# Black River and Beebee Island Hydroelectric Projects

## Recertification Application to the Low Impact Hydropower Institute

### LIHI #34 and FERC Project Nos. 2569 and 2538

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## INTRODUCTION

Erie Boulevard Hydropower, L.P. (Erie), a wholly owned subsidiary of Brookfield Renewable, is providing this application to the Low Impact Hydropower Institute (LIHI) for recertification of the Black River and Beebee Island Projects (LIHI #34), subsequent to a previous LIHI certification that expires December 7, 2017. The Black River Project consists of six hydroelectric developments along the Black River in Jefferson County, New York. The five upstream developments are licensed with the Federal Energy Regulatory Commission (FERC) as the Black River Project (FERC No. 2569), and the Beebee Island development is licensed separately as the Beebee Island Project (FERC No. 2538). There have been no material changes in the facility design or operation since the most recent LIHI review that was concluded in July 2013 (see LIHI reviewer's report by Gary Franc, dated 07/10/2013[1]). There also have been no material changes in the environmental conditions in the project vicinity since that most recent LIHI review. The only material changes that have occurred recently are in the revised LIHI certification criteria described in the 2016 version of LIHI's certification handbook.

Erie has reviewed the project descriptions for the Black River and Beebee Island Projects that are posted on the LIHI website and determined that they are an accurate representation of the subject Projects. The information provided in this recertification application provides an update to support a new LIHI certification.

[1] http://lowimpacthydro.org/wp-content/uploads/2013/01/Recertification-Review-FL.pdf

## PART I. FACILITY DESCRIPTION

The key features of the Black River and Beebee Island Hydroelectric Projects are described in Tables 1 through 6. A description of the Projects can be found on the LIHI website at http://lowimpacthydro.org/lihi-certificate-34-black-river-and-beebee-island-projects-new-york-ferc-2569-and-2538/.

**Table I-1. Facility Description Information for the Herrings Development of the Black River Project (LIHI #34).**

| ***Information Type*** | ***Variable Description*** | ***Response(and reference to further details)*** |
|---|---|---|
| ***Name of the Facility*** | Facility name (use FERC project name if possible) | Black River Project (FERC No. 2569)<br>*Herrings Development* |
| ***Location*** | River name (USGS proper name) | Black River |
| | River basin name | Black River Basin |
| | Nearest town, county, and state | Herrings, Jefferson County, New York |
| | River mile of dam above next major river | River Mile 27.5 |
| | Geographic latitude | 44.0205 N |
| | Geographic longitude | -75.6508 W |
| ***Facility Owner*** | Application contact names (IMPORTANT: you must also complete the Facilities Contact Form): | See Part V of the LIHI certification application for more information. |
| | - Facility owner (individual and company names) | Erie Boulevard Hydropower, L.P. |
| | - Operating affiliate (if different from owner) | Same as above |
| | - Representative in LIHI certification | Daniel G. Daoust, Compliance Specialist |
| ***Regulatory Status*** | FERC Project Number (e.g., P-xxxxx), issuance and expiration dates | FERC Project Number 2569<br><br>The Black River and Beebee Island Settlement Offer dated, September 14, 1995 was filed with FERC October 13, 1995.<br><br>New license issued on December 24, 1996.<br><br>License amended on August 20, 1998 (Article 401).<br><br>License amended on June 21, 1999 (Article 403).<br><br>License expires on November 30, 2026. |
| | FERC license type or special classification (e.g., "qualified conduit") | License for major project (>5 MW) |

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| | Water Quality Certificate identifier and issuance date, plus source agency name | The Section 401 Water Quality Certificate was issued by the New York State Department of Environmental Conservation (NYSDEC) on November 3, 1995 and adopted into Article 401 of the FERC license. |
| | Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.) | October 13, 1995 Settlement Agreement: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121<br><br>December 24, 1996 License Order: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13705898<br><br>August 20, 1998 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=72395<br><br>June 21, 1999 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10838060 |
| ***Power Plant Character-istics*** | Date of initial operation (past or future for operational applications) | The Herrings Development was placed into service on May 28, 1924. |
| | Total name-plate capacity (MW) | Black River Project:<br>*Herrings Development:* 5.4 MW<br>*Deferiet Development:* 10.8 MW<br>*Kamargo Development:* 5.4 MW<br>*Black River Development:* 6.0 MW<br>*Sewalls Development:* 2.0 MW<br>**Total installed capacity: 29.6 MW** |
| | Average annual generation (MWh) | Actual annual generation is filed with the FERC each year. The average generation from 2011 to 2016 is listed below.<br><br>Black River Project:<br>*Herrings Development:* 18,813 MWh<br>*Deferiet Development:* 54,743 MWh<br>*Kamargo Development:* 20,596 MWh<br>*Black River Development:* 32,839 MWh<br>*Sewalls Development:* 10,936 MWh<br>**Total installed capacity: 137,926 MWh** |
| | Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit | Generating Units: 3<br><br>Type: Allis Chalmers vertical axis propeller turbines<br><br>Description of Turbines: |

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| | | Units 1, 2, and 3 = Design capacity of 2,250 HP at a design head of 19.5 feet and a speed of 138.5 rpm<br><br>Maximum Capacity:<br>Unit 1 = 1,200 cfs<br>Unit 2 = 1,200 cfs<br>Unit 3 = 1,200 cfs<br><br>Minimum Capacity:<br>Unit 1 = 1,120 cfs (efficient)<br>Unit 2 = 1,120 cfs (efficient)<br>Unit 3 = 1,120 cfs (efficient) |
| | Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.) | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River.<br><br>These developments are all operated automatically to maintain impoundment levels within 0.5 foot below the dam crest or the top of flashboards and provide a continuous baseflow of not less than 1,000 cfs (or inflow) through the entire project. |
| | Dates and types of major equipment upgrades | There have been no major equipment upgrades at the project. |
| | Dates, purpose, and type of any recent operational changes | There have been no recent operational changes at the project. |
| | Plans, authorization, and regulatory activities for any facility upgrades | There are no plans for any facility upgrades at the project. |
| ***Character-istics of Dam, Diversion, or Conduit*** | Date of construction | The five developments of the Black River Project were constructed or were converted from hydromechanical to hydroelectric plants between 1920 and 1925.<br><br>The Herrings Development dam was constructed in 1922-1924. |
| | Dam height | 25 feet |
| | Spillway elevation and hydraulic capacity | Spillway Elevation: 679.1 ft msl<br>Hydraulic Capacity: 29,000 cfs |
| | Tailwater elevation | Based on estimated tailwater rating curves, the tailwater elevation would range from 659 ft msl to 664 ft msl at flows from zero to 10,000. |

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| | Length and type of all penstocks and water conveyance structures between reservoir and powerhouse | The intake and powerhouse are integral. The conveyance consists of bays and passages cast into these structures. |
| | Dates and types of major, generation-related infrastructure improvements | The construction and major events/alterations/repairs to the development are listed as follows:<br>• 1973 - Reintegration of Dam and Trash Chute Piers.<br>• 1981 - Rehabilitate Spillway and Gate Hoist Rail Support.<br>• 1998 - New Minimum Flow Weir. |
| | Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.) | The purpose of the project is for power production. |
| | Water source | Black River |
| | Water discharge location or facility | Black River |
| ***Characte-ristics of Reservoir and Watershed*** | Gross volume and surface area at full pool | Gross Volume: 699.0 acre-feet<br>Surface Area: 140 acres |
| | Maximum water surface elevation (ft. MSL) | 680.1 ft msl |
| | Maximum and minimum volume and water surface elevations for designated power pool, if available | Not applicable |
| | Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Carthage State Dam, State of New York, RM 33.1<br><br>Tannery Island Dam, Ampersand Hydro LLC, RM 33.0<br><br>Long Falls Dam, Ampersand Hydro LLC, RM 32.9<br><br>West End Dam, Northbrook Energy-Carthage, LLC, RM 32.8 |
| | Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Deferiet Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 26.0<br><br>Great Bend Dam, RM 22.15<br><br>Lefebvre Mill Dam, RM 20.55<br><br>Felts Mills Dam, RM 19.6<br><br>Kamargo Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 17.0 |

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| | | Black River Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 15.0<br><br>Watertown Dosing Station Dam, RM 12.2<br><br>Watertown Settling Basin Dam, RM 11.9<br><br>Delano Island Diversion Dam, City of Watertown, FERC No. 2442, RM 11.7<br><br>Pump House Dam, RM 11.3<br><br>Sewalls Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 10.0 |
| | Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River. |
| | Area inside FERC project boundary, where appropriate | The 140-acre reservoir is located entirely within the FERC project boundary. |
| ***Hydrologic Setting*** | Average annual flow at the dam | The approximate average annual flows at the Herrings Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown, NY is 4,207 cfs. |
| | Average monthly flows | The approximate average monthly flows at the Herrings Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown are as follows:<br><br>January – 4,820 cfs<br>February – 4,410 cfs<br>March – 4,927 cfs<br>April – 8,878 cfs<br>May – 4,035 cfs<br>June – 4,364 cfs<br>July – 2,836 cfs<br>August – 1,982 cfs<br>September – 1,460 cfs<br>October – 3,413 cfs<br>November – 4,208 cfs<br>December – 5,237 cfs |

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| | Location and name of relevant stream gauging stations above and below the facility | USGS Gage No. 04260500 Black River at Watertown NY (downstream of Beebee Island Project near Vanduzee Street Bridge) |
| | Watershed area at the dam | Drainage Area: 1,810 sq. mi. |
| ***Designated Zones of Effect*** | Number of zones of effect | There are two zones of effect at the Herrings Development (See Appendix A). |
| | Upstream and downstream locations by river miles | Zone 1: 27.5 to 26.5<br>Zone 2: 30.3 to 27.5 |
| | Type of waterbody (river, impoundment, by-passed reach, etc.) | Zone 1: River<br>Zone 2: Impoundment |
| | Delimiting structures | Zone 1: Herrings dam, downstream approximately 1.0 mile.<br>Zone 2: From the head of the Herrings impoundment, downstream approximately 2.8 miles to the Herrings dam. |
| | Designated uses by state water quality agency | The NYSDEC has identified the Black River from Black River to Carthage as Class C.<br><br>Class C waters are designated for recreation and suitable for fish propagation and survival. |
| ***Additional Contact Information*** | Names, addresses, phone numbers, and e-mail for local state and federal resource agencies | See Part V of the LIHI certification application for more information. |
| | Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders | See Part V of the LIHI certification application for more information. |
| ***Photographs and Maps*** | Photographs of key features of the facility and each of the designated zones of effect | See Appendix B. |
| | Maps, aerial photos, and/or plan view diagrams of facility area and river basin | See Appendix C. |

**Table I-2. Facility Description Information for the Deferiet Development of the Black River Project (LIHI #34).**

| *Information Type* | *Variable Description* | *Response(and reference to further details)* |
|---|---|---|
| ***Name of the Facility*** | Facility name (use FERC project name if possible) | Black River Project (FERC No. 2569)<br>*Deferiet Development* |
| ***Location*** | River name (USGS proper name) | Black River |
| | River basin name | Black River Basin |
| | Nearest town, county, and state | Deferiet, Jefferson County, New York |
| | River mile of dam above next major river | River Mile 26.0 |
| | Geographic latitude | 44.0277 N |
| | Geographic longitude | -75.6772 W |
| ***Facility Owner*** | Application contact names (IMPORTANT: you must also complete the Facilities Contact Form): | See Part V of the LIHI certification application for more information. |
| | - Facility owner (individual and company names) | Erie Boulevard Hydropower, L.P. |
| | - Operating affiliate (if different from owner) | Same as above |
| | - Representative in LIHI certification | Daniel G. Daoust, Compliance Specialist |
| ***Regulatory Status*** | FERC Project Number (e.g., P-xxxxx), issuance and expiration dates | FERC Project Number 2569<br><br>The Black River and Beebee Island Settlement Offer dated, September 14, 1995 was filed with FERC October 13, 1995.<br><br>New license issued on December 24, 1996.<br><br>License amended on August 20, 1998 (Article 401).<br><br>License amended on June 21, 1999 (Article 403).<br><br>License expires on November 30, 2026. |
| | FERC license type or special classification (e.g., "qualified conduit") | License for major project (>5 MW) |
| | Water Quality Certificate identifier and issuance date, plus source agency name | The Section 401 Water Quality Certificate was issued by the New York State Department of Environmental Conservation (NYSDEC) on November 3, 1995 and adopted into Article 401 of the FERC license. |
| | Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.) | October 13, 1995 Settlement Agreement: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121 |

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| | | December 24, 1996 License Order: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13705898<br><br>August 20, 1998 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=72395<br><br>June 21, 1999 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10838060 |
| ***Power Plant Character-istics*** | Date of initial operation (past or future for operational applications) | The Deferiet Development was placed into service on December 21, 1925. |
| | Total name-plate capacity (MW) | Black River Project:<br>*Herrings Development:* 5.4 MW<br>*Deferiet Development:* 10.8 MW<br>*Kamargo Development:* 5.4 MW<br>*Black River Development:* 6.0 MW<br>*Sewalls Development:* 2.0 MW<br>**Total installed capacity: 29.6 MW** |
| | Average annual generation (MWh) | Actual annual generation is filed with the FERC each year. The average generation from 2011 to 2016 is listed below.<br><br>Black River Project:<br>*Herrings Development:* 18,813 MWh<br>*Deferiet Development:* 54,743 MWh<br>*Kamargo Development:* 20,596 MWh<br>*Black River Development:* 32,839 MWh<br>*Sewalls Development:* 10,936 MWh<br>**Total installed capacity: 137,926 MWh** |
| | Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit | Generating Units: 3<br><br>Type: S. Morgan Smith vertical Francis turbines<br><br>Description of Turbines:<br>Units 1, 2, and 3 = Design capacity of 4,960 HP at a design head of 46 feet.<br><br>Maximum Capacity:<br>Unit 1 = 1,147 cfs<br>Unit 2 = 1,147 cfs<br>Unit 3 = 1,147 cfs |

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| | | Minimum Capacity:<br>Unit 1 = 1,000 cfs (efficient)<br>Unit 2 = 1,000 cfs (efficient)<br>Unit 3 = 1,000 cfs (efficient) |
| | Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.) | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River.<br><br>These developments are all operated automatically to maintain impoundment levels within 0.5 foot below the dam crest or the top of flashboards and provide a continuous baseflow of not less than 1,000 cfs (or inflow) through the entire project. |
| | Dates and types of major equipment upgrades | There have been no major equipment upgrades at the project. |
| | Dates, purpose, and type of any recent operational changes | There have been no recent operational changes at the project. |
| | Plans, authorization, and regulatory activities for any facility upgrades | There are no plans for any facility upgrades at the project. |
| ***Character-istics of Dam, Diversion, or Conduit*** | Date of construction | The five developments of the Black River Project were constructed or were converted from hydromechanical to hydroelectric plants between 1920 and 1925.<br><br>The Deferiet Development dam was originally constructed in 1913 and re-constructed to its present configuration in 1922-1924. |
| | Dam height | 18 feet |
| | Spillway elevation and hydraulic capacity | Spillway Elevation: 656.0 ft msl<br>Hydraulic Capacity: 21,000 cfs |
| | Tailwater elevation | Based on estimated tailwater rating curves, the tailwater elevation would range from 610 ft msl to 616 ft msl at flows from zero to 10,000. |
| | Length and type of all penstocks and water conveyance structures between reservoir and powerhouse | The power canal is 4,200 feet long. The first 4,100 feet is an un-lined channel, while the final 100 feet leading to the intake is lined with stone blocks. |

