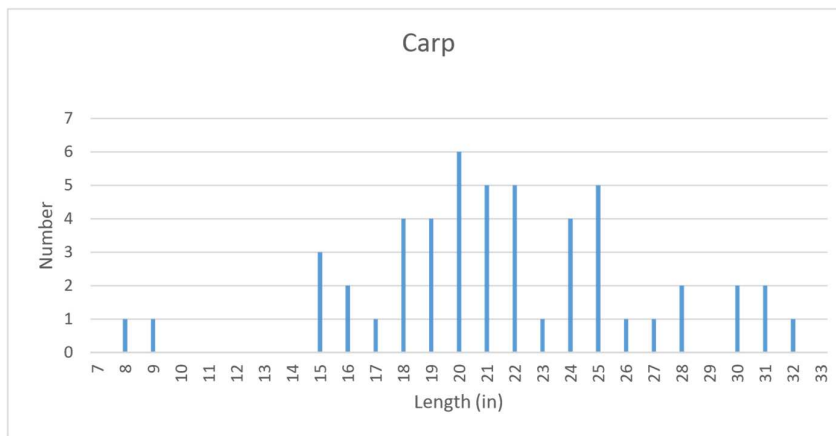
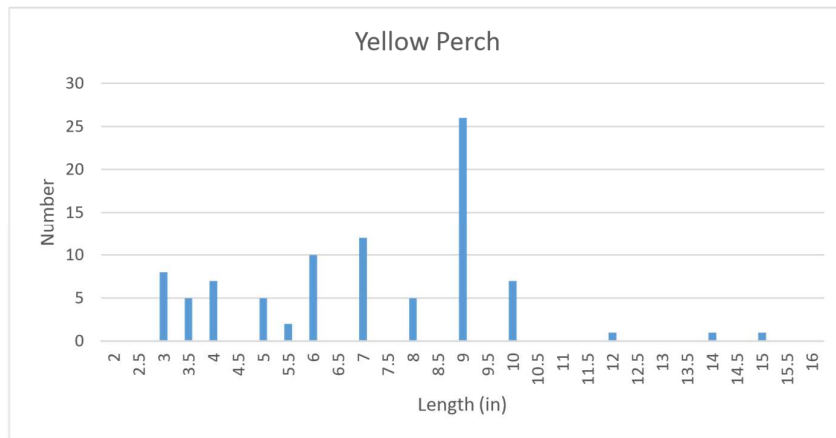
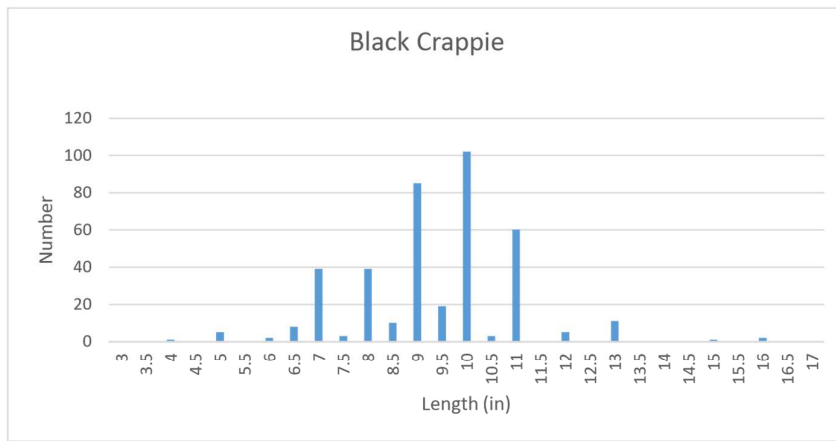
**Figure 4. Swinging Bridge Reservoir 2014 angler origin distribution for open water boat and shore anglers, respectively.**



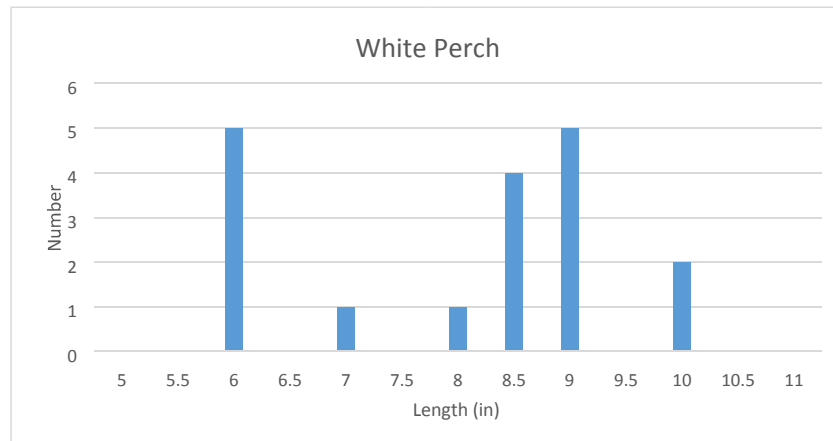
**Figure 5. Swinging Bridge Reservoir 2014/15 angler party target distribution for boat, shore, and winter angler parties, respectively.**



**Figure 6. Swinging Bridge Reservoir 2014 length frequency distributions for Largemouth Bass, Smallmouth Bass, and Walleye respectively.**



**Figure 7. Swinging Bridge Reservoir 2014 length frequency distributions for Black Crappie, Yellow Perch, and Carp respectively.**



**Figure 8. Swinging Bridge Reservoir 2014 length frequency distribution for White Perch.**

# Appendix 1. Interview data form.

Date: \_\_\_\_\_ Swinging Bridge Reservoir 2014 creel survey

Interview 1				Interview 2			
Int #: _____ Time: _____ <i>Circle if boat interview</i> # in party: _____ Time start fishing: _____ Complete? YES NO How fishing?: BOAT SHORE How access?: MAIN RAMP N RAMP SHORE RESIDENCE MARINA First interview?: YES NO If yes- Zip code of residence (by party member )?: _____ Target species?: _____ Lure or Natural Bait? (by party member ): LURE BAIT BAITFISH spp: _____ (IF using baitfish) CRAYFISH FLY Fish: Creel Spp. Ln (mm) Released Spp. Ln (mm) _____ _____ _____ _____				Int #: _____ Time: _____ <i>Circle if boat interview</i> # in party: _____ Time start fishing: _____ Complete? YES NO How fishing?: BOAT SHORE How access?: MAIN RAMP N RAMP SHORE RESIDENCE MARINA First interview?: YES NO If yes- Zip code of residence (by party member )?: _____ Target species?: _____ Lure or Natural Bait? (by party member ): LURE BAIT BAITFISH spp: _____ (IF using baitfish) CRAYFISH FLY Fish: Creel Spp. Ln (mm) Released Spp. Ln (mm) _____ _____ _____ _____			
Int #: _____ Time: _____ <i>Circle if boat interview</i> # in party: _____ Time start fishing: _____ Complete? YES NO How fishing?: BOAT SHORE How access?: MAIN RAMP N RAMP SHORE RESIDENCE MARINA First interview?: YES NO If yes- Zip code of residence (by party member )?: _____ Target species?: _____ Lure or Natural Bait? (by party member ): LURE BAIT BAITFISH spp: _____ (IF using baitfish) CRAYFISH FLY Fish: Creel Spp. Ln (mm) Released Spp. Ln (mm) _____ _____ _____ _____				Int #: _____ Time: _____ <i>Circle if boat interview</i> # in party: _____ Time start fishing: _____ Complete? YES NO How fishing?: BOAT SHORE How access?: MAIN RAMP N RAMP SHORE RESIDENCE MARINA First interview?: YES NO If yes- Zip code of residence (by party member )?: _____ Target species?: _____ Lure or Natural Bait? (by party member ): LURE BAIT BAITFISH spp: _____ (IF using baitfish) CRAYFISH FLY Fish: Creel Spp. Ln (mm) Released Spp. Ln (mm) _____ _____ _____ _____			

**APPENDIX D**  
**1990 WHITEWATER BOATING STUDY REPORT**

**LEBOEUF, LAMB, LEIBY & MACRAE**

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

EASTERN U.S.:

NEW YORK, NY  
WASHINGTON, DC  
ALBANY, NY  
BOSTON, MA  
HARRISBURG, PA  
HARTFORD, CT  
NEWARK, NJ

520 MADISON AVENUE

NEW YORK, NY 10022

(212) 715-8000

FACSIMILE: (212) 715-8500

TELEX: 423416 (OR) 1561363

EUROPEAN COMMUNITY: BRUSSELS, BELGIUM AND LONDON, ENGLAND

DIRECT DIAL

WESTERN U.S.:

LOS ANGELES, CA  
SALT LAKE CITY, UT  
SAN FRANCISCO, CA

SOUTHERN U.S.:

JACKSONVILLE, FL  
RALEIGH, NC

715-8372

July 19, 1990

Ms. Lois D. Cashell  
Secretary  
Federal Energy Regulatory Commission  
825 N. Capital Street, N.W.  
Washington, D.C. 20426

Re: Orange and Rockland Utilities, Inc.  
Project Nos. ~~9690, 10481 and 10482~~  
Additional Information

Dear Ms. Cashell:

Orange and Rockland Utilities, Inc., hereby submits for filing an original and 14 copies of its response to Schedule A of the Commission's August 28, 1989, request for additional information.

Yours very truly,

  
Thomas E. Mark  
Attorney for Orange and  
Rockland Utilities, Inc.

Encl.

cc: Consultation Agencies  
Service List

9007200158

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day caused the foregoing document to be served upon each party designated on the official service list compiled by the Secretary in this proceeding.

  
Bonnie Robinson

Date: New York, New York  
July 19, 1990

**UNITED STATES OF AMERICA**  
**BEFORE THE**  
**FEDERAL ENERGY REGULATORY COMMISSION**

**Orange and Rockland  
Utilities, Inc.**

)  
) **Project Nos. 10482,**  
) **10481 and 9690**  
)

**RESPONSE TO FERC REQUEST**  
**FOR ADDITIONAL INFORMATION - SCHEDULE A**  
**FOR THE**  
**HINCHOFF BASIN HYDROELECTRIC PROJECTS:**

**SWINGING BRIDGE PROJECT**

**HINCHOFF FALLS PROJECT**

**RIO PROJECT**

**ORANGE AND ROCKLAND UTILITIES, INC.**

**July, 1990**

**ORIGINAL**

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

FILED

OFFICE OF THE SECRETARY  
90 JUL 19 AM 10:13

FEDERAL ENERGY  
REGULATORY  
COMMISSION

Orange and Rockland  
Utilities, Inc.

)  
) Project Nos. 10482,  
) 10481 and 9690  
)

RESPONSE TO FERC REQUEST  
FOR ADDITIONAL INFORMATION  
SCHEDULE A

FOR THE

MONGAUP BASIN HYDROELECTRIC PROJECTS:

SWINGING BRIDGE PROJECT

MONGAUP FALLS PROJECT

RIO PROJECT

Copyright © 1990

Orange and Rockland Utilities, Inc.

ORANGE AND ROCKLAND UTILITIES, INC.

July 1990

**ORANGE AND ROCKLAND UTILITIES, INC.**

**FERC REQUEST FOR ADDITIONAL INFORMATION**

**SCHEDULE A - WHITEWATER BOATING POTENTIAL  
ON THE MONGAUP RIVER BELOW THE RIO POWERHOUSE**

**INTRODUCTION**

On August 28, 1989, the Federal Energy Regulatory Commission ("FERC" or the "Commission") issued a Request for Additional Information, directing Orange and Rockland Utilities, Inc. ("O&R") to submit within 120 days information on the potential for whitewater boating on the Mongaup River below the Rio Powerhouse.<sup>1</sup> The Commission directed O&R to conduct a study, in cooperation with the New York State Department of Environmental Conservation ("DEC"), the National Park Service ("NPS"), the United States Fish and Wildlife Service ("FWS"), American Whitewater Affiliation ("AWA"), American Rivers, and the Kayak and Canoe Club of New York ("KCCNY"), to determine the level of difficulty of the lower Mongaup under one and two turbine operation and the range of stream flow that would be necessary to maintain whitewater boating. The Commission also directed O&R to provide an economic analysis of the costs of providing flows through the Rio powerhouse during specified times of the year using the full hydraulic capacity of one and two units.

On December 26, 1989, the Commission extended the time for filing this information to April 25, 1990. By letter dated

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<sup>1</sup> O&R was also directed to file information on rule curves. This information is being submitted today under separate cover.

March 26, 1990, the Commission granted O&R's request to extend the deadline for filing until July 19, 1990 in order to accommodate participating rafters. In granting this request, the Commission required O&R to file a report by May 1, 1990 indicating the progress that had been made toward submitting the additional information, including descriptions of any completed work, lists of any correspondence during agency consultation, and a schedule for completing any remaining work. This report was filed with the Commission on April 25, 1990.

#### **DESCRIPTION OF EXPERIMENTAL RELEASES**

As required by the Commission, O&R has conducted two field tests and consulted with the appropriate agencies and whitewater boating groups. This report describes the tests and the results of the consultation process. All correspondence and meeting notes are included in the Appendix.

Experimental releases for whitewater boating on the Mongaup River downstream of Rio Powerhouse were made on Saturday, May 19, 1990. The purpose of these releases was to permit experienced paddlers to "run the river" in order to ascertain the level of difficulty of the segment of the river between the Rio tailrace and the confluence with the Delaware River. These experimental release runs were the culmination of months of consultation between O&R and AWA, American Rivers, KCCNY, NPS, DEC and the Delaware River Basin Commission.

The experimental releases included standard one and two turbine operation of the Rio powerhouse. The first run, which used only Rio Unit #1, commenced approximately at 10:30 a.m. and concluded at noon. The second run, which used Rio Units #1 and #2, commenced approximately at 1:20 p.m. and concluded at approximately 3:15 p.m. Each Rio unit is rated to provide 435 cfs. For the first run, generation at Rio Unit #1 averaged 5.60 Mw/hr from 7:00 a.m. to noon. For the second run, generation at Rio Units #1 and #2 averaged 5.0 Mw/hr and 4.86 Mw/hr, respectively, from 12:20 p.m. to 3:00 p.m.

Nine kayaks, four one-person canoes and one two-person canoe participated in the first run. Thirteen kayaks, four one-person canoes and one two-person canoe participated in the second run. A list of paddlers and observers is attached as Exhibit A. Approximately 20 O&R employees attended to monitor and film the boating assessment, serve as "spotters" and interact with media and community leaders. Approximately three hours of video footage of both runs were taken, which was synthesized into a single tape that is 1 hour and 45 minutes long.

The put-in site for the kayaks and canoes was at the Rio powerhouse tailrace. The paddlers determined the take-out site, which was on the Mongaup River approximately 500 feet north of the NY Route 97 bridge over the River.

John Hutzky, Superintendent of the National Park Service, indicated that high water in the Delaware River at the

time that the runs were made precluded an accurate assessment of the impact of rafting flows on the Delaware River at the confluence with the Mongaup. O&R agreed with Mr. Hutzky that it would stage another one and two unit operation of the Rio units for this assessment after the Delaware waters subsided to normal, seasonal levels. This test was performed on June 14, 1990. Five representatives of the NPS, one representative of AWA and six representatives of O&R were present at the test. Two members of the National Canoe Safety Patrol paddled the river at the request of the NPS. These runs were also videotaped, producing a single 31 minute tape. A list of participants is attached as Exhibit B.

#### **RESULTS OF FIELD RATING TESTS**

Participating rafters completed a questionnaire immediately after running the river. The results of this questionnaire were summarized in a June 12, 1990 memorandum by H. K. Fischman of the KCCNY to Robert T. Kosior of O&R. According to Mr. Fischman, the rafters rated the river at Grade III ("excellent") with both turbines running and Grade II+ ("marginal") with one turbine running. He stated that no obstructions (undercut rocks, keeper hydraulics or strainers) were found and that the most significant rapids were located in the last two thirds of the river. By comparison, Mr. Fischman states that the rafters rate this run as less difficult than Tohickon (III+) and Hudson Gorge (IV), the same level of difficulty as Lehigh Gorge at medium high water (II+) and West

(III), and more difficult than Lackawaxen (II), Ten Mile (II+), and Farmington at Collinsville (II). A copy of Mr. Fischman's memorandum is included in the Appendix.

As noted, the NPS conducted its evaluation of the impact of increased flows on the Delaware on June 14. NPS concluded that there is no noticeable effect at the Mongaup rapids when one turbine is releasing water for whitewater boating, but that there is an effect when two turbines are releasing water. This effect, an increase in current in the Delaware, would tend to push a canoe, especially with beginner and novice paddlers, into the middle of the Mongaup rapids (known as the Mongaup Wave). A copy of NPS' conclusions, which are contained in a letter dated June 22, is included in the Appendix.

#### **ECONOMIC ANALYSIS OF WHITEWATER ALTERNATIVES**

As requested by the Commission, O&R conducted an economic analysis to determine the cost of providing whitewater boating flows through the Rio powerhouse for one day every other weekend between March 1 and November 15. O&R has determined that the total cost of providing whitewater flows for the ten-year period 1991-2000 would be \$60,218 for one unit operation and \$120,441 for two unit operation. This analysis was conducted for theoretical nameplate capacities of 5,000 kw for one unit operation and 10,000 kw for two unit operation. A summary cost analysis for this period is included as Table 1. These costs

were calculated by estimating the difference in value of energy between peak power generation (weekday) and non-peak generation.

#### **CONSULTATION**

As required by the Commission, O&R has consulted with all of appropriate agencies and groups which provided input and participated in the experimental releases. In addition to the agency comments and recommendations received by O&R, O&R received a request from the Upper Delaware Council, with the support of the National Park Service, for an extension of time in which to file comments. O&R responded that only the Commission could grant such a request but that it would send all comments received after the deadline to the FERC, together with its comments if appropriate. Copies of these letters are included in the Appendix.

A summary of the consultation process is contained in Exhibit C: Table 1 lists all consultation correspondence; Table 2 lists all related correspondence; and Table 3 lists all consultation meetings. Copies of letters and meeting notes with these agencies and groups are contained in the Appendix.

TABLE 1

ORANGE AND ROCKLAND UTILITIES INC.  
CALCULATION OF COST OF RUNNING RIO POWERHOUSE DURING OFF-PEAK PERIOD  
TO ACCOMMODATE WHITENWATER BOATING  
STAFF LONG RUN AVOIDED ENERGY COSTS

Scenario A - One Turbine Operation

Year	Affected Days	Affected Hours	One Turbine @ 5,000 kW	Total kWh Generation	Average Peak (\$/kWh)	Average Off-Peak (\$/kWh)	Value of Peak (kWh)	Value of Off-Peak (kWh)	Loss Due to Off-Peak Generation
1991	18.50	74	5,000	353,276	3.86	2.93	\$ 13,645	\$ 10,362	\$ 3,282
1992	18.75	75	5,000	358,050	5.52	4.20	\$ 19,768	\$ 15,026	\$ 4,742
1993	18.50	74	5,000	353,276	5.89	4.48	\$ 20,811	\$ 15,832	\$ 4,979
1994	18.50	74	5,000	353,276	6.27	4.78	\$ 22,158	\$ 16,883	\$ 5,274
1995	18.50	74	5,000	353,276	6.72	5.12	\$ 23,735	\$ 18,082	\$ 5,654
1996	18.50	74	5,000	353,276	8.01	6.08	\$ 28,306	\$ 21,490	\$ 6,816
1997	18.75	75	5,000	358,050	8.35	6.35	\$ 29,893	\$ 22,726	\$ 7,168
1998	18.75	75	5,000	358,050	8.71	6.62	\$ 31,181	\$ 23,701	\$ 7,480
1999	18.50	74	5,000	353,276	8.02	6.06	\$ 28,339	\$ 21,406	\$ 6,933
2000	18.50	74	5,000	353,276	9.39	7.15	\$ 33,157	\$ 25,266	\$ 7,890
							\$250,993	\$190,774	\$60,218

Scenario B - Two Turbine Operation

Year	Affected Days	Affected Hours	Two Turbines @ 10,000 kW	Total kWh Generation	Average Peak (\$/kWh)	Average Off-Peak (\$/kWh)	Value of Peak (kWh)	Value of Off-Peak (kWh)	Loss Due to Off-Peak Generation
1991	18.50	74	10,000	706,552	3.86	2.93	\$ 27,289	\$ 20,725	\$ 6,564
1992	18.75	75	10,000	716,100	5.52	4.20	\$ 39,536	\$ 30,051	\$ 9,485
1993	18.50	74	10,000	706,552	5.89	4.48	\$ 41,622	\$ 31,663	\$ 9,959
1994	18.50	74	10,000	706,552	6.27	4.78	\$ 44,315	\$ 33,767	\$ 10,549
1995	18.50	74	10,000	706,552	6.72	5.12	\$ 47,471	\$ 36,163	\$ 11,308
1996	18.50	74	10,000	706,552	8.01	6.08	\$ 56,613	\$ 42,980	\$ 13,633
1997	18.75	75	10,000	716,100	8.35	6.35	\$ 59,787	\$ 45,451	\$ 14,335
1998	18.75	75	10,000	716,100	8.71	6.62	\$ 62,363	\$ 47,403	\$ 14,960
1999	18.50	74	10,000	706,552	8.02	6.06	\$ 56,678	\$ 42,811	\$ 13,867
2000	18.50	74	10,000	706,552	9.39	7.15	\$ 66,314	\$ 50,533	\$ 15,781
							\$501,988	\$381,547	\$120,441

## **EXHIBIT A**

### **AWA AND KCCNY REPRESENTATIVES**

John Humback (observer)	Pat McHenry
Ken Fischman	Susan Pollack (2nd run)
Jim Bowen	Betty Quick
Fran Braley	Adrianne Ryan (2nd run)
Al Braley	Eric Ryan (2nd run)
Richard Desvernine	Henry Schreiber
John Gebhards	Peter Skinner
Ed Hanrahan	Bill Ascari
Astrib Jartzem	Jerry Talbot
Don Mason	David Church (2nd run)

### **NPS REPRESENTATIVES**

John Hutzky (observer)	Sandra Spear (observer)
------------------------	-------------------------

### **NATIONAL CANOE SAFETY PATROL\***

Hal Hughes	Cliff West
------------	------------

### **DEC REPRESENTATIVES**

Bruce MacMillan (observer)

### **LOCAL GOVERNMENT REPRESENTATIVES**

Marvin Hocker, Town of Lumberland Fire Chief (observer)  
Tom Glynn, Sparrowbush Fire Chief (observer)  
Bill Douglas, Upper Delaware Council (observer)

---

\* Participating at the request of NPS.

**EXHIBIT B**

**NPS REPRESENTATIVES**

John Hutzky  
Michael Reuber  
Vicki Wolfe

Ralph Huebner  
Glen Voss

**NATIONAL CANOE SAFETY PATROL\***

Charles Howson

Gerry Howson

**AWA REPRESENTATIVE**

John Humback

**O&R REPRESENTATIVES**

Ellen Burns  
Robert Kosior  
Charles Swartwout

Charles Innella  
Steve Porath  
Mike Mayer

---

\* Participating at the request of NPS.

**EXHIBIT C****TABLE 1****CONSULTATION AGENCIES AND GROUPS**

	<u>O&amp;R Consultation</u>	<u>Response</u>
John D. Echeverria	1/19/90	2/6/90
General Council	2/14/90	
American Rivers, Inc.	4/12/90	
801 Pennsylvania Avenue, S.E.	6/5/90	
Suite 303	6/13/90	
Washington, D.C. 20003		
John Hutzky	1/19/90	
Superintendent of the Park	2/14/90	
Department of the Interior	4/12/90	
National Park Service	6/5/90	6/22/90
Upper Delaware S and RR	6/13/90	7/10/90
P.O. Box C	7/17/90	
Narrowsburg, New York 12764-0159		
John A. Humback, Esq.	1/19/90	2/7/90
American Whitewater Association	2/14/90	
Kayak and Canoe Club of America	4/12/90	
Associate Dean for Academic Affairs	6/5/90	6/12/90
Pace University School of Law	6/13/90	6/21/90
78 N. Broadway		
White Plains, New York 10603		
Murdock MacKenzie	2/14/90	
Chief - Alternate Energy Section	4/12/90	
Bureau of Energy	6/5/90	
Division of Regulatory Affairs	6/13/90	
New York State Department of Environmental Conservation		
50 Wolf Road		
Albany, New York 12233-0001		
Leonard Corin	2/14/90	
United States Fish and Wildlife Service	4/12/90	
100 Grange Place	6/5/90	
Corland, New York 13045	6/13/90	

	<u>O&amp;R Consultation</u>	<u>Response</u>
Gerald Hansler	2/14/90	2/2/90
Executive Director	4/12/90	4/19/90
Delaware River Basin Commission	6/5/90	
P.O.Box 7360	6/13/90	
25 State Police Drive		
West Trenton, New Jersey 08678		
 William E. Douglass	 6/13/90	 7/6/90
Executive Director		
Upper Delaware Council		
Bridge Street		
P.O. Box 217		
Narrowsburg, New York 12764		

**TABLE 2**

**RELATED CORRESPONDENCE**

<b><u>Addressee</u></b>	<b><u>From</u></b>	<b><u>Date</u></b>
Murdock MacKenzie Chief - Alternate Energy Section Bureau of Energy Division of Regulatory Affairs New York State Department of Environmental Conservation 50 Wolf Road Albany, New York 12233-0001	T. Sullivan Stetson-Harza	4/4/89
James Coleman Regional Director National Park Service 143 South Third Street Philadelphia, Pennsylvania 19106	John Humbach AWA/KCCNY	7/12/89 6/6/90
Lois D. Cashell Secretary Federal Energy Regulatory Commission 825 North Capitol Street Washington, D.C. 20246	Murdock MacKenzie NYSDEC	8/4/89 1/16/90
John A. Humbach Professor of Law and Assoc. Dean for Academic Affairs Pace University 78 North Broadway White Plains, New York 10603	James Coleman NPS	9/6/89
Dean L. Shumway Director, Division of Project Review Federal Energy Regulatory Commission 825 North Capitol Street Washington, D.C. 20246	John Echeverria Am. Rivers	11/8/89
Stan Hojnacki Editor Tri-State Gazette Port Jervis, New York	John Humbach AWA/KCCNY	3/9/90

<u>Addressee</u>	<u>From</u>	<u>Date</u>
Rep. Benjamin Gilman 2185 Rayburn Building Washington, D.C. 20515	Ken Fischman KCCNY	4/27/90
Robert Kosior Orange and Rockland Utilities, Inc. One Blue Hill Plaza Pearl River, New York 10965	Ken Fischman KCCNY	5/3/90
John Hutzky Superintendent Upper Delaware Scenic and Recreational River National Park Service P.O. Box C Narrowsburg, New York 12764	Philip Schepel	5/11/90
Philip Schepel Glen Spey, New York	John Hutzky NPS	Undated
Dean L. Shumway Director, Division of Project Review Federal Energy Regulatory Commission 825 North Capitol Street Washington, D.C. 20246	John Hutzky NPS	5/21/90
Robert Kosior Orange and Rockland Utilities, Inc. One Blue Hill Plaza Pearl River, New York 10965	Al Braley Fran Braley AWA/KCCNY	5/23/90
Thomas J. Sullivan Stetson-Harza 10 Ferry Street Concord, New Hampshire 03301	John Humbach AWA/KCCNY	6/21/90
Robert Kosior Orange and Rockland Utilities, Inc. One Blue Hill Plaza Pearl River, New York 10965	John Hutzky NPS	6/22/90

**TABLE 3**

**CONSULTATION MEETINGS**

<b><u>Agencies and Groups</u></b>	<b><u>Date</u></b>
NYSDEC Catskill Center DRBC NPS Upper Delaware Council USFWS	3/29/89
DRBC NYSDEC USFWS	1/18/90
DRBC NYSDEC USFWS	4/9/90

---

**APPENDIX**

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**AGENCY CONSULTATION**

Dcc: F. Fischer, V. Roque, R. Metzger, T. Mark (LLL&M), T. Sullivan (S-H)  
(all without attachments)



ORANGE AND ROCKLAND One Blue Hill Plaza, Pearl River, New York 10965

January 19, 1990

Mr. John D. Echeverria  
General Council  
American Rivers, Inc.  
801 Pennsylvania Avenue, S.E.  
Suite 303  
Washington, D.C. 20003

100-000000

Re: Orange and Rockland Utilities, Inc.  
Mongaup Hydro Projects  
FERC Projects Nos. 9696, 10481 and 10482

Dear Mr. Echeverria:

Confirming our telephone conversation of January 17, I am forwarding copies of FERC's Additional Information request, dated August 23, 1989 and FERC correspondence to Orange and Rockland, dated December 26, 1989, relative to the subject projects.

The Additional Information request specifies that a study (experimental releases) be conducted to assess whitewater boating opportunities in the Mongaup River below the Rio powerhouse. The study will include determining the level of difficulty of the rapids and stream flow that would maintain whitewater boating using standard 1 - turbine and 2 - turbine operation of units at Rio powerhouse.

Orange and Rockland has invited John Humbach, representing AWA and KCCNY, to participate in the study and coordinate the boating assessment during the flow releases. You, or a designated representative, are also invited to participate in this field test. Tentatively, we have scheduled the experimental release segment to occur in either the first or second week of March 1990.

I will contact you in the near future to confirm scheduling for this event. If you have any questions, please contact me at (914) 577-2582.

Very truly yours,

Robert T. Kosior  
Manager-Environmental Services

RTK:kdg  
Attachment  
0007,rtk

bcc: F. Fischer, V. Roque, R. Metzger, T. Mark (LLL&H), T. Sullivan (S-H)  
(all without attachments)



ORANGE AND ROCKLAND One Blue Hill Plaza Pearl River, New York 10965

January 19, 1990

Mr. John Hutsky  
Superintendent of the Park  
Department of the Interior  
National Park Service  
Upper Delaware S and RR  
P.O. Box C  
Narrowsburg, New York 12764-0159

Re: Orange and Rockland Utilities, Inc.  
Mongaup Hydro Projects  
FERC Projects Nos. 9698, 10481 and 10482

Dear Mr. Hutsky:

Confirming our telephone conversation of January 17, I am forwarding copies of FERC's Additional Information request, dated August 28, 1989 and FERC correspondence to Orange and Rockland, dated December 26, 1989, relative to the subject projects.

The Additional Information request specifies that a study (experimental releases) be conducted to assess whitewater boating opportunities in the Mongaup River below the Rio powerhouse. The study will include determining the level of difficulty of the rapids and stream flow that would maintain whitewater boating using standard 1 - turbine and 2 - turbine operation of units at Rio powerhouse. FERC's Additional Information request states that this study should be conducted in cooperation with the National Park Service.

Orange and Rockland has invited representatives of the American Whitewater Association, Kayak and Canoe Club of New York and American Rivers, Inc. to participate in the field study of experimental releases for whitewater boating. You, or a designated representative, are also invited to participate in this field test. Tentatively, the experimental release field work is scheduled for either the first or second week of March 1990.

I will contact you in the near future to confirm scheduling for this event. If you have any questions, please contact me at (914) 577-2582.

Very truly yours,

Robert T. Kosior  
Manager-Environmental Services

RTK:kdg  
Attachment  
0008.rtk

bcc: F. Fischer, V. R. Le, R. Metzger, T. Mark (LLL&M), J. Sullivan (S-H)  
(all without attachments)



ORANGE AND ROCKLAND One Blue Hill Plaza, Pearl River, New York 10965

January 19, 1990

Mr. John A. Humbach, Esq.  
American Whitewater Association  
Associate Dean for Academic Affairs  
Pace University School of Law  
78 N. Broadway  
White Plains, New York 10603

Re: Mongaup Hydro Projects  
FERC Projects Nos. 9558, 10481 and 10482

Dear Mr. Humbach:

Confirming our telephone conversation of January 16, I am forwarding copies of FERC's Additional Information request, dated August 28, 1989, and FERC correspondence to Orange and Rockland, dated December 26, 1989, relative to the subject projects.

The Additional Information request specifies that a study (experimental releases) be conducted to assess whitewater boating opportunities in the Mongaup River below the Rio powerhouse. The study will include determining the level of difficulty of the rapids and stream flow that would maintain whitewater boating using standard 1 - turbine and 2 - turbine operation of units at Rio powerhouse.

It is the Company's understanding that you will represent American Whitewater Association and Kayak and Canoe Club of New York in this study and will provide its members to participate in the rating assessment of the experimental flow releases. Tentatively, we anticipate the field study to occur during the first or second week of March 1990.

I will contact you in the near future to continue preparations for scheduling this event.

Very truly yours,

Robert T. Kosior  
Manager-Environmental Services

RTK:kdg  
Attachment  
0006.rtk



RECEIVED

FEB 9 1990

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

February 6, 1990

Mr. Robert T. Kosior  
Orange and Rockland  
One Blue Hill Plaza  
Pearl River, New York 10965

Dear Mr. Kosior:

Thank you for your letter of January 19 concerning the planned whitewater assessment on the Mongaup River. In accordance with our telephone conversation of January 17, American Rivers has asked Mr. John Humbach to act as our representative to participate in and help coordinate the assessment and he has granted our request. To the extent American Rivers members wish to participate directly in the assessment, I am asking them to contact Mr. Humbach.

In our telephone conversation, you agreed that once Orange and Rockland has reduced information on the assessment to writing you will forward a copy of that document to me for review, and include my comments along with those of the representatives of the other consulting agencies and groups in your submission to the FERC staff. I look forward to receiving the results of the assessment and the opportunity to provide our comments.

Thank you very much for your cooperation on this matter. If you have any questions or comments about our involvement in the assessment please do not hesitate to contact me.

Sincerely,

*John D. Echeverria*  
John D. Echeverria  
General Counsel

cc: John Humbach, KCCNY  
Ken Fischman, KCCNY  
Lois Cashell, FERC  
Fred Springer, FERC  
Ann Miles, FERC

801 PENNSYLVANIA AVE., S.E.  
SUITE 303  
WASHINGTON, D.C. 20003  
202-547-6900

cc: F.E.Fischer, V.A.Roque, R.H.Metzger, B.Z.Baxter, D.L.Lavers, A.H.Hasnay, T.E.Mark LLL&M  
T.J.Sullivan S-H



RECEIVED

PACE UNIVERSITY  
(NEW YORK & WESTCHESTER)  
(PERSONAL AND CONFIDENTIAL)

FEB 9 1990

SCHOOL OF LAW

914-422-4239

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT  
73 NORTH BROADWAY  
WHITE PLAINS, N.Y. 10603

February 7, 1990

Mr. Robert T. Kosior  
Manager-Environmental Services  
Orange and Rockland Utilities, Inc.  
One Blue Hill Plaza  
Pearl River, New York 10965

Re: Mongaup Hydro Projects  
FERC Projects Nos. 3553, 10431 and 10432

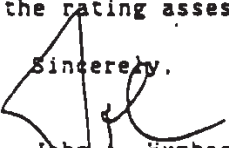
Dear Mr. Kosior:

When we originally discussed a date for experimental releases and a rating assessment of the Mongaup River (below the Rio powerhouse to the Delaware), we determined that a field study during early March would be desirable in order to meet the response date in FERC's Additional Information request.

After consultation with a number of skilled boaters in the KCCNY and also the Appalachian Mountain Club, we have found that, in March, there would be insufficient assured availability of kayakers and canoeists who are suitably experienced to undertake an experimental run in predictably cold weather on a "new" (essentially unknown) river. We request, therefore, that the timing of the experimental releases be deferred until May when the temperature conditions will be more moderate and, with advance notice, a broader sampling of qualified boaters will be available.

As we discussed on the telephone, we are currently looking at Saturday, May 19 as a probable date for the test releases. We support a request from you to FERC to extend, to a more suitable time, the deadline for providing the Additional Information concerning the rating assessment of the Mongaup.

Sincerely,

  
John A. Kumbach  
Professor of Law and  
Associate Dean  
for Academic Affairs

bcc: F. E. Fischer, R. H. Metzger, V. R. Tummarello, A. H. Benjamin, E. A. Kiene,  
V. A. Budd, J. L. Carley, D. B. Hamerman, G. C. Peifer  
T. E. Mark (LLL&M), T. J. Sullivan (S-H)



ORANGE AND ROCKLAND One Blue Hill Plaza, Pearl River, New York 10965

February 14, 1990

Mr. John A. Humbach, Esq.  
American Whitewater Association  
Kayak and Canoe Club of New York  
Associate Dean for Academic Affairs  
Pace University School of Law  
78 North Broadway  
White Plains, NY 10603

Mr. Murdock MacKenzie  
Chief-Alternate Energy Section  
Bureau of Energy  
Division of Regulatory Affairs  
New York State Department of  
Environmental Conservation  
50 Wolf Road  
Albany, NY 12233-0001

Mr. John Hutsky  
Superintendent of the Park  
Department of the Interior  
National Park Service  
Upper Delaware S and RR  
P.O. Box C  
Narrowsburg, NY 12764-0159

Mr. Leonard Corin  
United States Fish and  
Wildlife Service  
100 Grange Place  
Cortland, NY 13045

Mr. John D. Echeverria  
General Council  
American Rivers, Inc.  
801 Pennsylvania Avenue, S.E.  
Suite 303  
Washington, DC 20003

Mr. Gerald Mansler  
Executive Director  
Delaware River Basin Commission  
P.O. Box 7360  
25 State Police Drive  
West Trenton, NJ 08678

Re: Orange and Rockland Utilities, Inc.  
Mongaup Hydro Projects  
FERC Projects Nos. 9698, 10481 and 10482

Gentlemen:

Mr. John Humbach, representing American Whitewater Association (AWA) and Kayak and Canoe Club of New York (KCCNY), has requested that the experimental releases to assess whitewater boating opportunities on the Mongaup River below Rio powerhouse be cancelled for March, 1990. Concerns about weather conditions, and availability of skilled paddlers, has necessitated this change in schedule. Saturday, May 19, 1990 has now been set as the date for the experimental releases.

February 14, 1990

Page -2-

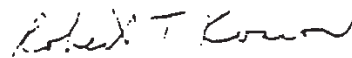
In addition to the paddlers of the AWA and KCCNY, a member of the National Canoe Safety Patrol (representing National Park Service) will take part in the experimental release event. Please contact me if a conflict exists with the new date or other agencies expect to have representatives attend this event or take part in rating the rapids.