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| | Dates and types of major, generation-related infrastructure improvements | The construction and major events/alterations/repairs to the project are listed as follows:<br>• 1934 - Waterproofing and reintegration of the dam.<br>• 1941 - Powerhouse made automatic.<br>• 1977 - Concrete reintegration of flood gate structure.<br>• 1988 - Construction of a slurry trench wall down to bedrock in the area between the gated spillway and the headgate structure and cement/asphalt grouting has successfully cut off the seepage.<br>• 1992 - Canal Intake Replacement.<br>• 1994 - Powerhouse grouting program.<br>• 1999 - Dam reintegration.<br>• 2000 - Obermeyer pneumatic flashboards added to the spillway.<br>• 2009 - Leaks in Limestone Joints develop below Stop Log Section.<br>• 2011 - Headgate replacement and joint plugging at stop log section. |
| | Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.) | The purpose of the project is for power production. |
| | Water source | Black River |
| | Water discharge location or facility | Black River |
| ***Characte-ristics of Reservoir and Watershed*** | Gross volume and surface area at full pool | Gross Volume: 405.0 acre-feet<br>Surface Area: 70 acres |
| | Maximum water surface elevation (ft. MSL) | 659.0 ft msl |
| | Maximum and minimum volume and water surface elevations for designated power pool, if available | Not applicable |
| | Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Carthage State Dam, State of New York, RM 33.1<br><br>Tannery Island Dam, Ampersand Hydro LLC, RM 33.0<br><br>Long Falls Dam, Ampersand Hydro LLC, RM 32.9<br><br>West End Dam, Northbrook Energy-Carthage, LLC, RM 32.8<br><br>Herrings Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 27.5 |

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| | Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Great Bend Dam, RM 22.15<br><br>Lefebvre Mill Dam, RM 20.55<br><br>Felts Mills Dam, RM 19.6<br><br>Kamargo Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 17.0<br><br>Black River Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 15.0<br><br>Watertown Dosing Station Dam, RM 12.2<br><br>Watertown Settling Basin Dam, RM 11.9<br><br>Delano Island Diversion Dam, City of Watertown, FERC No. 2442, RM 11.7<br><br>Pump House Dam, RM 11.3<br><br>Sewalls Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 10.0 |
| | Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River. |
| | Area inside FERC project boundary, where appropriate | The 70-acre reservoir is located entirely within the FERC project boundary. |
| ***Hydrologic Setting*** | Average annual flow at the dam | The approximate average annual flows at the Deferiet Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown, NY is 4,207 cfs. |
| | Average monthly flows | The approximate average monthly flows at the Deferiet Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown are as follows:<br>January – 4,820 cfs<br>February – 4,410 cfs<br>March – 4,927 cfs<br>April – 8,878 cfs |

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| | | May – 4,035 cfs<br>June – 4,364 cfs<br>July – 2,836 cfs<br>August – 1,982 cfs<br>September – 1,460 cfs<br>October – 3,413 cfs<br>November – 4,208 cfs<br>December – 5,237 cfs |
| | Location and name of relevant stream gauging stations above and below the facility | USGS Gage No. 04260500 Black River at Watertown NY (downstream of Beebee Island Project near Vanduzee Street Bridge) |
| | Watershed area at the dam | Drainage Area: 1,817 sq. mi. |
| ***Designated Zones of Effect*** | Number of zones of effect | There are four zones of effect at the Deferiet Development (See Appendix A). |
| | Upstream and downstream locations by river miles | Zone 1: RM 25.2 to 24.5<br>Zone 2: RM 26.0 to RM 24.5<br>Zone 3: RM 26.0 to 25.2<br>Zone 4: RM 26.7 to 26.0 |
| | Type of waterbody (river, impoundment, by-passed reach, etc.) | Zone 1: River<br>Zone 2: Bypassed Reach<br>Zone 3: Power Canal<br>Zone 4: Impoundment |
| | Delimiting structures | Zone 1: Deferiet powerhouse, downstream approximately 0.7 miles.<br>Zone 2: Deferiet dam, downstream bypassed reach approximately 1.5 miles.<br>Zone 3: Intake headworks, downstream power canal approximately 0.8 miles to Deferiet powerhouse.<br>Zone 4: From the head of the Deferiet impoundment, downstream approximately 0.7 miles to the Deferiet dam. |
| | Designated uses by state water quality agency | The NYSDEC has identified the Black River from Black River to Carthage as Class C.<br><br>Class C waters are designated for recreation and suitable for fish propagation and survival. |
| ***Additional Contact Information*** | Names, addresses, phone numbers, and e-mail for local state and federal resource agencies | See Part V of the LIHI certification application for more information. |
| | Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders | See Part V of the LIHI certification application for more information. |
| ***Photographs and Maps*** | Photographs of key features of the facility and each of the designated zones of effect | See Appendix B. |
| | Maps, aerial photos, and/or plan view diagrams of facility area and river basin | See Appendix C. |

**Table I-3. Facility Description Information for the Kamargo Development of the Black River Project (LIHI #34).**

| *Information Type* | *Variable Description* | *Response(and reference to further details)* |
|---|---|---|
| ***Name of the Facility*** | Facility name (use FERC project name if possible) | Black River Project (FERC No. 2569)<br>*Kamargo Development* |
| ***Location*** | River name (USGS proper name) | Black River |
| | River basin name | Black River Basin |
| | Nearest town, county, and state | Black River, Jefferson County, New York |
| | River mile of dam above next major river | River Mile 17.0 |
| | Geographic latitude | 44.0080 N |
| | Geographic longitude | -75.7852 W |
| ***Facility Owner*** | Application contact names (IMPORTANT: you must also complete the Facilities Contact Form): | See Part V of the LIHI certification application for more information. |
| | - Facility owner (individual and company names) | Erie Boulevard Hydropower, L.P. |
| | - Operating affiliate (if different from owner) | Same as above |
| | - Representative in LIHI certification | Daniel G. Daoust, Compliance Specialist |
| ***Regulatory Status*** | FERC Project Number (e.g., P-xxxxx), issuance and expiration dates | FERC Project Number 2569<br><br>The Black River and Beebee Island Settlement Offer dated, September 14, 1995 was filed with FERC October 13, 1995.<br><br>New license issued on December 24, 1996.<br><br>License amended on August 20, 1998 (Article 401).<br><br>License amended on June 21, 1999 (Article 403).<br><br>License expires on November 30, 2026. |
| | FERC license type or special classification (e.g., "qualified conduit") | License for major project (>5 MW) |
| | Water Quality Certificate identifier and issuance date, plus source agency name | The Section 401 Water Quality Certificate was issued by the New York State Department of Environmental Conservation (NYSDEC) on November 3, 1995 and adopted into Article 401 of the FERC license. |
| | Hyperlinks to key electronic records on FERC e-library website (e.g., most recent | October 13, 1995 Settlement Agreement: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121 |

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| | Commission Orders, WQC, ESA documents, etc.) | December 24, 1996 License Order: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13705898<br><br>August 20, 1998 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=72395<br><br>June 21, 1999 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10838060 |
| ***Power Plant Character-istics*** | Date of initial operation (past or future for operational applications) | The Kamargo Development was placed into service in the 1920s. |
| | Total name-plate capacity (MW) | Black River Project:<br>*Herrings Development:* 5.4 MW<br>*Deferiet Development:* 10.8 MW<br>*Kamargo Development:* 5.4 MW<br>*Black River Development:* 6.0 MW<br>*Sewalls Development:* 2.0 MW<br>**Total installed capacity: 29.6 MW** |
| | Average annual generation (MWh) | Actual annual generation is filed with the FERC each year. The average generation from 2011 to 2016 is listed below.<br><br>Black River Project:<br>*Herrings Development:* 18,813 MWh<br>*Deferiet Development:* 54,743 MWh<br>*Kamargo Development:* 20,596 MWh<br>*Black River Development:* 32,839 MWh<br>*Sewalls Development:* 10,936 MWh<br>**Total installed capacity: 137,926 MWh** |
| | Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit | Generating Units: 3<br><br>Type: S. Morgan Smith vertical Francis turbines<br><br>Description of Turbines:<br>Units 1, 2, and 3 = design capacity of 2,600 HP at a design head of 25 feet and a speed of 100 rpm<br><br>Maximum Capacity:<br>Unit 1 = 1,100 cfs<br>Unit 2 = 1,100 cfs<br>Unit 3 = 1,100 cfs |

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| | | Minimum Capacity:<br>Unit 1 = 945 cfs (efficient)<br>Unit 2 = 945 cfs (efficient)<br>Unit 3 = 945 cfs (efficient) |
| | Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.) | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River.<br><br>These developments are all operated automatically to maintain impoundment levels within 0.5 foot below the dam crest or the top of flashboards and provide a continuous baseflow of not less than 1,000 cfs (or inflow) through the entire project. |
| | Dates and types of major equipment upgrades | There have been no major equipment upgrades at the project. |
| | Dates, purpose, and type of any recent operational changes | There have been no recent operational changes at the project. |
| | Plans, authorization, and regulatory activities for any facility upgrades | There are no plans for any facility upgrades at the project. |
| ***Character-istics of Dam, Diversion, or Conduit*** | Date of construction | The five developments of the Black River Project were constructed or were converted from hydromechanical to hydroelectric plants between 1920 and 1925.<br><br>The Kamargo Development dam was constructed in 1921, and re-constructed in 1984 to its current configuration. |
| | Dam height | 12 feet |
| | Spillway elevation and hydraulic capacity | Spillway Elevation: 561.8 ft msl<br>Hydraulic Capacity: 42,000 cfs |
| | Tailwater elevation | Based on estimated tailwater rating curves, the tailwater elevation would range from 535 ft msl to 541 ft msl at flows from zero to 10,000. |
| | Length and type of all penstocks and water conveyance structures between reservoir and powerhouse | The power canal is 3,850 feet long and is partially lined with concrete retaining walls. Downstream of the Mill Bridge, the power canal bends sharply to the left (looking downstream). The bend is created by a 118-foot-long bulkhead section of which 43 feet has a permanent crest of 560.8 feet and is |

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| | | equipped with 3-foot flashboards, while the remainder has a permanent crest of 562.8 feet and is equipped with 1-foot flashboards. Downstream of the bend, is a 580-foot-long forebay. The south bank of the forebay is lined by a concrete retaining wall, while the north side is composed of (a) a 190-foot-long concrete gravity overflow section (permanent crest elevation 565.0 feet USGS), (b) a 230-foot-long concrete gravity overflow section (permanent crest elevation 562.8 feet USGS) topped with 1-foot flashboards, and (c) a 160-foot-long side channel spillway section containing twelve 11-foot-wide stop-log bays. |
| | Dates and types of major, generation-related infrastructure improvements | The construction and major events/alterations/repairs to the project are listed as follows:<br>• 1934 - Reintegration at Headgates.<br>• 1934 - Head Race Spillway Reintegration.<br>• 1940 - Canal Structure Reintegration.<br>• 1940 - Reconstruction of Piers and Slabs at Powerhouse Spillway.<br>• 1940 - Dam Raising and Headgate Reintegration.<br>• 1940 - Reintegration of Canal Structures Sections and Details.<br>• 1984 - Dam Rehabilitation.<br>• 1985 - The dam was post-tensioned anchored.<br>• 1986 - Low Canal Wall Reintegration General Plan.<br>• 1986 - Low Canal Wall Reintegration Sections and Details.<br>• 2004 - Bulkhead Spillway Misc. Canal Patching. |
| | Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.) | The purpose of the project is for power production. |
| | Water source | Black River |
| | Water discharge location or facility | Black River |
| ***Characte-ristics of Reservoir and Watershed*** | Gross volume and surface area at full pool | Gross Volume: 360.0 acre-feet<br>Surface Area: 40 acres |
| | Maximum water surface elevation (ft. MSL) | 563.8 ft msl |
| | Maximum and minimum volume and water surface elevations for designated power pool, if available | Not applicable |

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| | Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Carthage State Dam, State of New York, RM 33.1<br><br>Tannery Island Dam, Ampersand Hydro LLC, RM 33.0<br><br>Long Falls Dam, Ampersand Hydro LLC, RM 32.9<br><br>West End Dam, Northbrook Energy-Carthage, LLC, RM 32.8<br><br>Herrings Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 27.5<br><br>Deferiet Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 26.0<br><br>Great Bend Dam, RM 22.15<br><br>Lefebvre Mill Dam, RM 20.55<br><br>Felts Mills Dam, RM 19.6 |
| | Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Black River Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 15.0<br><br>Watertown Dosing Station Dam, RM 12.2<br><br>Watertown Settling Basin Dam, RM 11.9<br><br>Delano Island Diversion Dam, City of Watertown, FERC No. 2442, RM 11.7<br><br>Pump House Dam, RM 11.3<br><br>Sewalls Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 10.0 |
| | Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River. |
| | Area inside FERC project boundary, where appropriate | The 40-acre reservoir is located entirely within the FERC project boundary. |

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| ***Hydrologic Setting*** | Average annual flow at the dam | The approximate average annual flows at the Kamargo Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown, NY is 4,207 cfs. |
| | Average monthly flows | The approximate average monthly flows at the Herrings Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown are as follows:<br>January – 4,820 cfs<br>February – 4,410 cfs<br>March – 4,927 cfs<br>April – 8,878 cfs<br>May – 4,035 cfs<br>June – 4,364 cfs<br>July – 2,836 cfs<br>August – 1,982 cfs<br>September – 1,460 cfs<br>October – 3,413 cfs<br>November – 4,208 cfs<br>December – 5,237 cfs |
| | Location and name of relevant stream gauging stations above and below the facility | USGS Gage No. 04260500 Black River at Watertown NY (downstream of Beebee Island Project near Vanduzee Street Bridge) |
| | Watershed area at the dam | Drainage Area: 1,855 sq. mi. |
| ***Designated Zones of Effect*** | Number of zones of effect | There are four zones of effect at the Kamargo Development (See Appendix A). |
| | Upstream and downstream locations by river miles | Zone 1: RM 16.1 to RM 16.05<br>Zone 2: RM 17.0 to RM 16.3<br>Zone 3: RM 16.9 to RM 16.1<br>Zone 4: RM 17.9 to 17.0 |
| | Type of waterbody (river, impoundment, by-passed reach, etc.) | Zone 1: River<br>Zone 2: Bypassed Reach<br>Zone 3: Power Canal<br>Zone 4: Impoundment |
| | Delimiting structures | Zone 1: Kamargo powerhouse, downstream approximately 0.05 miles.<br>Zone 2: Kamargo dam, downstream bypassed reach approximately 0.7 miles.<br>Zone 3: Intake headworks, downstream power canal approximately 0.8 miles.<br>Zone 4: From the head of the Kamargo impoundment, downstream approximately 0.9 miles to the Kamargo dam. |
| | Designated uses by state water quality agency | The NYSDEC has identified the Black River from Black River to Carthage as Class C. |

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| | | Class C waters are designated for recreation and suitable for fish propagation and survival. |
| ***Additional Contact Information*** | Names, addresses, phone numbers, and e-mail for local state and federal resource agencies | See Part V of the LIHI certification application for more information. |
| | Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders | See Part V of the LIHI certification application for more information. |
| ***Photographs and Maps*** | Photographs of key features of the facility and each of the designated zones of effect | See Appendix B. |
| | Maps, aerial photos, and/or plan view diagrams of facility area and river basin | See Appendix C. |

**Table I-4. Facility Description Information for the Black River Development of the Black River Project (LIHI #34).**

| *Information Type* | *Variable Description* | *Response(and reference to further details)* |
|---|---|---|
| ***Name of the Facility*** | Facility name (use FERC project name if possible) | Black River Project (FERC No. 2569)<br>*Black River Development* |
| ***Location*** | River name (USGS proper name) | Black River |
| | River basin name | Black River Basin |
| | Nearest town, county, and state | Black River, Jefferson County, New York |
| | River mile of dam above next major river | River Mile 15.0 |
| | Geographic latitude | 44.0038 N |
| | Geographic longitude | -75.8066 W |
| ***Facility Owner*** | Application contact names (IMPORTANT: you must also complete the Facilities Contact Form): | See Part V of the LIHI certification application for more information. |
| | - Facility owner (individual and company names) | Erie Boulevard Hydropower, L.P. |
| | - Operating affiliate (if different from owner) | Same as above |
| | - Representative in LIHI certification | Daniel G. Daoust, Compliance Specialist |
| ***Regulatory Status*** | FERC Project Number (e.g., P-xxxxx), issuance and expiration dates | FERC Project Number 2569<br><br>The Black River and Beebee Island Settlement Offer dated, September 14, 1995 was filed with FERC October 13, 1995.<br><br>New license issued on December 24, 1996.<br><br>License amended on August 20, 1998 (Article 401).<br><br>License amended on June 21, 1999 (Article 403).<br><br>License expires on November 30, 2026. |
| | FERC license type or special classification (e.g., "qualified conduit") | License for major project (>5 MW) |
| | Water Quality Certificate identifier and issuance date, plus source agency name | The Section 401 Water Quality Certificate was issued by the New York State Department of Environmental Conservation (NYSDEC) on November 3, 1995 and adopted into Article 401 of the FERC license. |
| | Hyperlinks to key electronic records on FERC e-library website (e.g., most recent | October 13, 1995 Settlement Agreement: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121 |

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| | Commission Orders, WQC, ESA documents, etc.) | December 24, 1996 License Order: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13705898<br><br>August 20, 1998 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=72395<br><br>June 21, 1999 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10838060 |
| ***Power Plant Character-istics*** | Date of initial operation (past or future for operational applications) | The Black River Development was placed into service in the 1920s. |
| | Total name-plate capacity (MW) | Black River Project:<br>*Herrings Development:* 5.4 MW<br>*Deferiet Development:* 10.8 MW<br>*Kamargo Development:* 5.4 MW<br>*Black River Development:* 6.0 MW<br>*Sewalls Development:* 2.0 MW<br>**Total installed capacity: 29.6 MW** |
| | Average annual generation (MWh) | Actual annual generation is filed with the FERC each year. The average generation from 2011 to 2016 is listed below.<br><br>Black River Project:<br>*Herrings Development:* 18,813 MWh<br>*Deferiet Development:* 54,743 MWh<br>*Kamargo Development:* 20,596 MWh<br>*Black River Development:* 32,839 MWh<br>*Sewalls Development:* 10,936 MWh<br>**Total installed capacity: 137,926 MWh** |
| | Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit | Generating Units: 3<br><br>Type: S. Morgan Smith vertical Francis turbines<br><br>Description of Turbines:<br>Units 1, 2, and 3 = Design capacity of 3,250 HP at a design head of 31 feet and a speed of 120 rpm<br><br>Maximum Capacity:<br>Unit 1 = 1,070 cfs<br>Unit 2 = 1,070 cfs<br>Unit 3 = 1,070 cfs |

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| | | Minimum Capacity:<br>Unit 1 = 900 cfs (efficient)<br>Unit 2 = 900 cfs (efficient)<br>Unit 3 = 900 cfs (efficient) |
| | Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.) | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River.<br><br>These developments are all operated automatically to maintain impoundment levels within 0.5 foot below the dam crest or the top of flashboards and provide a continuous baseflow of not less than 1,000 cfs (or inflow) through the entire project. |
| | Dates and types of major equipment upgrades | There have been no major equipment upgrades at the project. |
| | Dates, purpose, and type of any recent operational changes | There have been no recent operational changes at the project. |
| | Plans, authorization, and regulatory activities for any facility upgrades | There are no plans for any facility upgrades at the project. |
| ***Character-istics of Dam, Diversion, or Conduit*** | Date of construction | The five developments of the Black River Project were constructed or were converted from hydromechanical to hydroelectric plants between 1920 and 1925. |
| | Dam height | 25 feet |
| | Spillway elevation and hydraulic capacity | Spillway Elevation: 534.0 ft msl<br>Hydraulic Capacity: 36,000 cfs |
| | Tailwater elevation | Based on estimated tailwater rating curves, the tailwater elevation would range from 501 ft msl to 506 ft msl at flows from zero to 10,000. |
| | Length and type of all penstocks and water conveyance structures between reservoir and powerhouse | Downstream of the canal intake is a 2,250-foot-long power canal composed of a 1,270 -foot-long un-lined section containing a 250-foot-long concrete waste weir, and a 980-foot-long concrete-lined section containing a 137-footlong concrete waste weir and a 4-foot-wide by 6-foot-high low-level sluice gate. |
| | Dates and types of major, generation-related infrastructure improvements | The construction and major events/alterations/repairs to the project are listed as follows: |

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| | | • The dam was originally constructed in 1920.<br>• Proposed Raise to Dam in 1921.<br>• Repairs to Canal were made in 1933.<br>• Powerhouse Upgrade and Dam Spillway Foundation Repair, 1947<br>• In spring of 1978, a portion of the old bulkhead section along the south section of the dam breached.<br>• In 1979, the breached section was replaced with a 13-foot-long ogee spillway section, a 66.5-foot-long concrete gate structure housing two 9-foot-square low-level sluice gates, and a 30-foot-long non-overflow concrete retaining wall abutment. Also at this time, the canal was relined and the spillway was rehabilitated. Curtain grouting consisting of seven core borings in front of the intake structure to the powerhouse was also completed.<br>• In 2008, the owner performed a rehabilitation of the forebay bulkhead overflow ogee. |
| | Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.) | The purpose of the project is for power production. |
| | Water source | Black River |
| | Water discharge location or facility | Black River |
| ***Characte-ristics of Reservoir and Watershed*** | Gross volume and surface area at full pool | Gross Volume: 124.0 acre-feet<br>Surface Area: 25 acres |
| | Maximum water surface elevation (ft. MSL) | 536.0 ft msl |
| | Maximum and minimum volume and water surface elevations for designated power pool, if available | Not applicable |
| | Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Carthage State Dam, State of New York, RM 33.1<br><br>Tannery Island Dam, Ampersand Hydro LLC, RM 33.0<br><br>Long Falls Dam, Ampersand Hydro LLC, RM 32.9<br><br>West End Dam, Northbrook Energy-Carthage, LLC, RM 32.8 |
| | Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Herrings Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 27.5 |

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| | | Deferiet Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 26.0<br><br>Great Bend Dam, RM 22.15<br><br>Lefebvre Mill Dam, RM 20.55<br><br>Felts Mills Dam, RM 19.6<br><br>Kamargo Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 17.0<br><br>Black River Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 15.0<br><br>Watertown Dosing Station Dam, RM 12.2<br><br>Watertown Settling Basin Dam, RM 11.9<br><br>Delano Island Diversion Dam, City of Watertown, FERC No. 2442, RM 11.7<br><br>Pump House Dam, RM 11.3<br><br>Sewalls Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 10.0 |
| | Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River. |
| | Area inside FERC project boundary, where appropriate | The 25-acre reservoir is located entirely within the FERC project boundary. |
| ***Hydrologic Setting*** | Average annual flow at the dam | The approximate average annual flows at the Black River Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown, NY is 4,207 cfs. |
| | Average monthly flows | The approximate average monthly flows at the Black River Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown are as follows:<br>January – 4,820 cfs |

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| | | February – 4,410 cfs<br>March – 4,927 cfs<br>April – 8,878 cfs<br>May – 4,035 cfs<br>June – 4,364 cfs<br>July – 2,836 cfs<br>August – 1,982 cfs<br>September – 1,460 cfs<br>October – 3,413 cfs<br>November – 4,208 cfs<br>December – 5,237 cfs |
| | Location and name of relevant stream gauging stations above and below the facility | USGS Gage No. 04260500 Black River at Watertown NY (downstream of Beebee Island Project near Vanduzee Street Bridge) |
| | Watershed area at the dam | Drainage Area: 1,856 sq. mi. |
| ***Designated Zones of Effect*** | Number of zones of effect | There are four zones of effect at the Black River Development (See Appendix A). |
| | Upstream and downstream locations by river miles | Zone 1: RM 14.6 to RM 14.5<br>Zone 2: RM 15.0 to 14.4<br>Zone 3: RM 15.0 to RM 14.6<br>Zone 4: RM 16.0 to RM 15.0 |
| | Type of waterbody (river, impoundment, by-passed reach, etc.) | Zone 1: River<br>Zone 2: Bypassed Reach<br>Zone 3: Power Canal<br>Zone 4: Impoundment |
| | Delimiting structures | Zone 1: Black River powerhouse, downstream approximately 0.1 miles.<br>Zone 2: Black River dam, downstream bypassed reach approximately 0.6 miles.<br>Zone 3: Intake headworks, downstream power canal approximately 0.4 miles to Black River powerhouse.<br>Zone 4: From the head of the Black River impoundment, downstream approximately 1.0 mile to the Black River dam. |
| | Designated uses by state water quality agency | The NYSDEC has identified the Black River from Watertown to Black River as Class A and from Black River to Carthage as Class C.<br><br>Class A waters are designated for drinking and culinary purposes, recreation, and suitable for fish propagation and survival. Class C waters are designated for recreation and suitable for fish propagation and survival. |
| ***Additional Contact Information*** | Names, addresses, phone numbers, and e-mail for local state and federal resource agencies | See Part V of the LIHI certification application for more information. |

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| | Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders | See Part V of the LIHI certification application for more information. |
| ***Photographs and Maps*** | Photographs of key features of the facility and each of the designated zones of effect | See Appendix B. |
| | Maps, aerial photos, and/or plan view diagrams of facility area and river basin | See Appendix C. |

**Table I-5. Facility Description Information for the Sewalls Development of the Black River Project (LIHI #34).**

| *Information Type* | *Variable Description* | *Response(and reference to further details)* |
|---|---|---|
| ***Name of the Facility*** | Facility name (use FERC project name if possible) | Black River Project (FERC No. 2569)<br>*Sewalls Development* |
| ***Location*** | River name (USGS proper name) | Black River |
| | River basin name | Black River Basin |
| | Nearest town, county, and state | Watertown, Jefferson County, New York |
| | River mile of dam above next major river | River Mile 10.0 |
| | Geographic latitude | 43.9772 N |
| | Geographic longitude | -75.8933 W |
| ***Facility Owner*** | Application contact names (IMPORTANT: you must also complete the Facilities Contact Form): | See Part V of the LIHI certification application for more information. |
| | - Facility owner (individual and company names) | Erie Boulevard Hydropower, L.P. |
| | - Operating affiliate (if different from owner) | Same as above |
| | - Representative in LIHI certification | Daniel G. Daoust, Compliance Specialist |
| ***Regulatory Status*** | FERC Project Number (e.g., P-xxxxx), issuance and expiration dates | FERC Project Number 2569<br><br>The Black River and Beebee Island Settlement Offer dated, September 14, 1995 was filed with FERC October 13, 1995.<br><br>New license issued on December 24, 1996.<br><br>License amended on August 20, 1998 (Article 401).<br><br>License amended on June 21, 1999 (Article 403).<br><br>License expires on November 30, 2026. |
| | FERC license type or special classification (e.g., "qualified conduit") | License for major project (>5 MW) |
| | Water Quality Certificate identifier and issuance date, plus source agency name | The Section 401 Water Quality Certificate was issued by the New York State Department of Environmental Conservation (NYSDEC) on November 3, 1995 and adopted into Article 401 of the FERC license. |
| | Hyperlinks to key electronic records on FERC e-library website (e.g., most recent | October 13, 1995 Settlement Agreement: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121 |

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| | Commission Orders, WQC, ESA documents, etc.) | December 24, 1996 License Order: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13705898<br><br>August 20, 1998 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=72395<br><br>June 21, 1999 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10838060 |
| ***Power Plant Character-istics*** | Date of initial operation (past or future for operational applications) | The Sewalls Development was placed into service in the 1920s. |
| | Total name-plate capacity (MW) | Black River Project:<br>*Herrings Development:* 5.4 MW<br>*Deferiet Development:* 10.8 MW<br>*Kamargo Development:* 5.4 MW<br>*Black River Development:* 6.0 MW<br>*Sewalls Development:* 2.0 MW<br>**Total installed capacity: 29.6 MW** |
| | Average annual generation (MWh) | Actual annual generation is filed with the FERC each year. The average generation from 2011 to 2016 is listed below.<br><br>Black River Project:<br>*Herrings Development:* 18,813 MWh<br>*Deferiet Development:* 54,743 MWh<br>*Kamargo Development:* 20,596 MWh<br>*Black River Development:* 32,839 MWh<br>*Sewalls Development:* 10,936 MWh<br>**Total installed capacity: 137,926 MWh** |
| | Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit | Generating Units: 2<br><br>Type: Allis-Chalmers style vertical propeller-type turbines<br><br>Description of Turbines:<br>Units 1 and 2 = Design capacity of 1,250 HP at a design head of 15.5 feet and a speed of 150 rpm<br><br>Maximum Capacity:<br>Unit 1 = 900 cfs<br>Unit 2 = 900 cfs |