Since these releases are part of a study associated with a FERC Additional Information Request due April 25, 1990, Orange and Rockland will contact FERC and request an extension for submitting this study for determining the level of difficulty of the rapids and stream flow that would maintain whitewater boating using standard 1-turbine and 2-turbine operation of the Rio units.

I will provide details of starting time and assembly location at a later date. We expect to complete all experimental releases in one day.

If you have any questions, do not hesitate to contact me at (914) 577-2582.

Very truly yours,



Robert T. Kosior, P.E.  
Manager-Environmental Services

RTK:eb  
1071t.rk



ORANGE AND ROCKLAND One Blue Hill Plaza Pearl River, New York 10965

(914) 577-2582

April 12, 1990

Mr. John A. Humbach, Esq.  
American Whitewater Association  
Kayak and Canoe Club of New York  
Associate Dean for Academic Affairs  
Pace University School of Law  
78 North Broadway  
White Plains, NY 10603

Mr. Murdock MacKenzie  
Chief-Alternate Energy Section  
Bureau of Energy  
Division of Regulatory Affairs  
New York State Department of  
Environmental Conservation  
50 Wolf Road  
Albany, NY 12233-0001

Mr. John Hutsky  
Superintendent of the Park  
Department of the Interior  
National Park Service  
Upper Delaware S and RR  
P.O. Box C  
Narrowsburg, NY 12764-0159

Mr. Leonard Corin  
United States Fish and  
Wildlife Service  
100 Grange Place  
Cortland, NY 13045

Mr. John D. Echeverria  
General Council  
American Rivers, Inc.  
801 Pennsylvania Avenue, S.E.  
Suite 303  
Washington, DC 20003

Mr. Gerald Hansler  
Executive Director  
Delaware River Basin Commission  
P.O. Box 7360  
35 State Police Drive  
West Trenton, NJ 08678

Re: Orange and Rockland Utilities, Inc.  
Mongaup Hydro Projects  
FERC Projects Nos. 9698, 10481 and 10482

Gentlemen:

As a follow-up to my letter of February 14, 1990, this correspondence confirms that the experimental releases to assess whitewater boating opportunities on the Mongaup River below Rio powerhouse will be made on Saturday, May 19, 1990, commencing at 9:30 am, rain or shine. We expect to complete all experimental releases in one day.

April 12, 1990  
Page -2-

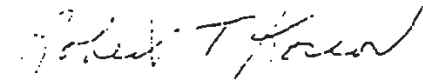
These releases are part of a study associated with a FERC Additional Information Request to determine the level of difficulty of the rapids and stream flow in the Mongaup River below the Rio tailrace that would maintain whitewater boating using standard 1-turbine and 2-turbine operation of the Rio units.

Based on my prior conversations with Messrs. Humbach and Hutsky, we expect approximately ten paddlers from AWA/KCCNY, and two paddlers from the National Canoe Safety Patrol (representing NPS), will rate the rapids. Please provide the names of the representatives/paddlers from your respective organizations who will either attend the event and/or take part in rating the rapids.

The assembly location (put-in) will be at the Rio Powerhouse. A map is enclosed to provide directions to this location.

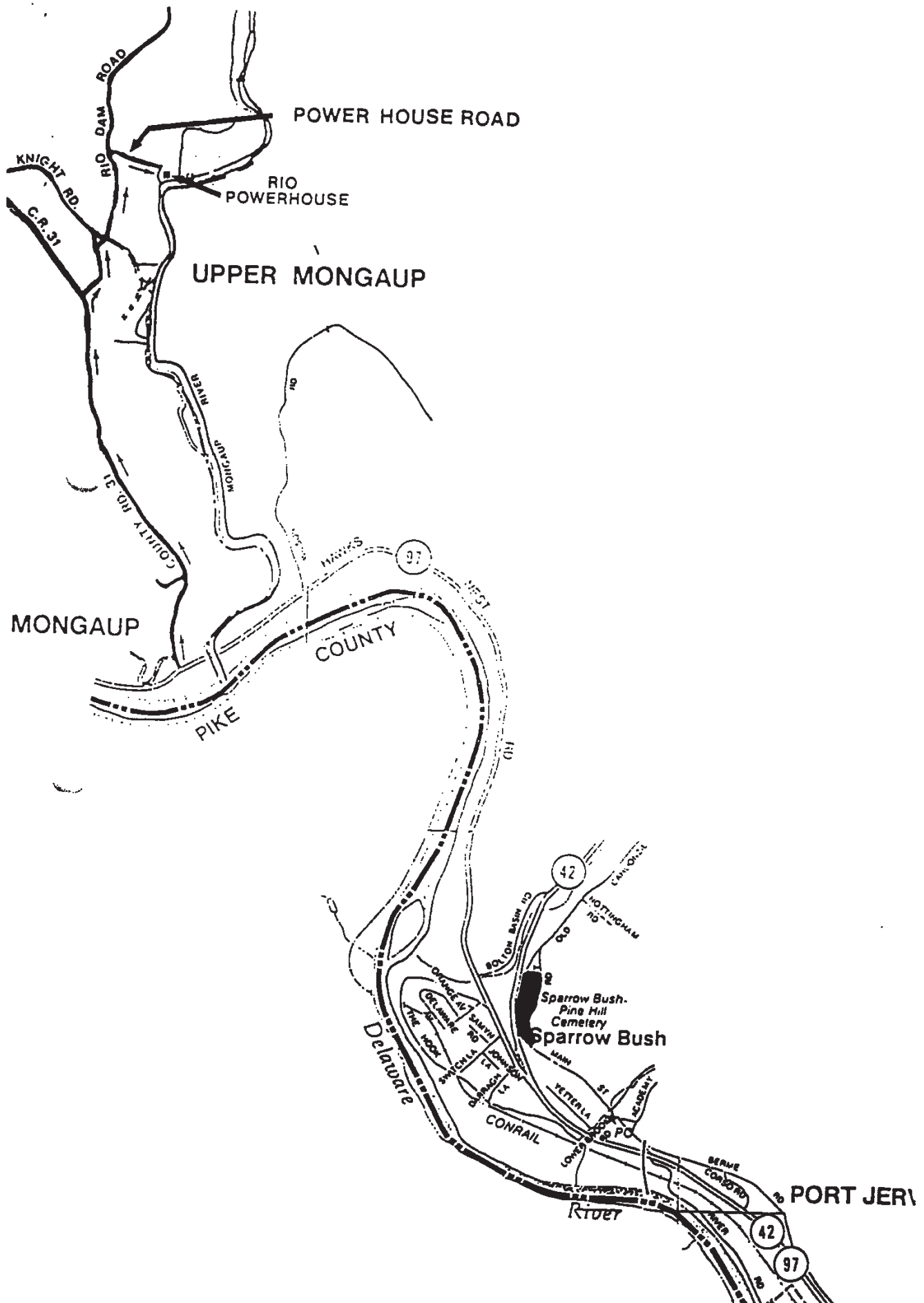
If you have any questions, do not hesitate to contact me at (914) 577-2582.

Very truly yours,



Robert T. Kosior, P.E.  
Manager-Environmental Services

RTK:eb  
Enc.  
107lt.rk





RALD M. HANSLER  
EXECUTIVE DIRECTOR

DELAWARE RIVER BASIN COMMISSION  
P O. BOX 7360  
WEST TRENTON, NEW JERSEY 08620  
609 883-9500

April 19, 1990

HEADQUARTERS LOCATION  
29 STATE POLICE DRIVE  
WEST TRENTON, N. J.

Mr. Robert T. Kosior, P.E.  
Manager - Environmental Services  
Orange and Rockland Utilities, Inc.  
One Blue Hill Plaza  
Pearl River, New York 10965

Dear Mr. Kosior:

In reference to your draft response to the FERC request for additional information for the Mongaup Basin Hydroelectric Projects, we have the following comments.

1. For the scenarios using the 1964-65 drought year simulations of 60, 100 and 150 cfs minimum releases from Rio, a graphical plot of the total available storage remaining in terms of billion gallons should be included as part of the output. The results shown in the draft response, in terms of pool elevation, are difficult to interpret with regard to the remaining volume of water in a prolonged drought.
2. If further model simulations were made for the 1966 water year, it would be helpful to have the resulting minimum storage levels. A contention was made by NYS/DEC that because the New York City reservoir system still had not recovered by the summer of 1966, that it is possible the Mongaup system that year may have been in worse condition storagewise than in 1965.
3. Once the minimum flow release requirements are established and whitewater releases are resolved, Orange and Rockland should develop an operating rule curve or curves based on total water remaining in storage. The rule curve chart should show full maximum storage at the top, and somewhere above the bottom would be an all-empty line or a line representing dead storage or water that can't be used. In between these areas of full and dead storage, there should be a total storage level which would represent the minimum level where it is feasible to generate electricity. In addition, there should be a curve that represents normal operating level of storage, above which you could generate as you need and make any releases required. There also should be a curve that represents the level of storage below which you would only make the required releases and not generate any power.

Mr. Robert T. Kosior, P.E.

-2-

April 19, 1990

By use of this operating curve(s) and other internal operating procedures, we would like to see a plot of the remaining storage under the agreed to release scheme during a repeat of 1964-65 hydrologic conditions.

The work that Orange and Rockland has done in modeling simulations for the 1964-65 drought years at our request gives a clearer picture of how the various minimum release scenarios affect the available water storage. We appreciate the cooperation you have given the Commission in response to our requests for additional analysis.

Very truly yours,



David B. Everett, P.E.  
Chief Engineer

cc: Commissioner Thomas C. Jorling  
Mr. Russell C. Mt. Pleasant  
✓ Thomas E. Mark, Esq. -  
LeBoeuf, Lamb, Leiby & MacRae

bcc: F. E. Fischer, V. A. Roque, J. C. Carley, A. H. Hasnay  
P. F. Pickard, V. A. Budd, D. Hess, S. H. Porath, E. A. Kiene,  
C. H. Swartwout, T. E. Mark (LLL&M) T. J. Sullivan (S-H)



**ORANGE AND ROCKLAND** One Blue Hill Plaza, Pearl River, New York 10965

June 5, 1990

Mr. John Hutsky  
Superintendent of the Park  
Department of the Interior  
National Park Service  
Upper Delaware S and RR  
P.O. Box C  
Narrowsburg, NY 12764-0159

Re: Orange and Rockland Utilities, Inc.  
Mongaup Hydro Projects  
FERC Projects Nos. 9698, 10481, and 10482

Dear Mr. Hutsky:

On May 19 at the whitewater boating assessment, you stated that the National Park Service (NPS) could not accurately assess whitewater boating opportunities without evaluating the effect of Rio discharge on Delaware River flow at the Mongaup River confluence. You stated that high water in the Delaware River on that day precluded the NPS from making this evaluation. Orange and Rockland agreed to again run the Rio units when the NPS determined that the Delaware River was at a normal, seasonal level.

Per today's conversation, this correspondence confirms that Orange and Rockland will provide one and two unit operation of the Rio units on Thursday, June 14, 1990. We will meet at the Rt. 97 bridge over the Mongaup River at 9:30 am. The Rio units will be off-line at the start, and then individually brought on-line as required. We expect to be completed with the evaluation by noon.

By copy of this letter, pertinent agencies and intervenors are invited. Please notify me at (914) 577-2582 if you expect to attend.

Very truly yours,

Robert T. Kosior, P.E.  
Manager-Environmental Services

RTK:eb

cc: John A. Humbach, Esq. - (AWA)  
John D. Echeverria - American Rivers, Inc.  
Murdock MacKenzie - NYSDEC  
Leonard Corin - USF&W  
Gerald Hansler - DRBC  
Roger H. Metzger - O&R

1071t.rk/3

**ORANGE AND ROCKLAND UTILITIES, INC.**  
Pearl River, New York

**PIKE COUNTY LIGHT AND POWER CO.**  
Millard, Pennsylvania

**ROCKLAND ELECTRIC COMPANY**  
Saddle River, New Jersey

June 12, 1990

Memo to: Robert T. Kosior, P.E.  
Manager, Environmental Services  
Orange and Rockland

From: H.K. Fischman, Ph.D.  
Kayak and Canoe Club of New York

Subject: Report on Whitewater Test of Mongaup River, May 19, 1990

**Summary:**

1. The river was rated at Grade III with both turbines running(870 cfs)

2. The river was rated at Grade II+ with one turbine running(435 cfs)

3. The two most significant rapids were located in the middle 1/3 and last 1/3 of the river and were rated as follows:

	1 Turbine	2 Turbines
Middle 1/3	II+	III
Last 1/3	III-	III

4. No dangerous obstructions were found(no undercut rocks, keeper hydraulics, or strainers)

5. Potential for whitewater recreation:

A. 1 Turbine; Marginal - many rocks showing, run was "scratchy"

B. 2 Turbines; Excellent - more rocks covered, less maneuvering required, more play spots available.

6. Comparison(at 2 turbines) with level of difficulty of other well-known rivers:

A. Clearly less difficult than; Tonawanda(III+), Hudson Gorge(IV)

B. Same level; Lehigh Gorge at medium high water(II+), West(III)

C. More difficult than; Lackawanna(II), Ten Mile(II+), Farmington at Collinsville(II)

Eighteen whitewater paddlers(1 C-1, 4 tandem open canoeists, 2 solo open canoeists, 11 kayakers) of various degrees of competence(Class III-V) ran the lower Mongaup River(Rio powerhouse to just above the Rt. 97 bridge) on May 19, 1990. Most of them paddled it twice, once with one turbine running(435 cfs) and again with both turbines

running(870 cfs). They came from the following organizations: Appalachian Mountain Club(AMC), American Rivers, American Whitewater Affiliation(AWA), Kayak and Canoe Club of New York(KCCNY), National Canoe Safety Patrol(affiliated with the National Park Service at the Delaware river), Sierra Club(Atlantic Chapter), and Tri-Rivers(There was one unaffiliated paddler). Each paddler filled out a questionnaire(copy enclosed) immediately after having run the river.

Agreement among the raters was close to unanimous for questions on river and rapid rating. The river itself and its most significant rapids were rated according to the International Scale of Difficulty from I-VI, with Class I being the easiest and Class VI the most difficult.

Overall Rating: The river was rated Class II+ with 1 turbine running(12/13 raters concurring) and Class III with 2 turbines running(13/14 concurring)

The river was found to vary in difficulty along its length, with 1 turbine(16/16) and 2 turbines(11/14)

Rapids were rated in 3 segments of the river(upper, middle, and lower) with the following results:

Segment	1 Turbine	2 Turbines
upper 1/3	II	III-
middle 1/3	II+	III
lower 1/3	II+ to III-	III

**General Impressions:**

	1 Turbine	2 Turbines
Was the run interesting or pleasurable?	Scratchy	Good
Opportunities for play:	1 Turbine yes/somewhat	2 Turbines Yes(unanimous)
Quality of Play:	1 turbine No	2 Turbines Yes
	1 Turbine No	2 Turbines Yes

Comparison of level of difficulty of the Mongaup to various rivers:

Comparisons with other rivers of known difficulty is valuable in rating a river. Raters were asked to compare the Mongaup with 14 other rivers or river segments, using the following scale:

1. This run requires much less skill
2. This run requires somewhat less skill
3. This run requires about the same skill
4. This run requires somewhat more skill
5. This run requires much more skill

River	SKILL LEVEL				
	Less		Same		More
	1	2	3	4	5
Lackawaxen(II)	0	0	2	4	4
Ten Mile(II+)	0	0	3	3	4
upper Esopus(II+)	0	1	5	8	0
lower Esopus(II-)	0	0	1	7	4
Farmington					
Collinsville(II)	0	0	0	4	3
Farmington					
Tariffville(II+)	0	1	3	5	0
Lehigh(Whitehaven)					
low(II)	0	0	3	6	3
medium(II+)	0	0	5	6	1
Lehigh(Rockport)					
low(II)	0	0	6	6	1
medium(II+)	0	2	7	3	1
West(III)	0	1	5	0	0
Nescopeck(III-)	0	0	4	5	0
Tohickon(III+)	1	7	5	1	0
Hudson Gorge(IV)	4	3	0	1	0

According to this rating, the Mongaup is clearly less difficult to paddle than either the Tohickon(III+) or the Hudson Gorge(IV). It presents a difficulty comparable to the Lehigh Gorge(II+) at medium high water and the West(III). It is more difficult to paddle than either the Lackawaxen(II), Ten Mile(III), or the Farmington at Collinsville(II)

cc: J. Escheverria  
J. Humbach  
P. Skinner

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

June 13, 1990

Thomas E. Mark, Esq.  
LeBoeuf, Lamb, Leiby & MacRae  
520 Madison Avenue  
New York, NY 10022

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Mr. Mark:

Enclosed for your review you will find one copy of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Dick Tortoriello, DRBC, w/Enclosure  
Mark Clough, USFWS, w/Enclosure ✓  
NPS, Narrowsburgh, NY, w/Enclosure ✓  
NPS, Philadelphia, PA, w/Enclosure  
John Humbach, AWWA, w/Enclosure  
American Rivers, Inc., w/Enclosure ✓  
Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies) ✓  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2868

June 13, 1990

Mr. Murdock M. MacKenzie  
New York State Department  
of Environmental Conservation  
50 Wolf Road  
Albany, NY 12233

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Mr. MacKenzie:

Enclosed for your review you will find five copies of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Dick Tortoriello, DRBC, w/Enclosure  
Mark Clough, USFWS, w/Enclosure  
NPS, Narrowsburgh, NY, w/Enclosure  
NPS, Philadelphia, PA, w/Enclosure  
John Humbach, AWWA, w/Enclosure  
American Rivers, Inc., w/Enclosure  
Tom Mark, LLLM, w/Enclosure  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

June 13, 1990

Mr. Dick Tortoriello  
Delaware River Basin Commission  
P.O. Box 7360  
West Trenton, NH 08628

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Mr. Tortoriello:

Enclosed for your review you will find one copy of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies)  
Mark Clough, USFWS, w/Enclosure  
NPS, Narrowsburgh, NY, w/Enclosure  
NPS, Philadelphia, PA, w/Enclosure  
John Humbach, ANWA, w/Enclosure  
American Rivers, Inc., w/Enclosure  
Tom Mark, LLLM, w/Enclosure  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

June 13, 1990

Mr. Mark Clough  
U.S. Fish and Wildlife Service  
100 Grange Place  
Cortland, NY 13045

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Mr. Clough:

Enclosed for your review you will find one copy of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies)  
Dick Tortoriello, DRBC, w/Enclosure  
NPS, Narrowsburgh, NY, w/Enclosure  
NPS, Philadelphia, PA, w/Enclosure  
John Humbach, AWWA, w/Enclosure  
American Rivers, Inc., w/Enclosure  
Tom Mark, LLLM, w/Enclosure  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

June 13, 1990

U.S. Department of Interior  
National Park Service  
Upper Delaware Scenic & Recreation River  
P.O. Box C  
Narrowsburg, NY 12764-0159

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Sirs:

Enclosed for your review you will find one copy of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Dick Tortoriello, DRBC, w/Enclosure  
Mark Clough, USFWS, w/Enclosure  
Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies)  
NPS, Philadelphia, PA, w/Enclosure  
John Humbach, AWWA, w/Enclosure  
American Rivers, Inc., w/Enclosure  
Tom Mark, LLLM, w/Enclosure  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

June 13, 1990

Robert Gift, Director  
Mid-Atlantic Office  
National Park Service  
143 South Third Street  
Philadelphia, PA 19106

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Mr. Gift:

Enclosed for your review you will find one copy of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Dick Tortoriello, DRBC, w/Enclosure  
Mark Clough, USFWS, w/Enclosure  
NPS, Narrowsburgh, NY, w/Enclosure  
Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies)  
John Humbach, AWWA, w/Enclosure  
American Rivers, Inc., w/Enclosure  
Tom Mark, LLLM, w/Enclosure  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 228-2888

June 13, 1990

Mr. John A. Humbach  
Mongaup Conservation Coordinator  
% Pace University School of Law  
78 North Broadway  
White Plains, NY 10603

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Mr. Humbach:

Enclosed for your review you will find one copy of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Dick Tortoriello, DRBC, w/Enclosure  
Mark Clough, USFWS, w/Enclosure  
NPS, Narrowsburgh, NY, w/Enclosure  
NPS, Philadelphia, PA, w/Enclosure  
Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies)  
American Rivers, Inc., w/Enclosure  
Tom Mark, LLLM, w/Enclosure  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A LIARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

June 13, 1990

American Rivers  
801 Pennsylvania Ave., SE  
Suite 303  
Washington, DC 20003

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Sirs:

Enclosed for your review you will find one copy of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Dick Tortoriello, DRBC, w/Enclosure  
Mark Clough, USFWS, w/Enclosure  
NPS, Narrowsburgh, NY, w/Enclosure  
NPS, Philadelphia, PA, w/Enclosure  
John Humbach, AWWA, w/Enclosure  
Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies)  
Tom Mark, LLLM, w/Enclosure  
Hans Hasnay, ORU, w/Enclosure (5 copies)

# Stetson-Harza

A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE

The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

June 13, 1990

Hans Hasney  
Orange & Rockland Utilities  
One Blue Hill Plaza  
Pearl River, NY 10965

Re: Orange and Rockland Utilities  
Mongaup River Hydroelectric  
Projects  
Schedule A Draft Response  
FERC Project Nos. 9690, 10481,  
and 10482  
Stetson-Harza No. 4932

Dear Mr. Hasney:

Enclosed for your review you will find five copies of Orange and Rockland Utilities' ("Orange and Rockland") Draft Response to the FERC Request for Additional Information for the Mongaup Basin Hydroelectric Projects. It should be noted that this response deals only with Schedule A of FERC's Request for Additional Information.

We request that your comments regarding the enclosed document be forwarded within 30 days or by July 13, 1990.

Sincerely,

Thomas J. Sullivan, P.E.  
Project Manager

DJM/dms

cc: Dick Tortoriello, DRBC, w/Enclosure  
Mark Clough, USFWS, w/Enclosure  
NPS, Narrowsburgh, NY, w/Enclosure  
NPS, Philadelphia, PA, w/Enclosure  
John Humbach, AWWA, w/Enclosure  
American Rivers, Inc., w/Enclosure  
Tom Mark, LLLM, w/Enclosure  
Murdock MacKenzie, NYSDEC, w/Enclosure (5 copies)



RECEIVED

JUN 25 1990

PACE UNIVERSITY

NEW YORK • WESTCHESTER  
(personal and unofficial)

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

SCHOOL OF LAW

914-422-4239

78 NORTH BROADWAY  
WHITE PLAINS, N.Y. 10603

June 21, 1990

Mr. Thomas J. Sullivan, P.E.  
Stetson-Harza  
10 Ferry Street Suite 310  
Concord, New Hampshire 03301

Re: Mongaup River Hydroelectric Projects -- Schedule A Draft Response  
Projects Nos. 9690, 10481 and 10482

Dear Mr. Sullivan:

Thank you for the draft Response to FERC Request for Additional Information that you sent to me in my capacity as *pro bono* counsel for the Intervenor, American Whitewater Affiliation and Kayak and Canoe Club of New York, in the captioned license proceeding.

Enclosed is a copy of an article from the *River Reporter* (April 12, 1990) that, in the interest of fairness and balance, ought to be included among the newspaper articles presented in Appendix A to the final Response to FERC Request for Additional Information.

Sincerely,

John A. Humbach  
Professor of Law and  
Associate Dean  
for Academic Affairs

cc. Mr. Robert T. Kosior, ORU



IN REPLY REFER TO:

## United States Department of the Interior

NATIONAL PARK SERVICE

UPPER DELAWARE

SCENIC & RECREATIONAL RIVER

P.O. Box C, Narrowsburg, NY 12764-0159

**RECEIVED**

JUN 25 1990

N16

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

June 22, 1990

Mr. Robert T. Kosior, P. E.  
Manager, Environmental Services  
Orange and Rockland Utilities, Inc.  
One Blue Hill Plaza  
Pearl River, NY 10965

Dear Bob:

On behalf of the National Park Service, I thank you and Orange and Rockland Utilities for providing the additional day of white water releases on the lower Mongaup River on June 14, 1990. Without your cooperation, we would not have been able to evaluate the effects of these releases on boaters in the main stem of the Delaware River.

As indicated in our letter of May 21, 1990, to Dean Shumway of the Federal Energy Regulatory Commission, we were concerned with the effects of any additional white water releases from the lower Mongaup River on weekends. Weekends are our highest use period and the majority of search and rescue incidents occur then. We recorded 88 search and rescue incidents on weekends in the past ten years near the mouth of the Mongaup River. Presently, Orange and Rockland Utilities isn't releasing on weekends.

On June 14, 1990, the height of the Delaware River, upstream of the confluence with the Lackawaxen River, was recorded as 2.66 feet. This height approximates normal summertime conditions, and thus was a good indicator as to what boaters on the Delaware River might experience due to the increased releases entering from the lower Mongaup River.

To assist us in evaluating the effects of the increased releases, we enlisted Charles and Geraldine Howson of the National Canoe Safety Patrol. They paddled through the Mongaup rapids during the various releases. Other National Park Service employees were present to assist and record the event. Other observers included John Humbach of the American White Water Association, as well as members of the press. A list of observers is attached.

The following evaluation of the releases is based upon the Howson's comments and our observations:

1. When one turbine is releasing water, there is no noticeable effect at the Mongaup rapids as a result of the additional white water releases.
2. When two turbines are releasing water, the current increases as the lower Mongaup River enters the main Delaware River. This increase in current has a tendency to push a canoe toward the Pennsylvania side, and thus into

Orange and Rockland Utilities  
White Water Testing Results  
June 22, 1990

2

the middle of the Mongaup rapids. Thus, if a boater were trying to avoid the Mongaup rapids by paddling toward the New York shore, he or she would inadvertently be pushed back into the Mongaup rapids unless he or she had the skills to overcome the force of the current. Given the skill level of the majority of Delaware River boaters (i.e., in our role as recreational use managers on the Upper Delaware, we estimate the majority of boaters as either beginners or novices), they would have difficulty countering the force of the additional current.

In conclusion, a white water release to enhance boating on the lower Mongaup river on weekends would create no additional difficulties for boaters on the main Delaware River below the mouth of the Mongaup River if one turbine only was releasing. However, if two turbines are releasing on weekends, it would create problems for boaters on the main Delaware River at the Mongaup rapids. Due to the skill levels of the majority of Delaware River boaters, we could expect an increase in search and rescue incidents as a result of the increased skills needed by boaters to negotiate these rapids.

Thank you for the opportunity to contribute to your evaluation of the potential for white water boating on the lower Mongaup river.

Sincerely yours,



John T. Hutzky  
Superintendent.

Enclosure

cc: Murdock Mackenzie, NYS Department of Environmental Conservation  
Leonard Corin, US Fish and Wildlife Service  
John Humbach, American White Water Association  
John Echeverria, American Rivers, Inc.  
Gerald Hansler, Exec. Dir., Delaware River Basin Commission  
Robert Gift, NPS, Mid-Atlantic Regional Office  
William Douglass, Exec., Dir., Upper Delaware Council  
Charles and Geraldine Howson, National Canoe Safety Patrol  
Dean Shumway, Federal Energy Regulatory Commission

**LIST OF OBSERVERS AT WHITE WATER RELEASES TRIAL**

**ON THE MONGAUP RIVER**

**June 14, 1990**

John Humbach	American White Water Association
Charles H. Swartwout, Jr.	Orange and Rockland Utilities
Steve H. Porate	Orange & Rockland Utilities
Michael Reuber	National Park Service
Glenn H. Voss	National Park Service
Michael Lynn	Orange and Rockland Utilities
John T. Hutzky	National Park Service
Ralph P. Huebner	National Park Service
Vicki Wolfe	National Park Service
David Hulse	The River Reporter
Bob Kosior	Orange and Rockland Utilities
Ellen Burns	Orange and Rockland Utilities
Charles Howson	National Canoe Safety Patrol
Geraldine Howson	National Canoe Safety Patrol

# Upper Delaware Council

Bridge Street, P. O. Box 217  
Narrowsburg, NY 12764

Tel. (914) 252-3022  
Fax. (914) 252-3359

July 6, 1990

Mr. Thomas J. Sullivan, P.E.  
Stetson-Harza  
The Concord Center, Suite 310  
10 Ferry Street  
Concord, New Hampshire 03301

RE: Orange and Rockland's "Draft Response to FERC Request for Additional Information - Schedule A - for the Mongaup Basin Hydroelectric Projects, June 1990"

Dear Mr. Sullivan:

The Upper Delaware Council had intended to submit comments today concerning the above-referenced project. Unfortunately, due to the fact that we lacked one member from having a legal quorum at our regular monthly meeting last night the Council was unable to approve the draft comments that had been prepared.

On behalf of the Upper Delaware Council I respectfully request that the deadline for comments (established in your letter dated June 13th) be extended from the July 13, 1990 date to August 3, 1990. Our next Council meeting is scheduled for the evening of August 2nd. I would be able to fax the approved letter containing the Council's comments and recommendations to you on the morning of August 3rd.

If this is not possible, I would appreciate your letting me know how our comments could be made a part of the record. As you will recall, the Upper Delaware Council submitted comments to you on this issue of whitewater recreation on May 5, 1989. Although our proposed position has not changed significantly, there has been a lot more information made available since that time and our proposed comments and recommendations take that into consideration.

Thank you for considering this request. I look forward to hearing from you soon.

Sincerely,



William E. Douglass,  
Executive Director

cc: Roger Metzger, O&R  
Robert Kosior, O&R  
Upper Delaware Council members



IN REPLY REFER TO:

# United States Department of the Interior

## NATIONAL PARK SERVICE

UPPER DELAWARE

SCENIC & RECREATIONAL RIVER

P.O. Box C, Narrowsburg, NY 12764-0159

N16

July 10, 1990

Mr. Thomas J. Sullivan, P.E.  
Stetson-Karza  
The Concord Center  
10 Ferry Street, Suite 310  
Concord, NJ 03301

RE: Orange and Rockland Utilities  
Mongaup River Hydroelectric Projects  
Schedule A, Draft Response

Dear Mr. Sullivan:

On May 21, 1990, the National Park Service requested that the white water boating study being conducted by Orange and Rockland Utilities, Inc., also include the results of any impacts on the main Delaware River due to additional releases from the Mongaup River for white water boating.

On June 14, 1990, the National Park Service, in cooperation with Orange and Rockland Utilities, Inc., conducted an evaluation on the main Delaware River with additional white water releases from the Rio powerhouse. The results of this evaluation were transmitted to Orange and Rockland Utilities on June 22, 1990, copy enclosed. We request that these results and our recommendations be included in Orange and Rockland's response to the Federal Energy Regulatory Commission.

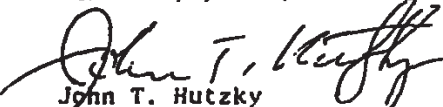
In addition to the above request, we also request that Orange and Rockland grant an extension of time for submission of comments on the "Draft Response to FERC". This extension is needed to enable the Upper Delaware Council to submit their comments after the Council's review and approval. Due to a lack of a quorum at its July 5, 1990, meeting, the Council couldn't take any action on their draft reply. The Council's next meeting will be on August 2, 1990. We don't envision an extension of this duration to cause an undue hardship, as no final decision will be made by the Federal Energy Regulatory Commission until the National Park Service is satisfied that any potential impacts upon the Upper Delaware Scenic and Recreational River have been mitigated. As a matter of policy, the Upper Delaware Council's comments could be incorporated into the final draft of the recreation plan for white water boating when that is circulated for review and comment. However, incorporation of the Council's comments prior to the final draft will only serve to strengthen that document prior to a final review.

T. J. Sullivan, Stetson-Karza  
July 10, 1990

2

Thank you for the opportunity to comment on the draft white water recreation study.

Sincerely yours,



John T. Hutzky  
Superintendent

cc: Murdock Mackenzie, NYS Department of Environmental Conservation  
Leonard Corin, U.S. Fish and Wildlife Service  
John Humbach, American White Water Association  
John Echeverria, American Rivers, Inc.  
Gerald Hansler, Exec. Dir., Delaware River Basin Commission  
Robert Gift, NPS, Mid-Atlantic Regional Office  
William Douglass, Exec., Dir., Upper Delaware Council  
Dean Shumway, Federal Energy Regulatory Commission

## LEBOEUF, LAMB, LEIBY &amp; MACRAE

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

EASTERN U.S.:

NEW YORK, NY  
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ALBANY, NY  
BOSTON, MA  
HARRISBURG, PA  
HARTFORD, CT  
NEWARK, NJ

520 MADISON AVENUE

NEW YORK, NY 10022

(212) 715-8000

FACSIMILE: (212) 715-8500

TELEX: 423416 (OR) 1861363

EUROPEAN COMMUNITY: BRUSSELS, BELGIUM AND LONDON, ENGLAND

DIRECT DIAL

WESTERN U.S.:

LOS ANGELES, CA  
SALT LAKE CITY, UT  
SAN FRANCISCO, CA

SOUTHERN U.S.:

JACKSONVILLE, FL  
RALEIGH, NC

July 17, 1990

VIA FEDERAL EXPRESS

Mr. John T. Hutzky  
Superintendent  
United States Department of the Interior  
National Park Service  
Upper Delaware Scenic & Recreational River  
P. O. Box C  
Narrowsburg, New York 12764-0159

Re: Orange and Rockland Utilities, Inc.  
Mongaup Hydro Projects  
Upper Delaware Council Comments

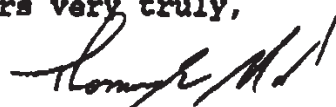
Dear Mr. Hutzky:

This letter is in response to your July 10, 1990 letter to Thomas Sullivan of Stetson-Harza. In that letter you requested that the results and your recommendations be included in Schedule A of Orange and Rockland Utilities, Inc.'s response to the Federal Energy Regulatory Commission's ("FERC") request for additional information. This information will be filed on July 19, 1990, the date designated by the FERC, and it will include the results and recommendations.

In your letter you also request an extension of time in order to permit the Upper Delaware Council to file comments on Schedule A. Orange and Rockland has informed the Upper Delaware Council that requests of this kind must be made directly to the FERC but that if it provides comments at a later date, Orange and Rockland will forward those comments, together with our response if appropriate, to the FERC.

If you have any questions or comments, please do not hesitate to contact me.

Yours very truly,



Thomas E. Mark  
Attorney for Orange and Rockland  
Utilities, Inc.

## LEBOEUF, LAMB, LEIBY & MACRAE

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

EASTERN U.S.:

NEW YORK, NY  
WASHINGTON, DC  
ALBANY, NY  
BOSTON, MA  
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HARTFORD, CT  
NEWARK, NJ

520 MADISON AVENUE  
NEW YORK, NY 10022

(212) 715-8000

FACSIMILE: (212) 715-8500

TELEX: 483416 (OR) 1561363

EUROPEAN COMMUNITY: BRUSSELS, BELGIUM AND LONDON, ENGLAND

DIRECT DIAL

WESTERN U.S.:

LOS ANGELES, CA  
SALT LAKE CITY, UT  
SAN FRANCISCO, CA

SOUTHERN U.S.:

JACKSONVILLE, FL  
RALEIGH, NC

July 17, 1990

VIA FEDERAL EXPRESS

Mr. William E. Douglass  
Executive Director  
Upper Delaware Council  
Edge Street, P. O. Box 217  
Marrowsburg, New York 12764

Re: Orange and Rockland  
Mongaup Hydro Projects  
Comments on Whitewater Boating

Dear Mr. Douglass:

This letter is in response to your July 6, 1990 letter to Thomas Sullivan of Stetson-Harza requesting an extension of time in which to file comments on Schedule A (whitewater rafting) of Orange and Rockland Utilities, Inc.'s draft response to the Federal Energy Regulatory Commission ("FERC"). While Orange and Rockland is sympathetic to your situation, requests of this kind must be made directly to the FERC.

However, although we can neither grant nor deny your request, it would appear that no formal request for an extension is necessary. Orange and Rockland will file its additional information on July 19, 1990, the date designated by the FERC. If you provide comments at a later date, we will forward those comments, together with our response, if appropriate, to the FERC. Our July 19 filing so informs FERC.

If you have any questions or comments, please do not hesitate to contact me.

Yours very truly,

  
Thomas E. Mark  
Attorney for Orange and Rockland  
Utilities, Inc.

cc: John T. Hutzky

---

**RELATED CORRESPONDENCE**

**Stetson-Harza**  
A HARZA COMPANY

NEW ENGLAND REGIONAL OFFICE  
The Concord Center  
10 Ferry Street  
Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

April 4, 1989

Mr. Murdock M. MacKenzie  
Chief, General Project Review Section  
Division of Regulatory Affairs  
N.Y.S. Dept. of Environmental  
Conservation  
50 Wolf Road  
Albany, NY 12233-0001

Re: Orange & Rockland Utilities  
Mongaup River Hydroelectric Project  
FERC Nos. 10481, 10482, 9690  
Stetson-Harza No. 4677

Dear Mr. MacKenzie:

Enclosed for your review and comment are 22 copies of a draft response to Additional Information Item No. 7 for the above referenced projects. This information was requested by FERC in a letter dated November 14, 1988. This draft response was developed by the Kayak and Canoe Club of New York (KCCNY) and the American Whitewater Association (AWA) at the request of Orange & Rockland, dated February 17, 1989.

In review of this draft, Orange and Rockland Utilities (ORU) offers the following comments:

Part a, second paragraph: A potential for whitewater boating exists whenever ORU operates its turbines at the Rio Powerhouse (as opposed to "on the Rio Dam").

Part a, second paragraph: The distance from the Rio Powerhouse to the confluence of the Mongaup and Delaware Rivers is 3.0 miles (as opposed to 2 1/2 miles).

Part a, fourth paragraph: In the March-November period of an average annual year, a flow of 435 cfs (one turbine discharge) is equaled or exceeded at the U.S. Geological Survey stream gage, located downstream of the Rio tailrace, 25 percent of the time (53 days per year). This is based on a period of record from 1939 to 1978.

Part a, Table listing lengths, gradients and levels of difficulty: The distance from Rio Dam to Rio Powerhouse is 1 6/10 miles, the distance from Rio Powerhouse to the Delaware River is 3.0 miles, the gradient from Rio Dam to the Delaware River is uniform and is 53 ft/mile.

Additional Information

Item No. 7

S-H No. 4677

Page 2

Part a, fifth paragraph: ORU has not committed to experimental releases at this time.

Part a, eighth paragraph: The accompanying map is Figure 7-1.

Part c, first paragraph: ORU's current minimum continuous flow proposal is 60 cfs (as opposed to 65 cfs). (Note: This minimum continuous flow is incorrectly referred to as leakage in Part a, paragraph 5).

Part d, attached Table: The length of the upper Delaware Scenic and Recreational River is 73 miles; the "?" under estimate of annual use indicates usage too high to accurately estimate. (For example, the National Park Service has estimated the annual usage of the upper Delaware River to be over 200,000 people).

In order to incorporate your comments into the final additional information response, we ask that you submit them, in writing, by May 6, 1983. In the meantime, should you have any questions please contact either Mr. Roger Metzger of ORU at 914-577-2782 or Mr. Thomas Mark at LeBoeuf, Lamb, Leiby and MacRae at 212-715-8000.

Sincerely,

*Thomas J. Sullivan*

Thomas J. Sullivan, P.E.  
Project Manager

TJS/ms

cc: Robert Kosior, ORU, Tom Mark, LLM

bcc: Utica File, MES, Concord File



PACE UNIVERSITY  
NEW YORK • WESTCHESTER  
(personal and unofficial)

SCHOOL OF LAW

914-422-4239

78 NORTH BROADWAY  
WHITE PLAINS, N.Y. 10603

July 12, 1989

Mr. James Coleman, Regional Director  
National Park Service  
143 South Third Street  
Philadelphia, Pennsylvania 19106

Re: Public Access to Mongsup River Below Rio Dam

Dear Mr. Coleman:

Orange and Rockland Utilities has applied to FERC to operate certain hydroelectric projects on the Mongsup River, a tributary of the Upper Delaware Scenic and Recreational River. As pro bono publico counsel for the American Whitewater Association and the Kayak and Canoe Club of New York, I have filed an Intervention in these license proceedings. The Intervention requests that any license granted to O&R make provision for recreational boating use of the lower Mongsup, below the lowest (Rio) dam.

I understand that NPS (Mid-Atlantic Region) has issued comments to FERC recommending against allowing recreational whitewater use of the lower Mongsup River, such use being ostensibly contrary to the river management plan. This NPS position appears to have been developed almost exclusively on the basis of local opposition in the Upper Delaware Council and without adequate account of the larger regional concerns which favor such use.

While we timely presented the merits of allowing public use of the Mongsup to your region's Division of Park and Resource Planning, another division (Environment and Recreation Assistance) actually prepared the NPS comments, and it did not, at the time, have the benefit of having a balance of views before it.

I urgently request further consideration of the NPS position on this issue and that NPS supply a supplemental memorandum to FERC favorable -- or at least neutral -- to public recreational use of the lower Mongsup. There are several grounds for this request (in addition to those in the accompanying documents which were previously supplied to NPS but not received in time by the Division of Environment and Recreation Assistance).

The reasons are:

1. Except for an extremely short stretch at the Delaware-Mongaup confluence, the river segment in question is not even within the bounds of the Upper Delaware Recreational and Scenic River. Use of the Mongaup will, in any event, have an absolutely de minimis impact on the Delaware.
2. There is no conflict between public use of the Mongaup and the river management plan for the Upper Delaware. Boating on the Mongaup was not, to my knowledge, ever mentioned or even considered a possibility in the river management plan.
3. Other interested parties, including the New York State Legislature (in § 15-0801 of the NYS Environmental Conservation Law), the NYS Department of Environmental Conservation, and American Rivers, support public recreational boating on the lower Mongaup.
4. The strictly local concerns about public use of the Mongaup are not the only concerns. The public interest requires that local views be balanced against other legitimate concerns. After all, one reason why we have a National Park Service is that local views on public access to our nation's natural resources should not necessarily be dispositive.
5. The current NPS position on public use of the Mongaup, overly reflecting narrow local opposition, is at odds with the great mission of NPS to promote and preserve the right of the American public to enjoy our country's natural resource heritage.

As I wrote previously to Mr. Eugster of your office, our fundamental goal here is to advance the recreational potential of a superb natural resource. I hope that NPS will ultimately be able to support this goal by providing a supplemental memorandum of comments on the recreational components of O&R's FERC licence application.

Sincerely,

John A. Humbach  
Professor of Law and  
Associate Dean  
for Academic Affairs

New York State Department of Environmental Conservation  
50 Wolf Road, Albany, New York 12233



Thomas C. Jorling  
Commissioner

August 4, 1989

Lois D. Cashell  
Secretary  
Federal Energy Regulatory Commission  
825 North Capitol Street  
Washington, DC 20246

CONSULTATION - Mongaup River Hydroelectric Development  
Swinging Bridge Project - FERC Project No. 10482  
Mongaup Falls Project - FERC Project No. 10481  
Rio Project - FERC Project No. 9690

Dear Secretary Cashell:

The following comments and recommendations are offered by the New York State Department of Environmental Conservation (DEC) in response to the Federal Energy Regulatory Commission's (FERC) April 5, 1989 Notice of Application for a Major License (over 5 MW) for the referenced projects. DEC greatly appreciates receiving the two extensions of time for the submission of comments regarding these projects.

DEC's comments regarding the project are based upon the existing project works and operations as described in the FERC's Notice of Application For License and in the Application For License and supporting documentation provided by Orange and Rockland Utilities Inc. (ORU). The project description and mode of operation is summarized as follows to ensure that staff's understanding of each project proposal is correct and that further clarification is not needed.

#### PROJECT DESCRIPTIONS

##### Swinging Bridge Facilities (No. 10482)

###### Swinging Bridge Reservoir

- An existing earthfill dam approximately 975 feet long and 135 feet high with a spillway crest elevation of 1065 feet (U.S.G.S. Datum). The dam is equipped to accommodate flashboards 5 feet high.

- An existing 1000 acre impoundment with a storage capacity of 31, 848 acre feet between elevation 1070 and 1048 (U.S.G.S.).
- An existing steel penstock 10 feet in diameter and 692 feet long (Unit No. 1) and, an existing concrete tunnel and steel penstock about 972 feet long (Unit No. 2).
- Two existing brick powerhouses each containing one unit rated at 5 MW (Unit 1) and 6.75 MW (Unit 2). The tailraces are 75 and 20 feet long respectively.

Cliff Lake Reservoir (Black Lake Creek)

- An existing concrete and earthfill dam approximately 610 feet long and 25 feet high. The dam is equipped to accommodate flashboards 13 inches high.
- A 190 acre pond at elevation 1071.1 (U.S.G.S.). A maximum drawdown of 23.1 feet is available for generation at Swinging Bridge.
- An existing 2100 foot-long horseshoe shaped diversion tunnel to Swinging Bridge Reservoir.

Toronto Reservoir (Black Lake Creek)

- An existing earthfill dam about 1,620 feet long and 103 feet high. The dam will accommodate flashboards 5 feet high.
- An existing 860 acre impoundment at elevation 1,220 feet (U.S.G.S.). 25,211 Acre feet of storage is available for diversion to Swinging Bridge with a 50-foot drawdown.

COMMENTS

(1) DEC notes that the ORU's Application for a FERC License to continue to operate the Swinging Bridge/Cliff Lake/Toronto Reservoir complex does not include the Lebanon Lake dam or the existing Lebanon Lake to Cliff Lake diversion. The dam and hydraulic connection, which is shown on Exhibit F, Sheet I, Volume III is capable of controlling releases and diverting flows to further enhance generation at the Swinging Bridge and Mongaup Falls stations. According to the Annual New York State water resources data published by the U.S. Geological Survey<sup>1</sup> diversions to Cliff Lake were occurring as recently as 1987.

DEC has no objection to the omission of the Lebanon Lake watershed from Swinging Bridge and Mongaup Falls project area(s) with the understanding that an amendment to the appropriate licenses will be required if ORU decides to regulate or divert

Lebanon Creek flows for hydroelectric generation purposes at some future date. Additional environmental concerns regarding Lebanon Lake are addressed in the Comments in the section concerning endangered species.

(2) DEC also notes that the 9,500 foot long reach of Black Lake Creek between Toronto Reservoir and Cliff Lake is not included in the Swinging Bridge Project area. DEC questions this omission. This particular reach of the stream is a key element of the Toronto - Cliff Lake - Swinging Bridge Diversion. It is integral to the Swinging Bridge complex and therefore should be subject to the appropriate licensing requirements.

#### MONGAUP FALLS FACILITIES (No. 10481)

##### Mongaup Falls Reservoir

- An existing concrete and concrete core dam approximately 240 feet long and 40 feet high. An additional 5 feet of flashboards can be erected along the crest of the spillway. The total design head including Mongaup Falls is 110 feet.
- An existing 120 acre reservoir with a surface elevation at maximum drawdown, that ranges between 935 and 929 feet (U.S.G.S.) on a daily basis.
- A brick powerhouse containing 4 turbine-generating units rated at 1 MW each. The tailwater is discharged into the river.
- An existing steel penstock eight feet in diameter and 2650 feet long.

##### Black Brook

- An existing concrete gravity type dam about 70 feet long and 15 feet high with 5 feet of flashboards.
- A small 1.5-acre pond at elevation 948 U.S.G.S. This is a run-of-river contribution to the Mongaup Falls facility.
- Flows are diverted as needed to the Mongaup Falls surge tank via an existing penstock 4 feet in diameter and 4300 feet long. About 3,900 feet of the pipe is above ground wood stave construction.

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<sup>1</sup> Water Resources Data for New York, Water York 1987, Eastern New York Excluding Long Island.

RIO FACILITIES (No. 9690)Rio Reservoir

- An existing earthfill dam about 1500 feet long and 101 feet high. The dam will accommodate an additional five feet of pin type flashboards.
- A 460-acre reservoir containing 655 feet<sup>3</sup> of water at elevation 815 feet) top of flashboards) maximum drawdown is to elevation 805 feet (U.S.G.S.)
- A 30 x 82 feet brick powerhouse containing two turbine generating units rated at 5 MW each. The combined discharge rate is 870 cfs.
- A recently reconstructed above ground steel penstock 7000 feet long and 11 feet in diameter.

COMMENT

ORU's application for a license to continue to operate the Rio Hydroelectric project does not include the 8,450 foot-long bypassed segment of the Mongaup River between the dam and powerhouse. This particular reach of the river will continue to be subject to project-imposed base flows. It is a hydraulic link that is essential to the operation and licensing of this project.

PROJECT OPERATIONSGENERAL

ORU describes the combined existing Mongaup River operations as follows:

"In general, the hydro development is used economically, that is, to offset higher cost generation or purchased power during daily peak periods. The basic philosophy of operation is to utilize winter and spring run-off to fill the storage reservoirs and provide economic generation in the winter and spring, and to utilize controlled releases from the Toronto Reservoir in the summer to provide economic generation in the summer and fall. As a run-of-the-river operation water for Mongaup Falls and Rio generation is dependent upon Swinging Bridge generation releases" (Emphasis added).

"During the years of mean runoff the operating rule curves are normally adhered to, resulting in maximum economic benefit to Orange and Rockland customers (Emphasis Added). The System Operator may deviate from normal

operations if profitable interchange sale opportunities arise or if costly purchases can be avoided. In any event, the best interests of the customer is served on each occasion" (Emphasis added).

#### Swinging Bridge Operations

The Swinging Bridge generating facility includes two powerhouses identified as Units One and Two. The stations are situated on the Mongaup River approximately 600 feet downstream from the Swinging Bridge Dam. Each station contains one vertical turbine-generator unit with a hydraulic capacity of 555 and 1015 cubic feet per second (CFS) respectively.

True run-of-river (R-O-R)<sup>1</sup> conditions occur during seasonal high water periods and only when upstream flows in the Mongaup drainage basin exceed the combined operating range of the two Swinging Bridge units (1570 cfs) and the combined storage capacities of Toronto, Cliff Lake, and Swinging Bridge Reservoirs. As stated above the project, which also dictates the location of downstream operation at Mongaup Falls and Rio Reservoirs, is currently operated in a store and release mode that solely reflects the "maximum economic benefits to Orange and Rockland Customers" and the utility.

The annual reservoir operating rule curves provided in Volume I indicate how the available storage is utilized in the various reservoirs under ideal conditions. However, ORU's daily reports to the Delaware River Masters Office indicate significant departures from the ideal operating rule curve, regardless of run-off conditions or the amount of available storage. Further the data shows that ORU's current generating priorities are resulting in seasonal drawdown deviations that are more closely related to ORU's proposed minimum flow re-regulation schedules.

#### COMMENTS

(1) In general DEC has no objection to the issuance of a license that permits the continuation of an operational mode that is based in part upon ORU's peak system demands. However, the appropriate articles and conditions must be attached to the license to ensure that competing environmental and recreational interests that are identified with these operations are given equal consideration.

<sup>1</sup>-----  
R-O-R In this instance a true run-of-river condition exists when flows entering the hydraulically controlled Swinging Bridge system are equal to or exceed the combined project discharges.

(2) Strict adherence to an operating rule curve that is based upon minimum daily target levels is essential to the seasonal maintenance of reliable base flows and project discharges within the project area and the Delaware River.

(3) In order to verify and respond to inquiries regarding compliance with specified flow conditions, the licensee should be required to install and maintain continuous recording pond level sensors and/or flow monitoring devices at the following locations:

- Toronto and Swinging Bridge impoundments
- Black Lake Creek downstream from the Toronto release
- Black Lake Creek downstream from the Cliff-Lake release
- Mongaup River downstream from the Swinging Bridge structural release.

The gauges below the Toronto Release and the Swinging Bridge Dam, and the pond level devices, should also include remote interrogation capability.

#### Mongaup Falls Operations

DEC understands that the four Mongaup Falls turbine generator units with a maximum capacity of 620 cfs are operated in a mode that is designed to efficiently utilize the 1570 cfs, combined peak discharge rate from the two stations immediately upstream at Swinging Bridge. In order to accommodate the higher discharge rate at Swinging Bridge the Mongaup Reservoir must be drawn down 2-6 feet on a daily basis.

Figure B.4 Pg. B-18 Volume I indicates a daily drawdown schedule on a seasonal reservoir operating rule curve. The rule curve shows that daily drawdowns in the range of 3-6 feet occur during December, March, April, and during the critical resource management periods of May, June, July, and November. Daily drawdowns in the range of 1-2 feet generally occur throughout the remainder of the year.

#### COMMENT

(1) The above daily peaking schedule is designed solely to accommodate the summer and winter drawdowns at Toronto and Swinging Bridge respectively. The frequency of station operations and the duration of downstream flow interruptions is not clearly addressed in the applications. It appears that the established operational procedures are primarily governed by system demand and profit margins that routinely require major annual deviations from the rule curves that were provided. For

example, the available reserve in Toronto Reservoir is generally fully depleted by mid-summer. Summer drawdowns at Swinging Bridge also seem to an established practice.

The mitigation requirements proposed by DEC for inclusion in the Mongaup Falls License are fully dependent upon ORU's strict adherence to the operational procedures established in License No. 10482.

(2) To verify and respond to inquiries regarding compliance with specified flow conditions, the licensee should be required to install and maintain continuous recording pond level sensors and/or flow monitoring devices with remote interrogation capability at the following locations:

- Mongaup Falls Reservoir
- Mongaup Falls Bypass
- Mongaup Falls - below the tailrace
- Black Creek below the diversion structure

#### Rio Operations

The Rio project, like the Mongaup Falls Project is hydraulically connected through Mongaup Falls with the established daily peaking operation at Swinging Bridge. Therefore, the two Rio units, with a combined discharge rate of 870 cfs must be operated with consideration for the longer generating period at Mongaup Falls.

Under the current operating mode Rio Reservoir is subject to a daily drawdown and refill regime that ranges from 1.5 to 4.5 feet during the months of March, April, and May. The operating rule curve Fig. B.5 on Page B-19 of Volume I indicates that the reservoir is maintained at a relatively constant elevation from June - February.

#### COMMENT

(1) The dependency of the Rio Project upon upstream operations further supports the need for licenses that require the development and adherence to reservoir operating rule curves that establish daily yields and reliability on the basis of the prevailing hydrologic conditions. Seasonal demands for environmental purposes, recreational needs, flooding potential, and supplemental river flows must be factored into the generating model.

(2) To verify and respond to inquiries regarding compliance with specified flow conditions, the licensee should be required to install and maintain continuous recording pond level sensors and/or flow monitoring devices with remote interrogation capability at the following locations:

- Rio Reservoir
- Rio Bypass
- Mongaup River Below the Rio Tailrace

### FISH AND WILDLIFE

#### FLOW REGULATION

##### General

The major concerns identified by DEC during the consultation process included: rapid water level fluctuations, seasonal and daily flow variations, extreme temperature fluctuations, and anoxic releases from stratified reservoirs.

In addition to identifying the above potential impacts the DEC advised the ORU that operating rule curve and instream flow studies were needed to ascertain and evaluate available resource management alternatives. The scope of the studies was established by DEC and ORU in concert with the U.S. Fish and Wildlife Service (FWS). This information is provided in Exhibit "E", the Appendices to Exhibit E, and ORU's response to FERC staff's request for additional information.

ORU completed the habitat flow analysis portion as requested by FERC and DEC staff. However, ORU elected not to compare the results of the assessments to determine if the optimal flow ranges can be accommodated by the actual watershed yield. As an alternative, ORU employed an estimated monthly median flow as a functional upper limit for a year-around releases schedule.

DEC does not agree with ORU's position that an estimation of pre-project flow conditions should be the governing element in the development of a comprehensive base flow scenario for the three-project generating complex. The results of ORU's instream flow studies when considered with the available hydrologic data, project operational alternatives and resource management opportunities will enable the development of more objective conclusions and recommendations.

DEC fully understands the economic benefits that are derived from ORU's current and proposed peaking operations. However, it is also clear that the implementation of an annual reservoir drawdown rule curve(s) that is less oriented toward seasonal profit motives, will support the development of reliable base flow schedules that are equally responsive to environmental needs, i.e. aquatic, drought, emergency, and recreation, etc.

DEC would not object to the construction and operation of new base flow generating units at the dam discharge sites, at this time, with the provision that the appropriate precautions are taken to maintain public access and minimize the potential impacts associated with fish entrainment and anoxic discharges.

However, the DEC reserves the right to revisit the entire project in the event that ORU proposes to amend one or more of its application(s) to add such facilities at a future date.

Swinging Bridge (No. 10482)

In Table E.3-13 Volume II, the stream segments affected by the operation of the Swinging Bridge Project are described as follows.

Toronto -- "the 9,500-foot segment of Black Lake Creek between the outlet works of Toronto Reservoir and Cliff Lake."

Cliff Lake -- "the 8,000-foot segment of Black Lake Creek between the Cliff Lake spillway and the confluence with the Mongaup River."

Swinging Bridge -- "the approximately 4,000-foot segment of the Mongaup River between the Swinging Bridge Powerhouse and the lowest elevation of the Mongaup Falls Reservoir."

In response to DEC's concerns, ORU proposes to maintain a minimum conservation releases of 10 CFS at Toronto, a 10 CFS at Cliff Lake, and a 30 CFS at Swinging Bridge.

Toronto and Cliff Lake

(1) DEC has determined that ORU's proposal to release ten cfs at both the Toronto and Cliff Lake Dams is sufficient for the continued protection of a desirable coldwater habitat in the affected reaches of Black Lake Creek. However, staff is concerned over the abrupt temperature changes discussed on Pgs. E.3-29-30 of the application. To avoid the potential for sudden stress the ORU should be required to: Release the continuous ten cfs flow from Toronto's lower level gate (hypolimnion) from May 1 to September 30, and to install reaeration structures at the discharge point, if necessary, to ensure compliance with applicable State of New York stream water quality standards, specifically, dissolved oxygen criteria.

(2) Release from the Toronto Dam can range from 10 CFS to 150-200 CFS over a short period of time during the summer drawdown period. During the consultation process DEC requested ORU to evaluate the potential impacts of extreme fluctuations of flow and current on cold water ecosystems. The results of ORU's analysis which is based upon average velocity and depth, is presented in Section 1 (a) pp. 5-17 of Vol I. of ORU's response to FERC's request for additional information. DEC understands that:

\* For brook Trout, flows up to 75 cfs will not create significant adverse hydraulic conditions for juvenile and adult life stages;

\* For brown trout, flows up to 75 cfs would not create significant adverse hydraulic conditions for fry, juvenile, and adult life stages; and

\* For mayfly larvae, flows up to 100 cfs will not create significant adverse hydraulic conditions.

On the basis of the above results, the DEC has determined that a flow of not less than ten cfs or more than 75 cfs is needed to ensure the protection and maintenance of the resident trout fishery and other coldwater ecosystem components in this segment of Black Lake Brook. In addition, the licensee should be required to establish an acceptable ramping rate to further minimize impacts of rapidly changing water quality conditions and the potential for stranding.

#### Swinging Bridge

(1) ORU states in Exhibit B of the application, and in items 4 and 5 of its response to FERC's request for additional information, that daily flow fluctuations ranging from the proposed 30 cfs to 1570 cfs can occur in the 4000 foot-long reach of the Mongaup River below the Swinging Bridge powerhouses, particularly during the summer months.

The following summarizes the results of the habitat flow assessment presented in Item 1(b)(1) of ORU's response to FERC's request for additional information.

\* For brown trout, the amount of weighted useable habitat increases up to 200 cfs and that flows up to 555 cfs would not result in any significant adverse impacts. However, flows in excess of 555 cfs would cause a significant decrease in brown trout habitat due, in part, to higher velocities; and,

\* For mayfly, flows up to 100 cfs created additional available habitat; however, the amount of available habitat declined rapidly as flow increased from 100 to 500 cfs.

On the basis of the above information and available watershed yield data the DEC has determined that a continuous release of 150 cfs is required at the dam to ensure the protection and enhancement of coldwater resources in the bypassed and downstream reaches of the Mongaup River. In addition daily operational discharges in excess of 555 CFS should be minimized, upstream inflow permitting, until the ORU demonstrates that higher station discharge rates are consistent with the desired coldwater resource management objective.

(2) In Exhibit A ORU proposes to install a new base flow release valve in the penstock leading to the unit No 2 powerhouse. The discharge from the new valve should be directed toward the base of the Swinging Bridge dam and the head of the currently dewatered 675-foot reach of the Mongaup River.

(3) DEC understands that water entering the penstocks for power generation is current taken from the oxygen deficient hypolimnion region of the reservoir. Therefore, the project intakes and the proposed base flow release structure should be designed to provide reaeration, if necessary, to meet applicable State of New York stream water quality standards below the tailwater discharges and in the bypassed reaches.

(4) The ORU should also assess the effectiveness of the established base flow regime with regard to impacts associated with rapidly fluctuating discharge rates from Units 1 and 2. ORU should be prepared to study and implement, if necessary, a phased start-up and shut-down schedule (ramping rate) to minimize the potential for adverse impacts to water quality and the dangers of fast rising waters to recreation, and the stranding of fish, etc.

(5) Alarm devices and signage that signal the event of fast rising waters and swift currents should also be included along the swinging bridge tailwaters for safety purposes.

Mongaup Falls Project (No. 10481)

#### Flow Regulation

In Table E.3-13 Volume II the stream segments affected by the operation of the Mongaup Falls project are described as follows:

Mongaup Falls bypass --	"the 2,700-foot segment of the Mongaup River between Mongaup Falls Dam and Powerhouse."
Mongaup Falls powerhouse --	"the 1,450-foot segment of the Mongaup River between the Mongaup Falls Powerhouse and the lowest elevation of the Rio Reservoir."
Black Brook --	"the 5,200-foot segment of Black Brook between Black Brook Dam and the confluence with the Mongaup River."

In Exhibit B of the Application and in items 4 and 5 of its response to FERC's request for additional information, ORU states that daily Monday through Friday flow fluctuations downstream from the Mongaup Powerhouse will range from the 40 cfs proposed base flow to 520 cfs. The results of ORU's habitat-flow

assessment presented in item 1 (d) recommend:

- \* For brown trout, the amount of weighted usable habitat is optimized at a discharge of 120 cfs. Further, flows up to 540 cfs did not appear to significantly affect the amount of weighted usable habitat; and
- \* For mayfly, the amount of weighted usable habitat peaked at approximately 40 cfs, gradually declined until approximately 120 cfs, and then remained constant up to 540 cfs.

#### COMMENTS

(1) On the basis of the above conclusions the DEC has determined that a flow of 80 cfs base flow is needed to protect and maintain aquatic resources in the reaches between the dam and Rio Reservoir. An additional 20 cfs, in the form of a continuous release or leakage, is needed at the powerhouse to mitigate the impacts of daily high flow operations; i.e. rapid fluctuations in temperature, and scouring, etc.

(2) DEC recommends a license condition that requires the ORU to implement an operational mode at Mongaup Falls that activates and deactivates the four 155 cfs units in a phased sequence (ramping rate) that significantly reduces stream bed disturbance and the potential for stranding.

(3) DEC staff recognizes that the relatively mild regional climate and the rapid daily drawdown and refill rates reduce the potential for significant adverse impacts on amphibians and other aquatic organisms that seek refuge in the reservoir substrate during the winter months. Therefore, the current daily fluctuations of 4 feet during November and December are acceptable if they are essential to the licensed operations mode at Swinging Bridge. However, daily reservoir drawdown and refill limits should not exceed one foot during the May 1 to July 15 spawning period.

#### Rio Project (No. 9690)

##### Flow Regulation

The stream segments directly affected by the Rio operation are described in Table E.3-13 Volume II as follows:

Rio Bypass -- " the 8,450-foot segment of the Mongaup River between the Rio Dam and Powerhouse."

Rio Powerhouse -- "the 15,600-foot segment of the Mongaup River between the Rio Powerhouse and the confluence with the Delaware River."

In Exhibit B of the application and in Items 4 and 5 of its response to the FERC request for additional information ORU states that flow fluctuations from the proposed 60 cfs to 870 cfs will generally occur downstream from the Rio powerhouse from Monday - Friday throughout the summer months. The following is the results of the habitat flow assessment presented in Item 1(e).

- \* For the various life stages of brown trout, the estimate of weighted usable habitat increases up to 400-500 cfs and then gradually declines as the discharge approaches the maximum plant capacity of 870 cfs;
- \* For the mayfly and stonefly, the estimate of weighted usable habitat increases rapidly up to 60 cfs, declines rapidly until a discharge of 200-300 cfs is reached, and then only declines gradually as the discharge increases, and
- \* For the caddisfly, the estimate of weighted usable habitat increases gradually until a discharge of approximately 200 cfs and then gradually declines as the discharge increases to maximum plant capacity.
- \* For the two life stages (spawning and incubation) of American shad, the estimate of weighted usable habitat increases rapidly at discharges between 100 and 500 cfs and then increases more gradually between 500 and 870 cfs. No inflection point was attained for either life stage over the range of discharges examined.

#### COMMENTS

(1) On the basis of the above information and available watershed yield data the DEC has determined that a continuous release of 150 cfs is needed at the Rio Dam to reestablish and maintain a coldwater fishery in the 8,450 foot bypassed reach. DEC anticipates that the recommended 150 cfs leakage from the powerhouse, and flows from contributing tributaries will be sufficient to maintain a 170-200 cfs flow downstream from the powerhouse.

(2) The recommended 170 cfs base flow will contribute to a reduction in the severity of the impacts associated with the rapid fluctuation in flow and current during the generation cycle. DEC also recommends the implementation of a sequential start-up and shut-down mode (ramping rate) for units one and two to further reduce the adverse downstream impacts identified with instantaneous on-off operations.

(3) Signal devices or signs should be installed or posted along the streambanks from the powerhouse to the Delaware River

to warn recreational users of the potential danger of fast rising water and swift currents.

(4) DEC does not object to ORU's established daily reservoir drawdown schedule during March and April with the provision that water levels are stabilized within an operating range of one foot by May 15 of each year.

#### Swinging Bridge - Mongaup Falls - Rio

#### ENTRAINMENT AND IMPINGEMENT

During consultation the Applicant was advised that DEC is not interested, at this time, in the active upstream passage of any resident, anadromous, or catadromous fish species at the Rio Mongaup Falls or Swinging Bridge sites. However, ORU was also informed of the need to minimize the impact of entrainment on the downstream movements of fish.

The application states that the three hydroelectric projects do entrain and kill fish and that, during the winter months, this action provides forage for overwintering bald eagles. Item 3, pg. 133 of the additional informational response to FERC proposes to retain the existing trash racks on a year around basis to maintain the forage base and expand the seasonal occupancy of the eagles.

DEC recognizes the significance and contribution of the current operations to the sustenance of the overwintering eagles. However, ORU was also informed that, at the present time, bald eagles are not utilizing this forage base at other times of the year. It is believed that this is due, in part, to the availability of a variety of other food sources.

DEC recommended that ORU install trash racks with one inch spacing between the bars to minimize the effects of acknowledged entrainment at all three project sites. ORU then proposed that low dissolved oxygen concentrations in the vicinity of the deep water intakes would discourage fish from entering the turbines.

#### COMMENT

ORU has not substantiated this claim. Therefore, the license should include a provision that will require the licensee to:

- (1) maintain the current trash racks and trash rack configuration from November 16 to April 15 to permit the unrestricted entry of alewife.
- (2) Install and maintain trash racks with one inch clear spacing from April 16 through November 15. The racks shall be designed to ensure that the approach velocity in front of the

racks does not exceed two cfs.

DEC has no objection to the installation of interchangeable or overlapping rack configurations or an alternative proposal that would provide the same level of mitigation.

#### ENDANGERED SPECIES AND CRITICAL HABITATS

The Upper Delaware Basin, particularly the Mongaup River watershed, is one of the most important overwintering areas for bald eagles (*haliaeetus leugoocephalus*) in the Northeastern United States (Fraser 1988). The increasing usage of the Mongaup watershed by wintering eagles has been attributed to a combination of a reliable winter food source associated with the operation of hydropower projects, suitable habitat for roosting and perching and relatively little human disturbance. The DEC has identified this area to be of such significance to the State's endangered species program that a land acquisition plan has been prepared by DEC which calls for acquiring from Orange and Rockland Utilities and its land development subsidiary, Clove Development Corporation (CDC), easements that will ensure the protection of significant habitat areas.

The Applicant fails to provide detailed descriptions of the significant habitat areas which are important to the bald eagle, golden eagle, osprey, and other threatened or endangered species in the Mongaup Watershed. Rather, the application makes only brief mention of their occurrence and ongoing measures which will be continued to protect endangered and threatened species in the project area.

On Pg. E.3-102 ORU states that "It will take steps to ensure that suitable habitat and forage will continue to be provided." DEC supports this proposal; however, it is noted that CDC is proposing to develop a three-phase subdivision (Lakeside Forest) on lands immediately adjacent to the Swinging Bridge Reservoir, the connecting segment of the Mongaup River, and the Mongaup Falls Reservoir. Phases 2 & 3 of Lakeside Forest are considered by DEC to be within a critical habitat area.

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Fraser, J.D. 1988 A Strategy for Protecting Bald Eagles in Sullivan County, State of New York. A study prepared for the Catskill Center for Conservation and Development, Arkville, NY 12046. By J.D. Fraser, Virginia Polytechnic and State University, Blacksburg, Virginia, 46 pages.

Nye, P.E. and L.H. Suring. 1978. Observations concerning a wintering population of bald eagles in an area of southeast of New York. New York Fish and Game Journal 25(2): 91-107.

The narrow 50 foot-wide buffer strip ORU proposes to maintain between the water surfaces and the development activities contemplated by CDC will not ensure the continued protection of identified eagle habitat. Therefore, the license should include provisions that require the licensee to:

(1) Continue to consult with the DEC and the U.S. F&WS regarding the need to revise the project boundaries to include those adjacent CDC properties that are considered to be critical to the preservation of this unique environmental niche; and

(2) Implement all applicable elements of an endangered species management program for bald eagles on all project lands and waters in the Mongaup River watershed. This program shall be developed by ORU in cooperation with the DEC and the US Fish and Wildlife Service. It shall include, but not be limited to, identification and protection of significant habitat areas for both wintering and year round birds, project operations, project construction and maintenance, enhancement opportunities, public access, and recreational activities. The program shall be implemented within one year of issuance of the license.

No other unacceptable long range impacts on known critical habitats, wetlands, or threatened or endangered species are expected to occur as a result of the continued existence and operation of this project.

#### RECREATION

##### General

Throughout Section E.5 of the application, ORU refers to the success and continuation of the cooperative agreements with the DEC which allow limited boating, fishing, and hunting opportunities on project lands and adjacent properties owned by CDC. DEC appreciates the cooperation it has received from ORU and CDC in the past. However, it is our understanding that FERC's licensing process provides for refinement and enhancement of all project related public recreational opportunities.

On Pg. E.5-14 of the application ORU states that: "Orange and Rockland proposes to maintain existing recreation facilities in cooperation with the DEC." DEC will continue to work with ORU regarding the management of affected fishery resources and endangered species. However, it is DEC's position that all other recreational activities should be developed and maintained by ORU in accordance with the articles and conditions attached to the FERC licenses.

In general, DEC cannot endorse a horsepower (HP) limit on boats using Rio, Mongaup, and Toronto Reservoirs unless it is applied equally to all boaters, including company personnel. DEC

also recommends increasing the HP threshold to 10 HP if the current restriction is continued. This change will accommodate most of today's popular small fishing boat motors.

The opportunities to develop an access trail system to project lands along the reservoir perimeters is difficult to ascertain without the aid of a detailed topographic map. Project boundaries are generally depicted by a line that is drawn 50 feet distant and parallel to a specified contour. For example, the project boundary adjacent to CDC properties at Mongaup Falls Reservoir is delineated as a line 50 feet from the 940 feet (USGS) contour. The 940 contour is five feet above the uppermost level of the power pool. It appears that there is sufficient area available between the waters edge and the project perimeter for ORU to include hiking and angler access trails. Appropriate warning devices and/or signage should be installed at all access sites that are subject to fast rising waters and swift currents.

DEC's comments and recommendations regarding the recreational requirements for the specific project areas are as follows.

#### SWINGING BRIDGE PROJECT (RECREATION)

##### TORONTO RESERVOIR -

ORU's proposal to continue to recognize the Iroquois Hunting and Fishing Club's exclusive priveledges to a major portion of the water surface of Toronto Reservoir is not consistent with State Policy or federal licensing objectives. In addition, it would be extremely difficult for the enforcement agencies to ensure compliance with such a condition under the terms of the license.

To further enhance fishing opportunities at Toronto Reservoir, the DEC recommends the inclusion of provisions in the license that require ORU to:

- (1) Obtain public fishing rights to that portion of the reservoir surface that is presently controlled by the Iroquois Hunting and Fishing Club.
- (2) Develop and maintain a 10-car parking/trailer lot and launching ramp at the terminous of Moscoe Road on the northeastern arm of the reservoir; and
- (3) Construct and maintain a new public access site on the eastern side of the reservoir. The access should include a boat launching ramp and a parking lot to accommodate up to 10 cars with boat trailers.

##### Black Lake Creek

The 9500 foot segment of Black Lake Creek that carries

supplemental releases from Toronto Reservoir to the Cliff Lake diversion is not considered by ORU to be part of the project area. The stream and adjacent property is owned by ORU's development subsidiary CDC.

DEC considers Black Lake Creek to be a fully regulated natural extension of the Cliff Lake diversion. It is, without question, essential to the Swinging Bridge Operations and, therefore, it should be included in the project license. The licensee should be required to:

- (1) Include the Toronto and Cliff Lake Segments of Black Lake Creek in the appropriate license. These segments should include riparian buffer strips of sufficient width to ensure public access to the entire length of the stream throughout the term of the license;
- (2) construct and maintain a five car parking area in the vicinity of the Toronto Reservoir outlet; and,
- (3) construct and maintain a five car parking area or pull-off in the vicinity of the road crossing midway between the outlet works and Cliff Lake.

#### Cliff Lake

The ORU states on Pg. E.5-14 that "Due to increasing and year-round use of the Cliff Lake area by bald eagle", "Orange and Rockland will not provide access to this impoundment." DEC understands ORU's concern regarding the protection of the bald eagle. However, in this instance the provision for access to Cliff Lake will not interfere with established flight patterns and other activities of the birds. The license should include provisions for:

- (1) The development and maintenance of a parking lot and cartop boat launching area in the vicinity of the Cliff Lake dam; and
- (2) Recreational fishing access and hiking within the 50- foot wide project perimeter that borders the reservoir. The project limits parallel the waters edge and the 1077 foot contour. Full pond elevation is 1071.1 feet (USGS). (The actual overall width and physical characteristics of the perimeter strip are unknown.

#### Swinging Bridge Reservoir

O & R is proposing to continue to provide public access to the 1000-acre reservoir on a year around basis. DEC recommends that ORU should be required to submit a detailed recreational plan that includes the following elements. (1) Improvements to and maintenance of the present boat launch ramp on the east shore

of the reservoir. The parking area for the ramp should be expanded to accommodate an additional 25 cars with trailers, terrain permitting.

(2) Provision for access trails for shore fishing and hiking to reservoir areas contained within the 50-foot project perimeter line. The area in question extends from a full pond elevation of 1070 feet, USGS.

(3) The development and maintenance of a new recreational access area on the west shore of the reservoir for boating, fishing and picnicing.

(4) The provision for two new angler access sites on the Mongaup River between Swinging Bridge Dam and Mongaup Falls Reservoir (a) A five-car lot situated about half-way between and the reservoir. (b) a five car-lot in the vicinity of the Swinging Bridge power house.

(5) Provisions parking and angler access to Black Lake Creek about midway between Cliff Lake and the Mongaup River.

#### MONGAUP FALLS PROJECT (RECREATION)

##### Mongaup (Falls) Reservoir

This 120-acre reservoir is currently open to the public between 4/1 and 11/30. DEC recommends that the licensee be required to:

(1) Improve the existing boat launching ramp at the North end of the Reservoir, and expand the parking lot to accommodate 10 vehicles and trailers.

##### Black Brook

Permit angler access to Black Brook via informal pulloffs along Plank Road.

##### Mongaup River

Develop and maintain two access sites between Mongaup Falls dam and Rio Reservoir: (1) A five-car parking lot situated mid-way between Rio Reservoir and the Mongaup Falls Powerhouse; and (2) A five-car parking lot in the vicinity of the powerhouse to provide access to the Mongaup River above the powerhouse.