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| | | Minimum Capacity:<br>Unit 1 = 818 cfs (efficient)<br>Unit 2 = 818 cfs (efficient) |
| | Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.) | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River.<br><br>These developments are all operated automatically to maintain impoundment levels within 0.5 foot below the dam crest or the top of flashboards and provide a continuous baseflow of not less than 1,000 cfs (or inflow) through the entire project. |
| | Dates and types of major equipment upgrades | There have been no major equipment upgrades at the project. |
| | Dates, purpose, and type of any recent operational changes | There have been no recent operational changes at the project. |
| | Plans, authorization, and regulatory activities for any facility upgrades | There are no plans for any facility upgrades at the project. |
| ***Character-istics of Dam, Diversion, or Conduit*** | Date of construction | The five developments of the Black River Project were constructed or were converted from hydromechanical to hydroelectric plants between 1920 and 1925. |
| | Dam height | South – 15.5 feet<br>North 18.5 feet |
| | Spillway elevation and hydraulic capacity | Spillway Elevation: 463.9 ft msl<br>Hydraulic Capacity: 7,300 cfs |
| | Tailwater elevation | Based on estimated tailwater rating curves, the tailwater elevation would range from 446 ft msl to 452 ft msl at flows from zero to 10,000. |
| | Length and type of all penstocks and water conveyance structures between reservoir and powerhouse | The power canal is located in the south channel, and is a 430-foot-long rectangular concrete channel varying in width from 55 feet to 40 feet. The canal wall adjacent to the river has a permanent crest elevation of 463.0 feet and is equipped with 2-foot flashboards for its entire length.<br><br>In the north channel, downstream of an abandoned headworks, there is a 78-foot-long by 25-foot-wide concrete flume with two |

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| | | draft-tubes encased in the floor. A 68-foot-wide by 34-foot-long abandoned masonry/concrete block powerhouse is located at the downstream end of the flume. In the 1991 relicense application, it was intended that all of the north channel structures would be restored for use; however, this has not yet happened. |
| | Dates and types of major, generation-related infrastructure improvements | The construction and major events/alterations/repairs to the project are listed as follows:<br>• 1924 - Project constructed; north channel and south channel dams are timber crib structures.<br>• 1978 - Major Project Rehabilitation; replace timber crib dams (north and south channel) with concrete gravity dams with rock anchors; rehabilitate/reconstruct flume and other components.<br>• 1981 - South Channel Spillway Crest Rehabilitation.<br>• 1987 - Waste Weir Rehabilitation. |
| | Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.) | The purpose of the project is for power production. |
| | Water source | Black River |
| | Water discharge location or facility | Black River |
| ***Characte-ristics of Reservoir and Watershed*** | Gross volume and surface area at full pool | Gross Volume: 48.0 acre-feet<br>Surface Area: 6 acres |
| | Maximum water surface elevation (ft. MSL) | 463.9 ft msl |
| | Maximum and minimum volume and water surface elevations for designated power pool, if available | Not applicable |
| | Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Carthage State Dam, State of New York, RM 33.1<br><br>Tannery Island Dam, Ampersand Hydro LLC, RM 33.0<br><br>Long Falls Dam, Ampersand Hydro LLC, RM 32.9<br><br>West End Dam, Northbrook Energy-Carthage, LLC, RM 32.8 |
| | Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Herrings Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 27.5 |

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|---|---|---|
| | | Deferiet Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 26.0<br><br>Great Bend Dam, RM 22.15<br><br>Lefebvre Mill Dam, RM 20.55<br><br>Felts Mills Dam, RM 19.6<br><br>Kamargo Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 17.0<br><br>Black River Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 15.0<br><br>Watertown Dosing Station Dam, RM 12.2<br><br>Watertown Settling Basin Dam, RM 11.9<br><br>Delano Island Diversion Dam, City of Watertown, FERC No. 2442, RM 11.7<br><br>Pump House Dam, RM 11.3<br><br>Sewalls Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 10.0 |
| | Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River. |
| | Area inside FERC project boundary, where appropriate | The 6-acre reservoir is located entirely within the FERC project boundary. |
| ***Hydrologic Setting*** | Average annual flow at the dam | The approximate average annual flows at the Sewalls Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown, NY is 4,207 cfs. |
| | Average monthly flows | The approximate average monthly flows at the Herrings Development based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown are as follows:<br>January – 4,820 cfs<br>February – 4,410 cfs |

| | | |
|---|---|---|
| | | March – 4,927 cfs<br>April – 8,878 cfs<br>May – 4,035 cfs<br>June – 4,364 cfs<br>July – 2,836 cfs<br>August – 1,982 cfs<br>September – 1,460 cfs<br>October – 3,413 cfs<br>November – 4,208 cfs<br>December – 5,237 cfs |
| | Location and name of relevant stream gauging stations above and below the facility | USGS Gage No. 04260500 Black River at Watertown NY (downstream of Beebee Island Project near Vanduzee Street Bridge) |
| | Watershed area at the dam | Drainage Area: 1,875 sq. mi. |
| ***Designated Zones of Effect*** | Number of zones of effect | There are five zones of effect at the Sewalls Development (See Appendix A). |
| | Upstream and downstream locations by river miles | Zone 1: RM 9.9 to RM 9.72<br>Zone 2: RM 10.0 to RM 9.9<br>Zone 3: RM 10.0 to RM 9.93<br>Zone 4: RM 9.95 to RM 9.94<br>Zone 5: RM 10.1 to RM 10.0 |
| | Type of waterbody (river, impoundment, by-passed reach, etc.) | Zone 1: River<br>Zone 2: Bypassed Reach (South Dam)<br>Zone 3: Power Canal<br>Zone 4: Bypassed Reach (North Dam)<br>Zone 5: Impoundment |
| | Delimiting structures | Zone 1: Sewalls powerhouse, downstream approximately 0.18 miles.<br>Zone 2: Sewalls south dam, downstream approximately 0.08 miles.<br>Zone 3: Intake headworks, downstream power canal approximately 0.07 miles to Sewalls powerhouse.<br>Zone 4: Sewalls north dam, downstream approximately 0.004 miles.<br>Zone 5: From the head of the Sewalls impoundment, downstream approximately 0.1 miles to the Sewalls dam. |
| | Designated uses by state water quality agency | The NYSDEC has identified the Black River from Watertown to Black River as Class A.<br><br>Class A waters are designated for drinking and culinary purposes, recreation, and suitable for fish propagation and survival. |
| ***Additional Contact Information*** | Names, addresses, phone numbers, and e-mail for local state and federal resource agencies | See Part V of the LIHI certification application for more information. |

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| | Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders | See Part V of the LIHI certification application for more information. |
| ***Photographs and Maps*** | Photographs of key features of the facility and each of the designated zones of effect | See Appendix B. |
| | Maps, aerial photos, and/or plan view diagrams of facility area and river basin | See Appendix C. |

**Table I-6. Facility Description Information for the Beebee Island Project (LIHI #34).**

| *Information Type* | *Variable Description* | *Response(and reference to further details)* |
|---|---|---|
| ***Name of the Facility*** | Facility name (use FERC project name if possible) | Beebee Island Project (FERC No. 2538) |
| ***Location*** | River name (USGS proper name) | Black River |
| | River basin name | Black River Basin |
| | Nearest town, county, and state | Watertown, Jefferson County, New York |
| | River mile of dam above next major river | River Mile 9.0 |
| | Geographic latitude | 43.9767 N |
| | Geographic longitude | -75.9069 W |
| ***Facility Owner*** | Application contact names (IMPORTANT: you must also complete the Facilities Contact Form): | See Part V of the LIHI certification application for more information. |
| | - Facility owner (individual and company names) | Erie Boulevard Hydropower, L.P. |
| | - Operating affiliate (if different from owner) | Same as above |
| | - Representative in LIHI certification | Daniel G. Daoust, Compliance Specialist |
| ***Regulatory Status*** | FERC Project Number (e.g., P-xxxxx), issuance and expiration dates | FERC Project Number 2538<br><br>The Black River and Beebee Island Settlement Offer dated, September 14, 1995 was filed with FERC October 13, 1995.<br><br>New license issued on December 24, 1996.<br><br>License amended on August 20, 1998 (Article 401).<br><br>License expires on November 30, 2026. |
| | FERC license type or special classification (e.g., "qualified conduit") | License for major project (>5 MW) |
| | Water Quality Certificate identifier and issuance date, plus source agency name | The Section 401 Water Quality Certificate was issued by the New York State Department of Environmental Conservation (NYSDEC) on November 3, 1995. |
| | Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.) | October 13, 1995 Settlement Agreement: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121<br><br>December 24, 1996 License Order: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710005 |

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|---|---|---|
| | | August 20, 1998 License Amendment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=72389 |
| ***Power Plant Character-istics*** | Date of initial operation (past or future for operational applications) | The Beebee Island Project was redeveloped for hydroelectric generation around 1931. |
| | Total name-plate capacity (MW) | 8.0 MW |
| | Average annual generation (MWh) | The average annual generation is estimated at 38,729 MWh in the 1996 license. Actual annual generation is filed with the FERC each year. The average generation from 2011 to 2016 is 44,312 MWh. |
| | Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit | Generating Units: 2<br><br>Type: I.P. Morris Kaplan vertical turbines<br><br>Description of Turbines:<br>Unit 1 = design capacity of 5,600 HP at a design head of 32 feet and a speed of 150 rpm<br>Unit 2 = design capacity of 6,400 HP at a design head of 32 feet and a speed of 150 rpm<br><br>Maximum Capacity:<br>Unit 1 = 1,800 cfs<br>Unit 2 = 1,800 cfs<br><br>Minimum Capacity:<br>Unit 1 = 1,400 cfs (efficient)<br>Unit 2 = 1,800 cfs (efficient) |
| | Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.) | The project operates in an essentially run-of-river mode (minimal storage), and is subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson River-Black River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River.<br><br>The Project is operated automatically to maintain impoundment levels within 0.5 foot below the dam crest or the top of flashboards and provide a continuous baseflow of not less than 1,000 cfs (or inflow) through the Project. |
| | Dates and types of major equipment upgrades | The construction and major events/alterations/repairs to the project are listed as follows:<br>• 1979 - Replaced Unit 1 turbine runner.<br>• 1984 - Rebuilt Unit 2 turbine shaft journal. |

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|---|---|---|
| | | • 1985 - Rewound Unit 2 generator.<br>• 1986 - Replaced intake trashracks.<br>• 1988 - Performed major overhaul of Unit 2 turbine.<br>• 1988 - Rebuilt headgates to Unit 1.<br>• 1990 - Replaced Unit 2 pump assembly.<br>• 1998 – New 2" spaced intake trash racks installed. |
| | Dates, purpose, and type of any recent operational changes | There have been no recent operational changes at the project. |
| | Plans, authorization, and regulatory activities for any facility upgrades | There are no plans for any facility upgrades at the project. |
| ***Character-istics of Dam, Diversion, or Conduit*** | Date of construction | The dam associated with the Beebee Island Project was originally constructed in 1802 to power a sawmill and a grist mill. |
| | Dam height | 18 feet |
| | Spillway elevation and hydraulic capacity | Spillway Elevation: 428.0 ft msl<br>Hydraulic Capacity: 65,000 cfs |
| | Tailwater elevation | Based on estimated tailwater rating curves, the tailwater elevation would range from 395ft msl to 401 ft msl at flows from zero to 10,000 cfs. |
| | Length and type of all penstocks and water conveyance structures between reservoir and powerhouse | The intake and powerhouse are integral, and the water passages are cast into the substructure of these structures. |
| | Dates and types of major, generation-related infrastructure improvements | The construction and major events/alterations/repairs to the project are listed as follows:<br>• 1931 - Project redeveloped to generate hydroelectric power.<br>• 1964 - Revise Old Mill St Hydro Flume Wall For Additional Spillway Capacity.<br>• 1999 - New Minimum Flow Weir Site Plan and Elevation.<br>• 2012 – Removed deteriorated concrete and replaced with approximately 1-foot of reinforced concrete. Replaced about 100 feet of wooden flashboards with an Obermeyer pneumatic flashboard system. Repointing and repair work on abutments, south retaining wall and stone masonry dam.<br>• 2013 - Removed deteriorated concrete and replaced with approximately 1-foot of reinforced concrete. Repointing and |

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|---|---|---|
| | | repair work on abutments, south retaining wall and stone masonry dam. |
| | Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.) | The purpose of the Beebee Island Project is for power production. |
| | Water source | Black River |
| | Water discharge location or facility | Black River |
| ***Characte-ristics of Reservoir and Watershed*** | Gross volume and surface area at full pool | Gross Volume: 60 acre-feet<br>Surface Area: 20 acres |
| | Maximum water surface elevation (ft. MSL) | 431.0 ft msl |
| | Maximum and minimum volume and water surface elevations for designated power pool, if available | Not applicable |
| | Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Herrings Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 27.5<br><br>Deferiet Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 26.0<br><br>Great Bend Dam, RM 22.15<br><br>Lefebvre Mill Dam, RM 20.55<br><br>Felts Mills Dam, RM 19.6<br><br>Kamargo Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 17.0<br><br>Black River Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 15.0<br><br>Watertown Dosing Station Dam, RM 12.2<br><br>Watertown Settling Basin Dam, RM 11.9<br><br>Pump House Dam, RM 11.3<br><br>Sewalls Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 10.0 |
| | Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile | Dexter Project, RM 2.03 |
| | Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation | All five developments of the Black River Project operate as run-of-river with pondage, and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson-River-Black |

| | | |
|---|---|---|
| | | River Regulating District's Stillwater Reservoir Project No. 6743, located on the Beaver River. |
| | Area inside FERC project boundary, where appropriate | The 20-acre reservoir is located entirely within the FERC project boundary. |
| ***Hydrologic Setting*** | Average annual flow at the dam | The approximate average annual flows at the Beebee Island Project based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown, NY is 4,207 cfs. |
| | Average monthly flows | The approximate average monthly flows at the Beebee Island Project based on flow data from 2012 through 2016 at the USGS gage 04260500 Black River at Watertown are as follows:<br>January – 4,820 cfs<br>February – 4,410 cfs<br>March – 4,927 cfs<br>April – 8,878 cfs<br>May – 4,035 cfs<br>June – 4,364 cfs<br>July – 2,836 cfs<br>August – 1,982 cfs<br>September – 1,460 cfs<br>October – 3,413 cfs<br>November – 4,208 cfs<br>December – 5,237 cfs |
| | Location and name of relevant stream gauging stations above and below the facility | USGS Gage No. 04260500 Black River at Watertown NY (downstream of Beebee Island Project near Vanduzee Street Bridge) |
| | Watershed area at the dam | Drainage Area: 1,876 sq. mi. |
| ***Designated Zones of Effect*** | Number of zones of effect | There are two zones of effect at the Beebee Island Project (See Appendix A). |
| | Upstream and downstream locations by river miles | Zone 1: RM 9.0 to RM 8.9<br>Zone 2: RM 9.1 to 9.0 |
| | Type of waterbody (river, impoundment, by-passed reach, etc.) | Zone 1: River<br>Zone 2: Impoundment |
| | Delimiting structures | Zone 1: Beebee Island powerhouse, downstream approximately 0.1 miles.<br>Zone 2: From the head of the Beebee Island impoundment, downstream approximately 0.1 miles to the Beebee Island dam. |
| | Designated uses by state water quality agency | The NYSDEC has identified the Black River from the Mouth to Watertown as Class C and from Watertown to Black River as Class A.<br><br>Class C waters are designated for recreation and suitable for fish propagation and survival. |

| | | |
|---|---|---|
| | | Class A waters are designated for drinking and culinary purposes, recreation, and suitable for fish propagation and survival. |
| ***Additional Contact Information*** | Names, addresses, phone numbers, and e-mail for local state and federal resource agencies | See Part V of the LIHI certification application for more information. |
| | Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders | See Part V of the LIHI certification application for more information. |
| ***Photographs and Maps*** | Photographs of key features of the facility and each of the designated zones of effect | See Appendix B. |
| | Maps, aerial photos, and/or plan view diagrams of facility area and river basin | See Appendix C. |

## PART II. STANDARD MATRICES

The Black River Hydroelectric and Beebee Island Projects have a total of twenty one zones of effect for this application. The Herrings development has two zones of effect that are defined as: (1) Zone one, which extends from the Herrings dam, downstream approximately 1.0 mile and (2) Zone two, which extends from the head of the Herrings impoundment, downstream approximately 2.8 miles to the Herrings powerhouse.