ORU's proposal to close the Rio and Mongaup Falls Reservoir between December and March 31 in order to protect overwintering eagle habitat is acceptable to the DEC. DEC recommends that such restrictions apply to all persons except ORU maintenance personnel visiting the areas in the performance of their duty.

RIO PROJECT (RECREATION)Rio Reservoir

ORU has also agreed to provide summer access to the Rio Reservoir and the bypassed reach of the Mongaup River between the Rio dam and powerhouse. The proposed access should include the following additional elements or improvements:

- (1) Expand the existing five-car cartop boat access site on Rio Reservoir, situated just west of Rio dam, to accommodate up to ten cars. This site may be utilized as well by fisherman seeking access to the upper end of the Rio bypassed reach.
- (2) Improve and expand the existing fifteen boat launch ramp and parking area at the upper end of Rio Reservoir.

Rio Bypass (Recreation)

- (1) Develop and maintain a five car parking area with trails to provide angler access to the bypassed reach at the base of the dam.
- (2) Develop and maintain a new five car parking area or pulloff along the penstock Road, about midway between the dam and powerhouse. Improvement should include trails to provide angler access to the bypassed reach.
- (3) Develop and maintain a new ten car parking lot and access trails in the vicinity of the powerhouse to provide angler and whitewater boating entry to the Rio Tailrace (See whitewater recreation section).

MONGAUP RIVER (RIO DAM TO THE DELAWARE RIVER - RECREATION)

- (1) Improve and maintain the four existing fishing (angler) access sites that were initially developed pursuant to the 1976 cooperative management agreement with DEC. The sites are situated between the Rio Powerhouse and the Route 97 bridge.
- (2) In addition to the above the licensee should include ORU's offer to cooperate with the appropriate agencies regarding the development eagle viewing stations in the vicinity of Swinging Bridge/Mongaup Falls Reservoir and the Mongaup Falls/Rio Reservoir reaches.
- (3) Section E.5 identifies the potential conflicts between white water boating and fishing activities on the Lower Mongaup. ORU alludes to the ORU/DEC cooperative fish and wildlife management agreement and states that, "Whitewater boating is not permitted pursuant to the agreement." DEC does not concur with ORU's interpretation of the agreement. Whitewater activities could be permitted if the consent of the Riparian owner were given. ORU,

as that owner, has not given its consent.

ORU indicates in Section E.5 that its "primary concern is maintaining the Mongaup as a first rate cold water fishery". In order to protect this fishery, ORU proposes to continue its long-standing policy to restrict whitewater activities on the Lower Mongaup. Comments listed by ORU in support of its position include: non-compatibility with fisherman, insufficient base flows, impacts on cold water regime, and the fish would be driven from the river. DEC wishes to note that the above concerns have not been substantiated in the Application and that DEC base flow and operational recommendations will provide adequate mitigation for the fishery.

As previously stated DEC recommends that ORU be directed to construct and maintain a ten car parking area in the vicinity of the Rio Powerhouse and service road. A turn-around with a drop zone should be provided in the event that physical constraints e.g. terrain, prohibits the development of sufficient parking. The boating amenities should also include groomed trails to the waters edge and stabilized slopes to facilitate the launching of canoes, rafts, and kyaks.

In summary, ORU should be required to submit, within one year from the date of licensing, a comprehensive Recreational Development Plan that reflects DEC and other agency recommendations for all three projects. Unrestricted whitewater access and special or designated releases for whitewater activities should also be coordinated with the American Whitewater Affiliation.

#### WATER QUALITY

##### General

Preliminarily, DEC has determined that the operation of the project in accordance with the aforementioned recommendations are not likely to contravene the state water quality standards that are applicable to the Mongaup River. DEC's final determinations regarding water quality issues will be submitted in accordance with Section 401 of the Clean Water Act.

#### CONSTRUCTION

Construction activities and related near-term impacts associated with development in New York State are generally addressed in detail in conditions attached to applicable DEC permits. However, hydroelectric development is somewhat unique. Federal involvement dictates that final drawings and

specifications, e.g. dam permit requirements, may be provided for review and approval after the submission of our final comments to FERC and the issuance of the requisite Section 401 Water Quality Certification.

ORU should be required to submit an environmental management and construction plan(s) (EM&CP) that identifies and addresses daily and long term construction activities with regard for potential adverse impacts and recommended proposals for mitigation. Of specific concern to the DEC is the need for detailed drawings and specifications that include timing of the anticipated scope of work and construction schedules for the various project elements.

Specifically the environmental management and construction plans should show existing and proposed project elements and would include but not necessarily be limited to the following:

Site Plan(s)

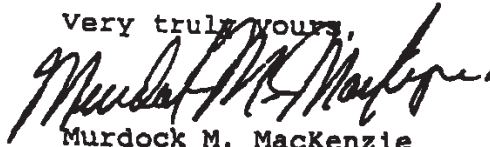
- \* Project limit lines and property lines
- \* Grading limit lines
- \* Staging areas
- \* Access roads
- \* Existing and finished contours
- \* Spot elevations were appropriate
- \* Erosion and sediment control measures
- \* Areas to be topsoiled, seeded, and or planted (identify plant species and seed mixtures, etc.)

Engineering Plan(s) and Specifications

- \* Scope of proposed excavation
- \* Disposal areas
- \* Necessary sections and elevations
- \* All structural elements including any new switchyards, transmission line, aeration structures etc.
- \* Sections and elevations including final spot elevations

THE OPPORTUNITY TO PARTICIPATE IN THE REVIEW OF THESE  
PROJECTS IS APPRECIATED. PLEASE DO NOT HESITATE TO HAVE YOUR  
STAFF CALL ME AT (518) 457-7418 IF THEY HAVE ANY QUESTIONS  
REGARDING THIS LETTER.

Very truly yours,



Murdock M. MacKenzie  
Chief, Alternate Energy Section

MMM/djp

ccc: L. Cashell - FERC  
F. Springer - FERC  
M. Robinson - FERC  
M. Inwald - FERC NY  
L. Corin - USFWS  
A.N. Miller - EPA NY  
J. Seebode - COE NY  
G.S. Peter Bergen - ORU



IN REPLY REFER TO:

## United States Department of the Interior

NATIONAL PARK SERVICE

MID-ATLANTIC REGION  
143 SOUTH THIRD STREET  
PHILADELPHIA, PA. 19106



L74 (MAR-PD)

SEP 06 1989

John A. Humbach  
Professor of Law and Associate  
Dean for Academic Affairs  
Pace University  
78 North Broadway  
White Plains, New York 10603

Dear Mr. Humbach:

This responds to your letter dated July 12, 1989 concerning public access to the Mongaup River below Rio Dam; specifically, use of this river segment for recreational boating, including whitewater activities.

The National Park Service (NPS) comments you refer to in the second paragraph were prepared in reviewing Orange and Rockland Utilities' application to the Federal Energy Regulatory Commission (FERC) for a major license for the Mongaup Basin hydroelectric projects (FERC #10482, 10481, and 9690), Sullivan and Orange Counties, New York (ER 89/374). These comments were prepared with the benefit of input from the Superintendent of the Upper Delaware Scenic & Recreational River as well as the various attachments to your letter, which were included in the applicant's seven volumes of Additional Information, May 12, 1989 (Volumes I & II).

In keeping with established procedures for environmental reviews, NPS comments for this project are incorporated in the final Department of the Interior comments which were transmitted to FERC by the Office of Environmental Project Review (OEPR). A copy of the Departmental comments is enclosed. The NPS input begins at the bottom of page 5 and ends near the bottom of page 6.

The concern of the National Park Service with regard to whitewater boating on the lower Mongaup River is not with the boating use as such, but rather with the establishment of a river access point at the Mongaup's confluence with the Delaware River, whether it be to support whitewater activity on the Mongaup or boating or any other recreational activity on the Delaware River. I believe you have the documentation for the rationale behind this decision.

We still believe the use of a permit system for recreational boating on the lower Mongaup River should be established since the level of difficulty for this segment would make it unsafe for novice or unskilled boaters or the experienced boater not having the proper equipment.

We hope this clarifies the National Park Service's position regarding recreational boating on the lower Mongaup River. If you wish to discuss the matter further, you may contact John Hutzky, Superintendent of the Upper Delaware Scenic & Recreational River, at (717) 729-8251.

Sincerely,



James W. Coleman, Jr.  
Regional Director

Inclosure  
ER 89/374 Comments (7/14/89)



November 8, 1989

Mr. Dean L. Shumway  
Director, Division of  
Project Review  
Federal Energy Regulatory Commission  
825 North Capitol Street, N.E.  
Washington, D.C. 20426

Re: Orange and Rockland Utilities, Inc., Project Nos.  
9690, 10481, and 10482

Dear Mr. Shumway:

On August 28, 1989, you took the very positive step of writing to Orange and Rockland Utilities, Inc. in reference to the above-referenced projects to request that they provide additional information concerning potential releases for whitewater recreation. On September 26, 1989, Orange and Rockland wrote to you requesting that the Commission stay the requirement to perform whitewater release studies and delete the requirement "upon receipt of DEC's revised comment letter." While American Rivers has no objection to a brief stay of the study requirement, American Rivers strongly objects to the request that the Commission delete the study request upon receipt of the revised DEC comment letter.

The basis for the request for a stay and deletion of the study requirement is the statement by Orange and Rockland that it has agreed to provide releases for recreational boating "that will satisfy the requests made by the consultation agencies as well as the various whitewater boating groups with which it has consulted." American Rivers commends Orange and Rockland for its willingness to provide whitewater releases. Nonetheless, we object to Orange and Rockland's request that the Commission delete the study requirement before all of the parties have had an opportunity to review the DEC comment letter and determine for themselves whether their concerns have been "satisfied." To date, American Rivers has not received any letter from DEC memorializing any type of agreement concerning whitewater releases.

Only the parties who made the requests for whitewater releases can properly determine whether their requests have in fact been "satisfied." They can only make that determination, of course, after they receive the DEC letter and have had an

801 PENNSYLVANIA AVE. S.E.  
SUITE 303  
WASHINGTON, D.C. 20003  
202-547-6900

Mr. Dean L. Shumway  
November 8, 1989  
Page 2

opportunity to review it. Furthermore, the various parties seeking whitewater releases made different recommendations to the Commission concerning the timing and quantity of releases. Has the agreement with DEC satisfied the requests of some parties and not others? Again, this can only be resolved if the parties have an opportunity to review the agreement.

Accordingly, American Rivers requests that the Commission deny the request of Orange and Rockland in its September 26 letter that the Commission delete the requirement of whitewater release studies. The Commission should address the issue whether or not this study requirement can properly be eliminated after all parties have had an opportunity to review the agreement and submit their comments to the Commission.

Thank you very much for your consideration of our concerns.

Sincerely,

  
John D. Echeverria  
General Counsel

cc: Service List

New York State Department of Environmental Conservation  
50 Wolf Road, Albany, New York 12233



Thomas C. Jorling  
Commissioner

January 16, 1990

The Honorable Lois D. Cashell  
Secretary  
Federal Energy Regulatory Commission  
825 North Capitol Street  
Washington, D.C. 20246

RE: CONSULTATION Mongaup River Hydroelectric Projects  
Swinging Bridge - FERC Project No. 10482  
Mongaup Falls - FERC Project No. 10481  
Rio - FERC Project No. 9690

Dear Secretary Cashell:

On August 4, 1989 the New York State Department of Environmental Conservation submitted comments and recommendations to your office in response to the Federal Energy Regulatory Commission's (FERC) April 5, 1989 Notice of Application for a Major License (over 5 MW) for the referenced projects.

Orange and Rockland Utilities Inc. (ORU) did not agree with a number of DEC's recommendations; thus we continued to consult in an effort to resolve the outstanding differences. The following revisions and supplemental recommendations to our August 4, 1989 comment letter reflects the results of our ongoing dialogue with respect to the following issues.

#### Project Boundaries

The State of New York is currently negotiating with ORU to purchase easements or fee title to certain ORU properties that are situated adjacent to or within the referenced project(s) boundaries. FERC will be provided with a detailed description of the parcels involved in the acquisition when the transaction is completed. In the meantime FERC is advised that DEC will assume full responsibility for the preservation and management of fish wildlife resources within these areas.

The anticipated easement and fee ownership of these ORU lands by the state will prevent any further encroachment into the area by private interests. In addition DEC will be in a position to freely implement and regulate land use programs that are consistent with the protection of critical Bald Eagle (Haliaeetus leucocephalus) habitat. Therefore, DEC's endangered species recommendations contained in paragraphs (1) and (2) on page 16 of the August 4 letter are withdrawn with the following exception.

\* ORU should be required to continue to consult with the DEC regarding project operations, construction and maintenance activities, and project related public access and recreational provisions that have the potential to influence both wintering and year around birds.

With regard to the land being acquired by DEC, we are attaching a map entitled "Mongaup Valley Bald Eagle Wintering Area." The map generally outlines the interests being purchased by DEC. In addition we are also forwarding for your information the Agreement of Sale between ORU, its solely-owned subsidiary, Clove Development Corporation, and the Trust for Public Lands in New York, Inc. (representing DEC) dated September 12, 1989.

All other DEC licensing recommendations that pertain to the use and inclusion of non-public project related components within and adjacent to the project limits, as specified in the application, shall remain as stated in our August 4 letter.

#### Flow Regulation

The following changes to the base flow recommendations in our August 4 letter were derived as a result of our ongoing discussions with ORU. The revised flows reflect determinations that are based upon a balanced evaluation of resource management objectives (e.g. stream fishability), operating constraints, and energy demand. Copies of the Section 401 Water Quality Certificates issued by DEC on September 11, 1989 are also attached for your information.

#### Swinging Bridge Project Pg.10

The first sentence in the last paragraph should be changed to read: On the basis of the above information and the available watershed yield data the DEC has determined that a continuous release, not to exceed 100 cubic feet per second (CFS), is required at the dam to ensure the protection and enhancement of coldwater resources in the bypassed and downstream reaches of the Mongaup River. This requirement is reiterated in the attached Section 401 Water Quality Certification, dated September 11, 1989, as follows:

The 100 cfs base flow is released from the Swinging Bridge Dam to protect the quality of the water and the dependent coldwater biota in the affected bypassed and tailwater reaches of the Mongaup River, or a lesser base flow to be approved by DEC in accordance with the following process: (i) the lesser flow shall not be less than 60 cfs and shall be allowable when and only for so long as reservoir inflows fall below 100 cfs for a continuous period of time to be established to prevent excessive frequency or duration of occurrence of flow reductions so as to prevent adaptation of the affected aquatic ecosystem to flows less than 100 cfs; (ii) the determination shall be made on the

basis of submittals by ORU to include appropriate hydrological, biological, and water quality studies and upon approval, shall take the form of an amendment to this Certification.

#### Mongaup Falls Project Pg. 12

The first sentence in paragraph under the heading COMMENTS should be changed to read: on the basis of the above conclusion the DEC has determined that a base conservation flow, not to exceed 70 CFS, is needed to protect and maintain aquatic resources in the reaches between the dam and Rio Reservoir. The above flow requirement was specified in the attached Section 401 Water Quality Certification, dated September 11, 1989, as follows:

A 70 cubic feet per second (cfs) base flow is released on a continuous basis from the Mongaup Falls Dam to protect the quality of the water and the dependent coldwater biota in the affected bypass reach of the Mongaup River, or a lesser base flow to be approved by DEC in accordance with the following process: (i) the lesser flow shall not be less than 60 cfs and shall be allowable when and only for so long as reservoir inflows fall below 70 cfs for a continuous period of time to be established to prevent excessive frequency or duration of occurrence of flow reductions so as to prevent adaptation of the affected aquatic ecosystem to flows less than 70 cfs; (ii) the determination shall be made on the basis of submittals by ORU to include appropriate hydrological, biological, and water quality studies and approval, shall take the form of an amendment to this Certification.

#### Rio Project Pg. 13

"The first sentence in paragraph (1) under the heading COMMENTS should be changed to read: on the basis of the above information and available watershed yeild data the DEC the DEC has determined that a base conservation flow, not to exceed 100 cfs, is needed at the Rio Dam to re-establish and maintain a cold water fishery in the 8,450 foot-long bypassed reach. This flow requirement is specified in the attached Section 401 Water Quality Certification, dated September 11, 1989, as follows:

A 100 cubic feet per second (cfs) base flow is released on a continuous basis from the Rio Dam to protect the quality of the water and the dependent coldwater biota in the affected bypass reach of the Mongaup River, or a lesser base flow to be approved by DEC in accordance with the following process: (i) the lesser flow shall not be less than 60 cfs and shall be allowable when and only for so long as reservoir inflows fall below 100 cfs for a continuous period of time to be established to prevent excessive frequency or duration of occurrence of flow reductions so as

to prevent adaptation of the affected aquatic ecosystem to flows less than 100 cfs (ii) the determination shall be made on the basis of submittals by ORU to include appropriate hydrological biological, and water quality studies and upon approval, shall take the form of an amendment to this Certification.

The natural resource benefits associated with the land acquisition project compensate for the incremental benefits to aquatic resources afforded by the difference between the minimum flows recommended in our August 4, 1989 consultation comment letter and those set forth in this letter and the attached water quality certificates. The lower flows incorporated in the water quality certificates will support a cold water fishery resource albeit at reduced levels of productivity and with reduced distribution throughout the stream system. These reductions in aquatic benefits must be evaluated in context with the public benefits that will be derived from the total acquisition package.

#### White Water Access

Our August 4 comment letter made general recommendations regarding white water recreational opportunities below the Rio powerhouse. After further consultation with ORU, DEC has determined that the following site specific provisions should be attached as conditions to the FERC license that is issued for this project. These provisions should be addressed in greater detail in a Comprehensive Recreational Development Plan that evaluates and accommodates agency and user (paddlers) interests.

(1) ORU should be required to provide unrestricted daytime access for vehicles to a parking area to be constructed by ORU in the immediate vicinity of the Rio Powerhouse.

(2) ORU should be required to provide and maintain, at project cost, a surfaced pedestrian access trail from the new parking area to a new put-in area (canoes and kayak) immediately below the project trailrace.

(3) Amenities at the put-in area should include: picnic tables, hibachies, trash receptacles, porta johns, and a bulletin board that provides daily river information, a map, and a visitors sign in sheet.

(4) In addition to midweek peaking flows ORU should be required to establish a weekend generating period for recreational boating purposes. Operations should be scheduled for a continuous four hour period on alternate days

on alternate weekends from April 1 through October 31. The DEC Reservoir Releases Manager should be notified at least three days in advance of the anticipated release to facilitate coordination with other involved parties.

(5) ORU should be required to publish a weekly schedule of their anticipated daily operations. A telephone hotline that provides updated information should also be established at project cost.

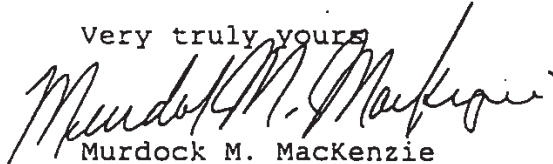
The above whitewater accommodations and other recreational amenities that are ultimately developed pursuant to ORU's Comprehensive Recreational Development Plan and the FERC licenses shall be constructed and maintained at project cost. However, DEC will oppose the condemnation of any of the adjacent land that is currently being acquired from ORU and CDC for the purpose of project related improvements. As an alternative ORU should continue to consult with DEC regarding a cooperative agreement that permits ORU to utilize these lands on a limited basis, as necessary, to fulfill its assigned recreational obligations.

#### Entrainment and Impingement

ORU should be required to complete, within one year from the date of issuance of the licenses, a study that is designed to determine the significance of entrainment at the Swinging Bridge, Mongaup Falls and Rio sites. The license should ensure continued consultation with DEC regarding the performance of the studies and, if necessary, the provisions for mitigation.

The continued opportunity to participate in the review of these projects is appreciated. Please do not hesitate to have your staff call me at (518)457-7418 if there are any questions.

Very truly yours



Murdock M. MacKenzie  
Chief  
Alternate Energy Section

MMM:lk  
Distribution attached

SERVICE LIST

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Mr. Leonard Corin

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PACE UNIVERSITY

NEW YORK • WESTCHESTER  
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SCHOOL OF LAW

914-422-4239

RECEIVED

MAR 14 1990

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

78 NORTH BROADWAY  
WHITE PLAINS, N.Y. 10603

March 9, 1990

Mr. Stan Hojnacki, Editor  
Tri-State Gazette -- Port Jervis  
FAX 914-858-8484

Re: Boater Access to Mongaup River

Dear Mr. Hojnacki:

There seems to be an orchestrated effort to spread erroneous information about whitewater boating on the Mongaup River. As *pro bono* attorney for canoe and kayak clubs that seek to use this superb whitewater stream, I would like to set the record straight.

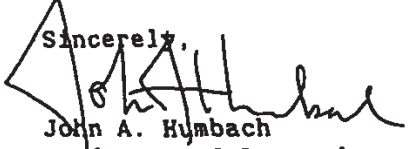
I have heard it alleged that whitewater boaters want all kinds of "improvements" in the lower Mongaup area -- facilities that would destroy the pristine nature of the area, impair it as wildlife habitat, create large stretches of pavement and, in short, convert the lower Mongaup into a semi-developed park. These statements are *entirely false*.

After we filed our legal papers, we had discussions with representatives of Orange and Rockland Utilities, Roger Metzger (914-577-2782) and Bob Kosier (914-577-2582). We agreed that the only things boaters want at the river are access, use of an existing driveway to the powerhouse at Rio, and permission to park (plus a small sign) at the powerhouse. Note that the powerhouse area is essentially industrial -- hardly pristine. *We ask for no changes whatsoever anywhere else in the Mongaup area or pristine gorge.*

Whitewater boaters tend to be very ecologically minded people. We do not litter and we do not leave tracks. The risks of the sport are, if anything, less than the risks of fishing whitewater in wading boots.

Many other whitewater tributaries to the Delaware, such as the Lackawaxen, Lehigh and Tohickan, have provided opportunity to boaters for years without problem. It would be a terrible wrong if the spreading of falsehoods could keep the Mongaup out of bounds. Please consider this matter carefully.

Sincerely,

  
John A. Humbach  
Professor of Law and  
Associate Dean  
for Academic Affairs



## Kayak and Canoe Club of New York

346 East 15th Street  
New York, N.Y. 10003  
April 27, 1990

AC-111

MAY 1 1990

G.R.U. INC.  
ENVIRONMENTAL SERVICE  
DEPARTMENT

Representative Benjamin Gilman  
2185 Rayburn Building  
Washington, D.C. 20515

Dear Representative Gilman:

I was among those who filed an Intervention with the Federal Energy Regulatory Commission (FERC) to open up the Mongaup River to canoeists and kayakers. Boaters, many of whom are constituents of yours, are upset about having been kept off this river for many years. Mr Phillip Chase, a fisherman, is opposing our initiative. I understand from speaking with Mollie in your Middletown office that you are familiar with the situation.

FERC, with the concurrence of DEC, has ordered Orange and Rockland to conduct a whitewater test on the river on May 19, 1990, and O&R has requested the boaters, who are party to the FERC intervention, to perform the test. It is therefore a completely legal activity, sanctioned by both Federal and NY State agencies. Both boaters and Mr. Chase and his friends have become very heated about the issue. I am enclosing an article from the March 15, 1990 River Reporter (copy enclosed) in which Mr. Chase is reported to threaten "...a physical confrontation between anglers and kayak enthusiasts..." "Not denying the possibility of confrontation, Chase said his club may fill the river with fisherman[sic] on the day of the test."

I am requesting you to use your good offices to get both sides to meet with you as mediator in an effort to resolve our differences or at least to work out mutually agreed-upon guidelines to disagree in an adult, civil way. Kayakers are not intimidated at all by these threats, but I feel strongly that at a time when our rivers are under attack on so many sides by dam builders and developers, it is almost criminal for us to fight each other. We should be working together to save the few free-flowing rivers we have left.

Both John Humbach, who is representing the American Whitewater Association and I, representing the Kayak and Canoe Club of New York, stand ready to meet with Mr. Chase and you at a time convenient to you. Please help us avoid a situation that would be damaging to river conservation.

*A Member Club of the American White Water Affiliation  
An Activity Club of the American Canoe Association*

thank you for your kind attention. I look forward to hearing from you soon on this matter

Sincerely yours,

Ken Fischman

(212) 228-5753 (evenings)  
((212) 960-2524 (days)

cc: D. Hulse  
J. Humbach  
/ R. Kosior  
B. Quick  
GP11



## Kayak and Canoe Club of New York

346 East 15th Street  
New York, N.Y. 10003  
May 3, 1990

### MONGAUP WHITEWATER TEST

Saturday, May 19, 1990

Dear *Bab*:

You are invited by KCCNY and AWA to take part in the WW Test of the Mongaup River, which will take place on Saturday, May 19, 1990. This test was ordered by the Federal Energy Regulatory Commission (FERC) and sanctioned by the New York State Department of Environmental Conservation (DEC). We will be the guests of Orange & Rockland Utilities (O&R), and are the first boaters to legally paddle the Mongaup in many years. For this privilege O&R expects us to paddle the river twice, with two different volumes of water releases, and rate the difficulty of the river as a whole and of its individual rapids. We must also sign liability releases for O&R.

This will be a closed event. O&R will only allow those people whose names are on the Gate List to participate. I have heard rumors that some people think the river will be open to everyone. To avoid some paddlers coming long distances only to be disappointed, please spread the word that it is by invitation only.

The schedule is as follows:

9:00AM	Meet at Homer's Diner in Port Jervis and caravan to put-in
9:30AM	Meet at put-in (see enclosed map)
10:00AM-12:00PM	1st test on river (1 turbine release)
12:00PM- 1:30PM	Shuttle back to put-in, Lunch, and filling out analysis forms
1:30PM- 3:30PM	2nd test on river (2 turbine release)
3:30PM- 4:30PM	Shuttle back to put-in and filling out analysis forms for second run

Please fill out the RSVP postcard and send it to me. This will signify that you agree to do the test. See you on the River.

Yours for Good Paddling,

*Ken Fischman*

Ken Fischman  
(212) 960-2524 (days)  
(212) 228-5753 (eve)

cc: R. Kosior ✓  
J. Humbach  
MONGP13

*A Member Club of the American White Water Affiliation  
An Activity Club of the American Canoe Association*

[illegible]

RECEIVED THE DIRECTOR  
FBI WASHINGTON  
MAY 14 1990

I believe the many colors of the kayaks (blue, reds, oranges) will visually pollute this scenic recreation area. I also believe the wildlife will suffer from this intrusion into their environment. I am also concerned about the lack of facilities. There are none next to this river. Access to hikers and others is difficult. The terrain is dangerous and if in a life threatening emergency, medical and other rescue personnel would not be able to help. Cliffs about this river. The only way down is by helicopter or by foot. I think allowing kayaking on this river will create a dangerous situation for all parties. Furthermore, there are no toilets and other facilities available.

am also concerned about the fact that the kayakers would have access to the power station and they are also asking the power station to release water for their sport. For the last twenty years, fly fishermen haven't been able to predict water levels. If the water level is high, fly fishing is non-existent because you cannot wade the river. The high water level is not conducive to fly fishing. What right do a choice few have, that I have only seen on three occasions, to ask for water level releases so they can partake in their particular sport? The fly fishermen have taken their chances and risks by the water fluctuating. Why should the fly fishermen be penalized by not being able to fish on the river on the weekend because of a few chosen kayakers? Let them enjoy the Delaware River or other nearby white water facilities.

I believe permitting them on this river and even accomodating them on this river would be a grave mistake. It would create bad will in the community, harm the environment, and many agencies would be liable because of possible accidents. When there is no proper supervision on the river, there is always someone to sue.

Mr. John Hutsky  
Page Two  
May 9, 1990

I hope you take the strong position of opposing kayaking on the lower Mongaup river. This community will support your position. I look forward to your response. I can be reached during the day at (201) 727-0727.

Thank you for your time.

Sincerely,

A handwritten signature in cursive script, appearing to read "Phil Schepel".

Philip P. Schepel  
Glen Spey, NY

PPS/dav

cc: Upper Delaware Council



IN REPLY REFER TO:

D18

## United States Department of the Interior

### NATIONAL PARK SERVICE

UPPER DELAWARE

SCENIC & RECREATIONAL RIVER

P.O. Box C, Narrowsburg, NY 12764-0159

RECEIVED

1974 - 10 - 11

Mr. Philip Schepel  
Glen Spey, NY

ORANGE AND ROCKLAND UTILITIES, INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

Dear Mr. Schepel:

Many of the concerns that you expressed about whitewater boating on the lower Mongaup River are also our concerns. The decision to permit this activity will be made by the Federal Energy Regulatory Commission as part of the licensing process for the hydroelectric facilities on the Mongaup River.

Orange and Rockland Utilities, Inc., the owners and operators of the Rio Reservoir and dam, have been directed to conduct whitewater boating trials on the lower Mongaup River and to evaluate and grade the difficulty, if any, of whitewater boating on the river during periods of water releases. The National Park Service has been invited to observe the trials and to comment on our observations. As part of our observance, we will videotape the rise of water on the Delaware River near the mouth of the Mongaup River as the releases are being made for the whitewater boating trials. If we observe any safety problems on the Delaware River as a result of these releases, we will notify Orange and Rockland Utilities of our concerns.

We appreciate your comments and will pass them along to Orange and Rockland Utilities.

Sincerely yours,

  
John T. Hutzky  
Superintendent

cc: Bob Kosior, Orange and Rockland Utilities, Inc., w/ltr  
Bill Douglass, Upper Delaware Council



IN REPLY REFER TO:

## United States Department of the Interior

### NATIONAL PARK SERVICE

UPPER DELAWARE

SCENIC RECREATIONAL RIVER

P.O. Box C, Narrowsburg, NY 12764-0139

N16

May 21, 1990

Mr. Dean L. Shumway, Director  
Division of Project Review  
Federal Energy Regulatory Commission  
825 North Capitol Street, N. E.  
Washington, DC 20426

RE: Orange and Rockland Utilities, Inc.  
Project Numbers 9690, 10481 and 10482

Dear Mr. Shumway:

Orange and Rockland Utilities, Inc., has been directed by your office to conduct a study to determine the potential for white water recreation on the Mongaup River below the Rio Powerhouse. In your letter of August 28, 1989, to Orange and Rockland, you directed them to undertake this study in cooperation with the National Park Service, as well as the other parties involved in the license process.

The National Park Service has agreed to cooperate in the study due to the potential impact of releases for white water boating on the Upper Delaware Scenic and Recreational River, a unit of the Wild and Scenic River System. Our major contribution to the study was to record differences, if any, at the mouth of the lower Mongaup River, where it enters the Upper Delaware Scenic and Recreational River. There is a Class II-rated rapids just below this confluence, and we are concerned as to whether or not additional water releases for white water boating on weekends will change appreciably the ratings of this rapids. Unfortunately, due to high water conditions on the Upper Delaware River, we weren't able to assess the changes on May 19, 1990, the day of the whitewater trials.

We have compiled search and rescue statistics for the Mongaup confluence for the period from 1980 through April of 1990. These statistics show a pattern of search and rescue incidents in this area, particularly on weekends. During this time period, there have been 104 search and rescue incidents--

Federal Energy Regulatory Commission  
Mongaup River Boating Trials  
May 21, 1990

2

three of which were drownings, and two near-drownings. Many of these incidents involved ambulance transportation by rescue squads, and associated personnel costs which amounted to more than \$22,000. Furthermore, 88 of these incidents occurred in weekends, 55 on Saturdays and 33 on Sundays. These are days when Orange and Rockland Utilities is not releasing for hydropower purposes. Thus, our concern about the potential increase in boating difficulty at the Mongaup confluence due to white water releases on weekends is a legitimate one that must be addressed in Orange and Rockland's study.

Until such time as we have had the opportunity to assess the changes at the Mongaup confluence due to white water releases for boating purposes, we would consider any study to be incomplete. We ask your agency to assure that our assessment is made part of the record, and that no determination be made as to the feasibility for white water boating releases on the lower Mongaup until the National Park Service has evaluated the impacts, if any, these releases would have on the Upper Delaware Scenic and Recreational River.

Sincerely yours,



John T. Hutzky  
Superintendent

cc: Robert Kosior, Orange & Rockland Utilities, Inc.  
Murdock Mackenzie, New York State DEC  
Leonard Corin, U.S. Fish and Wildlife Service  
John Humbach, American Whitewater Association  
John Echeverria, American Rivers, Inc.  
Gerald Hansler, Exec. Dir., DRBC  
William Douglass, Exec. Dir., UDC  
Robert Gift, NPS MARO

FYI 5/27 -

Roger Metzger  
Charlie Swastowitz  
Steve Porath

Tom Mark (2-2-81)  
Tom Sullivan (5-14)

Mr. & Mrs. A. D. Braley  
64 Lupine Way  
Stirling, NJ 07980

May 23, 1990

RECEIVED

Mr. Robert T. Kosior, P.E.  
Manager, Environmental Services  
ORANGE AND ROCKLAND UTILITIES, INC.  
One Blue Hill Plaza  
Pearl River, New York 10965

MAY 29 1990

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

Re: FERC Project Nos. 9690, 10481, and 10482

Dear Mr. Kosior,

On Saturday, May 19, 1990, we had the privilege of paddling our canoe during the FERC ordered experimental releases on the Mongaup River. We would like to thank you, your on-site crew, and the entire Orange and Rockland Company for being such gracious hosts for this test of whitewater boating on the Mongaup River. While we realize that O&R was ordered to permit this paddling invasion, you were under no obligation to be as considerate, hospitable, friendly and generous as Roger Metzger and his crew were during our visit.

The Mongaup is truly a lovely river: a natural resource that should be made available to as many environmentally sensitive people as possible. We sincerely hope that something can be worked out so that responsible fishermen, boaters, birders, and others can share in its use and mutually enjoy its beauty.

The river is lovely, but not really "pristine" as we were told by one of the other paddlers. Bottles, cans, tires, and other litter which is all too common on many nearby rivers, were not noticed on the Mongaup. However, our group of 5-7 canoes did cut out several lengths of nylon fishing line tangled on trees and trailing in the water, and we personally removed a large dirty and rotting piece of upholstery foam propped against a tree on the river bank, apparently as a back rest.

We found the Mongaup to be a thoroughly enjoyable, interesting and challenging intermediate whitewater experience. Regardless of how all this is resolved, we appreciate having the opportunity to paddle this lovely river and O&R's generous consideration which made it a completely enjoyable experience.

Sincerely,

Al Braley

Fran Braley

Al Braley  
Appalachian Mountain Club, Past Interchapter Canoe Chair  
AMC, New York/North Jersey Chapter, Past Canoe Committee Co-Chair

Copy to: Hon. Benjamin Gilman, U.S. House of Representatives  
Mr. Dean L. Shumway, FERC  
Mr. Thomas C. Jorling, DEC  
Mr. John Hutsky, NPS  
Mr. Pete Skinner, AWA  
Mr. John Humbach, Esq., AMC, KCCNY, AWA, Pace U.  
Mr. Ken Fischman, KCCNY, AWA



## PACE UNIVERSITY

NEW YORK • WESTCHESTER  
(personal and unofficial)

SCHOOL OF LAW

914-422-4239

78 NORTH BROADWAY  
WHITE PLAINS, N Y 10603

June 6, 1990

Mr. James Coleman, Regional Director  
National Park Service  
43 South Third Street  
Philadelphia, Pennsylvania 19106

Re: Public Access to Mongaup River Below Rio Dam

Dear Mr. Coleman:

By a previous letter (copy attached), I requested that NPS reconsider and amend its Section 7 comments regarding recreational access to the Mongaup River near the corridor of the Upper Delaware Scenic and Recreational River (UPDE). Thank you for your kind reply (copy also attached).

In your reply you stated that NPS has "established procedures" for environmental reviews and that, in keeping with those procedures, "NPS comments for this project are incorporated in the final Department of the Interior comments which were transmitted to FERC." Enclosed is a copy of a recent letter sent directly from the UPDE superintendent to FERC. The letter sets forth certain information that could have been (but was not) included in the Department's Section 7 comments, and it requests that FERC "assure" certain matters to NPS. I am not clear how this letter and its requests that FERC give assurances fit into the "established procedures" you referred to.

The background of the superintendent's letter is that FERC asked the applicant, Orange and Rockland Utilities, to provide FERC with information on the Mongaup River's whitewater recreation potential "after consultation with" NPS, among others. FERC did not request any direct response or comment from NPS (the NPS Section 7 comments having already been supplied). In order to respond to FERC, the applicant carried out experimental releases on May 19, with full notice and opportunity to participate for all concerned. The UPDE superintendent is now asking for further experimental releases and opportunity for comment. The apparent object is to assess the effects of Mongaup releases on a wave (the so-called "Mongaup wave") lying a few hundred feet from the confluence of the Mongaup and the Delaware.

My concern is the prejudicial and unfair effect that might easily result from conflicting representations to FERC from different individuals and interests within NPS. How the NPS implements its own and Department of the Interior procedures for dealing with other Federal agencies is, of course, not my business. But I am concerned that the UPDE superintendent's letter and anticipated follow-up should not be allowed to serve as one individual's *de facto* amendments to NPS's previous Section 7 commentary which the Department of the Interior supplied to FERC.

While I do not trivialize the unfortunate events that the superintendent describes as having occurred "in this area," there is absolutely nothing to indicate that releases on the Mongaup River had anything to do with them. (Non-use of PFD's and, for years, lack of adequate warning signs at the location are the more likely culprits.) Mongaup releases do not "cause" the Mongaup wave -- it is caused by structures in the bed of the Delaware. The Mongaup wave is downstream and on the far side of the Delaware, well away from the confluence. We are talking about distances of literally hundreds of feet where motions occur at *walking* speeds.

I have personally navigated the wave at various water levels, from very low to high, and it is always about the same "class II" wave. If anything, higher water tends to smooth it out. Admittedly, however, the effect of Mongaup flows on the stability of small watercraft is a highly subjective inquiry. This is why I hope that *any further amendments to NPS's previously supplied Section 7 comments to FERC will have the benefit of the usual Office of Environmental Project Review processes.*

The effect of Mongaup flows on the UPDE is not really a "new" matter -- the "possible impacts of flow conditions on the UPDE" were addressed in NPS's previous Section 7 comments. If NPS plans to amend its Section 7 comments with respect to matters (flow impacts) already previously addressed, I ask that such amendments also revisit, following usual NPS procedures (OEPR, Riverwatch, etc.), the other whitewater issues that the original Section 7 comments touched on adversely to recreational whitewater use of the Mongaup.