The Deferiet development has four zones of effect that are defined as: (1) Zone one, which extends from the Deferiet powerhouse, downstream approximately 0.7 miles, (2) Zone two, which extends from the Deferiet dam, downstream along the bypassed reach approximately 1.5 miles, (3) Zone three, which extends from the intake headworks, downstream along the power canal approximately 0.8 miles to the Deferiet powerhouse, and (4) Zone four, which extends from the head of the Deferiet impoundment, downstream approximately 0.7 miles to the Deferiet dam.

The Kamargo development has four zones of effect that are defined as: (1) Zone one, which extends from the Kamargo powerhouse, downstream approximately 0.05 miles, (2) Zone two, which extends from the Kamargo dam, downstream along the bypassed reach approximately 0.7 miles, (3) Zone three, which extends from the intake headworks downstream along the power canal approximately 0.8 miles to the Kamargo powerhouse, and (4) Zone four, which extends from the head of the Kamargo impoundment downstream approximately 0.9 miles to the Kamargo dam.

The Black River development has four zones of effect that are defined as: (1) Zone one, which extends from the Black River powerhouse, downstream approximately 0.1 miles, (2) Zone two, which extend from the Black River dam, downstream the bypassed reach approximately 0.6 miles, (3) Zone three, which extends from the intake headworks, downstream along the power canal approximately 0.4 miles to the Black River powerhouse, and (4) Zone four, which extends from the head of the Black River impoundment, downstream approximately 1.0 mile to the Black River dam.

The Sewalls development has five zones of effect that are defined as: (1) Zone one, which extends from the Sewalls powerhouse, downstream approximately 0.18 miles, (2) Zone two, which extends from the Sewalls south dam, downstream along the bypassed reach approximately 0.08 miles, (3) Zone three, which extends from the intake headworks, downstream along the power canal approximately 0.07 miles to the Sewalls powerhouse, (4) Zone four, which extends from the Sewalls north dam, downstream along the bypassed reach approximately 0.004 miles, and (5) Zone five, which extends from the head of the Sewalls impoundment, downstream approximately 0.1 miles to the Sewalls dam.

The Beebee Island Project has two zones of effect that are defined as: (1) Zone one, which extends from the Beebee Island powerhouse, downstream approximately 0.1 miles and (2) Zone 2, which extends from the head of the Beebee Island impoundment, downstream approximately 0.1 miles to the Beebee Island dam. The standards selected to satisfy the LIHI certification criteria in each of these zones are identified in the following tables.

**Table II-1. LIHI Standards Selected for Zone of Effect No. 1 for the Herrings Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | | X | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-2. LIHI Standards Selected for Zone of Effect No. 2 for the Herrings Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | X | | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-3. LIHI Standards Selected for Zone of Effect No. 1 for the Deferiet Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-4. LIHI Standards Selected for Zone of Effect No. 2 for the Deferiet Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | | X | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-5. LIHI Standards Selected for Zone of Effect No. 3 for the Deferiet Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-6. LIHI Standards Selected for Zone of Effect No. 4 for the Deferiet Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | X | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-7. LIHI Standards Selected for Zone of Effect No. 1 for the Kamargo Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-8. LIHI Standards Selected for Zone of Effect No. 2 for the Kamargo Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | | X | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-9. LIHI Standards Selected for Zone of Effect No. 3 for the Kamargo Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| C | Upstream Fish Passage | X | | | | |
| D | Downstream Fish Passage | | X | | | |
| E | Watershed and Shoreline Protection | | X | | | X |
| F | Threatened and Endangered Species Protection | | | X | | |
| G | Cultural and Historic Resources Protection | | X | | | |
| H | Recreational Resources | | X | | | |

**Table II-10. LIHI Standards Selected for Zone of Effect No. 4 for the Kamargo Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | Criterion | *1* | *2* | *3* | *4* | *Plus* |
| A | Ecological Flow Regimes | X | | | | |
| B | Water Quality | | X | | | |
| C | Upstream Fish Passage | X | | | | |
| D | Downstream Fish Passage | X | | | | |
| E | Watershed and Shoreline Protection | | X | | | X |
| F | Threatened and Endangered Species Protection | | | X | | |
| G | Cultural and Historic Resources Protection | | X | | | |
| H | Recreational Resources | | X | | | |

**Table II-11. LIHI Standards Selected for Zone of Effect No. 1 for the Black River Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | Criterion | *1* | *2* | *3* | *4* | *Plus* |
| A | Ecological Flow Regimes | X | | | | |
| B | Water Quality | | X | | | |
| C | Upstream Fish Passage | X | | | | |
| D | Downstream Fish Passage | | X | | | |
| E | Watershed and Shoreline Protection | | X | | | X |
| F | Threatened and Endangered Species Protection | | | X | | |
| G | Cultural and Historic Resources Protection | | X | | | |
| H | Recreational Resources | | X | | | |

**Table II-12. LIHI Standards Selected for Zone of Effect No. 2 for the Black River Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | Criterion | *1* | *2* | *3* | *4* | *Plus* |

| | | | | | | |
|---|---|---|---|---|---|---|
| **A** | **Ecological Flow Regimes** | | X | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-13. LIHI Standards Selected for Zone of Effect No. 3 for the Black River Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-14. LIHI Standards Selected for Zone of Effect No. 4 for the Black River Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | X | | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-15. LIHI Standards Selected for Zone of Effect No. 1 for the Sewalls Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-16. LIHI Standards Selected for Zone of Effect No. 2 for the Sewalls Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | | X | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-17. LIHI Standards Selected for Zone of Effect No. 3 for the Sewalls Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | | X | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| G | Cultural and Historic Resources Protection | | X | | | |
| H | Recreational Resources | | X | | | |

**Table II-18. LIHI Standards Selected for Zone of Effect No. 4 for the Sewalls Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | Criterion | *1* | *2* | *3* | *4* | *Plus* |
| A | Ecological Flow Regimes | | X | | | |
| B | Water Quality | | X | | | |
| C | Upstream Fish Passage | X | | | | |
| D | Downstream Fish Passage | | X | | | |
| E | Watershed and Shoreline Protection | | X | | | X |
| F | Threatened and Endangered Species Protection | | | X | | |
| G | Cultural and Historic Resources Protection | | X | | | |
| H | Recreational Resources | | X | | | |

**Table II-19. LIHI Standards Selected for Zone of Effect No. 5 for the Sewalls Development**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | Criterion | *1* | *2* | *3* | *4* | *Plus* |
| A | Ecological Flow Regimes | X | | | | |
| B | Water Quality | | X | | | |
| C | Upstream Fish Passage | X | | | | |
| D | Downstream Fish Passage | X | | | | |
| E | Watershed and Shoreline Protection | | X | | | X |
| F | Threatened and Endangered Species Protection | | | X | | |
| G | Cultural and Historic Resources Protection | | X | | | |
| H | Recreational Resources | | X | | | |

**Table II-20. LIHI Standards Selected for Zone of Effect No. 1 for the Beebee Island Project**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | Criterion | *1* | *2* | *3* | *4* | *Plus* |
| A | Ecological Flow Regimes | | X | | | |
| B | Water Quality | | X | | | |
| C | Upstream Fish Passage | X | | | | |
| D | Downstream Fish Passage | | X | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

**Table II-21. LIHI Standards Selected for Zone of Effect No. 2 for the Beebee Island Project**

| | | *Alternative Standards* | | | | |
|---|---|---|---|---|---|---|
| | **Criterion** | ***1*** | ***2*** | ***3*** | ***4*** | ***Plus*** |
| **A** | **Ecological Flow Regimes** | X | | | | |
| **B** | **Water Quality** | | X | | | |
| **C** | **Upstream Fish Passage** | X | | | | |
| **D** | **Downstream Fish Passage** | X | | | | |
| **E** | **Watershed and Shoreline Protection** | | X | | | X |
| **F** | **Threatened and Endangered Species Protection** | | | X | | |
| **G** | **Cultural and Historic Resources Protection** | | X | | | |
| **H** | **Recreational Resources** | | X | | | |

## PART III. SUPPORTING INFORMATION

This section contains information that explains and justifies the standards selected to pass the LIHI certification criteria (see Part II for selections).

## ***HERRINGS DEVELOPMENT***

### Information Required to Support Ecological Flows Standards.

### III.A.1 Ecological Flows: Herrings Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 2 | Agency Recommendation (see Appendix A for definitions):<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.<br>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.<br>• Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). |

Zone 1 of the Herrings development includes a 100-foot-long area between the foot of the angled dam and the powerhouse tailrace, this development does not have a true bypassed reach. A constant minimum flow of 20 cfs is released through the stoplog section located between the dam and trashracks.

The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 Water Quality Certificate (WQC) include the requirements for flow releases and water level control recommended by the New York State Department of Environmental Conservation (NYSDEC) and U.S. Fish and Wildlife Service (USFWS).

The 1996 FERC License (Article 405), 1995 Settlement Offer, and 401 WQC require Erie to release minimum (bypass) flows from structures designed to minimize adverse impacts to fish moving downstream at each development. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

Order Amending License Article 405:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14136362

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Herrings development.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

- Minimum (bypass) flows:

*Herrings:* (year-round) 20 cfs released through the stoplog section located between the dam and trashracks to provide a route for downstream fish movement.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.2 Ecological Flows: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 2 of the Herrings development includes the impoundment, which is located upstream of the dam, therefore there is no bypassed reach within this zone.

The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

For construction and maintenance activities that require lowering the level of an impoundment below the normal operating limits, Erie's operating procedure (HOP 202) requires notification of NYSDEC and compliance with drawdown rates specified in the 401 WQC (1 ft/hr).

Water Quality Certificate:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Herrings development.

- Impoundment fluctuation limitations:
  - *Herrings:* 0.5 feet (year-round) from permanent crest of dam or top of flashboards when in place. As per license article 401 and section III.A of the Settlement Offer, when flows are between 1,400 cfs and 1,900 cfs between May 1 and Sept. 30, Erie makes a best effort to maintain the impoundment within 0.2 ft of permanent crest of dam or top of flashboards, when in place.
- Flashboard installation: To be installed by May 1 of each year (or as soon as possible thereafter) and removed in the fall, as determined by Erie.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## Information Required to Support Water Quality Standards.

### III.B.1 Water Quality: Herrings Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

The Black River Project is in compliance with all conditions issued pursuant to a Clean Water Act – Section 401 WQC. The Section 401 WQC is conditioned on compliance with the terms of the Settlement Agreement. The WQC for the Project was issued November 3, 1995 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053). On-going water quality monitoring at the Project is not required as part of the WQC or FERC license.

Generally, any changes to the original WQC are necessitated by significant changes in or to the Project environment affecting the Conditions of the original WQC, which culminates in an amendment of the original WQC. This situation has not occurred for the Black River Project WQC, and the original WQC, issued on November 3, 1995 is still in effect.

Additionally, the Applicant contacted the NYSDEC on April 19, 2017, regarding the current WQC status for the Project. The NYSDEC has yet to provide comments regarding the status of the WQC for the Project. A copy of the response letter will be forwarded to LIHI upon receipt.

Per review of the September 2014 Section 303(d) list for New York State, no impaired waters in the Project area or downstream reach are listed. A copy of the September 2014 Section 303(d) list for New York State can be viewed at https://www.epa.gov/sites/production/files/2015-10/documents/ny_303dlist_final_2014_2014-11-3.pdf.

The Black River in the vicinity of the Herrings development is classified by NYSDEC as non-trout Class C. The best usage of Class C waters is fishing, and they are also suitable for fish propagation and survival, as well as primary and secondary contact recreation, where such use is not limited by other factors.

## III.B.2 Water Quality: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

### Information Required to Support Upstream Fish Passage Standards.

## III.C.1 Upstream Fish Passage: Herrings Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the |

| | | |
|---|---|---|
| | | facility is or was not the cause of this. |

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for the Herrings development. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

Atlantic salmon are only known to have historically (i.e., before 1900) existed in the lower Black River as far upstream as Mill Street Falls/ Beebee Island. The waterfall in the main north channel around Beebee Island may have prevented further upstream migration of Atlantic salmon.

Interior had the opportunity to issue a mandatory fish passage prescription for upstream passage of salmonids pursuant to Section 18 of the Federal Power Act during the relicensing of the Black River Project but declined to do so.

A primary fishery management goal of NYSDEC and USFWS during the relicensing of the Black River Project was restoration of Atlantic salmon between Watertown and Black River Bay (Lake Ontario). Restoration of Atlantic salmon as far as the tailrace of the Beebee Island Project was achieved with the installation of upstream fish passage facilities at two downstream hydroelectric projects. Restoration of migratory salmonids above Beebee Island has not been a goal of NYSDEC or USFWS. As stated in the 1995 Settlement Offer, should the understanding of fish movements, fish-passage technology, fishery management goals, or other needs change during the term of the licenses, Interior has reserved authority to prescribe downstream or upstream fishways as may be deemed necessary.

## III.C.2 Upstream Fish Passage: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

### Information Required to Support Downstream Fish Passage Standards.

## III.D.1 Downstream Fish Passage: Herrings Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation: |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Article 405 of the 1996 FERC license incorporates the requirements of the 1995 Settlement Offer for downstream fish passage at the Black River Project.

Article 405 of the FERC license indicates that to minimize project impacts on fish moving downstream and to provide year-round flows for the protection and enhancement of fish and invertebrate habitat in the Project's bypass reaches, the licensee shall after installation of the flow release structures or fish conveyance measures required in Article 406, provide minimum flows.

For the Herrings development, provide 20 cfs at all times, released through the stop-log section located between the dam and the trashracks.

On September 11, 1998, the licensee submitted to FERC the final plans for the Article 406 flow release structure in support of downstream fish passage, which was approved by FERC on September 22, 1998 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10814691).

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

During the relicensing proceeding for the Black River Project neither the Department of Commerce nor Interior prescribed riverine fish passage facilities for the Project. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

The recommendations of NYSDEC and USFWS for downstream passage are incorporated into the 1995 Settlement Offer and 1996 license in the form of minimum flow releases at each development's dam from structures designed to minimize adverse impacts to fish moving downstream. These measures are described above.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the

minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development.

October 13, 1995 Settlement Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121

Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at Herrings in 2006.

## III.D.2 Downstream Fish Passage: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines).<br>• For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

There are no downstream fish passage barriers or migratory fish management issues in Zone 2 because it is an impoundment. There are no mandatory prescriptions (section 18 or similar) for the passage of riverine fish at the Project.

License Articles 405 and 406 of the 1996 license detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented (see link in Zone 1 response).

### Information Required to Support Shoreline and Watershed Protection Standards.

## III.E.1 Shoreline and Watershed Protection: Herrings Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

Attachment 1 to the 1995 Settlement Offer and Article 412 of the Black River Project license require Erie to contribute $3,000 per year to the Black River Fund for the first 15 years of the license term and $4,000 a year for the remainder of the license term. The Black River Fund is distributed according to the recommendations of the Black River Advisory Council, composed of signatories to the Settlement Offer. The Black River Fund is to be used within the Black River basin for the purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research, and additional public access to outdoor recreational resources.

Article 412 of the Black River Project license requires Erie to file an annual report with FERC of contributions to the Black River Fund. To date, the Black River Fund has contributed to development of the Blueway Trail, tree plantings, public fishing events, and public access projects.

Annual Report of Black River Fund Contributions:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14526188

Article 415 of the Black River Project license requires Erie to maintain the existing woodland buffer areas along the shorelines of the Herrings, Deferiet, Kamargo, Black River, and Sewalls developments.

A vegetative buffer plan was submitted to FERC on October 25, 1999 for the Black River Project, which was approved by FERC in an order dated April 7, 2000.

Order Approving Vegetative Buffer Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10853314

## III.E.2 Shoreline and Watershed Protection: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

**Information Required to Support Threatened and Endangered Species Standards.**

**III.F.1 Threatened and Endangered Species: Herrings Development Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

Based on information received from the USFWS's New York Field Office on June 7, 2017, regarding a request for information on rare, threatened or endangered (RTE) species it appears that the northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis* sodalist) may potentially occur within the Project area. There are no critical habitats located within the Black River Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for an updated list of threatened and endangered species that may occur in the vicinity of the Black River Project. By letter dated May 22, 2017, the NYSDEC indicated that the Indiana bat, which is state-listed as endangered, has been documented within 2.5 miles of all six developments of the Black River Project. The NYSDEC has not adopted a formal recovery plan for the Indiana bat.

The USFWS has adopted the following recovery plan for the Indiana bat that may be present in the vicinity of the Black River Project:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Recovery actions identified in USFWS's Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. No Indiana bat hibernacula, which typically include caves and mines, are known to exist in the immediate vicinity of the Black River Project. Transient individuals, presumably in association with summer habitat, may however exist in the Project area. Operations of the Black River Project, especially with regard to preservation of woodland buffer areas, are consistent with this draft recovery plan. The USFWS has not developed a recovery plan for the northern long-eared bat.

There are no specific requirements for endangered species protection in the FERC license or WQC for the Black River Project.

The record of RTE consultation is included in Appendix E.

## III.F.2 Threatened and Endangered Species: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

### Information Required to Support Cultural and Historic Resources Standards.

## III.G.1 Cultural and Historic Resources: Herrings Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

In 1996, Niagara Mohawk executed a programmatic agreement (PA) with FERC, the Advisory Council on Historic Preservation, and the New York State Historic Preservation Officer (SHPO) for managing historic properties that may be affected by licenses issued for the continued operation of fourteen hydroelectric projects. Appendix A of the Programmatic Agreement discusses historic properties that could potentially be affected by operation of the Black River Project.

Programmatic Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8231177

Niagara Mohawk commissioned surveys of these developments for Duncan Hay's 1991 report, *A History of Hydroelectric Power in New York State.* The Black River Project is not considered potentially eligible for listing on the National Register of Historic Places, and no archaeological properties have been identified within the Project boundaries.

Article 416 of the license requires Erie to implement the PA, including the filing of a Cultural Resource Management Plan (CRMP). Erie developed the CRMP in consultation with the SHPO and filed the CRMP with FERC in October 1998. FERC approved the CRMP on November 17, 1998.

Order Approving CRMP:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10817570

Erie files a report of activities associated with the CRMP each year with FERC.

Annual CRMP Report:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14464746

## III.G.2 Cultural and Historic Resources: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

**Information Required to Support Recreational Resources Standards.**

## III.H.1 Recreational Resources: Herrings Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

The Black River Project developments are in compliance with recreational access, accommodation, and facilities conditions in the FERC license.

Article 413 of the FERC license required the licensee to file for FERC approval a recreation plan to construct, operate, and maintain existing and then-proposed recreational facilities at each development. Niagara Mohawk filed the final recreation plan for the Black River Project in December 1998, and FERC issued an order approving the plan on February 17, 1999.

Order Approving Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10825943

Article 413 of the FERC license states that the recreation plan is to include provisions for implementing new facilities such as car-top boat launches, canoe portages, interpretive and informational signs, shorefishing areas, and scenic overlooks, but defers to the Settlement Offer for specific enhancements at each development. Recreational enhancements associated with the FERC license, all of which have been implemented, are further described in the final recreation plan for the Black River Project.

Final Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=94805

Erie permits free public access to the shoreline of the Herrings development across Erie's lands where project facilities, hazardous areas and existing leases, easements, and private ownership do not preclude access.

## III.H.2 Recreational Resources: Herrings Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## ***DEFERIET DEVELOPMENT***

### Information Required to Support Ecological Flows Standards.

### III.A.1 Ecological Flows: Deferiet Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 1 of the Deferiet development is the tailrace area downstream of the Deferiet powerhouse and does not include the bypassed reach. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

### III.A.2 Ecological Flows: Deferiet Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 2 | Agency Recommendation (see Appendix A for definitions):<br>• Identify the proceeding and source, date, and specifics of the agency |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.<br>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.<br>• Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). |

Zone 2 of the Deferiet development is the bypassed reach. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

The 1996 FERC License (Article 405), 1995 Settlement Offer, and 401 WQC require Erie to release minimum (bypass) flows from structures designed to minimize adverse impacts to fish moving downstream at each development. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

Order Amending License Article 405:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14136362

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Minimum (bypass) flows:

*Deferiet*: 45 cfs at all times, through the stop-log ice sluice; additional flows from leakage and from releases over the dam to total 800 cfs during walleye spawning season, which is defined for this purpose as starting when the average daily water temperature reaches 39 degrees Fahrenheit (ºF) for four consecutive days after March 15 each year and continuing through the 30th day after the last of four consecutive days after April 15 when the temperature has reached or exceeded 50ºF; and, during the remainder of the year, additional flows from leakage and from releases over the dam to total 245 cfs. Flows at the end of walleye spawning season must be ramped down in increments no greater than 200 cfs and at intervals of no less than four hours.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established

minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.3 Ecological Flows: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 3 of the Deferiet development is the power canal to the Deferiet powerhouse. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.4 Ecological Flows: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 4 of the Deferiet development is the impoundment. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

For construction and maintenance activities that require lowering the level of an impoundment below the normal operating limits, Erie's operating procedure (HOP 202) requires notification of NYSDEC and compliance with drawdown rates specified in the 401 WQC (1 ft/hr).

Water Quality Certificate:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Impoundment fluctuation limitations:
  - *Deferiet:* 0.5 feet (year-round) from permanent crest of dam or top of flashboards when in place.
- Flashboard installation: To be installed by May 1 of each year (or as soon as possible thereafter) and removed in the fall, as determined by Erie.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

**Information Required to Support Water Quality Standards.**

## III.B.1 Water Quality: Deferiet Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation. |

| | | |
|---|---|---|
| | | • Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

The Black River Project is in compliance with all conditions issued pursuant to a Clean Water Act – Section 401 WQC. The Section 401 WQC is conditioned on compliance with the terms of the 1995 Settlement Agreement. The WQC for the Project was issued November 3, 1995 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053). On-going water quality monitoring at the Project is not required as part of the WQC or FERC license.

Generally, any changes to the original WQC are necessitated by significant changes in or to the Project environment affecting the Conditions of the original WQC, which culminates in an amendment of the original WQC. This situation has not occurred for the Black River Project WQC, and the original WQC, issued on November 3, 1995, is still in effect.

Additionally, the Applicant contacted the NYSDEC on April 19, 2017, regarding the current WQC status for the Project. The NYSDEC has yet to provide comments regarding the status of the WQC for the Project. A copy of the response letter will be forwarded to LIHI upon receipt.

Per review of the September 2014 Section 303(d) list for New York State, no impaired waters in the Project area or downstream reach are listed. A copy of the September 2014 Section 303(d) list for New York State can be viewed at https://www.epa.gov/sites/production/files/2015-10/documents/ny_303dlist_final_2014_2014-11-3.pdf.

The Black River in the vicinity of the Deferiet development is classified by NYSDEC as non-trout Class C. The best usage of Class C waters is fishing, and they are also suitable for fish propagation and survival, as well as primary and secondary contact recreation, where such use is not limited by other factors.

## III.B.2 Water Quality: Deferiet Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis. |

| | | |
|---|---|---|
| | | • Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.3 Water Quality: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.4 Water Quality: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

### Information Required to Support Upstream Fish Passage Standards.

## III.C.1 Upstream Fish Passage: Deferiet Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone. |

| | | |
|---|---|---|
| | | • Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

Atlantic salmon are only known to have historically (i.e., before 1900) existed in the lower Black River as far upstream as Mill Street Falls/ Beebee Island. The waterfall in the main north channel around Beebee Island may have prevented further upstream migration of Atlantic salmon.

Interior had the opportunity to issue a mandatory fish passage prescription for upstream passage of salmonids pursuant to Section 18 of the Federal Power Act during the relicensing of the Black River Project but declined to do so.

A primary fishery management goal of NYSDEC and USFWS during the relicensing of the Black River Project was restoration of Atlantic salmon between Watertown and Black River Bay (Lake Ontario). Restoration of Atlantic salmon as far as the tailrace of the Beebee Island Project was achieved with the installation of upstream fish passage facilities at two downstream hydroelectric projects. Restoration of migratory salmonids above Beebee Island has not been a goal of NYSDEC or USFWS. As stated in the 1995 Settlement Offer, should the understanding of fish movements, fish-passage technology, fishery management goals, or other needs change during the term of the licenses, Interior has reserved authority to prescribe downstream or upstream fishways as may be deemed necessary.

## III.C.2 Upstream Fish Passage: Deferiet Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.3 Upstream Fish Passage: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|

| | | |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.4 Upstream Fish Passage: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

### Information Required to Support Downstream Fish Passage Standards.

## III.D.1 Downstream Fish Passage: Deferiet Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 1 of the Deferiet development is the tailrace area downstream of the Deferiet powerhouse. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing

are installed in the top half of the water column from May 1 to October 1. Consistent with Section II.G of the 1995 Settlement Offer, the new trashracks and seasonal overlays were installed at the Deferiet Development in 2008.

## III.D.2 Downstream Fish Passage: Deferiet Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 2 of the Deferiet development is the bypassed reach. Article 405 of the 1996 FERC License incorporates the requirements of the 1995 Settlement Offer for downstream fish passage at the Black River Project.

Article 405 of the FERC license indicates that to minimize project impacts on fish moving downstream and to provide year-round flows for the protection and enhancement of fish and invertebrate habitat in the Project's bypass reaches, the licensee shall after installation of the flow release structures or fish conveyance measures required in Article 406, provide minimum flows. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

For the Deferiet development, 45 cfs at all times, through the stop-log ice sluice; additional flows from leakage and from releases over the dam to total 800 cfs during walleye spawning season, which is defined for this purpose as starting when the average daily water temperature reaches 39 degrees Fahrenheit (ºF) for four consecutive days after March 15 each year and continuing through the 30th day after the last of four consecutive days after April 15 when the temperature has reached or exceeded 50ºF; and, during the remainder of the year, additional flows from leakage and from releases over the dam to total 245 cfs. Flows at the end of walleye spawning season must be ramped down in increments no greater than 200 cfs and at intervals of no less than four hours.

On September 11, 1998, the licensee submitted to FERC the final plans for the Article 406 flow release structure in support of downstream fish passage, which was approved by FERC on September 22, 1998 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10814691).

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

The recommendations of NYSDEC and USFWS for downstream passage are incorporated into the 1995 Settlement Offer and 1996 license in the form of minimum flow releases at each development's dam from structures designed to minimize adverse impacts to fish moving downstream. These measures are described above.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development.

October 13, 1995 Settlement Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121

## III.D.3 Downstream Fish Passage: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 3 of the Deferiet development is the power canal to the powerhouse. There are no downstream fish passage facilities in this zone. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. Consistent with Section II.G of the 1995 Settlement Offer, the new trashracks and seasonal overlays were installed at the Deferiet Development in 2008.

## III.D.4 Downstream Fish Passage: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines).<br>• For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

There are no downstream fish passage barriers or migratory fish management issues in Zone 4 because it is an impoundment. There are no mandatory prescriptions (section 18 or similar) for the passage of riverine fish at the Project.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development (see links in previous zones).

### Information Required to Support Shoreline and Watershed Protection Standards.

### III.E.1 Shoreline and Watershed Protection: Deferiet Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

Attachment 1 to the 1995 Settlement Offer and Article 412 of the Black River Project license require Erie to contribute $3,000 per year to the Black River Fund for the first 15 years of the license term and $4,000 a year for the remainder of the license term. The Black River Fund is distributed according to the recommendations of the Black River Advisory Council, composed of signatories to the Settlement Offer. The Black River Fund is to be used within the Black River basin for the purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research, and additional public access to outdoor recreational resources.

Article 412 of the Black River Project license requires Erie to file an annual report with FERC of the contributions to the Black River Fund. To date, the Black River Fund has contributed to development of the Blueway Trail, tree plantings, public fishing events, and public access projects.

Annual Report of Black River Fund Contributions:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14526188

Article 415 of the Black River Project license requires Erie to maintain the existing woodland buffer areas along the shorelines of the Herrings, Deferiet, Kamargo, Black River, and Sewalls developments.

A vegetative buffer plan was submitted to FERC on October 25, 1999 for the Black River Project, which was approved by FERC in an order dated April 7, 2000.

Order Approving Vegetative Buffer Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10853314

## III.E.2 Shoreline and Watershed Protection: Deferiet Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.3 Shoreline and Watershed Protection: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.4 Shoreline and Watershed Protection: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

**Information Required to Support Threatened and Endangered Species Standards.**

## III.F.1 Threatened and Endangered Species: Deferiet Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

Based on information received from the USFWS's New York Field Office on June 7, 2017, regarding a request for information on RTE species it appears that the northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis* sodalist) may potentially occur within the Project area. There are no critical habitats located within the Black River Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for an updated list of threatened and endangered species that may occur in the vicinity of the Black River Project. By letter dated May 22, 2017, the NYSDEC indicated that the Tomah mayfly (*Siphlonisca aerodromia*), which is state-listed as endangered, has been documented downstream of the Deferiet dam. The cloud sedge (*Carex haydenii*), which is state-listed as threatened, occurs along the shoreline downstream of the Deferiet dam. According to the NYSDEC the plants are growing along the edge of a wide, flat creek that is underlain with calcareous limestone flats. The creekside is primarily vegetated with graminoids, with some woody vegetation present. The red-headed woodpecker (*Melanerpes erythrocephalus*), which is state-listed as a species of special concern has been observed near Fort Drum and ¼ mile north of the Deferiet development in 2011. The birds were observed in several locations in forest edge habitat. The Indiana bat, which is state-listed as endangered, has been documented within 2.5 miles of all six developments of the Black River Project. The NYSDEC has not adopted any formal recovery plans for these species.