The May 19 experimental runs were a tremendous whitewater boating success. Our goal is to advance the public's enjoyment of a superb natural resource. I hope that NPS will ultimately be able to support this goal in any amendatory Section 7 comments on the recreational components of Orange & Rockland's FERC licence application.

Sincerely,



John A. Rumbach  
Professor of Law and  
Associate Dean  
for Academic Affairs

cc. Mr. John T. Hutsky, Superintendent



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NEW YORK • WESTCHESTER  
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SCHOOL OF LAW

914-422-4239

**RECEIVED**

JUN 25 1990

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

78 NORTH BROADWAY  
WHITE PLAINS, N.Y. 10603

June 21, 1990

Mr. Thomas J. Sullivan, P.E.  
Stetson-Harza  
10 Ferry Street Suite 310  
cord, New Hampshire 03301

Re: Mongaup River Hydroelectric Projects -- Schedule A Draft Response  
Projects Nos. 9690, 10481 and 10482

Dear Mr. Sullivan:

Thank you for the draft Response to FERC Request for Additional Information that you sent to me in my capacity as *pro bono* counsel for the Intervenor, American Whitewater Affiliation and Kayak and Canoe Club of New York, in the captioned license proceeding.

Enclosed is a copy of an article from the *River Reporter* (April 12, 1990) that, in the interest of fairness and balance, ought to be included among the newspaper articles presented in Appendix A to the final Response FERC Request for Additional Information.

Sincerely,

John A. Humbach  
Professor of Law and  
Associate Dean  
for Academic Affairs

cc. Mr. Robert T. Kosior, ORU



A Mongaup River flyfisherman is pictured below the Route 97 bridge crossing near the confluence of the Delaware. Photo by David Hulse

## Mongaup: beautiful but not pristine

### *Boaters only want access*

By DAVID HULSE

MONGAUP — A first-hand look at the lower Mongaup River produces new questions about an ongoing recreational use struggle which has anglers, boaters and government officials creating a snowstorm of conflicting commentary.

Area fishermen have accused petitioning boaters — who seek use of the fishing-only river — with encouraging extensive development of an area almost universally described as pristine wilderness. Agreeing on the nature of land, a boaters' spokesperson says they have modified early requests and seek little development.

A walk along the lower half of the three-mile stretch reveals something other than wilderness. Here, impressive rhododendron and evergreen forest is traversed by an old

access road for more than a mile along the Orange County side. The road ends in a clearing where a small shed stands near a laid-stone barbecue. The barbecue is filled with papers and litter, and surrounded by expended shotgun shells. The clearing has standing targets of a rifle range. While unquestionably attractive, the secluded area cannot be accurately termed "pristine wilderness."

Tires and junk litter a hillside, apparently dumped from nearby Wilson Road above the property. Other remnants of litter are visible along both the road and the riverside.

During an admittedly brief survey, four fishermen, sighted on the riverside, concentrated their efforts in portions of the river within 200 yards of Route 97. The upstream sections of the river were empty, but for one other pedestrian along the road.

Deerpark and Lumberland have panned boating due to the lack of access for rescue purposes. Although rescue from the road would be difficult in almost every case, due to steep banks, there are few instances where the river is more than 100 yards from the road. Rescue access here, is better than in many remote places along the Delaware. The road ends as the gorge closes above the clearing, and access to upper portions of the river would appear to be considerably more difficult, although survey maps show a road paralleling the western side. The Deerpark road does not appear on maps.

Westchester attorney and boater John Humbach, who represents petitioning boaters, did not know the roads existed, and has admittedly never seen the property. Humbach has recently responded to anglers publicized comments which he termed a

(Continued on page 24)



FER Photos by David Hatcher

Evergreen trees and rhododendrons define a narrow, but well-drained road, that follows the lower Mongaup River for more than a mile above Route 97.



Near the river a bald stone barbecue has collected some fishing access from private lands, which nearby feature a shooting range and a small shed or outhouse structure.

## Mongaup: beautiful but not pristine

(Continued from page 1)

"campaign of misinformation."

Records of a meeting he and another boating representative attended with Orange and Rockland (O&R) Utilities in February 1989 reveal boaters have reduced earlier requests for "on-site amenities." Those requests, filed in May 1989, still include two parkings lots for 10 to 20 cars; one at a launch area and one at take-out site. Aside from a telephone information line, signs and a dumpster — all other earlier requests are withdrawn or classified as "nice, but not necessary."

Humbach could not explain why, seven months after the new agreement with O&R, the NYS Department of Environmental Conservation (DEC) requested the Federal Energy Regulatory Commission (FERC) to consider an outdated list of amenities in January, 1990. While he says he is consider-

ing it, Humbach has not directly informed FERC or DEC of the agreement with O&R, saying O&R filings with the information went to him.

FERC spokesperson Sharon Hyland said the parties "really should inform the commission if they've had any change of heart" about their proposals. The FERC ruling, due after July, will stand regardless of prior agreements between any of the various parties.

A new take-out point near the Delaware has been an objective of the National Park Service (NPS) and Upper Delaware Council (UDC). They argue that it would violate the river management plan, by bringing new river traffic to land near the sometimes treacherous "Mongaup wave" area. The wave is about 150 yards downstream of the river's confluence and has been the site of boater drownings in past years.

Humbach said proposed weekend O&R releases adding one-third to one-half to the volume of Delaware water at the wave would not create a safety hazard, and called it an inflated issue. "My best guess is it's not going to even be noticeable at the wave," he said.

The attorney said the NPS's less-than-supportive positions concerning boater petitions could hurt it with existing boating and environmental constituencies. He accused NPS of know-nothing to pressure from local governments instead of supporting legitimate recreational proposals.

He also criticized the NPS formal comments to FERC, which propose limiting casual use of the Mongaup by requiring daily permits. He said the proposal amounted to opposition to boater use, since no likely administrator for a permit system existed. "If NPS continues to take this hostile attitude, a lot of

the support they've been getting over the years from environmental groups should be reclaimed. Their attitude has been extremely disappointing to me," Humbach said.

Upper Delaware superintendent John T. Hutzky said NPS positions were consistent with the management plan, as well as an independent boating study detailing recommendations for the Mongaup. He said Humbach's criticisms were "injudicious for an attorney."

Ironically, notes of the meeting with O&R — released by Humbach — also detailed his stated position to O&R that "use of the river would be limited to skilled canoeists (Humbach) felt the river was too difficult for the casual canoeist."

Boaters have also stated opposition to commercial ferry use of the river, but have not said how that use would be regulated.



IN REPLY REFER TO:

# United States Department of the Interior

NATIONAL PARK SERVICE

UPPER DELAWARE

SCENIC & RECREATIONAL RIVER

P.O. Box C, Narrowsburg, NY 12744-0159

**RECEIVED**

JUN 25 1990

N16

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

June 22, 1990

Mr. Robert T. Kosior, P. E.  
Manager, Environmental Services  
Orange and Rockland Utilities, Inc.  
One Blue Hill Plaza  
Pearl River, NY 10965

Dear Bob:

On behalf of the National Park Service, I thank you and Orange and Rockland Utilities for providing the additional day of white water releases on the lower Mongaup River on June 14, 1990. Without your cooperation, we would not have been able to evaluate the effects of these releases on boaters in the main stem of the Delaware River.

As indicated in our letter of May 21, 1990, to Dean Shumway of the Federal Energy Regulatory Commission, we were concerned with the effects of any additional white water releases from the lower Mongaup River on weekends. Weekends are our highest use period and the majority of search and rescue incidents occur then. We recorded 88 search and rescue incidents on weekends in the past ten years near the mouth of the Mongaup River. Presently, Orange and Rockland Utilities isn't releasing on weekends.

June 14, 1990, the height of the Delaware River, upstream of the confluence with the Lackawaxen River, was recorded as 2.66 feet. This height approximates normal summertime conditions, and thus was a good indicator as to what boaters on the Delaware River might experience due to the increased releases entering from the lower Mongaup River.

To assist us in evaluating the effects of the increased releases, we enlisted Charles and Geraldine Howson of the National Canoe Safety Patrol. They paddled through the Mongaup rapids during the various releases. Other National Park Service employees were present to assist and record the event. Other observers included John Humbach of the American White Water Association, as well as members of the press. A list of observers is attached.

The following evaluation of the releases is based upon the Howson's comments and our observations:

1. When one turbine is releasing water, there is no noticeable effect at the Mongaup rapids as a result of the additional white water releases.
2. When two turbines are releasing water, the current increases as the lower Mongaup River enters the main Delaware River. This increase in current has a tendency to push a canoe toward the Pennsylvania side, and thus into

Orange and Rockland Utilities  
White Water Testing Results  
June 22, 1990

2

the middle of the Mongaup rapids. Thus, if a boater were trying to avoid the Mongaup rapids by paddling toward the New York shore, he or she would inadvertently be pushed back into the Mongaup rapids unless he or she had the skills to overcome the force of the current. Given the skill level of the majority of Delaware River boaters (i.e., in our role as recreational use managers on the Upper Delaware, we estimate the majority of boaters as either beginners or novices), they would have difficulty countering the force of the additional current.

In conclusion, a white water release to enhance boating on the lower Mongaup river on weekends would create no additional difficulties for boaters on the main Delaware River below the mouth of the Mongaup River if one turbine only was releasing. However, if two turbines are releasing on weekends, it would create problems for boaters on the main Delaware River at the Mongaup rapids. Due to the skill levels of the majority of Delaware River boaters, we could expect an increase in search and rescue incidents as a result of the increased skills needed by boaters to negotiate these rapids.

Thank you for the opportunity to contribute to your evaluation of the potential for white water boating on the lower Mongaup river.

Sincerely yours,



John T. Hutzky  
Superintendent.

Enclosure

cc: Murdock Mackenzie, NYS Department of Environmental Conservation  
Leonard Corin, US Fish and Wildlife Service  
John Humbach, American White Water Association  
John Echeverria, American Rivers, Inc.  
Gerald Hansler, Exec. Dir., Delaware River Basin Commission  
Robert Gift, NPS, Mid-Atlantic Regional Office  
William Douglass, Exec., Dir., Upper Delaware Council  
Charles and Geraldine Howson, National Canoe Safety Patrol  
Dean Shumway, Federal Energy Regulatory Commission

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**NEWS CLIPPINGS**

# White water proposal has foes foaming

By JOHN EMERSON  
Staff Writer

A quiet war is raging between fishermen and canoeists over a plan to turn the lower Mongaup River into a white water recreation area complete with picnic tables, parking areas and portable toilets.

The proposal, presented by three national and international white water recreation groups, is supported by the state Department of Environmental Conservation. It calls for major water releases from Orange and Rockland Utilities Inc.'s Rio Reservoir to create conditions suitable for running the rapids along a 2.5-mile stretch of the river from the power generating station in the Sullivan County Town of Lumberland to the Delaware River.

When O&R generates power by drawing water from the reservoir through its generating turbines, the normally small calm river is turned into a churning, racing torrent and can be navigated by skilled canoeists and kayakers. Most of the electricity is now generated during peak demand periods, said O&R spokesman Steve Porath, and those peaks do not coincide with the release schedules proposed by the canoeists.

"It would be one of three Class III rapids in New York state within 100 miles of the metropolitan area," said John Echeverria, a lawyer for American Rivers Inc., a Washington, D.C.-based lobbying group supporting the plan. "White water canoeing is one of the fastest growing sports in the country and we believe this is something that can be done."

Other agencies, however, including the National Park Service and the Upper Delaware Council believe the plan could have negative results for the Upper Delaware National Scenic and Recreational River. They fear that inexperienced boaters from the relatively tame river will try their skills on the Mongaup.

"Our concern is that we don't introduce a use that will create safety problems," said John Hutzky, superintendent of the Upper Delaware National Scenic and Recreational River.

Hutzky said the plan also represents potential dangers for those who remain on the Delaware. He said the increased flows from the Mongaup would turn the confluence of that river and the Delaware into a dangerous rapids for beginners.

The idea also has incurred the wrath of local fishing groups. They fear the plan will destroy the rapidly developing wild trout fishery along the Mongaup. They also point out that the DEC has announced plans to spend \$15 million acquiring thousands of acres of land and development rights along the river to preserve the area as a sanctuary for bald eagles.

Peter Nye, the DEC's leading expert on eagles, said he had no objections as long as it didn't interfere with the time period when the endangered birds are in residence between Nov. 1 and April 1.

The plan calls for canoeing releases to be made between March 1 and Dec. 1.

R. T. KOSIOR  
R. H. MEYER

COPY L.S. 11-11-90  
C.R. 12-1  
F.I.C. GRU 4932

# Fishermen stand pat to keep kayakers off the Mongaup

By THOMAS LEEK  
Staff Reporter

**MONGAUP VALLEY** — Sportsmen intent on using the Mongaup River for white water boating say they're willing to sit down with fishermen who want the river off limits to boating.

But the fishermen won't budge.

At issue is a September 1988 licensing application by Orange and Rockland Utilities Inc. to the U.S. Federal Energy Regulatory Commission for hydroelectric dams at the Swinging Bridge, Mongaup Falls, and Rio reservoirs.

Three organizations representing white water boaters — kayakers primarily — intervened in the FERC licensing process over the last year and a half. They're seeking assurance that O&R will release water from Rio Dam to facilitate their sport.

John Echeverria, a lawyer for American Rivers Inc., a Washington-based river conservation organization, said his group's members who use the Mongaup are willing to sit down with the fishermen to talk things over.

"Boaters and fishermen both use and enjoy rivers," Echeverria said. "Our goal is to live together in harmony."

He said American Rivers members feel agreement can be reached as to what time of day and what stretches of the 2.5 mile section of the Mongaup would be used by either group.

The Kayak and Canoe Club of New York and the American Whitewater Affiliation Inc. also filed intervening petitions with FERC; spokesmen for the two groups could not be reached for comment.

Port Jervis resident Phil Chase, member of the Fontinalis Fly Fishermen's Club, says he's organizing groups "in favor of the status quo."

Chase has garnered the backing of U.S. Rep. Benjamin A. Gilman (R-22), the Sullivan County Federation of Sportsmen, and the towns of Lumberland and Deerpark.

Gilman is working to ensure FERC holds public hearings prior to approving O&R's license, according to his grants and projects manager, P. Todd Burger.

A Feb. 13 letter from Deerpark Supervisor James Garvey to Gilman asked to congressman to relay the town board's feelings to FERC and other federal agencies that "the Town of Deerpark does not want any boating on this river." Garvey cited development of the wilderness area and the toll boating could take on fire and rescue personnel as concerns.

O&R spokesman Steve Porath said this morning "trial releases"

for the kayakers are scheduled for late spring.

"Our goal is to get a license for the Rio facility so we can produce electricity. Others involved have other concerns," Porath said. "...We'll work to resolve any problems regarding the use of the river, but we simply want to operate our plant. Other uses for the river is something that will ultimately be decided by the state and other bodies involved in the licensing process."

The only impact on O&R would be providing weekend releases for the kayakers, Porath said. Releases from the dam are usually only made to generate extra electricity during peak power usage times, typically on late summer weekday afternoons.

Water releases for the kayakers would be made between March 1 and Dec. 1. Porath said the cost to O&R would be very minimal. "That's the beauty of hydroelectric power," he said.

While O&R's FERC license application points to a "conflict in recreational uses" of the Mongaup. Despite the increasing use of the river for white water boating, the application said, "white water canoeing in the Mongaup should be prohibited to promote a class fishery."

The application goes on to say that

under New York State Department of Environmental Conservation rules, prior approval should be obtained before boaters use the river. Fishermen have been permitted use of the river since 1953.

"Twenty-four miles of flow-regulated waters in the Delaware National Scenic and Recreational River designed specifically for floatillas are only minutes from the Mongaup River," the application said. "Orange and Rockland is not willing to grant permission for canoe and other boat access due to its concerns over safety, conflicts with fishing, and maintaining the pristine environment..."

Hence the boaters' intervening petitions.

Management of the river itself may be a different matter. The New York State Department of Environmental Conservation is in the midst of buying the lands bordering the Mongaup for an eagle habitat.

John Hutzky, superintendent of the federally regulated upper Delaware for the National Park Service, said Thursday his primary concern is that the kayakers not be granted access to the Mongaup near its confluence with the Delaware. Such access, he said, would be in conflict with the river management plan, which calls for a visitor center to be built in that area.

Hutzky added the NPS position is that "any white water boating should be under a permit system. It should be managed."

*Times Herald Record 3/27/90*

*Mongaup Record 3/27*

### Protect the Mongaup

New York State Department of Environmental Conservation has a leading role in formulating plans which would destroy a local trout fishery of blue ribbon quality, the Mongaup River from the Rio powerhouse to the Delaware River. Orange and Rockland Utilities is seeking a license to continue operation of generating facilities on the river. There is a legal requirement that the licensee furnish public recreation opportunities on its holdings. A recreation plan proposed by DEC is designed to promote white water boating on the river at the cost of environmental degradation, loss of quality fishing opportunities, costs to local governments (read costs to taxpayers), costs to ORU, which would be passed on to customers. Will there be an environmental impact statement prepared?

The plan envisions construction of paved parking and access roads to the river, picnic area, toilets, etc., in the wilds surrounding the river. ORU must furnish a bulletin board and a hot-line to supply water release information. ORU must supply water releases on a predetermined schedule, midweek and weekends, for the sole purpose of accommodating boaters. Everything is geared to attracting the white water boater to this pristine and secluded river. The presence of quality fishery is downplayed.

DEC must rethink this matter and develop an alternative. It must consider the many licensed fishermen to whom the river furnishes a much-prized and rare

experience, the long establishment of this benign use of the river, the uniqueness of the area, and its irreplaceability, the importance of the area as part of lands and waters set aside as eagle habitat, the degradation that would accompany massive use of the river by boaters and the construction of facilities to accommodate their demands, the probable costs to local governments of emergency services to accommodate a dangerous sport in inaccessible locations, costs, and problems for ORU. DEC must aggressively seek input from local government, use of the river, and other concerned parties.

The Mongaup River, difficult of access, difficult to fish, offers in its tranquil setting, to the fisherman, a quality experience; to wildlife, a haven. It is well worth saving.

GEORGE A. JONES  
Port Jervis



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JUN 25 1990

O.R.U., INC.  
ENVIRONMENTAL SERVICES  
DEPARTMENT

78 NORTH BROADWAY  
WHITE PLAINS, N.Y. 10603

June 21, 1990

Mr. Thomas J. Sullivan, P.E.  
Stetson-Harza  
10 Ferry Street Suite 310  
cord, New Hampshire 03301

Re: Mongaup River Hydroelectric Projects -- Schedule A Draft Response  
Projects Nos. 9690, 10481 and 10482

Dear Mr. Sullivan:

Thank you for the draft Response to FERC Request for Additional Information that you sent to me in my capacity as *pro bono* counsel for the Intervenors, American Whitewater Affiliation and Kayak and Canoe Club of New York, in the captioned license proceeding.

Enclosed is a copy of an article from the *River Reporter* (April 12, 1990) that, in the interest of fairness and balance, ought to be included among the newspaper articles presented in Appendix A to the final Response FERC Request for Additional Information.

Sincerely,

John A. Humbach  
Professor of Law and  
Associate Dean  
for Academic Affairs

cc. Mr. Robert T. Kosior, ORU



A Mongaup River flyfisherman is pictured below the Route 97 bridge crossing near the confluence of the Delaware.

## Mongaup: beautiful but not pristine

### *Boaters only want access*

By DAVID HULSE

**MONGAUP** — A first-hand look at the lower Mongaup River produces new questions about an ongoing recreational use struggle which has anglers, boaters and government officials creating a snowstorm of conflicting commentary.

Area fishermen have accused petitioning boaters — who seek use of the fishing-only river — with encouraging extensive development of an area almost universally described as pristine wilderness. Agreeing on the nature of land, a boaters' spokesperson says they have modified early requests and seek little development.

A walk along the lower half of the three-mile stretch reveals something other than wilderness. Here, impressive rhododendron and evergreen forest is traversed by an old

access road for more than a mile along the Orange County side. The road ends in a clearing where a small shed stands near a laid-stone barbecue. The barbecue is filled with papers and litter, and surrounded by expended shotgun shells. The clearing has standing targets of a rifle range. While unquestionably attractive, the secluded area cannot be accurately termed "pristine wilderness."

Tires and junk litter a hillside, apparently dumped from nearby Wilson Road above the property. Other remnants of litter are visible along both the road and the riverside.

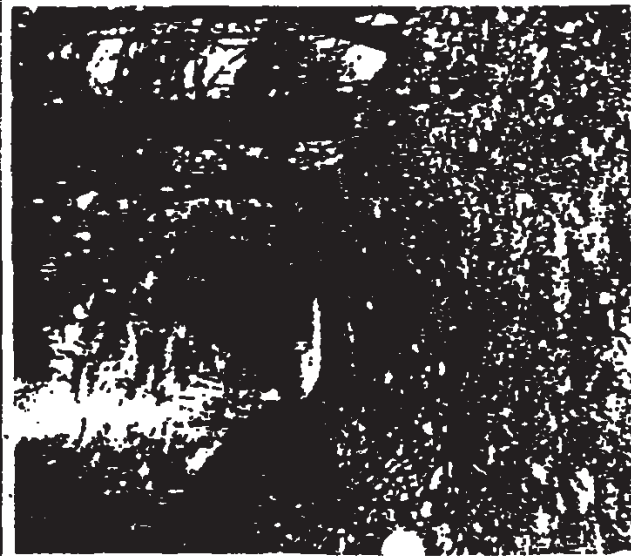
During an admittedly brief survey, four fishermen, sighted on the riverside, concentrated their efforts in portions of the river within 200 yards of Route 97. The upstream sections of the river were empty, but for one other pedestrian along the road.

Deerpark and Lumberland have panned boating due to the lack of access for rescue purposes. Although rescue from the road would be difficult in almost every case, due to steep banks, there are few instances where the river is more than 100 yards from the road. Rescue access here, is better than in many remote places along the Delaware. The road ends as the gorge closes above the clearing, and access to upper portions of the river would appear to be considerably more difficult, although survey maps show a road paralleling the western side. The Deerpark road does not appear on maps.

Westchester attorney and boater John Humbach, who represents petitioning boaters, did not know the roads existed, and has admittedly never seen the property. Humbach has recently responded to anglers publicized comments which he termed a

(Continued on page 24)

4/12/90



Evergreen trees and rhododendrons adjoin a narrow, but well-drained road, that follows the lower Mongaup River for more than a mile above Route 97.

*T.R.R. Photos by David Hulse*



Near the river a laid stone barbecue has collected some fishing access from private lands, which nearby feature a shooting range and a small shed or outhouse structure.

## Mongaup: beautiful but not pristine

ing it, Humbach has not directly informed FERC or DEC of the agreement with O&R, saying O&R filings with the information went to both.

FERC spokesperson Sharon Hyland said the parties "really should inform the commission if they've had any change of heart" about their proposals. The FERC ruling, due after July, will stand regardless of prior agreements between any of the various parties.

A new take-out point near the Delaware has been an objection of the National Park Service (NPS) and Upper Delaware Council (UDC). They argue that it would violate the river management plan, by bringing new river traffic to land near the sometimes treacherous "Mongaup wave" area. The wave is about 150 yards downstream of the river's confluence and has been the site of boater drownings in past years.

(Continued from page 1)

"campaign of misinformation."

Records of a meeting he and another boating representative attended with Orange and Rockland (O&R) Utilities in February 1989 reveal boaters have reduced earlier requests for "on-site amenities." Those requests, filed in May 1989, still include two parking lots for 10 to 20 cars; one at a launch area and one at take-out site. Aside from a telephone information line, signs and a dumpster — all other earlier requests are withdrawn or classified as "nice, but not necessary."

Humbach could not explain why, seven months after the new agreement with O&R, the NYS Department of Environmental Conservation (DEC) requested the Federal Energy Regulatory Commission (FERC) to consider an outdated list of amenities in January, 1990. While he says he is consider-

Humbach said proposed weekend O&R releases adding one-third to one-half to the volume of Delaware water at the wave would not create a safety hazard, and called it an inflated issue. "My best guess is it's not going to even be noticeable at the wave," he said.

The attorney said the NPS's less-than-supportive positions concerning boater petitions could hurt it with existing boating and environmental constituencies. He accused NPS of knowtowing to pressure from local governments instead of supporting legitimate recreational proposals.

He also criticized the NPS formal comments to FERC, which propose limiting casual use of the Mongaup by requiring daily permits. He said the proposal amounted to opposition to boater use, since no likely administrator for a permit system existed. "If NPS continues to take this hostile attitude, a lot of

the support they've been getting over the years from environmental groups should be reexamined. Their attitude has been extremely disappointing to me," Humbach said.

Upper Delaware superintendent John T. Hutzky said NPS positions were consistent with the management plan, as well as an independent boating study detailing recommendations for the Mongaup. He said Humbach's criticisms were "injudicious for an attorney."

Ironically, notes of the meeting with O&R — released by Humbach — also detailed his stated position to O&R that "use of the river would be limited to skilled canoeists (Humbach) felt the river was too difficult for the casual canoeist."

Boaters have also stated opposition to commercial livery use of the river, but have not said how that use would be regulated.

Tri-State Gazette

# Jorling backs Mongaup kayaking

By DAVID HULSE

Staff Correspondent

**MONGAUP** — Commissioner Thomas Jorling has added his personal endorsement to controversial Department of Environmental Conservation plans for white-water boating on the lower Mongaup River.

In the same May 2 letter, Jorling again rejected river officials' plans for an \$850,000 Mongaup-area visitor center.

A spokesman for area fishing groups, who have fought the white-water boating proposal, now says anglers will not protest a Saturday boating test, but will not guarantee against test disruption from other quarters.

Jorling responded to the boating and visitor center issues jointly, since both were addressed in March letters by Upper Delaware Council and National Park Service officials. River officials had written seeking renewed planning coordination between the various agencies.

The UDC and NPS letters said a proposed boating egress for users of the lower Mongaup would further congest the sometimes dangerous river confluence area. They also had argued against Jorling's February position against the visitor center, saying DEC was party to the original planning decisions for the site.

In his letter to NPS Regional Director James W. Coleman, Jorling said only one boating access "will be required," at the upstream Rio Powerhouse tailrace. However, he added, "(Federal Energy Regulatory Commission) agreement with arguments for whitewater recreation may result in a license condition that mandates provision of boating access to the lower Mongaup River."

DEC supported white-water boating on the lower Mongaup since it provided "one of the few opportunities that exist in the downstate area to participate in this activity," Jorling said.

Jorling also supported requests for weekend water releases, "to accommodate persons with limited leisure time."

O&R has scheduled a 9:30 a.m., whitewater boating test run of the lower Mongaup for May 19. NPS Superintendent John Hutzky recently said rangers will monitor the test's volume impacts on Delaware flows during normally busier weekend period.

★ (See JORLING, back page)

## ★ JORLING

(Continued from page 1)

The boating plan has created an ongoing debate between whitewater boaters and anglers who have enjoyed exclusive use of the lower Mongaup for many years.

Anglers spokesman, Phil Chase, who earlier warned that fishermen might attempt to disrupt that test run, said last week that there would be no fishermen's protests. "There will be people fishing, but that's all," Chase said.

Chase said he had instead been making efforts to avoid rumored disruptions by neighboring property owners. "I can't guarantee someone isn't going to drop a tree across the river," he said.

The anglers have found support

among wildlife groups who fear new development and local emergency-rescue companies who say they cannot access the remote river.

If the officials agreed about limiting boating access areas, Jorling offered no reassurance about the visitor center. He said DEC "will not approve any proposals for intensive public use of State land at the confluence of the Mongaup River with the Delaware River." Jorling said any planned uses there must be consistent with state and federal law for endangered species protection.

The 1987 river plan calls on NPS to acquire 80 acres along Route 97, about one mile from the Mongaup, for the visitor center, a river rest stop and an emergency river access. NPS officials locally believe confusion about the actual location of the center maybe blocking DEC support.

Last fall, Governor Mario Cuomo announced the state would spend \$15 million to acquire 10,560 acres of Orange and Rockland Utilities owned lands which have become a prime wintering area for the endangered Bald Eagle. That purchase would include the lands NPS had unsuccessfully attempted to purchase for the visitor center. Then UDC Chairman Francis Hartmann in January had sought DEC permission to locate the center on DEC lands.

As he did responding to a similar request from the Upper Delaware Council in February, Jorling suggested revision of the river management plan to provide a new visitor center site. "There are no alternative sites for the eagle wintering area," Jorling told Coleman, adding, "However, I believe it is reasonable to suggest that alternative sites may be available for the visitor center."

Still addressing a plan revision, Jorling wrote, "We must do a better job of honoring the partnership which exists between the federal government and the states."

## Quick to judge

If you got the feeling the New York Department of Environmental Conservation was insensitive to the needs of our corner of the state, Commissioner Thomas Jorling affirmed that impression recently. In a letter to the National Park Service, Jorling gave his personal endorsement to plans that would open the Mongaup River to kayakers.

In doing so, the commissioner thumbed his nose at most of us who live in the area. Most of us — that is town governments, fishermen, just plain folks and this newspaper — think opening the Mongaup to kayaking is a bad idea. Most of us would like to see it remain pristine, but the commissioner is more concerned with recreation than conservation.

In his letter to the National Park Service, which has great concerns about the plan, he also voiced support for mandatory weekend water releases from Rio Dam to ensure a good water flow for boaters "to accommodate persons with limited leisure time." Commissioner, just where do your priorities lie?

Even if Mr. Jorling could not take the time to listen to the people who live here, who care about the Mongaup all the time not just when the water is white, he might have withheld judgment until he learned the outcome of Saturday's test run. Orange and P. & L. Utilities, which controls the dam, has agreed to release water so the National Park Service can assess the dangers of such a release, particularly at the confluence of the Mongaup and the Delaware.

The Delaware is heavily used by novice canoers on weekends and the confluence of the rivers already creates a set of rapids, second only in danger and difficulty to Skinners Falls. The Mongaup Wave or the Haystacks, as the spot is variously called, was the site of the most recent drowning on the Delaware and has been the site of many others. Mr. Jorling, however, doesn't seem to want to weigh safety considerations here. He is prepared to pass judgment solely on the recreational aspects of the plan.

But we're not surprised. We have been repeatedly and sorely disappointed with the performance of the DEC in our neck of the woods. Footdragging on environmental complaints — for instance, concerns about toxic runoff at Barnes Landfill — has been the rule not the exception. It took a fire at a local auto wrecking yard before the DEC finally did something about longstanding complaints about it.

Maybe we're becoming too cynical, but we come to believe we cannot expect much from DEC except for a handful of trout stocked in streams on April 1 and the annual road check cars on the opening day of deer season.

By DAVID HILL, SE  
Staff Correspondent  
MONGAUP — A spokesman for one of the boating groups participating in Saturday's lower Mongaup River boating tests says he is concerned about rumored disruptions, but will take part anyway.

National Park Service concerns about the impact of turbine releases on Delaware River boating traffic stepped up a notch Tuesday as the agency announced it plans to video-tape the release for evidence purposes. Kenneth Fishman of the Kayak and Canoe Club of New York said Tuesday that he hopes the runs will lead to a resolution of differences about the use of the river.

"The last thing we want is any kind of confrontation," he said.

Anglers, who have actively opposed opening the river to boating, now say they will not confront test participants. While he said he was attempting to prevent confrontations, fishing club spokesman Phil Chase said recently that he could not guarantee that others might not disrupt the tests, with felled trees in the river's path.

Fishman said he was not aware of Chase's comments. "I am concerned if there is a potential for trouble. We're going to have women in the group," he said.

A party of 10 kayakers and canoers will take part in two test runs, the first at 9:30 a.m. with one of Orange Rockland Utilities turbines releasing, and a second at 1:30 p.m. when both turbines will release. Fishman said no other vessels, such as inflatable rafts were involved. "We didn't think of it. I don't know any rafters anyway," he said.

Fishman said the party will not make a free descent of the 2.5 mile stretch, but will "boulderhop," downriver slowly, stopping frequently to record impressions so the rapids can be rated for difficulty.

Although the federal power authority ordered tests were coordinated with O&R, KCCNY and the American Whitewater Affiliation, Fishman said he still has not seen the test area. "We're not allowed on the property," he said.

NPS Superintendent John Hutzky told members of the Upper Delaware Council's Resource Committee Tuesday that the NPS is concerned the releases will increase safety problems near the confluence of the rivers. "If we see that adding slugs of (Mongaup) water creates conditions to potentially cause more (Delaware) problems than exist there now, it's going to be a matter of record," he said.

Inside:



Carroll  
tourney  
begins  
-p. 10

# The Tri-State Gazette

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1 BLUE HILL PL  
PEARL RIVER, N

90 Tri-States Publishing Co., Port Jervis, N.Y.

May 19, 1990

## Protest meets Mongaup paddlers

THOMAS LEEK

Reporter

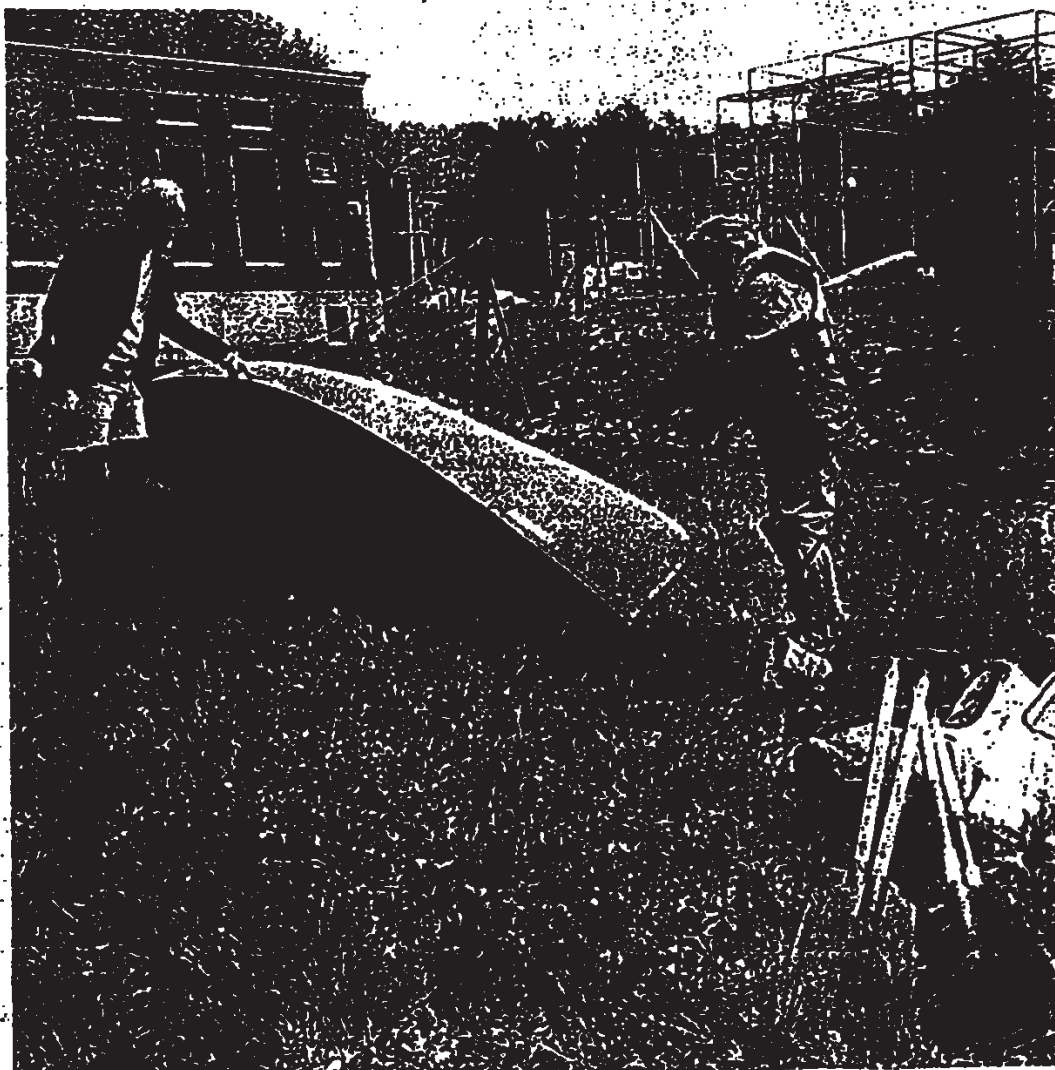
**MONGAUP** — Fishermen prodded quietly as paddlers navigated the Mongaup River in the first authorized Mongaup boat trip since the gorge decades ago. No boats! screamed sandwich boards carried by more than a dozen fishermen standing on the Route 97 bridge near the mouth of the 2.5-mile river.

Upstream at the O&R power plant, 18 canoers and kayakers representing several boating clubs put in the river.

The Kayak and Canoe Club of Eastern New York and the American White Water Association, among others, have filed petitions in the Federal Energy Regulatory Commission, which is reviewing O&R's request that its hydroelectric dam at Rio be licensed.

The boaters' petitions ask FERC mandate O&R allow recreational boating on the river, and that O&R provide "recreational releases" from the dam to accommodate boaters during summer weekends.

★ (See MONGAUP, back page)



Gazette photo by Bar

John Gebhards of Goshen and Betty Quick of Warwick, both Sierra Club members, prepare their kayaks for this morning's test run with kayakers down the Mongaup.

## Schools get 7.6 percent increases

## Appendix D-121

the region

# Making waves

## Anglers, boaters battle over use of Mongaup River

By OWEN MAZON  
Staff Writer

**MONGAUP** — As 20 local fishermen paced the Route 97 bridge that spans the lower Mongaup River to protest boating there, 85-year-old Hazel Roberty saw a sight she's never seen there before.

"I think it's beautiful," Mrs. Roberty said as she watched 17 white water boaters navigate the river. "I like to see them as long as they keep on going and mind their business."

But the local fishermen assembled on the bridge with placards of protest had much harsher words for the kayakers and canoeists.