The USFWS has adopted the following recovery plan for the Indiana bat that may be present in the vicinity of the Black River Project:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Recovery actions identified in USFWS's Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. No Indiana bat hibernacula, which typically include caves and mines, are known to exist in the immediate vicinity of the Black River Project. Transient individuals, presumably in association with summer habitat, may however exist in the Project area. Operations of the Black River Project, especially with regard to preservation

of woodland buffer areas, are consistent with this draft recovery plan. The USFWS has not developed a recovery plan for the northern long-eared bat.

There are no specific requirements for endangered species protection in the FERC license or WQC for the Black River Project.

The record of RTE consultation is included in Appendix E.

## III.F.2 Threatened and Endangered Species: Deferiet Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.3 Threatened and Endangered Species: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.4 Threatened and Endangered Species: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of |

| | | |
|---|---|---|
| | | listed species in the area. |

See response above for Zone 1.

**Information Required to Support Cultural and Historic Resources Standards.**

**III.G.1 Cultural and Historic Resources: Deferiet Development Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

In 1996, Niagara Mohawk executed a PA with FERC, the Advisory Council on Historic Preservation, and the SHPO for managing historic properties that may be affected by licenses issued for the continued operation of fourteen hydroelectric projects. Appendix A of the Programmatic Agreement discusses historic properties that could potentially be affected by operation of the Black River Project.

Programmatic Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8231177

Niagara Mohawk commissioned surveys of these developments for Duncan Hay's 1991 report, *A History of Hydroelectric Power in New York State.* The Black River Project is not considered potentially eligible for listing on the National Register of Historic Places, and no archaeological properties have been identified within the Project boundaries.

Article 416 of the license requires Erie to implement the PA, including the filing of a CRMP. Erie developed the CRMP in consultation with the SHPO and filed the CRMP with FERC in October 1998. FERC approved the CRMP on November 17, 1998.

Order Approving CRMP:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10817570

Erie files a report of activities associated with the CRMP each year with FERC.

Annual CRMP Report:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14464746

**III.G.2 Cultural and Historic Resources: Deferiet Development Zone 2**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.3 Cultural and Historic Resources: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.4 Cultural and Historic Resources: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

### Information Required to Support Recreational Resources Standards.

## III.H.1 Recreational Resources: Deferiet Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

The Black River Project developments are in compliance with recreational access, accommodation, and facilities conditions in the FERC license.

Article 413 of the FERC license required the licensee to file for FERC approval a recreation plan to construct, operate, and maintain existing and then-proposed recreational facilities at each development. Niagara Mohawk filed the final recreation plan for the Black River Project in December 1998, and FERC issued an order approving the plan on February 17, 1999.

Order Approving Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10825943

Article 413 of the FERC license states that the recreation plan is to include provisions for implementing new facilities such as car-top boat launches, canoe portages, interpretive and informational signs, shorefishing areas, and scenic overlooks, but defers to the Settlement Offer for specific enhancements at each development. Recreational enhancements associated with the FERC license, all of which have been implemented, are further described in the final recreation plan for the Black River Project.

Final Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=94805

Erie permits free public access to the shoreline of the Deferiet development across Erie's lands where project facilities, hazardous areas and existing leases, easements, and private ownership do not preclude access.

## III.H.2 Recreational Resources: Deferiet Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.3 Recreational Resources: Deferiet Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.4 Recreational Resources: Deferiet Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## ***KAMARGO DEVELOPMENT***

### Information Required to Support Ecological Flows Standards.

### III.A.1 Ecological Flows: Kamargo Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 1 of the Kamargo development is the tailrace area downstream of the Kamargo powerhouse and does not include a bypassed reach. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

### III.A.2 Ecological Flows: Kamargo Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 2 | Agency Recommendation (see Appendix A for definitions):<br>• Identify the proceeding and source, date, and specifics of the agency |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.<br>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.<br>• Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). |

Zone 2 of the Kamargo development is the bypassed reach. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

The 1996 FERC License (Article 405), 1995 Settlement Offer, and 401 WQC require Erie to release minimum (bypass) flows from structures designed to minimize adverse impacts to fish moving downstream at each development. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

Order Amending License Article 405:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14136362

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Minimum (bypass) flows:

*Kamargo:* (year-round) 120 cfs released through a notched section of the dam.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.3 Ecological Flows: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 3 of the Kamargo development is the power canal to the Kamargo powerhouse. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.4 Ecological Flows: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 4 of the Kamargo development is the impoundment. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

For construction and maintenance activities that require lowering the level of an impoundment below the normal operating limits, Erie's operating procedure (HOP 202) requires notification of NYSDEC and compliance with drawdown rates specified in the 401 WQC (1 ft/hr).

Water Quality Certificate:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Impoundment fluctuation limitations:
  - *Kamargo:* 0.5 feet (year-round) from permanent crest of dam or top of flashboards when in place.
- Flashboard installation: To be installed by May 1 of each year (or as soon as possible thereafter) and removed in the fall, as determined by Erie.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## Information Required to Support Water Quality Standards.

### III.B.1 Water Quality: Kamargo Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

The Black River Project is in compliance with all conditions issued pursuant to a Clean Water Act – Section 401 WQC. The Section 401 WQC is conditioned on compliance with the terms of the 1995 Settlement Agreement. The WQC for the Project was issued November 3, 1995 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053). On-going water quality monitoring at the Project is not required as part of the WQC or FERC license.

Generally, any changes to the original WQC are necessitated by significant changes in or to the Project environment affecting the Conditions of the original WQC, which culminates in an amendment of the original WQC. This situation has not occurred for the Black River Project WQC, and the original WQC, issued on November 3, 1995, is still in effect.

Additionally, the Applicant contacted the NYSDEC on April 19, 2017, regarding the current WQC status for the Project. The NYSDEC has yet to provide comments regarding the status of the WQC for the Project. A copy of the response letter will be forwarded to LIHI upon receipt.

Per review of the September 2014 Section 303(d) list for New York State, no impaired waters in the Project area or downstream reach are listed. A copy of the September 2014 Section 303(d) list for New York State can be viewed at https://www.epa.gov/sites/production/files/2015-10/documents/ny_303dlist_final_2014_2014-11-3.pdf.

The Black River in the vicinity of the Kamargo development is classified by NYSDEC as non-trout Class C. The best usage of Class C waters is fishing, and they are also suitable for fish propagation and survival, as well as primary and secondary contact recreation, where such use is not limited by other factors.

## III.B.2 Water Quality: Kamargo Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.3 Water Quality: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an |

| | | |
|---|---|---|
| | | agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.4 Water Quality: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

### Information Required to Support Upstream Fish Passage Standards.

## III.C.1 Upstream Fish Passage: Kamargo Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

Atlantic salmon are only known to have historically (i.e., before 1900) existed in the lower Black River as far upstream as Mill Street Falls/ Beebee Island. The waterfall in the main north channel around Beebee Island may have prevented further upstream migration of Atlantic salmon.

Interior had the opportunity to issue a mandatory fish passage prescription for upstream passage of salmonids pursuant to Section 18 of the Federal Power Act during the relicensing of the Black River Project but declined to do so.

A primary fishery management goal of NYSDEC and USFWS during the relicensing of the Black River Project was restoration of Atlantic salmon between Watertown and Black River Bay (Lake Ontario). Restoration of Atlantic salmon as far as the tailrace of the Beebee Island Project was achieved with the installation of upstream fish passage facilities at two downstream hydroelectric projects. Restoration of migratory salmonids above Beebee Island has not been a goal of NYSDEC or USFWS. As stated in the 1995 Settlement Offer, should the understanding of fish movements, fish-passage technology, fishery management goals, or other needs change during the term of the licenses, Interior has reserved authority to prescribe downstream or upstream fishways as may be deemed necessary.

## III.C.2 Upstream Fish Passage: Kamargo Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.3 Upstream Fish Passage: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.4 Upstream Fish Passage: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

### Information Required to Support Downstream Fish Passage Standards.

## III.D.1 Downstream Fish Passage: Kamargo Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 1 of the Kamargo development is the tailrace area downstream of the Kamargo powerhouse. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at Kamargo in 2000.

## III.D.2 Downstream Fish Passage: Kamargo Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent). |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 2 of the Kamargo development is the bypassed reach. Article 405 of the 1996 FERC License incorporates the requirements of the 1995 Settlement Offer for downstream fish passage at the Black River Project.

Article 405 of the FERC license indicates that to minimize project impacts on fish moving downstream and to provide year-round flows for the protection and enhancement of fish and invertebrate habitat in the Project's bypass reaches, the licensee shall after installation of the flow release structures or fish conveyance measures required in Article 406, provide minimum flows.

For the Kamargo development, provide 120 cfs at all times released through a notched section of the dam.

On September 11, 1998, the licensee submitted to FERC the final plans for the Article 406 flow release structure in support of downstream fish passage, which was approved by FERC on September 22, 1998 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10814691).

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

The recommendations of NYSDEC and USFWS for downstream passage are incorporated into the 1995 Settlement Offer and 1996 license in the form of minimum flow releases at each development's dam from structures designed to minimize adverse impacts to fish moving downstream. These measures are described above.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development.

October 13, 1995 Settlement Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121

## III.D.3 Downstream Fish Passage: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 3 of the Kamargo development is the power canal to the Kamargo powerhouse. There are no downstream passage facilities in this zone. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at Kamargo in 2000.

## III.D.4 Downstream Fish Passage: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines).<br>• For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

There are no downstream fish passage barriers or migratory fish management issues in Zone 4 because it is an impoundment. There are no mandatory prescriptions (section 18 or similar) for the passage of riverine fish at the Project.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance

downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development (see links in previous zones).

**Information Required to Support Shoreline and Watershed Protection Standards.**

## III.E.1 Shoreline and Watershed Protection: Kamargo Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

Attachment 1 to the 1995 Settlement Offer and Article 412 of the Black River Project license require Erie to contribute $3,000 per year to the Black River Fund for the first 15 years of the license term and $4,000 a year for the remainder of the license term. The Black River Fund is distributed according to the recommendations of the Black River Advisory Council, composed of signatories to the Settlement Offer. The Black River Fund is to be used within the Black River basin for the purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research, and additional public access to outdoor recreational resources.

Article 412 of the Black River Project license requires Erie to file an annual report with FERC of contributions to the Black River Fund; the most recent report is included in Attachment H. To date, the Black River Fund has contributed to development of the Blueway Trail, tree plantings, public fishing events, and public access projects.

Annual Report of Black River Fund Contributions:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14526188

Article 415 of the Black River Project license requires Erie to maintain the existing woodland buffer areas along the shorelines of the Herrings, Deferiet, Kamargo, Black River, and Sewalls developments.

A vegetative buffer plan was submitted to FERC on October 25, 1999 for the Black River Project, which was approved by FERC in an order dated April 7, 2000.

Order Approving Vegetative Buffer Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10853314

## III.E.2 Shoreline and Watershed Protection: Kamargo Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.3 Shoreline and Watershed Protection: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.4 Shoreline and Watershed Protection: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

### Information Required to Support Threatened and Endangered Species Standards.

## III.F.1 Threatened and Endangered Species: Kamargo Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

Based on information received from the USFWS's New York Field Office on June 7, 2017, regarding a request for information on RTE species it appears that the northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis* sodalist) may potentially occur within the Project area. There are no critical habitats located within the Black River Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for an updated list of threatened and endangered species that may occur in the vicinity of the Black River Project. By letter dated May 22, 2017, the NYSDEC indicated that the Blanding's turtle (*Emydoidea blandingii*), which is state-listed as threatened, has been documented between the Black River and Kamargo dams. The northern long-eared bat, which is state-listed as endangered, has been documented within 1.5 miles of the Kamargo and Black River developments. The Indiana bat, which is state-listed as endangered, has been documented within 2.5 miles of all six developments of the Black River Project. The NYSDEC has not adopted any formal recovery plans for these species.

The USFWS has adopted the following recovery plan for the Indiana bat that may be present in the vicinity of the Black River Project:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Recovery actions identified in USFWS's Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. No Indiana bat hibernacula, which typically include caves and mines, are known to exist in the immediate vicinity of the Black River Project. Transient individuals, presumably in association with summer habitat, may however exist in the Project area. Operations of the Black River Project, especially with regard to preservation of woodland buffer areas, are consistent with this draft recovery plan. The USFWS has not developed a recovery plan for the northern long-eared bat.

There are no specific requirements for endangered species protection in the FERC license or WQC for the Black River Project.

The record of RTE consultation is included in Appendix E.

## III.F.2 Threatened and Endangered Species: Kamargo Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.3 Threatened and Endangered Species: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.4 Threatened and Endangered Species: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

### Information Required to Support Cultural and Historic Resources Standards.

## III.G.1 Cultural and Historic Resources: Kamargo Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

In 1996, Niagara Mohawk executed a PA with FERC, the Advisory Council on Historic Preservation, and the SHPO for managing historic properties that may be affected by licenses issued for the continued operation of fourteen hydroelectric projects. Appendix A of the Programmatic Agreement discusses historic properties that could potentially be affected by operation of the Black River Project.

Programmatic Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8231177

Niagara Mohawk commissioned surveys of these developments for Duncan Hay's 1991 report, *A History of Hydroelectric Power in New York State*. The Black River Project is not considered potentially eligible for listing on the National Register of Historic Places, and no archaeological properties have been identified within the Project boundaries.

Article 416 of the license requires Erie to implement the PA, including the filing of a CRMP. Erie developed the CRMP in consultation with the SHPO and filed the CRMP with FERC in October 1998. FERC approved the CRMP on November 17, 1998.

Order Approving CRMP:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10817570

Erie files a report of activities associated with the CRMP each year with FERC.

Annual CRMP Report:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14464746

## III.G.2 Cultural and Historic Resources: Kamargo Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.3 Cultural and Historic Resources: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.4 Cultural and Historic Resources: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

**Information Required to Support Recreational Resources Standards.**

**III.H.1 Recreational Resources: Kamargo Development Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

The Black River Project developments are in compliance with recreational access, accommodation, and facilities conditions in the FERC license.

Article 413 of the FERC license required the licensee to file for FERC approval a recreation plan to construct, operate, and maintain existing and then-proposed recreational facilities at each development. Niagara Mohawk filed the final recreation plan for the Black River Project in December 1998, and FERC issued an order approving the plan on February 17, 1999.

Order Approving Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10825943

Article 413 of the FERC license states that the recreation plan is to include provisions for implementing new facilities such as car-top boat launches, canoe portages, interpretive and informational signs, shorefishing areas, and scenic overlooks, but defers to the Settlement Offer for specific enhancements at each development. Recreational enhancements associated with the FERC license, all of which have been implemented, are further described in the final recreation plan for the Black River Project.

Final Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=94805

Erie permits free public access to the shoreline of the Kamargo development across Erie's lands where project facilities, hazardous areas and existing leases, easements, and private ownership do not preclude access.