They said they fear the boaters will run them off one of the best wild trout streams on the East Coast and criticized state Department of Environmental Conservation Commissioner Thomas Jorling for endorsing plans to allow boating there.

"It's a nationally renowned fishing river and we want to keep it as such," said Phil Chase, a Port Jervis fly-fisherman and treasurer of the Fontinalis Fly Fishermen club.

"Except for that narrow interest (boaters), everybody else is bloody sick of them," said Frank Conaway, a fly fisherman from Unionville. "We don't want to see trash. We don't want to see them whimpering on the banks with broken legs."



Record photo by Dominick Fiorillo  
Phil Chase of Port Jervis, left, and Frank Conaway of Unionville protest on the Route 97 bridge yesterday.

Fishermen said the boaters would scare fish away, and boaters on the Mongaup during the weekends would present safety problems that have not been carefully considered by the state, which has proposed buying the land from Orange and Rockland Utilities for \$15 million.

The boaters were given the opportunity to ask the federal government for permission to boat on the lower Mongaup because of applications filed by O&R and another energy firm to operate O&R's hydroelectric plant.

As part of the licensing procedure, the American White Water Affiliation, which has a national membership of 10,000, and the Kayak and Canoe Club of New York, which has a membership of 350, have intervened and petitioned to open the lower Mongaup to boaters.

"We believe everyone should have a right to use national resources that are available to us," said Patricia McHenry of Sayreville, N.J.

Chase and the Fontinalis Club have countered the boaters' request with a petition of their own, asking that the lower Mongaup be preserved for fishing.

John Humbach, a lawyer representing the white water enthusiasts, said he thinks boaters and fishermen can coexist on the lower Mongaup.

Yesterday, for the first time in memory, O&R permitted kayakers and canoeists on the stretch of the Mongaup between its hydroelectric power plant and the Delaware River.

The first trial run was requested of O&R by the Federal Energy Regulatory Commission as part of a licensing procedure to run its hydroelectric plant.

The kayakers were asked to run the course and rate the river on an international scale of one to six for difficulty. Results of their evaluations were not available yesterday.



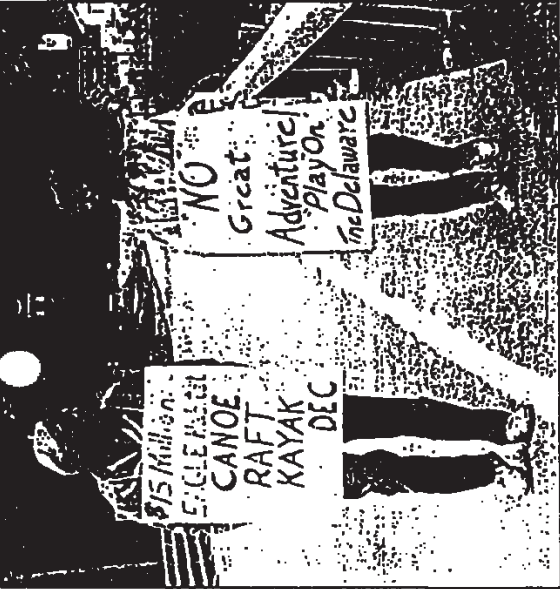
Record photo by Dominick Fiorillo.

## Churning up controversy

A kayaker negotiates the rapids on the Mongaup River in the Town of Lumberland yesterday. Local fishermen protest the use of the river by boaters, saying they fear the loss of a treasured trout stream. Story, photo, page 7.



David Hulise photo



Gazette photo by Barbara Ceria

While kayakers were making a test run down the 2.5 mile Delaware River Saturday, Herman Seidel, from Forestburg, and Joan Applegate of Cohoes walked along the stretch leading from O&R Utilities Rio powerstation to the

## Preservationists picket, boaters applaud run

BY DAVID HULISE  
Staff Correspondent

**MONGAUP** — Three kinds of faces watched the lower Mongaup Saturday: Happy, angry and worried.

Boaters looked and sounded delighted at the chance to legally plummet the 130 feet along the 2.5 mile river leading from Orange and Rockland Utilities Rio powerstation

to the Delaware River. About 20 fishermen, eagle supporters and preservationists picketing at the Route 97 river crossing were angry, some with quiet disdain and others with vocal abuse. They said Saturday's test runs, ordered by the Federal Energy Regulatory Commission, were a bureaucratic abuse marking the beginning of the end of the river.

The worried faces belonged to the utility, local, state and federal officials who had few answers about the puzzle of conflicting priorities engulfing the Mongaup.

If the morning and afternoon tests didn't provide them with answers, they did prove the river is navigable. Of the 20 boaters in the kayaks, simple and tandem canoes, those interviewed rated the river

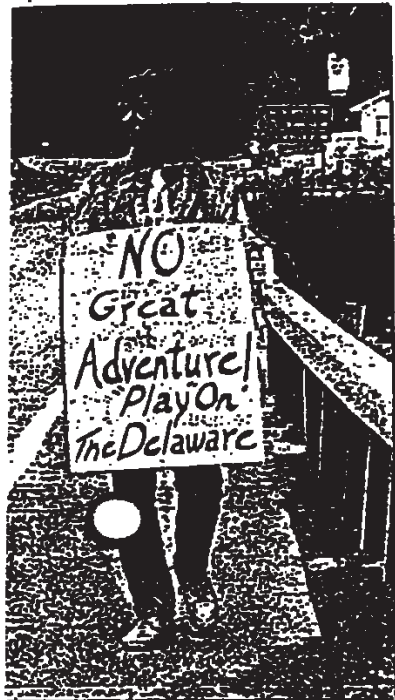
rapids at Class Three on an international scale of 1 to 7.

As kayaker Jim Bowen said, "That means you can damage your equipment if you're not careful." While most said the river, which never been open to boating, was new to them, Bowen said he didn't really need the Saturday run to judge. "I've been on it for about 27 years," Stirling, N.J., canoeist Al Braley

of the Appalachian Mountain Club, agreed with the rating. Braley and his wife were canoeing in tandem and reported no problems navigating the river. "There is a potential for trouble, though," he said after the afternoon run when two turbines pushed more than 900 additional cubic feet of water per second.

\* (See MONGAUP, back page)

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Gazette photo by Barbara Corso

Route 97 protesting the Federal  
mission's ordered boat run.

## laud run

of the palachian Mountain Club, agree with the rating. Braley and his wife were canoeing in tandem and reported no problems navigating the river. "There is a potential for trouble, though," he said after the afternoon run when two turbines pushed more than 900 additional cubic feet of water per sec-

★ (See MONGAUP, back page)

te said she enjoyed walking the M. aup area. "I like it. Its beautiful; and I know it will be destroyed if it's used by larger numbers of people. It should be reserved for peace and quiet."

Pickets, press, and onlookers began to accumulate on the narrow pedestrian walks by late morning, creating some traffic congestion at the bridge. Some of the protesters shouted and gestured at passing delivery vans and cars carrying boats. Occasionally, vehicles stopped in traffic on the bridge to lend moral support. State and Deepark police cleared the bridge of pedestrians shortly after noon. Some left, but many of the fishermen simply shed their signs and went down to the river to fish.

At the powerhouse National Park Service Superintendent John Hutzky said planned observations of the how the flow would affect the Delaware River at the confluence with the Mongaup were canceled by the high river. Hutzky continued to lobby for the NPS position that lower Mongaup permits be issued. NPS says open use will bring boaters ill-prepared for challenging conditions.

"Just look at the equipment these people use for this river. Wetsuits, flotation devices, equipment worth thousands of dollars. That's my whole point. Who will administer the permits or will there be controlled use?" he asked.

All the equipment didn't keep one of the kayakers from trouble early on. While warming up in the tailrace falls, one of the kayakers was briefly caught in a "hydraulic" underflow and extricated himself with some difficulty as officials, media and other boaters looked on.

Upper Delaware Council members recently questioned the utility's capacity to supply extra releases, given fluctuating, some-

times unreliable storage capacity in the system and the need to maintain winter releases for eagle populations. Metzger said the releases were not a problem under existing conditions but said they "could impact winter supply for the eagles. We don't know yet."

The DEC has a similar problem, which Regional Forestry Manager Bruce McMillan said complicates the management question. McMillan said the agency would be soon be in control of some 10,600 acres in the Mongaup River valley, but would have no control of the water. "Water reserves have to be factored" into to a FERC decision about boating, he said.

One O&R powerhouse employee, who described himself as a fisherman who wasn't worried about kayaks, suggested a solution. "Let 'em do it just like we did it today three, four times a year. You don't have to build or change anything. That's all they want."

## ★ MONGAUP

(Continued from page 1)

and down the course.

Trip leader Kenneth Fischman of the Kayak and Canoe Club of New York, which petitioned for boating access, said boaters' test reports would be compiled and forwarded to O&R, which will file the results with FERC as part of its application for a license to operate the Rio powerhouse.

Hal Hughes of the National Canoe Safety Patrol was among the boaters who reported an encounter with several protesters near the downstream take-out.

"They told us, with no uncertainty to take our expletive-deleted boats back to the Delaware," he said. "We just told them to have a nice day. I think that infuriated them even more."

Protesters arriving at the powerhouse gate were barred and O&R officials moved the takeout point for the test run to about 200 yards upstream of the bridge. They said the decision was based on the high Delaware water level, not the presence of protesters.

Most protesters picketed along the river bridge with sandwich signs attesting support from area legislators or berating Department of Environmental Conservation Commissioner Thomas Jorling.

While many were fishermen, and carried fishing gear, Joan Ap-

# ishermen, kayakers tussle over access to Mongaup

THOMAS LEEK

Reporter

ADDLETTOWN — Four Tri-State fishermen met with Congressman Benjamin A. Gilman Tuesday to discuss the potential of kayaking on the Mongaup river.

The fishermen, led by Philip Chase of Port Jervis, asked Gilman to help them get some access of Port Jervis, asked by Orange and Rockland Utilities Inc. for its hydroelectric power station at Rio Dam. The fishermen, according to Chase, under if O&R will be forced to provide kayakers access to the Nile river.

Gilman's grants and projects coordinator, P. Todd Burger, who attended the meeting from Washington via speakerphone, said this morning Gilman hadn't heard of the Mongaup situation before Thursday.

"We're going to make some calls and write some letters — and figure out where this is coming from," he said.



Contributed photo

*A flyfisherman lies on a lure as he stands near a quiet pool on the Mongaup River. Fishermen and environmentalists are fighting a proposal to allow recreational kayaking on the stream.*

from," Burger said, "and if it has been floating around a while, we'd like to know why no one knew about it."

Burger said Gilman hasn't yet developed a position on the matter.

"Mr. Gilman strongly believes if this proposal is true, we want to see public hearings and an environmental study done, and some sort of management plan prepared."

O&R has an outstanding request

before the Federal Energy Regulatory Commission to allow leases from the dam.

American Rivers Inc. delivered a motion to FERC in June 1989 in opposition to the licensing appli-

calion. The group asked FERC to impose a licensing term that would allow public access for whitewater boating on the lower Mongaup.

The Kayak and Canoe Club of New York and the American Whitewater Affiliation Inc., with combined membership of more than 300, filed similar motions in December 1988.

"...since the mid-1970s, Orange and Rockland has pursued a policy of prohibiting recreational use of the Mongaup River by whitewater canoeists and kayakers, including members of KCCNY and AWA. Potential recreational users have even been threatened with arrest," the December motion said.

"As we understand it, FERC is telling the power company if they have releases they must offer recreation," Chase said. "We would like to keep that wilderness stretch as status quo as possible, as much as for fishermen as for the environment."

★ (See TROUT, back page)

★ TROUT

(Continued from page 1)

Chase said because of licensing requirements, they have to install recreation structures such as bilge pumps, and fishing kayakers. He said that the area is just opposed to want, he said.

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C.R. 7.1

File ORU 4932

onment Chase said.

Chase said because of FERC licensing requirements, O&R will have to install recreational features such as blacktopped parking lots and picnic areas. "That's such a beautiful valley," Chase said, "and running (kayak) races would be very dangerous on that river. It would also be dangerous to fishermen, and dangerous to the towns of Deepark and Lumberland, as far as accidents go."

Chase said O&R has allowed open fishing on the Mongaup since 1954. "It's really a wilderness setting; to change it into a recreation area is just opposed to what environmentalists want," he said.

The kayakers, according to their motions, contend their sport is as much recreation as fishing, and O&R's policy is unjustified.

"You're changing the whole characteristic of it. And who's to prevent the novice from going on the river, or the liveries from renting kayaks to them?" Chase said, adding conditions on the Mongaup merit a Class III danger rating.

In 1975, Chase said, he first heard of plans to build access roads and picnic areas near the river's mouth. "I told them the fishermen had already lost 75 miles of the Delaware. Don't take away this three miles."

Kayakers want terms of FERC licensing to include allowances for whitewater boating during daylight hours, when water flow is sufficient, and a provision for special "recreational releases" on selected weekends.

A Jan. 19 letter from O&R to John Hutsky, superintendent of the Upper Delaware Scenic and Recreational River, said the power company plans "a field study of experimental releases" geared to kayakers in early March.

Gilman plans to write Thomas C. Jorling, commissioner of New York's Department of Environmental Conservation, to ascertain the DEC's position on the river, Burger said.

"We want to see if they have any hearing scheduled, what the timetable is, has an environmental study been done..." Burger said.

Burger said Gilman will also be in touch with O&R, FERC, and the Department of the Interior, to learn the National Park Service's position.

*RI-MT Gazette*

## LOCAL REPORT

Saturday, May 26, 1990

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# NPS: Delay Mongaup decision

By DAVID HULSE

Staff Correspondent

**MONGAUP** — Citing safety concerns for Delaware River boating traffic the National Park Service has requested federal power regulators temporarily withhold any determination about white-water boating on the lower Mongaup River.

NPS Superintendent John T. Hutzky on Saturday said high water levels prevented NPS from evaluating the impact to the Delaware confluence from Mongaup power plant releases during weekend boating tests. NPS had planned to video-tape water levels at the class II Delaware River rapid known as the "Mongaup wave" near the Delaware-Mongaup confluence.

In a Monday letter, Hutzky informed Federal

Energy Regulatory Commission Dean Shumway that NPS would consider studies incomplete until "we had the opportunity to assess the changes at the Mongaup confluence due to white-water releases."

NPS "major contribution" to the test, he wrote was planned to be the observation of changes, "if any," to the rating of the wave, Hutzky wrote.

Hutzky did not say Thursday, when those new observations might be made. Recent rains continue to maintain above average water levels in the Delaware. Hutzky emphasized the observations are necessary since the Mongaup boating proposal involves unprecedented weekend mid-summer releases, when novice Delaware boating

traffic is heaviest in an area which already has safety problems.

Documenting NPS concern statistically, Hutzky listed records of 104 search and rescue incidents in this area since 1980, 88 of which have occurred on weekends. Statistics included three drownings, and two near-drownings, with related federal costs of over \$22,000 since 1988.

Following Saturday's tests, a boating club spokesman took the position that Mongaup releases would, if anything improve conditions at the Mongaup Wave. "Rocks are the problem with rapids. If you add more water you cover them up or rapids disappear altogether," Kayak and Canoe Club of New York spokesman, Ken Fishman said.

# DER chief gets feel for river management debate

By DAVID HULSE  
Staff Correspondent

**NARROWSBURG** — Pennsylvania's chief environmental official got a taste of lively inter-governmental river management at Thursday evening's Upper Delaware Council meeting.

Department of Environmental Resources, Secretary Arthur Davis said the Upper Delaware was "an exciting pilot project" which would determine if local governments can effectively exercise authority for land use planning and management guarantees jointly with state and federal participation and consultation.

"Can they reach ends for long range uses of a priceless river? If that isn't exciting, I don't know what

is. There just isn't that many of these kinds of projects going forward," he said.

Davis sat in during council discussions of Mongaup boating and proposed river water quality upgrade plans and heard UDC critics challenging the authority of National Park Service reviews of local zoning plans.

NPS Mid-Atlantic Regional Director, James Coleman had been expected to reveal the results agency evaluations of land-use protection efforts of seven New York and Pennsylvania towns who at the beginning of the review, had chosen not to participate in the federal-state-local management council.

However Coleman said he would not yet make those findings public.

He instead announced he would offer those towns, several of which have since joined UDC, the opportunity to discuss the evaluations individually before revealing the results of the review and NPS recommendations.

Coleman also announced NPS concurrence with the recent UDC decision that Shohola Township zoning substantially conforms with river protection guidelines, making it the third area town judged in compliance. Lumberland and Deepark were reviewed earlier.

The Upper Delaware's 1987 management plan calls on UDC to review land-use efforts of participating towns for compliance with federal legislation, while NPS performed mandated reviews of

non-participating towns. The river plan also provides NPS authority to buy or condemn up to 1,450 additional acres in non-participating towns should land-use protection fail to protect scenic river standards.

Anticipated announcements of the review brought out about 40 spectators. Responding to a Damascus Township resident who disagreed with his decision not to disclose the results, Coleman said the individual local meetings would arranged anyway town governments wanted. "We like our government done out in the open," Eugene L'Hernault replied.

Barryville river activist Donald Rupp criticized the council and former UDC Chairman Philip Fitzpatrick of Westfall, saying UDC had failed to bring City of Port Jervis and Matamoras Borough officials into recent discussions concerning upgrading Delaware River water quality standards.

Fitzpatrick earlier had asked Delaware River Basin Commission delegate, Robert Everest about Tri-state governments consultation in the upgrade planning as Everest updated the council.

Two plans, one a petition for upgrading standards from the Delaware Water Gap to Hancock, and the second a DRBC-NPS staff study considering upgrading of middle Delaware standards, are now before the DRBC. Both would propose

maintenance of existing quality levels which now exceed allowable pollution standards, but Everest said DRBC Water Quality Advisory Council staff were having difficulty reconciling the terms and areas effected. "Personally I think they can't separate the two," Everest said.

Everest said the advisory council requested more detailed information about upgrade impacts on the Upper Delaware, similar to detail in the NPS-DRBC study limited to the middle Delaware. "However, we just can't say. Do more (data gathering)," Everest said.

The petition proposal, from the Watershed Association of the Delaware River, would curtail most new waste water treatment plant outfalls in the Delaware watershed. Supporting consultation with communities in the eight-mile stretch between the two NPS areas, Fitzpatrick said, "The piece in the center is going to have to live with whatever decision is made."

In other business the council heard Highland Supervisor Andrew Boyar and Lumberland Supervisor Thomas Hill report on their recent introduction of Sullivan County Board of Supervisors resolution opposing recreational boating on the lower Mongaup River.

Coleman earlier announced that NPS would again attempt to videotape the impact of Rio powerhouse releases on Delaware flows at the rivers' confluence on Thursday, June 14th.

Boyar said the supervisors resolution, to be considered next Thursday, concerned safety aspects of the new releases and the increased strains new New York Department of Environmental Conservation supported recreational uses would place on local emergency services.

In addition Boyar quoted a 1978 DEC study by then senior biologist William Kelly, who sharply opposed recreational boating on the Lower Mongaup.

Kelly wrote that "flotillas of white water zealots" create a "direct clash in values" in the "remote, pristine setting." He directly recommended prohibition of waterborne craft on the Mongaup, saying they were no more appropriate than prohibited snowmobiles and trail machines on remote Catskill Pro-

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**CONSULTATION  
MEETING NOTES**

DATE: May 3, 1989

MEETING DATE: March 29, 1989

LOCATION: Mamakating Town Offices, Wurtsboro, NY

PRESENT:

Roger Metzger	- Orange & Rockland Utilities (ORU)
Bob Kosior	- ORU
Hans Hasnay	- ORU
Tom Mark	- Leboeuf, Lamb, Leiby & MacRae (LLLM)
Tom Sullivan	- Stetson-Harza
Murdock MacKenzie	- New York State Department of Environmental Conservation (NYSDEC) - Reg. Affairs
Bruce MacMillan	- NYSDEC, Region 3
Doug Sheppard	- NYSDEC - Fish & Wildlife, Albany
Wayne Elliot	- NYSDEC, Region 3
Bob Angyal	- NYSDEC, Region 3
Glenn Cole	- NYSDEC, Region 3
Jim Wagner	- The Catskill Center
Rick Fromuth	- Delaware River Basin Commission (DRBC)
John Butsky	- National Park Service (NPS)
Malcolm Ross	- NPS
Bill Douglas	- Upper Delaware Council
Mark Clough	- U.S. Fish & Wildlife Service (USFWS)

Re: FERC Licensing of Orange & Rockland Utilities Mongaup Basin Projects,  
Stetson-Harza #4677

The purpose of the meeting was to give the resource agencies an overview of ORU's response to FERC's request for additional information.

Mr. MacKenzie opened the meeting by giving an overview of the FERC and NYSDEC processes. Mr. MacKenzie stated that ORU is required to obtain a 401 Water Quality Certificate from the State of New York before obtaining a FERC license. Mr. MacKenzie further stated NYSDEC considers all ORU's Mongaup Basin Projects as existing and, therefore, not requiring State Environmental Quality Review (SEQR) hearings. Mr. MacKenzie also explained that NYSDEC has issued the public notice indicating the ORU completion of the 401 Water Quality Certificate application. NYSDEC official comments on their review of

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the Mongaup Basin Projects license applications will be submitted to FERC. Mr. MacKenzie stated that ORU would be responsible for contacting all interested parties regarding the FERC license application.

Mr. Metzger gave an overview of the FERC licensing process for the ORU projects to date. He stated that ORU submitted its original license application for the project in September 1988. In November of 1988, FERC issued a deficiency notice and a request for additional information to ORU. The deadline for responding to the deficiency notice was February 13, 1989 and ORU met that deadline. The deadline for submitting additional information is May 13, 1989 and Mr. Metzger affirmed that ORU intends to meet that deadline with no request for an extension. In that regard, Mr. Metzger stated that the draft response to additional information was sent to all the resource agencies for comment on March 17, 1989 and that ORU would like the resource agencies' comments in time to incorporate them into the additional information response to FERC due May 13.

Mr. Sullivan gave an overview of ORU's application for license as well as its responses to the FERC deficiency notice and additional information request. Mr. Sullivan stated that ORU's FERC license application constituted a new water management plan for the Mongaup River Basin. Mr. Sullivan emphasized that this new water management plan balances all competing uses, both power and non power, of the waters in the Mongaup River Basin. Using a 35mm slide presentation, Mr. Sullivan gave an overview of the Mongaup River Basin and the interaction of each of the reservoirs and power plants. Mr. Sullivan explained that the Toronto and Cliff Lake Reservoirs are used as storage reservoirs within the system and have no power production capability. Flows from Toronto and Cliff Lake are diverted to Swinging Bridge Reservoir. Mr. Sullivan further explained that the Swinging Bridge Reservoir was used for peak power production and had a design discharge of 1600 cfs. He further explained that the Mongaup Falls Powerhouse had a design discharge of 540 cfs and that the Rio Powerhouse had a design discharge of 870 cfs. Mr. Sullivan

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explained that ORU proposed in its September 1988 FERC license application minimum discharges of 10 cfs from Toronto Reservoir, 30 cfs from the Swinging Bridge Reservoir, 40 cfs from the Mongaup Falls Reservoir, 20 cfs from the Black Brook diversion dam, and 60 cfs from the Rio Reservoir. Mr. Sullivan showed a slide detailing this minimum flow proposal and explained that the minimum flows in this proposal were guaranteed based on the storage in Toronto Reservoir and the Swinging Bridge/Cliff Lake complex and were not on an "or inflow" basis. Mr. Sullivan also showed the participants at the meeting a slide of the historic median flows for the month of August at each of the project locations (Toronto 14 cfs, Cliff Lake 16 cfs, Swinging Bridge 36 cfs, Mongaup Falls 48 cfs, Black Brook 9 cfs, and Rio 57 cfs). Mr. Sullivan also explained that ORU proposed increased recreational access to the project and that ORU had been consulting with the Kayak and Canoe Club of New York (KCCNY) relative to permitting whitewater canoeing on a limited basis on the Mongaup River downstream of the Rio Powerhouse.

Mr. Sullivan reviewed the draft response to the FERC request for additional information that had been submitted for resource agency review on March 17, 1989. FERC Request No. 1 dealt with the instream flow study conducted by Stetson-Harza for ORU. Mr. Sullivan indicated that FERC had requested ORU to look at a higher range of flows than had been looked at in the original FERC license application. Mr. Sullivan explained that ORU is working with NYSDEC and USFWS to wrap up the technical review of the instream flow study by May 13.

Mr. Sullivan explained that the response to additional information item #2, was a copy of a letter supplied by the USFWS.

Mr. Sullivan next reviewed the response to FERC Request No. 3 which dealt with bald eagle protection. The steps ORU is proposing to protect bald eagle habitat include: no public access to Cliff Lake and Black Lake Creek downstream of Cliff Lake to the confluence of the Mongaup River; no public access to Rio and Mongaup Falls Reservoirs from December 1 to March 31; and

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maintenance of the existing trashracks at Swinging Bridge, Mongaup Falls and Rio Reservoirs on a year round basis. Mr. Sullivan also explained that a nesting platform for bald eagles had been established near the project area by NYSDEC.

Mr. Sullivan explained that the intent of FERC Request Nos. 4 and 5 was to assess the impact of run of river operation relative to generation and emergent vegetation growth. Mr. Sullivan said that in the draft additional information response as well as the deficiency response, ORU had identified a drawdown zone in areas likely to support emergent vegetation and that these areas would be field inspected in April 1989.

Mr. Sullivan explained that FERC request No. 6 deals with the aesthetics of the area. In the draft response, ORU provided photographs of the area. Color photographs were provided to DRBC, USFWS, NPS, NYSDEC. Black and white photographs were provided to all other agencies.

Mr. Sullivan explained that FERC Request No. 7 dealt with whitewater boating use of the project area. Mr. Metzger explained consultations that ORU had had with KCCNY to date. The consultations focused on the use of the area below Rio Powerhouse on two weekend days per month during the summer or periodically during the week based on normal Rio unit operations with the Kayakers putting in below the Rio Powerhouse and taking out just upstream of the Mongaup River/Delaware River confluence.

Mr. Metzger explained that various reaches of the Mongaup River from Swinging Bridge south to the Delaware River confluence would be open at various times during the year for the public. Toronto Reservoir would continue to be open. At the Swinging Bridge Reservoir, ORU recently upgraded the boat launching area and proposes to keep it open to the public. A picnic area is open to the public as well at the Swinging Bridge Reservoir.

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Mr. Ross asked if parking and access was to be provided near the river reach from the Rio Dam to the Delaware River confluence. Mr. Metzger explained that fishing access was currently available at the Rio Powerhouse to the Delaware River confluence. Under ORU's current proposal, fishing access would be allowed between Rio Dam and Powerhouse. ORU currently allows parking off of Route 97, near the Delaware River confluence, for approximately four cars. ORU has no plans to improve this lot. Mr. Hutsky next related a meeting he had had with the American Whitewater Association (AWA). Mr. Hutsky said that the NPS is concerned about access at the Mongaup/Delaware River confluence (the Mongaup Wave). AWA has said to the NPS that they will not seek access on Route 97 to preclude boaters coming out onto the Delaware River from the Mongaup.

Mr. Douglas explained that the Town of Lumberland and other localities were concerned about the safety of people kayaking on the lower Mongaup River and any effect this may have on local rescue operations. Mr. Douglas said that local towns were also concerned about possible commercial boating operations on the Mongaup. Mr. Metzger stated that ORU would, under no circumstances, allow commercial boating operations to take place below the Rio Powerhouse.

Mr. Hutsky explained that in 1988 over 200,000 people used the Delaware River for recreation and that because of the large number of people using the basin, the tributaries were starting to get a larger share of attention. Mr. Hutsky said that in particular, the Laxawaxen River Basin is starting to see more and more use. He said that the NPS has no jurisdiction over the tributaries.

Mr. Metzger agreed to provide the AWA letters to the NPS, as well as meeting minutes from previous AWA meetings. Mr. Ross said it would be important to check who was going to be using the Mongaup River and what their level of expertise in whitewater boating was.

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Next, Mr. Sullivan went over additional information Item No. 9 which dealt with project recreation. Mr. Sullivan said that there are no new facilities planned for the project area, however, ORU does intend to maintain their existing facilities.

For Item No. 10, Mr. Sullivan explained that seasonal flow duration curves would be provided by ORU after the final minimum flow plan had been negotiated with the agencies.

For Item No. 11, which pertains to Exhibit F drawings, Mr. Sullivan explained that this was a logistical measure that FERC had requested and ORU would provide an overview drawing to FERC.

Mr. Sullivan explained that ORU's filing deadline for additional project responses was May 13, 1989 and in order to meet that deadline, ORU needed responses from the agencies by the end of April. Mr. Hutsky stated that he would provide responses to the resource agencies by April 7, 1989. Mr. Douglas said that he needed at least 15 copies of this response to distribute to the people that would be meeting at the Upper Delaware Council.

Mr. MacKenzie asked Mr. Hutsky about the AWA/NPS meeting of March 28, 1989. Mr. Hutsky stated that the AWA felt that the area downstream of the Rio Powerhouse does need to be managed for whitewater boating. Mr. MacKenzie questioned who would regulate usage. Mr. Metzger said that ORU did not have the manpower to regulate usage or the level of expertise of whitewater users. Mr. MacKenzie reiterated the concern about the commercial usage and cited several examples. Mr. MacKenzie is concerned that AWA usage will result in an inconsistent response to FERC by different agencies. Mr. Ross suggested that the KCCNY come up with criteria for usage such as skill, equipment, etc. Mr. Hutsky reiterated that the NPS has no jurisdiction over the Mongaup, and that

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the management of recreation activities would have to fall under either ORU, NYSDEC or local government. Mr. MacKenzie reiterated that NYSDEC has no jurisdiction over the Mongaup in terms of whitewater boating. Mr. MacKenzie stated that whatever agreements were made, NYSDEC wants to see the agreement before the FERC license is issued.

Mr. Ross detailed NPS's attempts to inform the public on recreational opportunities. Mr. Ross said that ORU should consider how they will notify the public of company recreational facilities and their availability. Mr. Ross indicated that NPS would be willing to work with ORU on dealing with this issue. Mr. MacKenzie indicated that NYSDEC has required that signage be installed to inform and regulate the public usage of recreational facilities at other hydroelectric plants. Mr. Metzger replied that ORU would have to further evaluate the level of notification relative to recreational opportunities.

TJS/ms

## Stetson-Harza

A HARZA COMPANY

The Concord Center  
10 Ferry Street, Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

## MEETING NOTES

DATE: February 2, 1990

MEETING DATE: January 18, 1990

LOCATION: New York State Department of Environmental Conservation  
NYSDEC) Offices, Albany, NY

PRESENT:

Tom Sullivan	- Stetson-Harza (S-H)
Hans Hasnay	- Orange & Rockland Utilities (ORU)
Roger Metzger	- ORU
Bob Kosior	- ORU
Dick Tortoriello	- Delaware River Basin Commission (DRBC)
D. Muralidhar	- NYSDEC
Russ M. Pleasant	- NYSDEC
Jim Colquhoun	- NYSDEC
Robert Angyal	- NYSDEC
Bob Bathrick	- NYSDEC
Charles Morrison	- NYSDEC
Murdock MacKenzie	- NYSDEC
Keith Silliman	- NYSDEC
Doug Sheppard	- NYSDEC
Mark Clough	- U.S. Fish & Wildlife Service (USFWS)
Tom Mark	- LeBoeuf, Lamb, Leiby, & MacRae (LLLM)

Re: Orange & Rockland Utilities Mongaup Hydroelectric Project  
Response to FERC Additional Information Request  
S-H #4932

The meeting was opened by Mr. MacKenzie who explained that ORU had called for a meeting in order to discuss the FERC Additional Information Requests regarding flow management in the Mongaup River. Mr. Metzger expanded upon this by saying that ORU wanted to meet with the agencies in order to discuss the letters of December 26 and August 28, 1989 from FERC requesting additional information. Mr. Metzger said that these requests were due on April 25, 1990 and that ORU wanted to review methodologies prior to beginning the studies.

Mr. Sullivan handed out a package of exhibits which he then proceeded to review with the group. These exhibits included: studies proposed to date (Exhibit 1); scenarios for the operations models run to date (Exhibit 2); the water years analyzed to date (Exhibit 3); the NYSDEC requests for minimum flows and headwater restrictions contained in their August 4, 1989 letter (Exhibit 4); the NYSDEC 401 water quality certification for the projects

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In particular, on Exhibit 4, the NYSDEC request of August 4, 1989, Mr. Sullivan had some questions for NYSDEC regarding the applicability of some comments in light of the 401 water quality certificate. In particular, Mr. Sullivan asked if NYSDEC considered that the maximum discharge limits at Toronto of 75 cfs and Swinging Bridge (550 cfs) were still included in NYSDEC's comments even though they weren't explicitly stated in the 401 Water Quality Certificate. Mr. Colquhoun and Mr. Sheppard indicated that these maximum discharge restrictions were still included in NYSDEC's comments to FERC. Mr. Sheppard expanded upon this to say that NYSDEC was not looking for ORU to shut down its' Unit No. 2 at Swinging Bridge all the time but rather to limit the amount of time Unit No. 2 was on in order to limit the amount of fluctuation and the magnitude of the flow in the Mongaup River downstream of the Swinging Bridge plant. When questioned about this, Mr. Sheppard indicated that what he meant was that when natural inflow in the Mongaup River Basin was to the extent that spillage would occur, both units could be run at Swinging Bridge. NYSDEC would be looking for ORU not to operate Unit No. 2 in a peaking mode during low water periods but rather maintaining more constant flow in the river. ORU pointed out that this restriction would eliminate use of Swinging Bridge Unit No. 2 during summer peak demand/low inflow months.

Mr. Sullivan also asked if the headwater restrictions imposed at Mongaup Falls and at the Rio projects were still included in NYSDEC's comments even though they were not explicitly stated in the 401 Water Quality Certification. Mr. Sheppard indicated that these headwater restrictions were still included in NYSDEC's comments to the FERC. Mr. Sullivan asked that Mr. Sheppard clarify the period of time at the Rio project that NYSDEC would want to limit ORU's ability to draw the pond down to no more than a foot. Mr. Sheppard indicated that he could not remember the timing for this off the top of his head, but would check his notes and get back with Mr. Sullivan.

The third question Mr. Sullivan had regarding Exhibit 4 was the inclusion of a 20 cfs minimum flow at the Mongaup Falls powerhouse. Mr. Sullivan indicated that at the present time it was not possible to discharge 20 cfs at the Mongaup Falls powerhouse through any type of unit operation. Mr. Sheppard indicated that the 20 cfs at Mongaup Falls powerhouse had been arrived at through documentation that NYSDEC had of what the leakage flows were at the Mongaup Falls powerhouse. Mr. Sullivan indicated that from operations data that S-H had analyzed, they approximated the leakage at more on the order of 11 cfs. Initially, NYSDEC commented that in their August 4, 1989 letter, they would be looking for 80 cfs in the Mongaup Falls bypass and 20 cfs in continuous release or leakage at the powerhouse. After some discussion, NYSDEC indicated that they would be looking at a firm number for a total flow downstream of the powerhouse that would include both the 80 cfs plus a firm number for leakage that NYSDEC assumed was 20 cfs but Stetson-Harza calculated from station records to be 11 cfs. In addition, Mr. Sheppard indicated that although NYSDEC did not specifically mention a minimum flow in the Black Brook reach in their August 4, 1989 letter, they would be looking for 20 cfs release from the Black Brook facility.

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Next, the group discussed Exhibit 5, NYSDEC's 401 Water Quality Certificate. Mr. Colquhoun indicated that the 20 cfs for the Mongaup Falls powerhouse on this exhibit had the same rationale as the 20 cfs mentioned in Exhibit 4. Mr. Sullivan asked Mr. Colquhoun and Mr. Sheppard their understanding of the provision for flows less than 100 cfs at the Swinging Bridge, Mongaup Falls, and Rio sites as included in the 401 Water Quality Certificate. Mr. Colquhoun indicated that this was a loose end in relation to the Water Quality Certificate. NYSDEC commented that for periods when natural inflows fell below 100 cfs ORU would be allowed to run a lower minimum flow but never lower than 60 cfs. Mr. Colquhoun indicated that NYSDEC would be looking for a proposal from ORU for acclimation studies to determine the length of time that reduced flows could be maintained in these reaches. Mr. Colquhoun suggested that in order to bracket the energy loss for the project, that ORU should look at the minimum flows set in the Water Quality Certificate for the high end and the 60 cfs for the low end.

Next, the discussion turned to Exhibit 7, the USFWS letter of July 14, 1989. Mr. Sullivan asked Mr. Clough if the 100 cfs below the Mongaup Falls powerhouse referred to directly below the Mongaup Falls powerhouse or did it refer to below Black Brook. Mr. Clough indicated that he thought the 100 cfs referred to directly below the Mongaup Falls powerhouse with an additional 20 cfs coming from Black Brook for a total of 120 cfs. Mr. Clough indicated he would check on this and get back with Mr. Sullivan. Mr. Sullivan asked Mr. Clough if USFWS was imposing any restrictions on maximum flow or headwater elevation? Mr. Clough said that that had not been included in the USFWS letter. Mr. Metzger specifically asked Mr. Clough if the USFWS had considered lower minimum flows during low inflow periods. Mr. Clough replied that the USFWS had not considered flows lower than those specified in their July 14, 1989 letter.

Next, the discussion turned to Exhibit 8, the DRBC request of May 24, 1989. Mr. Sullivan indicated that ORU had completed its analysis of the DRBC request of May 24, 1989 and Mr. Sullivan explained cases A-E that were carried out for the drought analysis. Mr. Mt. Pleasant and Mr. Muralidnar questioned ORU's choice of the East Branch of the Delaware River for simulation of drought flow conditions and asked why ORU had not chosen the Neversink River. Mr. Sullivan indicated that ORU had analyzed several different river basins to come up with the unregulated drought hydrology including the Neversink and that for reasons stated in the report, had chosen the East Branch. Mr. Sullivan further agreed to review that part of the report and get back with the NYSDEC and DRBC regarding it.

In terms of general discussion, Mr. Tortoriello asked if the minimum flows and the rule curves being proposed by NYSDEC and USFWS would take into consideration drought periods and drought emergencies. NYSDEC and USFWS had no conclusive answer to this question. Mr. Tortoriello indicated that in addition to FERC approval of rule curves and minimum flows, that the DRBC

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would have to approve any change in operating regime for the reservoirs as well.

Mr. Sullivan next went over the proposals for studies to be conducted and amended, those that were included in Exhibit 1. Mr. Sullivan indicated for median year studies that ORU would analyze USFWS' minimum flow scenario as well as analyze NYSDEC 401 Water Quality Certification scenario with maximum flow and headwater restrictions. Mr. Sullivan also indicated in addition to the 401 Water Quality Certification scenario that a 60 cfs scenario would be analyzed. For drought year conditions, ORU will analyze USFWS' minimum flow scenario as well as the NYSDEC 401 Water Quality Certification with state minimum flows and 60 cfs as well as with maximum flow and headwater restrictions. For the dry year studies, the group concluded that since the drought years were being analyzed, there was no need to analyze any scenarios in a dry year. For wet year studies, ORU agreed to analyze ORU's FERC license proposal, analyze the USFWS' minimum flow scenario, and analyze NYSDEC's 401 Water Quality Certification flows as well as the flow 60 cfs with maximum flow and headwater restrictions. Mr. Muralidhar asked if ORU planned on looking at a string of drought years as opposed to one drought year. Mr. Sullivan indicated that he would analyze this situation and get back with NYSDEC and DRBC. In addition, Mr. Sullivan asked Mr. Tortoriello if cases A-E as proposed by S-H in the report to DRBC would need to be run for median year and wet year conditions. Mr. Tortoriello indicated that he would check on this and get back to ORU.

The conversation then changed to NYSDEC's letter of January 16, 1990. Mr. Metzger indicated several things regarding this letter. First of all, Mr. Metzger indicated that the letter confirms NYSDEC's minimum flows as proposed in the 401 Water Quality Certificate. The second factor that Mr. Metzger went over was whitewater access. On page 4 of the letter, Mr. Metzger indicated that ORU has agreed to provide a ten car parking area at Rio Powerhouse. In addition, NYSDEC has requested amenities at the access points. Mr. Metzger indicated that the NYSDEC request goes beyond what Mr. Humback of the New York Kayak and Canoe Club had asked for in amenities. Mr. Silliman indicated that in September, 1988, New York Kayak and Canoe Club had discussed with NYSDEC these amenities and that's why they had been included in the letter. Mr. Bathrick of NYSDEC indicated that it was a good idea to have picnic tables and hibachis with fixed bases but that no garbage collection facilities should be put in. Mr. Bathrick also indicated that it would be a good thing to have a bulletin board at the site with river flow information and a sign that indicated that any trash brought in was also brought out. Mr. Metzger indicated that whatever amenities that may come along regarding access points and recreations facilities that ORU was looking for low maintenance facilities. Mr. Tortoriello asked if the Upper Delaware Council's opposition to whitewater boating had been taken into account in any of the discussions. Mr. Mark indicated that if the Upper Delaware Council wanted to be represented in the best possible way that they should file as an intervener and notify FERC.

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Mr. Kosior indicated that ORU had contacted NYKC, American Whitewater Association, American Rivers and National Park Service regarding flow releases for whitewater field tests. These field tests have been tentatively scheduled for one day during the first two weeks in March. Mr. Kosior indicated that he would notify all parties involved when the schedule was finalized.

The meeting closed with a summary of assignments. In summary, Mr. Sheppard is to contact Mr. Sullivan regarding headwater restriction timing at the Rio project. Mr. Tortoriello is to contact Mr. Sullivan regarding analysis of the DRBC cases for the median and wet years. Mr. Clough is to contact Mr.

Sullivan regarding minimum flows downstream of Mongaup Falls Powerhouse. Mr. Sullivan is to contact all the agencies regarding the selection of gages for the DRBC studies as well as the feasibility of looking at multiple drought years in the analysis.

# Stetson-Harza

A HARZA COMPANY

The Concord Center  
10 Ferry Street Suite 310  
Concord, New Hampshire 03301  
(603) 226-2888

## MEETING NOTES

DATE: May 29, 1990

MEETING DATE: April 9, 1990

LOCATION: New York State Department of Environmental Conservation  
(NYSDEC) Offices, Wolf Road, Albany, NY

PRESENT:

Hans Hasnay	- Orange and Rockland Utilities (ORU)
Bob Kosior	- ORU
Roger Metzger	- ORU
Tom Sullivan	- Stetson-Harza (S-H)
Mark Clough	- U. S. Fish & Wildlife Service (USFWS)
Wayne Elliot	- NYSDEC
Jim Colquhoun	- NYSDEC
Doug Sheppard	- NYSDEC
Murdock MacKenzie	- NYSDEC
Dick Tortoriello	- Delaware River Basin Commission (DRBC)
Russ Mt. Pleasant	- NYSDEC
D. Muralidhar	- NYSDEC

Re: Orange & Rockland Utilities Draft Response to FERC Additional  
Information Request - Schedule B, S-H #4932

The purpose of the meeting was to review the draft Response to the FERC Additional Information Request - Schedule B which had been distributed to the attendees on March 27, 1990. Mr. MacKenzie opened the meeting by stating the purpose. Mr. Metzger then described the agency consultation process regarding Schedule B and indicated that ORU was required and intended to submit their final response for Schedule B no later than April 25, 1990.

Mr. Sullivan initiated a review of the Draft response. This review included a description of each of the scenarios analyzed (cases 3.1 through 3.8) as well as a listing of which years (wet, median, dry, drought) each of the cases were analyzed for. In addition to the cases analyzed in the report, Mr. Sullivan indicated that cases 3.3 and 3.7 would be analyzed for the dry year for the final submittal to FERC. Mr. Sullivan then reviewed Figure IV-2 from the draft response which was a nodal diagram describing the HEC5 operations model constructed for the Mongaup River basin. Mr. Sheppard asked Mr. Sullivan why the wet year had not been analyzed for any of the cases in the draft response. Mr. Sullivan responded that a discussion had been included within the draft that stated that the wet year model was not complete at the time the draft was put together but that it would be circulated as soon as it was complete. Mr. Sullivan further elaborated that he suspected the wet year model would be complete within a week to ten days.

### DISTRIBUTION

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Mr. Sullivan then provided the group with a handout which included Figures VI-1 through VI-3 (attached) which illustrated a composite of the various reservoir operating curves for the median year (1983) (Figure VI-1), dry year (1981) (Figure VI-2), and the drought year (1964-65) (Figure VI-3). Mr. Sullivan indicated that two dates were important in comparing existing and proposed operations. On August 1, it is important for the reservoir elevation to be between Levels 2 and 3 in order to provide for storage during the dry period of the year. On October 1, it is important for the reservoir elevation to end up on the rule curve in order to avoid overlap of drought conditions from one year to the next. Mr. Sullivan stated that for median year conditions (Figure VI-1) all of the cases analyzed (3.1, 3.2, 3.6, 3.8) had reservoir elevations that fell between Levels 2 and 3 on August 1. Also, all of the cases analyzed with the exception of case 3.1 (USFWS) fell on the rule curve on October 1.

Next Mr. Sullivan reviewed Figure VI-2 for 1981 and explained that ORU's FERC licensing proposal was the only proposal to get to historical levels on either August 1 or October 1. Mr. Sullivan also explained that he suspected that NYSDEC's proposals for reduced minimum flow cases 3.3 and 3.7 would also get to the target levels. Mr. Colquhoun asked if there were existing operations plotted on any of these curves. Mr. Sullivan indicated that the only one that had an existing operations plotted on it were for Figures VI-3 (1964-65).

Mr. Sullivan pointed out that the existing condition curve included in the Figure VI-3 was based on ORU's current minimum flow release policy for drought flows. Mr. Tortoriello pointed out that this was not necessarily the outflow that DRBC asked for during drought periods but rather was ORU's current flow policy. Mr. Kosior concurred with this and stated that ORU's flow plan does meet DRBC requests on releases. Mr. Sullivan indicated that for drought flow conditions at Toronto Reservoir on August 1, cases 3.3, 3.7 and 3.8 had reservoir elevations that fell between Levels 2 and 3 (case 3.1 did not). On October 1, only case 3.8 had an elevation on the rule curve, all other cases fell below the rule curve. Mr. Sullivan concluded his discussion of the report by asking if there were any questions and commenting that ORU needed the agencies comments for preparation of a final response to be completed no later than April 20.

Mr. Tortoriello informed the group that there was a meeting of the Flow Management Technical Advisory Committee at DRBC on Tuesday, April 10, 1990. Mr. Tortoriello asked ORU if any handouts from the April 9 meeting could be used for the April 10 discussion (given the fact that the ORU report was confidential). Mr. Metzger indicated that ORU would have to check on this and would get back to Mr. Tortoriello either late on April 9 or early on April 10. Mr. Tortoriello also asked if anyone from ORU would like to attend the April 10 meeting and discuss the operations model. Mr. Metzger said that that would likely be the case and ORU would get back to DRBC to discuss this early on April 10.

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Mr. Mt. Pleasant commented that 1966 was indeed a serious drought year as well and asked Mr. Sullivan what the results would have been of the modeling if it had been carried over into 1966. This preceded a fairly lengthy discussion involving Mr. Mt. Pleasant, Mr. Muralidhar, Mr. Tortoriello, and Mr. Sullivan regarding the need to do additional years of modeling. Mr. Sullivan pointed out that 1964-65 had been done at DRBC's request. Mr. Tortoriello confirmed this. Mr. Muralidhar asked if it were possible to do additional years beyond 1965. Mr. Sullivan indicated that within the time frame of the FERC response that that would not be possible but that if the group looked at the end of 1965 they would draw the same conclusion that Mr. Muralidhar was trying to get at. That is, that some of the minimum flow scenarios have a very drastic effect during a drought year, particularly as you overlap into the next year. No commitment was made by ORU regarding additional years of analysis.

Mr. Tortoriello indicated that in addition to elevation versus time plots that were prepared by S-H for the draft response, that DRBC would be interested in storage versus time plots. Mr. Tortoriello passed out some graphics that DRBC had prepared along these lines (attached). Mr. Tortoriello commented that DRBC had reviewed the operating curves that were prepared for the draft report. Mr. Tortoriello said that in addition to these project operation curves, DRBC would be looking for some guarantees regarding minimum elevations that the reservoirs would not be drawn below. Mr. Tortoriello asked Mr. Sullivan how he felt the best way to come up with various operating curves under various scenarios such as the median year, the drought warning year, and the drought emergency year would be done. Mr. Sullivan indicated that the graphs that were presented in the draft report were the first step toward that goal and that each member of the group needed to work on which scenario they felt was best suited for each of the years. Mr. Sullivan indicated that absent of this, that ORU would be proposing a scenario to FERC. There was no response to this request from the rest of the group. Mr. Sullivan further added that the operating curves that were generated as part of the draft would become a target curve and that a band would have to be placed around these curves within which ORU would have to operate. Mr. Tortoriello added that DRBC would like some recognition of total usable storage within the system including the usable storage at Swinging Bridge and Rio Reservoirs from their normal operating level right down to the center line of the low level outlets. Mr. Sullivan and Mr. Kosior indicated that this information could be provided in the final response.

Mr. Metzger asked what impact the proposed operating ranges would have on winter generation at Swinging Bridge. Mr. Sullivan commented that it was his belief that there would be periods during the winter when Swinging Bridge would not be able to generate because of lack of flows. Mr. Metzger pointed out that this could have a serious impact on the bald eagle population as those populations use a forage base of fish that are entrained into the Swinging Bridge intakes during the winter. Mr. Sheppard indicated that this was not a concern of his and that ORU should not be concerned about this, that that was something FERC had to decide on.

Along the lines of generation, Mr. Sheppard asked that ORU present the generation that would be available if the minimum flows were run through minimum flow units. Mr. Sullivan pointed out that it was not a simple matter of just presenting the generation but rather that a feasibility level study had to be done that included a cost/benefit analysis. Mr. Sullivan indicated that ORU had performed this for their FERC license minimum flow proposal and that the project did not look feasible under those conditions. Mr. Sullivan further pointed out that it would not be possible to complete an updated feasibility study in time for the FERC submittal. Mr. Sheppard requested that ORU perform this feasibility study for the minimum flow units. Mr. Sheppard pointed out that these minimum flow units could help to pass the forage base that Mr. Metzger referred to earlier at Swinging Bridge. Mr. Sheppard asked that ORU provide DEC with tabular output of the HEC5 models for cases 3.1, 3.6, and 3.8. Mr. Sullivan indicated that this output in printed form was fairly lengthy and asked Mr. Sheppard if it was okay to provide this information on a floppy disk. Mr. Sullivan agreed to consult with Mr. Sheppard and Mr. Mt. Pleasant regarding the output format for the HEC5 model. Mr. Sheppard indicated that it was okay to provide it on a floppy disk. Mr. Sheppard expressed some confusion regarding the yield analysis that was performed and indicated that he thought that it was not a true yield analysis but rather factored in drawing the pond down for generation. Mr. Sullivan made it very clear that any Toronto Reservoir levels below existing Level 2 (which Toronto Reservoir under the proposed conditions is in all the time) are operations for minimum flows only. Mr. Sullivan stated that if it would assist the agencies that ORU would provide flow duration curves at the Rio gage for each of the water years. Mr. Sheppard indicated that flow duration curves and a table of average monthly flows would be helpful.

Mr. Sheppard asked Mr. Sullivan to compare the actual hydrology for water years 1981 and 1983 to the East Branch synthesized hydrology for those years. Mr. Sullivan said that this could be done but asked Mr. Sheppard of what value the information would be. Mr. Sheppard indicated that it would good to see what the goodness of fit was for those synthesized gages during 1964-65. Mr. Sullivan asked, given this, what choices any of the parties would have in changing the analysis. Mr. Sullivan indicated the analysis was based on the best hydrologic judgement with the data available. Mr. Colquhoun indicated that indeed it may not be possible to change it but it was an important piece of information for all the agencies to have to determine just how well the 1964-65 data fit. It was agreed to do a flow duration comparison as well as present NYSDEC with the raw inflow data at CP5 and CP20 (Figure IV-2, Draft Response).

Mr. Tortoriello stated that given the operating curves presented in the report, he was curious as to what USFWS's position would be regarding minimum flows. Mr. Clough indicated that the USFWS's position and their responsibility was solely to protect fish and wildlife resources and that any recommendation they made had to be made in that context. Mr. Sullivan pointed out that up to this point in time, the USFWS' minimum flow recommendations

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have been based solely on a steady state IFIM analysis and that from a fisheries' point of view, it was important to take into consideration not only that steady state analysis, but also the long term hydrologic effect of reservoir drawdown on downstream resources.

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**FERC ADDITIONAL INFORMATION REQUESTS**

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20585

NOV 14 '88

Projects Nos. 9690-004, 10481-001  
and 10482-001 - New York  
Rio, Mongaup, and Swinging  
Bridge Projects  
Orange and Rockland Utilities, Inc.

Mr. Frank E. Fischer  
Engineering and Production  
Orange and Rockland Utilities, Inc.  
One Blue Hill Plaza  
Pearl River, NY 10965

**RECEIVED**

NOV 25 1988

STETSON-HARZA

Dear Mr. Fischer:

BY.....

Your license applications filed on September 9, 1988, fail to conform to the requirements of the Commission's regulations. A list of deficiencies for all 3 projects is enclosed as Schedule A.

Under section 4.32(d) of the regulations, you have 90 days from the date of this letter to correct the deficiencies in your applications. Further, under section 4.32(f), which allows the Commission or its delegate to prescribe a time for the submission of additional information, you have 180 days from the date of this letter to provide additional information needed by the staff to complete its evaluation of your applications. See Schedule B. If the correction of any deficiency or the submission of additional information causes any other part of the applications to be inaccurate, that part must also be revised and refiled by the due date. A copy of the information requested must be provided to each agency consulted under section 4.38 of the regulations.

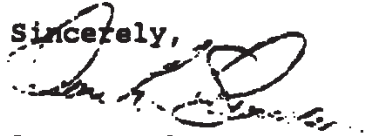
Please be aware that any information which is needed beyond that which is specified in the Commission's regulations may be requested, pursuant to the 18 C.F.R. section 4.32 (f), at any time prior to final action on your applications.

Within 5 days of receipt, provide a copy of this letter and the attached schedule to all agencies you will consult in response to this information request.

The information requested in this letter reflects the staff's current level of knowledge of your applications. We have attempted to fully explain, for each listed item, the engineering or environmental resource concerns and why the information is needed. If you believe that, from a technical point of view, any requested information is not necessary or alternative methods of analysis would provide the necessary information, you are

encouraged to discuss these matters with the staff by calling Steven H. Rossi on (202) 376-9814. If you request it, we will meet with you and your representatives at the Commission's offices here in Washington. If you are unable to meet the deadlines in this letter, you should call or ask for meetings as soon as possible. If an original and 14 copies of the information requested are not timely filed with the Secretary of the Commission, your applications will be rejected.

Sincerely,



Dean L. Shumway  
Director, Division  
of Project Review

cc: Mr. G. S. P. Bergen  
Mr. Thomas E. Mark  
LeBoeuf, Lamb, Leiby,  
& MacRae  
520 Madison Avenue  
New York, NY 10022

Mr. John N. Webster  
Rio Hydroelectric Associates  
c/o Southern New Hampshire  
Hydroelectric Development Corp.  
P. O. Box 1073  
Dover, NH 03820

Enclosures:  
Schedule A  
Schedule B

Schedule A  
Projects Nos. 9690, 10481, and 10482

Deficiencies

1. The applications do not conform to the requirements in §4.38(b)(2). Specifically, you have failed to conduct reasonable studies necessary for the Commission to make an informed decision regarding the merits of the application. The results of the study identified below is necessary for the Commission to determine the impacts on natural resources (§4.38(b)(2)(i)(D)), to determine suitable mitigation (§4.38(b)(2)(i)(E)), and to minimize impacts to significant natural resources (§4.38(b)(2)(i)(F)).

The Department of the Interior, in its letters of January 4, 1988, on FERC Project No. 10481, and January 14, 1988, on FERC Project No. 9690, asks for a study to determine the "effects of cyclic water level fluctuations on aquatic and riparian vegetation."

2. The applications do not conform to the requirements in §4.38(b)(2). Specifically, you did not complete stage 2 consultation with the U.S. Fish and Wildlife Service (FWS) before completing the instream flow study and filing the application with the Commission. The memo of your meeting with the New York State Department of Environmental Conservation (DEC), dated June 29, 1988, indicates that a more recent draft application superseded the draft application that you requested comments on in 1986. The memo also indicates that the FWS did not receive a draft instream flow study or a copy of the latest draft for their comments and recommendations.

3. The applications do not conform to the requirements in §4.38(f). Specifically, you must:

(a) identify any comprehensive state and regional water resource development plans and programs in the area where the project is to be constructed (contact state resource or other appropriate agencies);

(b) explain how and why the projects would, or would not, comply with the relevant comprehensive state and regional water resource development plans and programs; and

(c) if the projects would not comply, explain why the project should be allowed to not comply with these plans and programs.

4. The exhibit E does not conform to the Commission's regulations in §4.51(f)(3)(i). Specifically, you should provide a description of the wetland vegetation mentioned in sections 1.4 and 3.1.2 of the exhibit E. You should list the dominant or most common species of wetland plants in the impoundments.

Schedule B  
Projects Nos. 9690, 10481, and 10482

Additional Information

You have 180 days from the date of this letter to provide the following additional information. When you file this additional information with the Commission, you should at the same time serve exact copies of the filings on the agencies that you consulted during the preparation of exhibit E.

In the items listed below, you are asked to provide agency comments. You should make written requests for these comments and must allow a minimum of 30 days for agency response before filing the information. If the agencies do not reply, you should provide the Commission with dated copies of the letters of request.

1. Operating the projects will continue to reduce stream flows downstream of the dams and in the bypass reaches of the projects in the Mongaup River Basin. For the staff to evaluate the effect of project operation on the fishery resources in the Mongaup River, you must provide an accurate evaluation of the relationship between stream flow and fish habitat. As reported in your applications, you have used several methods, including the Instream Flow Incremental Methodology (IFIM), to determine the relationship between stream flow and habitat. However, the instream flow study presented in your applications has several problems.

In general, the results of your study indicate that/you have limited the instream flow analysis such that only a narrow range of flows was simulated. Your conclusions are based on the results obtained from your limited analysis rather than on an examination of a wide range of flows and the amount of habitat that may be available in the river. As a result, the staff is unable to determine the amount of habitat in the river at flows higher than those you have chosen to simulate. For example, stating that the calculated Aquatic Base Flow (ABF) should be used as the upper limit in a minimum release schedule and limiting the range of flows simulated only to those less than the ABF is without merit. The ABF flows have no bearing on the range of flows that should be examined in an instream flow study.

Limiting the flows simulated in the study, as you have done, greatly limits the information available for the staff to determine whether a minimum flow is necessary and what flows should be released. Therefore, a wider range of flows need to be simulated before the staff can determine the merits of your applications.

Specific problems with the instream flow study for each of the project sites are addressed below.

(a) Swinging Bridge Project - Black Lake Creek downstream of Toronto Reservoir.

You stated that you determined the relationship between flow and fish habitat by using a wetted perimeter analysis. You determined that the flow of 7.5 cubic feet per second (cfs) provides sufficient trout habitat and that the current flow release of 10 cfs is adequate. You also state that the current reservoir release schedule limits the suitability of the creek to support trout in part because the reservoir discharge shifts during the summer from the upper discharge gate to the lower discharge gate and there is a large change in the stream temperature over a short time. These changes in temperature may be adversely affecting the resident trout.

Altering the current operation of the reservoir may improve the conditions in the creek for trout. For example, releasing flows from the lower gate all year may stabilize the water temperature and improve the habitat for trout and other species. Therefore, you must consult with the New York State Department of Environmental Conservation (DEC) and the U.S. Fish and Wildlife Service (FWS) and provide a detailed discussion of possible methods of releasing water from the Toronto Reservoir such that the flows in Black Lake Creek are more suitable for trout. You must include a discussion of the feasibility of releasing flows from the Toronto Reservoir from the lower release gate all year round, installing temperature gauges to determine the temperature of the release water, and altering the release schedule to reduce the large fluctuations in the flows downstream of the reservoir.

(b) Swinging Bridge Project - Powerhouse Site.

(1) To determine a suitable minimum flow, you used a modified Water Surface Profile (WSP) to model the flows downstream of the powerhouse. However, the study presented is inadequate because the flow simulation is too limited. A wider range of flows needs to be simulated before the staff can determine what minimum flow, if any, should be released. Therefore, please provide tables and graphs showing the relationship between the quantity of fish habitat available for fry, juvenile, adult, and spawning life stages of brown trout and the nymphal stage of the mayfly at stream flows of 30, 50, 70, 100, 125, 150, 175, 200, 300, 444, 555, 812, and 1015 cfs.

(2) Large fluctuations in the stream temperature downstream of the reservoir may be having an adverse effect on the fish populations of the river. Modifying the current operation of the reservoir may improve the conditions in the river for aquatic organisms. You must consult with the DEC and the FWS and provide a detailed discussion of possible methods of releasing water from the Swinging Bridge Reservoir such that the flows in Mongaup River are more suitable for trout and other aquatic organisms

present. You must include a discussion of the feasibility of altering the release schedule to reduce the large fluctuations in the flows downstream of the reservoir and installing temperature gauges to determine the temperature of the release water.

(c) Mongaup Falls Project - Mongaup Bypass Reach.

To determine a suitable minimum flow, you used a modified WSP to model the flows in the bypassed reach of the Mongaup River downstream of the Mongaup Falls Dam. The analysis presented is inadequate because the flow simulation is too limited. A wider range of flows needs to be simulated before the staff can determine what minimum flows should be released. Therefore, please provide tables and graphs showing the relationship between the quantity of fish habitat available for fry, juvenile, adult, and spawning life stages of brown trout and the nymphal stage of the mayfly at stream flows of 10, 30, 50, 70, 97, 125, 150, and 200 cfs.

(d) Mongaup Falls Project - Mongaup Falls Powerhouse.

(1) To determine a suitable minimum flow, you used a modified WSP to model the flows downstream of the Mongaup Falls Powerhouse. The analysis presented is inadequate because the flow simulation is too limited. A wider range of flows needs to be simulated before the staff can determine what minimum flows should be released. Therefore, please provide tables and graphs showing the relationship between the quantity of fish habitat available for fry, juvenile, adult, and spawning life stages of brown trout and the nymphal stage of the mayfly at stream flows of 27, 40, 50, 60, 75, 104, 125, 150, 200, 350, and 520 cfs.

(2) Large fluctuations in the stream temperature downstream of the reservoir may be having an adverse effect on the fish populations of the river. Modifying the current operation of the reservoir may improve the conditions in the river for aquatic organisms. You must consult with the DEC and the FWS and provide a detailed discussion of possible methods of releasing water from the Mongaup Falls Reservoir such that the flows in Mongaup River are more suitable for trout and other aquatic organisms present. You must include a discussion of the feasibility of altering the release schedule to reduce the large fluctuations in the flows downstream of the reservoir and installing temperature gauges to determine the temperature of the release water.

(e) Rio Project.

(1) To determine a suitable minimum flow, you used an IFIM analysis to model the flows in the bypassed reach of the Mongaup River downstream of the Rio dam and powerhouse. The analysis presented is inadequate because the flow simulation is too limited. A wider range of flows needs to be simulated before the

staff can determine what minimum flows should be released. Therefore, please provide tables and graphs showing the relationship between the quantity of fish habitat available for fry, juvenile, adult, and spawning life stages of brown trout, the spawning and incubation stages of American shad, and the nymphal stages of the mayfly and stonefly at stream flows of 27, 35, 48, 58, 100, 125, 150, 200, 348, 500, and 870 cfs.

(2) Low dissolved oxygen (DO) downstream of Rio dam may be having an adverse effect on the fish and invertebrate populations of the river. Modifying the current operation of the reservoir may improve the conditions in the river for trout and other aquatic organisms. You must consult with the DEC and the FWS and provide a detailed discussion of possible methods of releasing water from the Rio Reservoir such that the conditions in Mongaup River are more suitable for trout and invertebrate species present. You must include a discussion of the feasibility of installing temperature and DO gauges to determine quality of the release water and altering the release schedule to improve water quality downstream of the dam.

(f) Instream Flow Study Details - For each of the instream flow studies conducted, items (b) through (e), the following information must be provided.

(1) Provide a discussion of how you calibrated the hydraulic model. You must support this discussion with the following calibration details for each transect:

(A) the measured water surface elevation and predicted water surface elevation;

(B) the velocity profile plots for the simulated and measured stream flows;

(C) a plot of the Mannings "n" value versus the simulated and measured stream flows; and

(D) a plot of the stream gradient between the transects for the measured and simulated stream flows.

(2) Provide a discussion of the rationale for selecting the particular hydraulic model you used in the analysis and how the particular hydraulic simulation conforms to the selected model's assumptions. For example, one of the assumptions in using the WSP model is that it should not be used to simulate the hydraulic characteristics of steep streams with gradients exceeding 3 percent.

(3) Provide a discussion justifying your recommended minimum flows using the results developed in your analysis and relating these results to the respective life history

requirements for each of the life stages of fish and invertebrate species examined (brown trout, brook trout, mayfly, etc.).

(g) Agency Consultation - Provide the written comments and recommendations of the DEC and the FWS on items (a) through (f).

2. On page E.3-100 of the applications, you reference the May 20, 1987, comments of the FWS concerning the federally endangered bald eagle. Provide a copy of that letter.

3. On page E.3-102 you propose to "take steps to ensure suitable habitat and forage continue to be provided" for bald eagles. These steps appear to include limiting public access (page E.5-2), providing forage by installing wider-mesh fish screens to increase entrainment of forage fish from November 16 through April 15 (page E.3-100), and protecting eagle nest sites and perch sites (page E.3-99). Provide the written comments of the FWS on these protective measures.

4. To comply with the requirements of the National Environmental Policy Act (NEPA), the staff must compare the impacts of the proposed action with any reasonable alternatives. Describe the effect of an alternative strict run-of-river operation on wetlands within the system's impoundments. The description should include the approximate acreage of increase or decrease in emergent wetland vegetation in each impoundment. Potential wetland acreage may be estimated from acreage of shallow water zones capable of supporting emergent wetland vegetation, given the expected water elevations in a strict run-of-river operation. Provide an estimate of any adverse effects a strict run-of-river operation would have on project economics and increased costs to rate payers.

5. Water level fluctuations often inhibit vegetative growth and development. For the staff to quantify any continuing impacts from the cyclic operation, describe the reservoir fluctuation zones under normal operating conditions for each of the reservoirs. Indicate the average width of the zones, approximate range in width, and an estimate of the total acreage.

6. Since the Mongaup Basin hydroelectric projects were originally developed, public concern for visual quality has grown. Although you are not proposing any major construction activities or any fundamental changes to present modes of operation, your application does not address how the existing projects have affected the area's visual resources and views, or what efforts have been made to blend the existing project works and associated landscape alterations with their surroundings. In order for the staff to evaluate the projects' visual impacts and determine if any mitigative measures are warranted, provide the following information.

(a) Provide a series of color photos of all existing project features including dams, powerhouses, penstocks, surge tanks, bypassed reaches, and reservoirs and tailwaters at various levels of drawdown and discharge, respectively. The photos should be taken from primary viewing points and keyed to an appropriately detailed map or set of maps of the project area.

(b) Describe the critical characteristics of actual project viewers including number, attitude, expectations, sensitivity, and viewing frequency and duration. A separate description of viewer characteristics should be provided for each of the primary viewing points in the photographic survey.

(c) Describe any efforts previously made to blend the existing projects' visual characteristics with their surroundings. The description of any previous efforts should relate each effort to the specific visual impact it was intended to mitigate.

(d) Describe potential measures that could be undertaken to reduce any adverse visual effects caused by the project. The discussion should include an estimate of the costs and benefits of implementing each of the identified measures so that a comparative evaluation with other mitigative alternatives can be made.

7. The New York State Public Service Commission (PSC), and the DEC recommend that you examine the possibility of whitewater boating within the project, and outside the project below the Rio powerhouse. In the application you have discussed your reasons for not supporting the use of project waters for whitewater boating, however, you have not provided any information describing the potential for whitewater use in the area. In order for the staff to evaluate the potential for the project to provide whitewater boating opportunities, provide the following information after consultation with the DEC, the National Park Service (NPS), and the American Whitewater Affiliation (AWA).

(a) Describe the type of whitewater recreation opportunity that currently exists in the project including the number of days and time of year that whitewater boating is feasible, the lengths and gradients of the whitewater runs, and the number and level of difficulty (rated on the International Scale of River Difficulty) of the rapids. Show the location of the whitewater runs on a map of the project.

(b) Describe the range of stream flow needed to maintain the whitewater boating resource.

(c) Describe how the proposed minimum flow would impact the whitewater boating conditions and what effect the flow would have on the quality and suitability of the whitewater resource.

(d) Describe other existing whitewater opportunities in the project vicinity, such as the Upper Delaware Scenic and Recreational River. Include the length and level of difficulty of the whitewater runs, distance from the project and estimates of annual use.

(e) List the occasions that flows have been released in the last five years for special recreational events along the Mongaup River below the Rio powerhouse. For each occasion, include a description of the event, the amount of flow released, and the duration of the event/release.

(f) Provide copies of written comments on items (a)-(e) from DEC, NPS, and AWA.

8. On pages E.5-11 through E.5-12 of the applications, you have described the recreation recommendations of the FWS, the Department of the Interior, and the NPS. Although you have addressed some of the agency concerns, especially whitewater boating, you have not commented on many of the agency recommendations. In order for the staff to determine if your proposed recreational enhancements are adequate, provide a discussion in which you address each of the agency recommendations individually. For each recommendation, you should state whether you agree or disagree, and, if you disagree, explain why. If you agree with a recommendation, explain how you will implement it. You do not need to address PSC's or DEC's recommendation for whitewater boating in answering this question.

9. You have proposed to provide an access facility at Rio Reservoir that will be open to the public during the summer months (application, page E.5-17). However, you have not provided a recreation plan. In order for the staff to evaluate the impacts on recreational resources in the project area, you must provide a detailed recreation plan for the proposed access at the Rio reservoir and all other proposed recreational facilities. The plan must include:

(a) detailed descriptions of the proposed facilities, and including large-scale maps and drawings showing the types and locations of each of the proposed facilities, and proposed use restrictions;

(b) a statement of the entities to be responsible for construction, maintenance, and operation of each of the proposed facilities;

(c) a maintenance plan for the proposed facilities;

(d) a construction schedule and cost estimates broken down

into construction, maintenance, and operation costs, for each of the proposed facilities;

(e) detailed descriptions of non-development recreational enhancements, such as lengthening of season and other changes in use restrictions; and

(f) comments from the DEC, the FWS, and the New York State Office of Parks, Recreation, and Historic Preservation on your plan.

10. Provide seasonal flow duration curves, in your exhibit B, whenever the required minimum flow varies from the season to season. In addition to the maximum, indicate the minimum hydraulic capacity of each unit. Also, provide an estimate of the mean annual river flow.

11. Provide, as the first exhibit F drawing, a site plan showing all of the developments contained in the Mongaup Basin Projects; including the reservoirs, dams, penstocks, and powerhouses. Each exhibit F drawing should include the project name and dam name.



IN REPLY REFER TO

# United States Department of the Interior

## NATIONAL PARK SERVICE

UPPER DELAWARE

SCENIC &amp; RECREATIONAL RIVER

P.O. Box C, Narrowsburg, NY 12764-0159

N16

March 2, 1969

Thomas E. Mark  
 Attorney for Orange  
 and Rockland Utilities, Inc.  
 LeBoeuf, Lamb, Leiby & Mackay  
 520 Madison Ave  
 New York, NY 10022

Dear Mr. Mark:

Thank you for responding to our request for a copy of Orange and Rockland Utilities application to the Federal Energy Regulatory Commission for licensing hydroelectric facilities on the Moumpou River. We received all five volumes of the application on February 11, 1969 and have reviewed them.

We are pleased that most of our comments on the preliminary application of 1966 have been addressed. It was not possible for us to respond to deficiencies on the September, 1966 application until we were able to review that document.

Our comments are forwarded to the Federal Energy Regulatory Commission through several offices including our regional representative in Philadelphia, Pa. Comments from all Federal agencies in New York State are condensed by the United States Fish and Wildlife Service in Buffalo, N.Y. and sent to the United States Dept. of Interior representative in Boston, Mass. These comments are then sent to the Federal Energy Regulatory Commission in Washington, D.C. for consideration as part of all hydroelectric applications affecting Federal agency jurisdiction.

The following comments are intended to cover both the September, 1966 application and the deficiency comments on the Application that were provided to Orange and Rockland Utilities by the Federal Energy Regulatory Commission on November 20, 1966:

### A. WARNING SIGNS TO ADVISE RECREATIONAL FISHERMEN OF FLOW CHANGES

The need for adequate warning signs to alert recreationists to the potential for surges below the Rio Dam outfall during periods of generation has been addressed. We feel that such warnings will go a long way toward alerting recreationists of the potential for rapid changes in water level.

### NATIONAL PARK SERVICE PARTICIPATION ON RIO DAM SAFETY INSPECTIONS

Our request to be a part of the dam safety program for the Rio has been acknowledged. During the past three years, excellent cooperation has been maintained to enable a qualified representative from the National Park Service to participate in safety inspections on this facility.

Letter to Thomas E. Mark, Atty. for O. & R. 3/2/89  
Page 2

C. COORDINATION OF FLOWS TO MEET INTENT OF FEDERAL WILD AND SCENIC RIVERS ACT

The application provides a statement that indicates that full cooperation will be provided to the Delaware River Master's office to meet the intent of the federal scenic river legislation.

D. FLOW MAINTENANCE TO PROTECT AQUATIC HABITAT

Water quality testing results from pages E2-b2.65 of the 1988 application indicate low dissolved oxygen levels at station 56, just downstream of the Rio Dam and at station 515, below the outfall for the Rio Power generation plant.

The application indicates that public access for recreational fishing will be maintained where currently allowed and that new public access below the dam will be developed. In order to maintain an adequate aquatic environment for quality recreational fishing and habitat for anadromous species, the ability to provide flow augmentation near the base of the Rio Dam should be given strong consideration.

E. PROVIDE MORE PUBLIC ACCESS FOR RECREATIONAL FISHING

The application calls for significant new opportunities for the public to use both the Rio Reservoir in Summer and the development of a new public fishing access near the face of the dam. Both of these ideas would be a long way toward providing needed recreational fishing opportunities for the area.

EFFORTS TO MEET THE INTENT OF THE NATIONAL WILD AND SCENIC RIVERS ACT

During the past eight years the National Park Service has been involved in an extensive effort to develop a "River Management Plan". This document for the Upper Delaware Scenic & Recreational River assigns federal, state, county and local governments that have administrative responsibility for land management planning within the federal area of interest for the Upper Delaware Scenic and Recreational River.

Enclosed is a copy of the current "River Management Plan, which was approved by the Secretary of the Interior in September of 1987. This document should be used by Orange and Rockland Utilities in lieu of the September 1980 plan referenced in their application.

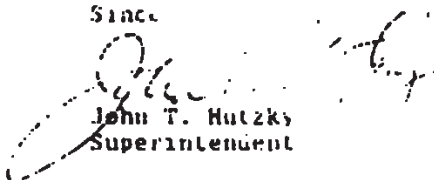
G. PROVIDING ACCESS TO THE MONGAUP FOR WHITEWATER BOATING

There is some concern regarding additional whitewater boating activities on the lower Mongaup River. Our concern is that any access or egress near the mouth of the Mongaup would not be compatible with the approved "River Management Plan" for the Upper Delaware Scenic & Recreational River.

Letter to Thomas E. Mark, Atty. for O. & R. 3/2/89  
Page 3

We are willing to discuss any of the above outstanding issues with your firm.  
It is our understanding that the New York State DEC will set up a meeting with  
all of the parties before the end of March to continue the consultation process.  
I am looking forward to meeting with you at that time.

Since

  
John T. Hutzky  
Superintendent

Closure

Murdoch Mackenzie, NY DL  
Bruce MacMillan, NY DEC - Region 111  
Mark Cough, US Fish & Wildlife Service  
Bob Gitt, NPS - MARO  
Frank Hartmann, DEC  
Dave Everett, DRBC  
Alan Harkness, Deputy River Master



## *Kayak and Canoe Club of New York*

3/21/89

Answers to questions posed by FERC to Orange and Rockland, regarding their application of 9/9/88, for a Licence to operate the Rio, Mongaup, and Swinging Bridge Projects

These answers are provided by KCCNY (Kayak and Canoe Club of New York) and AWA (American Whitewater Affiliation) at the request of Orange and Rockland of 2/17/89.

by: John A Humbach, Esq.  
Harlow K. Fischman, Ph.D.

### Question 7 (page 6)

(a) Describe the type of whitewater recreation opportunity that currently exists in the project including the number of days and time of year that whitewater boating is feasible, the lengths and gradients of the whitewater runs, and the number and level of difficulty (rated on the International Scale of River Difficulty) of the rapids. Show the location of the whitewater runs on a map of the project:

A theoretical whitewater opportunity exists whenever high natural flows at periods of high natural runoff cause spillage over the dam, but it is expected that O&R will implement sound operating procedures to prevent such losses. A potential opportunity exists whenever O&R operates its turbines on the Rio Dam. At that time (which we understand from O&R's representatives, is usually during daylight hours from Monday to Friday) sufficient water flows from the powerhouse below the Dam for 2 1/2 miles to the confluence of the Mongaup and Delaware rivers to provide excellent whitewater boating for kayaks and canoes.

Time of year that whitewater boating is feasible: Although no hard and fast rule applies, and weather and temperature are always a consideration, the whitewater boating season is generally considered to be from March 1 through November 15. There is a particularly high demand for whitewater flows during the summer months, from June through August, when water levels are low in most naturally flowing river stretches during that period.

Number of days that whitewater boating is feasible: It follows from the above that whitewater boating is potentially feasible on the Mongaup approximately ( ) days/year, based on normal annual precipitation in the basin, and assuming one-turbine operation at releases (6 hrs per release-day)

*A Member Club of the American White Water Affiliation*

*An Activity Club of the American Canoe Association*

Page - 1

Lengths, gradients, and levels of difficulty of the rapids:

River Segment	Length	Gradient	Level of Difficulty
Rio Dam to Powerhouse	?	?	II+ - III+ ?
Powerhouse to Delaware	3 3/10 mi	47ft/mi	II+ - III+ ?

Because there are such a large array of characteristics appropriate for analysis of whitewater suitability, and most of these are qualitative (e.g. positions of rocks, their size and shape, which produce waves and hydraulics of various shapes, etc.), no abstract engineering modelling (i.e. based on riverbed morphology and velocity suitability curves) can accurately predict or establish the level of difficulty for any river. Even more important, the volume of water in the river can dramatically alter the level of difficulty. The Mongaup has been too infrequently paddled in the last ten years for us to judge the level of difficulty. The only way that this can be determined is experientially. We therefore, suggest that O&R set up two weekends of measured water releases from the Rio Dam, one consisting of a release with one turbine operating (435 cfs) and the other with both turbines operating (870 cfs). These releases, plus the 65 cfs, which we understand is the leakage from the Dam, would give total releases of 500 and 935 cfs respectively.

These releases would be witnessed and experienced by paddlers from KCCNY, offering a variety of skills. The data gathered in this fashion would then be used to produce a report to O&R.

\* Burmeister, in his Guidebooks to Northeastern rivers, written many years ago, describes the Mongaup as a Class III river. It is not however clear what flow levels this classification was based on.

Location of whitewater runs (see accompanying map)

(b) Describe the range of stream flow needed to maintain the whitewater boating resource:

This range is not known at present. It would be determined experientially, in the same group of tests as described in (a) above.

(c) Describe how the proposed minimum flow would impact the whitewater boating conditions and what effect the flow would have on the quality and suitability of the whitewater resource:

The proposed minimum flow is 65cfs. The Mongaup would probably not be navigable at all at such a low level, certainly not as a "whitewater" run.

(d) Describe other existing whitewater opportunities in the project vicinity, such as the Upper Delaware Scenic and Recreational River. Include the length and level of difficulty of the whitewater runs, Distance from the project and estimates of annual use:

As can be seen in the accompanying Table, the Mongaup occupies a unique niche in local whitewater boating. It is the only Class III river within reasonable driving distance of the New York metropolitan area for same-day paddling, that can potentially be runnable for more than a few days of the year.

A Class III river attracts experienced open-boaters and kayakers. The Upper Delaware Scenic and recreational river on the other hand, is a river for beginners and casual canoeists. It does not provide the more challenging river features on which the better paddlers can hone their skills. The Nescopeck and Ten Mile rivers only infrequently have sufficient water in them for paddling (One of the writers has been unsuccessfully attempting to find enough water in the Nescopeck for paddling for the past 5 years!). The Class IV rivers in the area, the Shohola and Big Bushkill are attractive only to elite, expert kayakers, and they rarely have sufficient water for paddling.

If recreational releases were provided on the Mongaup, it would be available to advanced paddlers during most of the year. Such paddlers are an important segment of the whitewater paddling community.

(e) List the occasions that flows have been released in the last five years for special recreational events along the Mongaup river below the Rio powerhouse. For each occasion, include a description of the event, the amount of flow released, and the duration of the event/released:

There have been no recreational water releases, for the purpose of whitewater boating, on the Mongaup river for the past five years.

Other Existing Whitewater Opportunities in the Vicinity of the Rio Dam  
Hydroelectric Project on the Mongaup River, or Within 2 1/2 Hours Driving  
Distance from New York Metropolitan Area

River	Length (mi)	Level of Difficulty	Distance from NYC	Mongaup	Estimate of Annual Use#
Upper Delaware Scenic and Recreational River*	?	I to I+(II)	75	0	?
Brodhead(PA)*	7	IV	90	30	50
Shohola(PA.) (1)	9	IV to V	90	15	40
Tohicken(PA.) (2)	3 1/2	III+ to IV-	80	65	1600
Lackawaxen(PA.) (3)	13	I+	95	20	500
Lehigh(Upper) (PA) (4)	9	II	115	80	?
Lehigh(Lower) (PA) (4)	16	II+	115	80	?
Nepeck(PA) (1)*	4 1/2	III	130	95	150
Big Bushkill(PA)*	6	IV	100	40	75
Neversink(Gorge) (5)	3 1/2	IV	90	15	<50
Neversink(Lower) (5)	9	II	80	10	200
Esopus(NY) (6)	4	II+(III)	115	65	?
Beaverkill(NY)*	9	II-	135	40	150
Schoharie(NY)*	9	II	140	75	150
Moodna(NY)*	7	II(IV)	70	35	150
Housatonic(CONN) (7)	9	II	165	100	?
Ten Mile(NY/CONN)*	4	III	95	75	300
Farmington(CONN) (8)*	1 1/2	II(III)	145	160	1,000

\* Natural flow river (normally runnable only in early Spring, with the exception of the Delaware)

1. all drainage area - rarely runnable

2. Dam-controlled. Releases only 2 weekends/year

3. Hydroelectric-controlled, releases only Mon-Fri.

4. Dam-controlled. Releases usually only minimal (150-350cfs) except 3rd Saturday of each month when it is larger (500-900cfs)

5. Dam-controlled. Releases only minimal for fish (<100cfs), and therefore unrunnable except in early Spring.

6. Reservoir-controlled. Four special recreational release weekends/year, (900cfs) otherwise minimal and only marginally runnable (<300cfs).

7. Hydroelectric-controlled. Releases every weekend from 11AM to 2PM or later

8. Hydroelectric-controlled. Releases every day, all year.

# User Days = number of users x number of days.

() Level of Difficulty = one rapid or drop of a higher level.



**LOCATION MAP**  
SHOWING VICINITY OF AREA  
FOR WHITE-WATER BOATING

# Upper Delaware Council

Bridge Street, P. O. Box 217

Narrowsburg, NY 12761

Tel. (914) 252-3022

May 5, 1989

Mr. Thomas J. Sullivan, P.E.  
Stetson-Harza  
The Concord Center  
10 Ferry Street  
Suite 310  
Concord, NH

RE: Orange and Rockland Utilities, Inc., Rio, Mongaup and Swinging Bridge Federal Energy Regulatory Commission Applications, Nos. 9690, 10481, 10482 - New York

Dear Mr. Sullivan:

Thank you for the opportunity to comment on the whitewater recreation aspects of the above-named license applications before the Federal Energy Regulatory Commission.

The Upper Delaware Council is the oversight body responsible for the coordinated implementation of the management plan for the Upper Delaware Scenic and Recreational River, a component of the National Wild and Scenic Rivers System, designated by Congress in 1978 under P.L. 95-625, Section 704, as amended. Our members are directly affected units of state and local governments and the Delaware River Basin Commission. We operate under a direct contractual relationship with the National Park Service for the oversight, coordination and implementation of many elements of the river management plan.

Among these coordination responsibilities is the aspect of river recreation. Even though the immediate tailwaters of the Rio Dam are beyond the boundary set for the protected river corridor, any recreational use beginning from this location must necessarily move into the river corridor, thus coming under our purview.

We base our comments upon the following concerns:

- The river management plan, as adopted by the Secretary of the Interior and approved by Congress on January 4, 1988, states on page 92 that the purpose of the river recreation component of the plan is to provide proper management for existing recreational use, not to provide for increased use.
- The plan (pp. 85-90) sets forth a list of specific sites approved for recreation access; due to concerns for boater safety on the Delaware at the confluence of the Mongaup and the Delaware (the site of several drownings over the past ten years), additional access at this point was specifically excluded.

- The plan has overriding concern for boater safety; since the Mongaup is variously rated as a Class III paddling stream on the international scale of difficulty, and since over 80% of the boaters on the Upper Delaware are novice boaters, we have great concern for boater safety on the Mongaup by individuals not having the competence or the quality equipment appropriate for this level of difficulty.
- Two of our member governments, the Town of Deerpark and the Town of Lumberland, both of which border the Mongaup, have emergency service responsibility along this reach of the river, and both, through past experience, find this stretch to be dangerous and difficult in gaining emergency access and in providing for safe rescue of accident victims.

Given these concerns, we wish to make the following points:

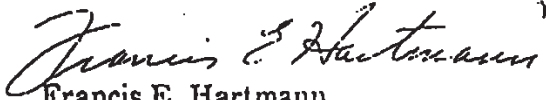
- Additional river access within the river corridor, either on the Mongaup or on the Delaware, cannot be permitted under the river management plan; any legal exit from the river should properly take place approximately one mile down the Delaware River at a public access point.
- The Upper Delaware Council generally opposes additional recreational use of this river, due to concerns about boater safety and the unsafe conditions for rescuing accident victims.

If, as the trend in hydroelectric licensing indicates, additional access to the river is granted, we recommend that the following conditions be placed on such use:

- The successful licensee or other competent entity should manage the tailwater access at the Rio Dam site on a permitting basis, granting limited licenses to organized canoe and kayak clubs which can demonstrate the competence of their members for making this run safely.
- Permittees must agree, upon signing permit applications, to use the existing river access point at the lower terminus of the Upper Delaware Scenic and Recreational River.
- The river must not be opened to commercial liveries or outfitters, in order to minimize the considerable hazards involved.
- The permit manager should post appropriate warning signs stating clearly the limitations on access and use and the dangerous conditions on the river.
- Working agreements with appropriate emergency rescue units be signed that provide mitigation of whatever additional emergency service problems may be encountered.

Thank you for the opportunity to make known our concerns about this recreation issue. Please contact our Executive Director, William E. Douglass, or myself, if we can provide further information.

Sincerely,



Francis E. Hartmann  
Chairperson

cc: Messrs. Dean Shumway, FERC  
Roger Metzger, Orange and Rockland Utilities  
Robert Everest, Delaware River Basin Commission  
Bruce MacMillan, New York DEC, Region 3  
John Hutzky, National Park Service  
Tom Hill, Town of Lumberland  
James Garvey, Town of Deerpark

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON D C 20426

Project Nos. 9690-004, 10481-001  
and 10482-001 - New York  
Rio, Mongaup, and Swinging  
Bridge Projects  
Orange and Rockland Utilities, Inc.

Mr. Frank E. Fischer  
Engineering and Production  
Orange and Rockland Utilities, Inc.  
One Blue Hill Plaza  
Pearl River, NY 10965

AUG 28 1989

Dear Mr. Fischer:

By letter dated November 14, 1988, you were directed to submit additional information needed by the staff to complete its evaluation of your license applications. The material submitted on May 15, 1989, did not supply all the requested information.

Under section 4.32(g) of the Commission's regulations, you have 120 days from the date of this letter to provide the additional information requested in item 7. See Schedule A. Further, under section 4.32(g), you have 120 days from the date of this letter to provide further additional information needed by the staff to complete its evaluation of your applications. See Schedule B. If the requested information causes any other part of the applications to be inaccurate, that part must also be revised and refiled by the due date. A copy of the complete filing must be provided to each agency consulted under section 4.38 of the regulations.

Within 5 days of receipt, provide a copy of this letter and the attached schedule to all agencies you will consult in response to this information request.

Please be aware that any information which is needed beyond that which is specified in the Commission's regulations may be requested, pursuant to 18 C.F.R. section 4.32(g), at any time prior to final action on your application.

The information requested in this letter reflects the staff's current level of knowledge of your applications. We have attempted to fully explain, for each listed item, the engineering or environmental resource concerns and why the information is needed. If you believe that, from a technical point of view, any

requested information is not necessary or alternative methods of analysis would provide the necessary information, you are encouraged to discuss these matters with the staff by calling Charles T. Raabe on (202) 376-9778. If you are unable to meet the deadlines in this letter, you should call or ask for meetings as soon as possible. If an original and 14 copies of the information requested are not timely filed with the Secretary of the Commission, your applications will be dismissed.

Sincerely,

*Edward J. Shumway*

for Dean L. Shumway  
Director, Division  
of Project Review

✓ cc: Mr. G. S. P. Bergen  
Mr. Thomas E. Mark  
LeBoeuf, Lamb, Lieby,  
& MacRae  
520 Madison Avenue  
New York, NY 10022

Mr. John N. Webster  
Rio Hydroelectric Associates  
c/o Southern New Hampshire  
Hydroelectric Development Corp.  
P.O. Box 1073  
Dover, NH 03820

Enclosures:  
Schedule A  
Schedule B

ADDITIONAL INFORMATION

The information filed on May 15, 1989, does not answer all the requests for additional information listed in the Office of Hydropower Licensing's letter of November 14, 1988. The information still need is listed below, in quotation marks, followed by an explanation of why the information needed was not met by your filing of May 15, 1989.

You have 120 days from the date of this letter to provide the following additional information. When you file this information with the Commission, you should at the same time serve exact copies of the information on the agencies that you consulted during the preparation of the exhibit E.

In the item listed below, you are asked to provide agency comments. You should make written requests for these comments, and must allow a minimum of 30 days for the agency response before filing the information. If the agencies do not reply, you should provide the Commission with dated letters of request and records of any partial consultation that you have had with any agency.

"7. The New York State Public Service Commission (PSC), and the DEC recommend that you examine the possibility of whitewater boating within the project, and outside the project below the Rio powerhouse. In the application, you have discussed your reasons for not supporting the use of project waters for whitewater boating, however, you have not provided any information describing the potential for whitewater use in the area. In order for the staff to evaluate the potential for the project to provide whitewater boating opportunities, provide the following information after consultation with the DEC, the National Park Service (NPS), and the American Whitewater Affiliation (AWA).

(a) Describe the type of whitewater recreation opportunity that currently exists in the project including the number of days and time of year that whitewater boating is feasible, the lengths and gradients of the whitewater runs, and the number and level of difficulty (rated on the International Scale of River Difficulty) of the rapids. Show the location of the whitewater runs on a map of the project.

(b) Describe the range of stream flow needed to maintain the whitewater boating resource.

(c) Describe how the proposed minimum flow would impact the whitewater boating conditions and what effect the flow would have on the quality and suitability of the whitewater resource.

(d) Describe other existing whitewater opportunities in the project vicinity, such as the Upper Delaware Scenic and Recreational River. Include the length and level of difficulty of the whitewater runs, distance from the project, and estimates of annual use.

(e) List the occasions that flows have been released in the last five years for special recreational events along the Mongaup River below the Rio Powerhouse. For each occasion, include a description of the event, the amount of flow released, and the duration of the event/release.

(f) Provide copies of written comments on items (a)-(e) from DEC, NPS, and AWA."

You did not provide information on the level of difficulty in item (a) and on the range of stream flow in item (b). The staff needs this information to complete an analysis of the whitewater boating opportunities in the Mongaup River below the Rio powerhouse. Therefore, please conduct a study (provide experimental releases) to determine the level of difficulty of the rapids, as requested in item (a), and the range of stream flow that would maintain whitewater boating in the Mongaup River, as requested in item (b). The study should be undertaken in cooperation with the DEC, NPS, AWA, U.S. Fish and Wildlife Service, American Rivers, and Kayak and Canoe Club of New York and should include measured releases of varying amounts, including standard 1-turbine and 2-turbine operation. You should include the comments from the cooperating agencies on your response.

In addition, provide an economic analysis providing whitewater boating flows through the Rio powerhouse for one day every other weekend between March 1 and November 15. Two alternative flows should be studied: (i) the full hydraulic capacity of one unit, and (ii) the full hydraulic capacity of both units.

Schedule B  
FERC Project Nos. 9690-004,  
10481-001, 10482-001

#### FURTHER ADDITIONAL INFORMATION

You have 120 days from the date of this letter to provide the following information. When you file this additional information with the Commission, you must at the same time serve exact copies of the additional information on the agencies you consulted during the preparation of the exhibit E.

In the item listed below, you are asked to provide agency comments. You should make written requests for these comments, and must allow a minimum of 30 days for the agencies' response before filing the information. If the agency does not reply, you should provide the Commission with a dated copy of the letter of request.

1. The U.S. Department of the Interior (Interior) and the New York State Department of Environmental Conservation (DEC), in their comment letters dated July 14, 1989, and August 4, 1989, respectively, recommended project licenses be conditioned to require the continuous release of the following minimum flows:

Project Name	Segment
Swinging Bridge:	1. Black Lake Creek downstream from Toronto Reservoir: 10 cubic feet per second (cfs). 2. Black Lake Creek downstream from Cliff Lake dam): 10 cfs. 3. Mongaup River downstream from generating facilities): 150 cfs.
Mongaup Falls:	4. Mongaup River downstream from Mongaup Falls dam: 80 cfs. 5. Mongaup River immediately downstream from Mongaup Falls powerhouse: 100 cfs [this flow is equal to a 20 cfs release from the powerhouse plus the 80 cfs provided at the base of the Mongaup Falls dam for segment 4]. 6. Black Brook downstream from the Black Brook diversion dam: 20 cfs.
Rio:	7. Mongaup River immediately downstream from the Rio dam: 150 cfs. 8. Mongaup River immediately downstream from the Rio powerhouse: 150 cfs [a release of 150 cfs from the dam, as in flow recommendation 7, would also provide the 150 cfs downstream from the Rio powerhouse].

The provision of these minimum instream flow releases would affect reservoir storage and surface elevations, thereby affecting associated recreation facilities and use, and energy production. Therefore, you must consult with the FWS, the DEC, and the Delaware River Basin Commission, to develop new operational rule curves for each of the project reservoirs. Any seasonal reservoir levels proposed or recommended by the resource agencies for maintaining and enhancing reservoir fish populations and recreational use should be given full consideration when developing the reservoir rule curves.

These rule curves, designed to accommodate the above listed minimum flow releases during normal, wet, dry, and drought years, should be submitted to the Commission showing your proposed target reservoir elevations and any reservoir elevations recommended by the agencies (if different). You should describe any operational procedures necessary to implement these rule curves. Further you must document the effect of the rule curves on reservoir storage, reservoir surface elevations and surface areas, recreation facilities and use, energy production, and project economics; all data and assumptions used to develop the operational rule curves should be provided. Your filing must also include documentation of consultation with the aforementioned agencies prior to developing the operational rule curves, written comments and recommendations from these agencies on the proposed rule curves, and an explanation of why you disagree with any measures recommended by any state or federal agency.

## LEBOEUF, LAMB, LEIBY & MACRAE

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

WASHINGTON, DC  
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September 26, 1989

BY HAND

Mr. Dean L. Shumway  
Director, Division of  
Project Review  
Federal Energy Regulatory Commission  
825 North Capitol Street, N.E.  
Washington, D.C. 20426

Re: Orange and Rockland Utilities, Inc.  
Project Nos. 9690, 10481, and 10482  
Request for Additional Information

Dear Mr. Shumway:

On August 28, 1989, you wrote to Orange and Rockland Utilities, Inc. ("Orange and Rockland"), requesting two items of additional information pertaining to Orange and Rockland's applications for licenses for the above-docketed projects. These requests concerned minimum flow releases and recreational boating. Orange and Rockland respectfully requests that the August 28 request for additional information be modified to conform to a recent agreement between Orange and Rockland and the New York State Department of Environmental Conservation ("DEC") regarding minimum flows and recreational boating.

Prior to August 28, the Commission had received two agency comment letters pertaining to these issues: a July 14, 1989, letter from the United States Fish and Wildlife Service ("FWS") and an August 4, 1989, letter from DEC. These two letters contained identical minimum flow recommendations, with which Orange and Rockland strongly disagreed for reasons detailed in its license applications and subsequent filings. These agency recommendations, as well as Orange and Rockland's disagreement with them, formed the basis of the August 28 request, contained in Schedule B, for

Mr. Dean L. Shumway  
September 26, 1989  
Page 2

"Further Additional Information" pertaining to minimum flow releases.

On September 11, 1989, after extensive discussions with Orange and Rockland, DEC issued water quality certificates for each of the above projects. These certificates reflect agreements reached by Orange and Rockland and DEC pertaining, *inter alia*, to minimum flows and recreational boating. Each certificate states explicitly that DEC's August 4 comment letter will be revised to reflect the agreements reached during the discussions between Orange and Rockland and DEC. Those agreements make it appropriate to modify the August 28 request for additional information.

First, the water quality certificates resolve the longstanding dispute concerning minimum flows and contain agreed-upon minimum flow recommendations that are different than those recommended earlier in the above proceedings by DEC and FWS. These minimum flows are entirely consistent with -- and in the case of Project No. 9690, identical -- to those recommended earlier by FWS in connection with a competing license application, Project No. 9754. Accordingly, it would be appropriate for the minimum flows contained in Schedule B of the August 28 request now to be modified to be consistent with the flows described in the water quality certificates issued by DEC. Orange and Rockland has discussed this request with FWS, which has requested the opportunity to consult with DEC prior to taking a position concerning modification of the August 28 request.

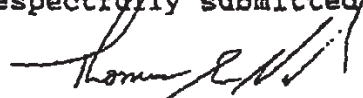
Second, Orange and Rockland has agreed to provide releases for recreational boating that will satisfy the requests made by the consultation agencies as well as the various whitewater boating groups with which it has consulted. This agreement, which will be reflected in DEC's revised comments, eliminates any need for the expenditure of the substantial resources required to complete the further studies described in Schedule A of the August 28 request.

For these reasons, Orange and Rockland respectfully requests that the Commission (i) modify Schedule B of the August 28 request to reflect the minimum flows contained in the September 11, 1989, water quality certificates issued by DEC; (ii) stay Schedule A of the August 28 request and delete it upon receipt of

Mr. Dean L. Shumway  
September 26, 1989  
Page 3

DEC's revised comment letter; and (iii) extend the deadline for providing the information required by the revised Schedule B until 120 days after receipt of DEC's revised comment letter.

Respectfully submitted,



Thomas E. Mark  
Attorney for Orange and Rockland  
Utilities, Inc.

cc: Service List  
Consultation Agencies

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D C 20426

*Rec'd  
11/21/89  
ESB*

Projects Nos. 9690-004, 10481-001  
and 10482-001 - New York  
Rio, Mongaup, and Swinging  
Bridge Projects  
Orange and Rockland  
Utilities, Inc.

DEC 26 1989

Mr. Frank E. Fischer  
Engineering and Production  
Orange and Rockland Utilities, Inc.  
One Blue Hill Plaza  
Earl River, NY 10965

Dear Mr. Fischer:

This is in response to your letter of September 26, 1989, wherein Orange and Rockland Utilities, Inc. (O&R) requested that the Commission:

- (i) modify Schedule B of the August 28, 1989, additional information request to reflect the minimum flows contained in the September 11, 1989, water quality certificates issued by the New York State Department of Environmental Conservation (DEC);
- (ii) stay Schedule A of the August 28, 1989, request and delete it upon receipt of DEC's revised comment letter; and
- (iii) extend the deadline for providing the information required by the revised Schedule B until 120 days after receipt of DEC's revised comment letter.

With respect to item (i), O&R's letter suggests that agreements have been reached with the DEC and the U.S. Fish and Wildlife Service (FWS) for lowering the previously recommended minimum flows. O&R states that the issued water quality certificates reflect these changes. However, Commission staff has no evidence (i.e., written documentation) that the FWS has modified the flows it recommended. In order for staff to consider a modification of the Schedule B commensurate with any agreed upon minimum flow recommendations, there must be supporting documentation from both the DEC and the FWS indicating modified flow recommendations. Absent such evidence, your request is denied. Additionally, staff must have sufficient information to make an independent assessment of this matter.

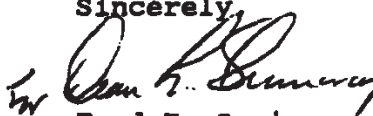
With respect to item (ii), Schedule A requires a study to determine the range of flows needed for whitewater boating and the economic penalty from providing such flows on specified weekends. Even if O&R and the DEC have agreed on recreational boating releases, staff does not have sufficient information to make an independent assessment on the range of streamflows that would maintain the whitewater boating resource and on the effect of the flows on project economics. Furthermore, O&R does not provide any information on the amount or timing of the agreed-upon releases nor any comments on the releases from the agencies or whitewater boating groups. Staff also believes the study should not be very expensive because it can be conducted during project operation with standard 1-turbine and 2-turbine operation. For these reasons, your request is denied.

With respect to item (iii), we cannot consider this extension request since the deadline is contingent upon the action of another agency. You should have requested a definitive response date, and indicated what steps you have taken to complete this study, including evidence (letters, phone conversations, minutes of meetings) of consultation with all of the involved agencies which include DEC, FWS, and the Delaware River Basin Commission. For these reasons, your request is denied.

However, due to the competitive situation involving Project No. 9754, your request for an extension of the deadline for filing additional information for these projects will be partially granted. For reasons of fairness and consistency, your additional information will be due April 25, 1990.

If an original and 14 copies of the information requested are not timely filed with the Secretary of the Commission, your applications will be dismissed. You are advised to contact Charles T. Raabe on (202) 357-0811 if you have any questions.

Sincerely,



Fred E. Springer  
Director, Office  
of Hydropower Licensing

cc: Mr. G. S. P. Bergen  
Mr. Thomas E. Mark  
LeBoeuf, Lamb, Lieby,  
& MacRae  
520 Madison Avenue  
New York, NY 10022

Mr. John N. Webster  
Rio Hydroelectric Associates  
c/o Southern New Hampshire  
Hydroelectric Development Corp.  
P.O. Box 1073  
Dover, NH 03820

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February 28, 1990

### BY HAND

Mr. Dean L. Shumway  
Director, Division of  
Project Review  
Federal Energy Regulatory Commission  
825 North Capitol Street, N.E.  
Washington, D.C. 20426

Re: Orange and Rockland Utilities, Inc.  
Project Nos. 9690, 10481 and 10482  
Request for Additional Information

Dear Mr. Shumway:

On August 28, 1989, you wrote to Orange and Rockland Utilities, Inc. ("Orange and Rockland") directing it to conduct a study to determine the potential for whitewater recreation on the Mongaup River below the Rio powerhouse. This information was to be provided on December 26, 1989. On September 26, 1989, Orange and Rockland requested that this requirement either be stayed or modified. By letter dated December 26, 1989 you denied this request but, for reasons of fairness and consistency, extended the date the information is due to April 25, 1990.

The whitewater study, which is to include experimental releases, is to be undertaken in cooperation with DEC, National Park Service, American Whitewater Association, U.S. Fish and Wildlife Service, American Rivers, and the Kayak and Canoe Club of New York. Orange and Rockland is to provide agency comments in its filing to the Commission and must allow a minimum of 30

Mr. Dean L. Shumway  
February 28, 1990  
Page 2

days for these agencies to provide comments. Due to the circumstances described below, Orange and Rockland hereby respectfully requests an extension, until July 19, 1990, of the time in which to comply with your letter.

In response to your December 26, 1989 letter, Orange and Rockland immediately contacted the whitewater boating groups that would actually evaluate the whitewater conditions in the Mongaup River. After consultation with and at the request of those organizations, Orange and Rockland scheduled the experimental releases for early March. By letters dated January 19, copies attached, Orange and Rockland formally informed the lifting organizations and the consultation agencies of the general date for the releases and invited them to attend. Then, by letter dated February 7, copy attached, Professor John A. Humbach, on behalf of the Kayak and Canoe Club of New York, the American Whitewater Association, and American Rivers, Inc., requested that Orange and Rockland reschedule the releases to May 19. Professor Humbach indicated that the organizations he represents would not be able to conduct the necessary experimental runs until temperature conditions are more moderate and more qualified boaters are available to participate. Orange and Rockland conveyed this information to the appropriate agencies and organizations by letter dated February 14, copy attached.

Your letter requires the participation of the boating organizations in order for Orange and Rockland to comply with our request. Indeed, neither Orange and Rockland nor any consultation agency has the necessary whitewater boating expertise to evaluate whitewater conditions on the Mongaup. As Mr. Humbach's letter attests, these organizations will not be available until after the April 25 deadline. Therefore, in order to accommodate their request to reschedule the releases and to provide sufficient time to solicit agency comments, Orange and Rockland hereby respectfully requests an extension of time until July 19, 1990, in which to comply with your request. Professor Humbach, in his February 7 letter, supports this request.

If you have any questions concerning this request, please contact me, at the number above, or Mr. Robert T. Kosior,

Mr. Dean L. Shumway  
February 28, 1990  
Page 3

Orange and Rockland's Manager-Environmental Services, at (914)  
577-2582.

Respectfully submitted,



Thomas E. Mark  
Attorney for Orange and  
Rockland, Inc.

Enclosures

cc: Service List

L. Corin - USFWS  
J. Echeverria - American Rivers  
G. Hansler - DRBC  
J. Humbach - AWA/KCCNY  
J. Hutsky - NPS  
M. MacKenzie - DEC

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212-715-8372

April 24, 1990

By Hand

Honorable Lois D. Cashell  
Secretary  
Federal Energy Regulatory Commission  
625 North Capitol Street, N.E.  
Washington, DC 20426

Re: Orange and Rockland Utilities, Inc.  
Project Nos. 9690, 10481 and 10482  
Request for Additional Information  
Compliance Progress Report

Dear Secretary Cashell:

Enclosed for filing with the Commission please find an original and fourteen copies of the compliance progress report of Orange and Rockland Utilities, Inc. ("O&R"), as required by the letter order issued by the Commission on March 26, 1990. That letter granted O&R an extension of time to respond to the Request for Additional Information issued by the Commission on August 28, 1989, as modified on December 26, 1989, and directed O&R to submit a report indicating the progress that has been made regarding the additional information.

**BACKGROUND**

On August 28, 1989, the Commission issued a Request for Additional Information, directing O&R to submit within 120 days the information listed on two separate schedules. Schedule A

Honorable Lois D. Cashell  
April 24, 1990  
Page 2

requested that O&R (i) evaluate the Projects' potential for providing whitewater recreation by describing recreational whitewater opportunities that currently exist in the Projects and (ii) describe the range of stream flow necessary to maintain whitewater boating on the Mongaup River. Specifically, the Commission directed O&R to conduct a study, in cooperation with the New York State Department of Environmental Conservation ("DEC"), the National Park Service ("NPS"), the United States Fish and Wildlife Service ("FWS"), American Whitewater Affiliation, American Rivers and the Kayak and Canoe Club of New York, to determine the level of difficulty of the rapids and the range of stream flow that would be necessary to maintain whitewater boating. The Commission also directed O&R to provide an economic analysis of the costs of providing flows through the Rio powerhouse during specified times. Schedule B directed O&R, in consultation with FWS, DEC and the Delaware River Basin Commission ("DRBC"), to develop operational rule curves for each project reservoir that would reflect proposed minimum flows and describe their impacts.

On December 26, 1989, the Commission extended the time for compliance with the Request for Additional Information to April 25, 1989.

By letter dated March 26, 1990, the Commission granted O&R's request for an extension of the deadline for filing the additional information. An extension was granted to July 19, 1990. Nevertheless, the Commission directed O&R to file a report indicating the progress that has been made regarding the additional information, including descriptions of any completed work, lists of any correspondence during agency consultation, and a schedule for completing any remaining work.

#### WHITEWATER RECREATION

As requested by the Commission, O&R is conducting a study of the potential for whitewater recreation on the Mongaup River below the Rio powerhouse. The study will include experimental releases for purposes of determining both the level of difficulty of the rapids and the stream flow that is necessary to maintain whitewater boating using standard one- and two-turbine operations of units at Rio powerhouse. The experimental releases are scheduled to take place on May 19, 1990, and will involve the participation of DEC, FWS, NPS and the American Whitewater Affiliation and the Kayak and Canoe Club of New York. An analysis of the results of the experimental flow releases will follow and will be submitted to the Commission no later than July 19, 1990.

Honorable Lois D. Cashell  
April 24, 1990  
Page 3

An initial draft of the economic analysis requested by the Commission has been completed but not yet circulated for agency consultation. Upon completion of the consultation process, the results will be submitted to the Commission in the same package as the results of the experimental release studies.

Correspondence between O&R and the consultation agencies related to the whitewater recreation study and economic report is attached at Appendix A.

#### RULE CURVE

With the exception of the wet-year analysis, which is being completed, O&R has completed a draft response to the Request for Additional Information Schedule B and is now in the process of consulting with FWS, DEC and DRBC as required by the Commission in the Request for Additional Information. The drafts were mailed to the agencies on March 27, 1990 and O&R is awaiting agency comments. The draft response is over 400 pages and was developed after consultation with the agencies on the appropriate methodologies to be used in conducting the necessary studies. A consultation meeting was held on January 18, 1990 for this purpose. After distribution of the draft for purposes of agency consultation, a consultation meeting between O&R, FWS and DEC was held on April 9, 1990.

Upon receiving agency comments on the draft, O&R will make revisions and undertake further consultation as is necessary to complete the response by July 19, 1990.

Meeting minutes and correspondence between O&R and the consultation agencies related to the Schedule B information is attached at Appendix B.

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Due to the fact that these are competitive licensing proceedings, the information contained in the draft is highly sensitive and confidential until finalized. Thus, O&R has not provided copies of the draft response in this progress report.

Honorable Lois D. Ashell  
April 24, 1990  
Page 4

If you have any questions regarding O&R's progress,  
please call me at 212-715-8372.

Respectfully submitted,

  
Thomas E. Mark  
Attorney for ORANGE AND ROCKLAND  
UTILITIES, INC.

Enclosures

cc: Service List  
Consultation Agencies



IN REPLY REFER TO:

N16

**United States Department of the Interior**

**NATIONAL PARK SERVICE**  
**UPPER DELAWARE**  
**SCENIC RECREATIONAL RIVER**  
P.O. Box C, Narrowsburg, NY 12764-0159

**CEIVE**

JUN 5 1990

**O.R.U., INC.**  
**ENVIRONMENTAL SERVICES**  
**DEPARTMENT**

May 21, 1990

Mr. Dean L. Shumway, Director  
Division of Project Review  
Federal Energy Regulatory Commission  
825 North Capitol Street, N. E.  
Washington, DC 20426

RE: Orange and Rockland Utilities, Inc.  
Project Numbers 9690, 10481 and 10482

Dear Mr. Shumway:

Orange and Rockland Utilities, Inc., has been directed by your office to conduct a study to determine the potential for white water recreation on the Mongaup River below the Rio Powerhouse. In your letter of August 28, 1989, to Orange and Rockland, you directed them to undertake this study in cooperation with the National Park Service, as well as the other parties involved in the license process.

The National Park Service has agreed to cooperate in the study due to the potential impact of releases for white water boating on the Upper Delaware Scenic and Recreational River, a unit of the Wild and Scenic River System. Our major contribution to the study was to record differences, if any, at the mouth of the lower Mongaup River, where it enters the Upper Delaware Scenic and Recreational River. There is a Class II-rated rapids just below this confluence, and we are concerned as to whether or not additional water releases for white water boating on weekends will change appreciably the ratings of this rapids. Unfortunately, due to high water conditions on the Upper Delaware River, we weren't able to assess the changes on May 19, 1990, the day of the whitewater trials.

We have compiled search and rescue statistics for the Mongaup confluence for the period from 1980 through April of 1990. These statistics show a pattern of search and rescue incidents in this area, particularly on weekends. During this time period, there have been 104 search and rescue incidents--

Federal Energy Regulatory Commission  
Mongaup River Boating Trials  
May 21, 1990

2

three of which were drownings, and two near-drownings. Many of these incidents involved ambulance transportation by rescue squads, and associated personnel costs which amounted to more than \$22,000. Furthermore, 88 of these incidents occurred in weekends, 55 on Saturdays and 33 on Sundays. These are days when Orange and Rockland Utilities is not releasing for hydropower purposes. Thus, our concern about the potential increase in boating difficulty at the Mongaup confluence due to white water releases on weekends is a legitimate one that must be addressed in Orange and Rockland's study.

Until such time as we have had the opportunity to assess the changes at the Mongaup confluence due to white water releases for boating purposes, we would consider any study to be incomplete. We ask your agency to assure that our assessment is made part of the record, and that no determination be made as to the feasibility for white water boating releases on the lower Mongaup until the National Park Service has evaluated the impacts, if any, these releases would have on the Upper Delaware Scenic and Recreational River.

Sincerely yours,



John T. Hutzky  
Superintendent

cc: Robert Kosior, Orange & Rockland Utilities, Inc.  
Murdoch Mackenzie, New York State DEC  
Leonard Corin, U.S. Fish and Wildlife Service  
John Humbach, American Whitewater Association  
John Echeverria, American Rivers, Inc.  
Gerald Hansler, Exec. Dir., DRBC  
William Douglass, Exec. Dir., UDC  
Robert Gift, NPS MARO