**III.H.2 Recreational Resources: Kamargo Development Zone 2**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.3 Recreational Resources: Kamargo Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.4 Recreational Resources: Kamargo Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## ***BLACK RIVER DEVELOPMENT***

### Information Required to Support Ecological Flows Standards.

### III.A.1 Ecological Flows: Black River Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 1 of the Black River development is the tailrace area downstream of the Black River powerhouse and does not include a bypassed reach. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

### III.A.2 Ecological Flows: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 2 | Agency Recommendation (see Appendix A for definitions):<br>• Identify the proceeding and source, date, and specifics of the agency |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.<br>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.<br>• Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). |

Zone 2 of the Black River development is the bypassed reach. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

The 1996 FERC License (Article 405), 1995 Settlement Offer, and 401 WQC require Erie to release minimum (bypass) flows from structures designed to minimize adverse impacts to fish moving downstream at each development. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

Order Amending License Article 405:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14136362

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Minimum (bypass) flows:

*Black River*: 80 cfs at all times through a notch in the dam; additional flows through the notch or the stop-log ice sluice to total 300 cfs during walleye spawning season, as defined above. Flows at the end of walleye spawning season must be ramped down in increments no greater than 75 cfs and at intervals of no less than four hours.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.3 Ecological Flows: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 3 of the Black River development is the power canal to the Black River powerhouse. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.4 Ecological Flows: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 4 of the Black River development is the impoundment. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

For construction and maintenance activities that require lowering the level of an impoundment below the normal operating limits, Erie's operating procedure (HOP 202) requires notification of NYSDEC and compliance with drawdown rates specified in the 401 WQC (1 ft/hr).

Water Quality Certificate:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Impoundment fluctuation limitations:
  - *Black River:* 0.5 feet (year-round) from permanent crest of dam or top of flashboards when in place.
- Flashboard installation: To be installed by May 1 of each year (or as soon as possible thereafter) and removed in the fall, as determined by Erie.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

**Information Required to Support Water Quality Standards.**

## III.B.1 Water Quality: Black River Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related |

| | | |
|---|---|---|
| | | agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

The Black River Project is in compliance with all conditions issued pursuant to a Clean Water Act – Section 401 WQC. The Section 401 WQC is conditioned on compliance with the terms of the 1995 Settlement Agreement. The WQC for the Project was issued November 3, 1995 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053). On-going water quality monitoring at the Project is not required as part of the WQC or FERC license.

Generally, any changes to the original WQC are necessitated by significant changes in or to the Project environment affecting the Conditions of the original WQC, which culminates in an amendment of the original WQC. This situation has not occurred for the Black River Project WQC, and the original WQC, issued on November 3, 1995, is still in effect.

Additionally, the Applicant contacted the NYSDEC on April 19, 2017, regarding the current WQC status for the Project. The NYSDEC has yet to provide comments regarding the status of the WQC for the Project. A copy of the response letter will be forwarded to LIHI upon receipt.

Per review of the September 2014 Section 303(d) list for New York State, no impaired waters in the Project area or downstream reach are listed. A copy of the September 2014 Section 303(d) list for New York State can be viewed at https://www.epa.gov/sites/production/files/2015-10/documents/ny_303dlist_final_2014_2014-11-3.pdf.

The Black River in the vicinity of the Black River development is classified by NYSDEC as non-trout Class C. The best usage of Class C waters is fishing, and they are also suitable for fish propagation and survival, as well as primary and secondary contact recreation, where such use is not limited by other factors.

## III.B.2 Water Quality: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.3 Water Quality: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.4 Water Quality: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

### Information Required to Support Upstream Fish Passage Standards.

## III.C.1 Upstream Fish Passage: Black River Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

During the relicensing proceeding for the Black River Project, neither the Department of

Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for the Project. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

Atlantic salmon are only known to have historically (i.e., before 1900) existed in the lower Black River as far upstream as Mill Street Falls/ Beebee Island. The waterfall in the main north channel around Beebee Island may have prevented further upstream migration of Atlantic salmon.

Interior had the opportunity to issue a mandatory fish passage prescription for upstream passage of salmonids pursuant to Section 18 of the Federal Power Act during the relicensing of the Black River Project but declined to do so.

A primary fishery management goal of NYSDEC and USFWS during the relicensing of the Black River Project was restoration of Atlantic salmon between Watertown and Black River Bay (Lake Ontario). Restoration of Atlantic salmon as far as the tailrace of the Beebee Island Project was achieved with the installation of upstream fish passage facilities at two downstream hydroelectric projects. Restoration of migratory salmonids above Beebee Island has not been a goal of NYSDEC or USFWS. As stated in the 1995 Settlement Offer, should the understanding of fish movements, fish-passage technology, fishery management goals, or other needs change during the term of the licenses, Interior has reserved authority to prescribe downstream or upstream fishways as may be deemed necessary.

## III.C.2 Upstream Fish Passage: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.3 Upstream Fish Passage: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the |

| | | |
|---|---|---|
| | | facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.4 Upstream Fish Passage: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

### Information Required to Support Downstream Fish Passage Standards.

## III.D.1 Downstream Fish Passage: Black River Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 1 of the Black River development is the tailrace area downstream of the Black River powerhouse. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at the Black River in 1998.

## III.D.2 Downstream Fish Passage: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 2 of the Black River development is the bypassed reach. Article 405 of the 1996 FERC License incorporates the requirements of the 1995 Settlement Offer for downstream fish passage at the Black River Project.

Article 405 of the FERC license indicates that to minimize project impacts on fish moving downstream and to provide year-round flows for the protection and enhancement of fish and invertebrate habitat in the Project's bypass reaches, the licensee shall after installation of the flow release structures or fish conveyance measures required in Article 406, provide minimum flows. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

At the Black River development, during the walleye spawning season, the licensee releases instream flows into the bypassed reach of 80 cfs at all times through a notch in the dam; additional flows through the notch or the stop-log ice sluice to total 300 cfs during walleye spawning season, as defined above. Flows at the end of walleye spawning season must be ramped down in increments no greater than 75 cfs and at intervals of no less than four hours.

On September 11, 1998, the licensee submitted to FERC the final plans for the Article 406 flow release structure in support of downstream fish passage, which was approved by FERC on September 22, 1998 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10814691).

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for the Project. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

The recommendations of NYSDEC and USFWS for downstream passage are incorporated into the 1995 Settlement Offer and 1996 license in the form of minimum flow releases at each development's dam from structures designed to minimize adverse impacts to fish moving downstream. These measures are described above.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development.

October 13, 1995 Settlement Agreement:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121

## III.D.3 Downstream Fish Passage: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 3 of the Black River development is the power canal to the powerhouse. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at the Black River in 1998.

## III.D.4 Downstream Fish Passage: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines).<br>• For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles. |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | • Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

There are no downstream fish passage barriers or migratory fish management issues in Zone 4 because it is an impoundment. There are no mandatory prescriptions (section 18 or similar) for the passage of riverine fish at the Project.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development (see links in previous zones).

**Information Required to Support Shoreline and Watershed Protection Standards.**

**III.E.1 Shoreline and Watershed Protection: Black River Development Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

Attachment 1 to the 1995 Settlement Offer and Article 412 of the Black River Project license require Erie to contribute $3,000 per year to the Black River Fund for the first 15 years of the license term and $4,000 a year for the remainder of the license term. The Black River Fund is distributed according to the recommendations of the Black River Advisory Council, composed of signatories to the Settlement Offer. The Black River Fund is to be used within the Black River basin for the purposes of ecosystem restoration and protection, natural resource stewardship,

public education, facility maintenance, applied research, and additional public access to outdoor recreational resources.

Article 412 of the Black River Project license requires Erie to file an annual report with FERC of the contributions to the Black River Fund. To date, the Black River Fund has contributed to development of the Blueway Trail, tree plantings, public fishing events, and public access projects.

Annual Report of Black River Fund Contributions:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14526188

Article 415 of the Black River Project license requires Erie to maintain the existing woodland buffer areas along the shorelines of the Herrings, Deferiet, Kamargo, Black River, and Sewalls developments.

A vegetative buffer plan was submitted to FERC on October 25, 1999 for the Black River Project, which was approved by FERC in an order dated April 7, 2000.

Order Approving Vegetative Buffer Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10853314

## III.E.2 Shoreline and Watershed Protection: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.3 Shoreline and Watershed Protection: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation: |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | • Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.4 Shoreline and Watershed Protection: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

### Information Required to Support Threatened and Endangered Species Standards.

## III.F.1 Threatened and Endangered Species: Black River Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance |

| | | |
|---|---|---|
| | | with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

Based on information received from the USFWS's New York Field Office on June 7, 2017, regarding a request for information on RTE species it appears that the northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis* sodalist) may potentially occur within the Project area. There are no critical habitats located within the Black River Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for an updated list of threatened and endangered species that may occur in the vicinity of the Black River Project. By letter dated May 22, 2017, the NYSDEC indicated that the Blanding's turtle (*Emydoidea blandingii*), which is state-listed as threatened, has been documented between the Black River and Kamargo dams. The northern long-eared bat, which is state-listed as endangered, has been documented within 1.5 miles of the Kamargo and Black River developments. The Indiana bat, which is state-listed as endangered, has been documented within 2.5 miles of all six developments of the Black River Project. The NYSDEC has not adopted any formal recovery plans for these species.

The USFWS has adopted the following recovery plan for the Indiana bat that may be present in the vicinity of the Black River Project:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Recovery actions identified in USFWS's Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. No Indiana bat hibernacula, which typically include caves and mines, are known to exist in the immediate vicinity of the Black River Project. Transient individuals, presumably in association with summer habitat, may however exist in the Project area. Operations of the Black River Project, especially with regard to preservation of woodland buffer areas, are consistent with this draft recovery plan. The USFWS has not developed a recovery plan for the northern long-eared bat.

There are no specific requirements for endangered species protection in the FERC license or WQC for the Black River Project.

The record of RTE consultation is included in Appendix E.

## III.F.2 Threatened and Endangered Species: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.3 Threatened and Endangered Species: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.4 Threatened and Endangered Species: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

### Information Required to Support Cultural and Historic Resources Standards.

## III.G.1 Cultural and Historic Resources: Black River Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan: |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | • Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

In 1996, Niagara Mohawk executed a PA with FERC, the Advisory Council on Historic Preservation, and the SHPO for managing historic properties that may be affected by licenses issued for the continued operation of fourteen hydroelectric projects. Appendix A of the Programmatic Agreement discusses historic properties that could potentially be affected by operation of the Black River Project.

Programmatic Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8231177

Niagara Mohawk commissioned surveys of these developments for Duncan Hay's 1991 report, *A History of Hydroelectric Power in New York State*. The Black River Project is not considered potentially eligible for listing on the National Register of Historic Places, and no archaeological properties have been identified within the Project boundaries.

Article 416 of the license requires Erie to implement the PA, including the filing of a CRMP. Erie developed the CRMP in consultation with the SHPO and filed the CRMP with FERC in October 1998. FERC approved the CRMP on November 17, 1998.

Order Approving CRMP:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10817570

Erie files a report of activities associated with the CRMP each year with FERC.

Annual CRMP Report:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14464746

## III.G.2 Cultural and Historic Resources: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.3 Cultural and Historic Resources: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.4 Cultural and Historic Resources: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

### Information Required to Support Recreational Resources Standards.

## III.H.1 Recreational Resources: Black River Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

The Black River Project developments are in compliance with recreational access, accommodation, and facilities conditions in the FERC license.

Article 413 of the FERC license required the licensee to file for FERC approval a recreation plan to construct, operate, and maintain existing and then-proposed recreational facilities at each development. Niagara Mohawk filed the final recreation plan for the Black River Project in December 1998, and FERC issued an order approving the plan on February 17, 1999.

Order Approving Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10825943

Article 413 of the FERC license states that the recreation plan is to include provisions for implementing new facilities such as car-top boat launches, canoe portages, interpretive and

informational signs, shorefishing areas, and scenic overlooks, but defers to the Settlement Offer for specific enhancements at each development. Recreational enhancements associated with the FERC license, all of which have been implemented, are further described in the final recreation plan for the Black River Project.

Final Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=94805

Erie permits free public access to the shoreline of the Kamargo development across Erie's lands where project facilities, hazardous areas and existing leases, easements, and private ownership do not preclude access.

## III.H.2 Recreational Resources: Black River Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.3 Recreational Resources: Black River Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.4 Recreational Resources: Black River Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## ***SEWALLS DEVELOPMENT***

### Information Required to Support Ecological Flows Standards.

### III.A.1 Ecological Flows: Sewalls Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 1 of the Sewalls development is the tailrace area downstream of the Sewalls powerhouse and does not include a bypassed reach. The Black River Project is in compliance with resource agency conditions regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

### III.A.2 Ecological Flows: Sewalls Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 2 | Agency Recommendation (see Appendix A for definitions):<br>• Identify the proceeding and source, date, and specifics of the agency |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.<br>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.<br>• Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). |

Zone 2 of the Sewalls development is the south dam bypassed reach. The Black River Project is in compliance with resource agency conditions regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

The 1996 FERC License (Article 405), 1995 Settlement Offer, and 401 WQC require Erie to release minimum (bypass) flows from structures designed to minimize adverse impacts to fish moving downstream at each development. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

Order Amending License Article 405:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14136362

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Minimum (bypass) flows:

*Sewalls*: 32 cfs at all times into the north channel bypassed reach with a minimum for 20 cfs at all times through a notched section of the dam, and the remainder from leakage or other mechanisms; and 137 cfs at all times into the south channel bypassed reach from leakage or other mechanisms.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.3 Ecological Flows: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 3 of the Sewalls development is the power canal to the Sewalls powerhouse. The Black River Project is in compliance with resource agency conditions regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.4 Ecological Flows: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 2 | Agency Recommendation (see Appendix A for definitions):<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.<br>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.<br>• Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | variations). |

Zone 4 of the Sewalls development is the north dam bypassed reach. The Black River Project is in compliance with resource agency conditions regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

The 1996 FERC License (Article 405), 1995 Settlement Offer, and 401 WQC require Erie to release minimum (bypass) flows from structures designed to minimize adverse impacts to fish moving downstream at each development. On February 2, 2016, FERC issued an order amending license article 405. The amended requirements for minimum bypass flows as described in this order are detailed below.

Order Amending License Article 405:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14136362

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Minimum (bypass) flows:

*Sewalls*: 32 cfs at all times into the north channel bypassed reach with a minimum for 20 cfs at all times through a notched section of the dam, and the remainder from leakage or other mechanisms; and 137 cfs at all times into the south channel bypassed reach from leakage or other mechanisms.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

## III.A.5 Ecological Flows: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located. |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | • For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 5 of the Sewalls development is the impoundment. The Black River Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

For construction and maintenance activities that require lowering the level of an impoundment below the normal operating limits, Erie's operating procedure (HOP 202) requires notification of NYSDEC and compliance with drawdown rates specified in the 401 WQC (1 ft/hr).

Water Quality Certificate:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Black River Project.

- Impoundment fluctuation limitations:
    - *Sewalls:* 0.5 feet (year-round) from permanent crest of dam or top of flashboards if in place. As per license article 402 and Section VII.A of the Settlement Offer, the Sewalls Development is operated in run-of-river mode when flows are less than 2,000 cfs between May 1 and September 30.

- Flashboard installation: To be installed by May 1 of each year (or as soon as possible thereafter) and removed in the fall, as determined by Erie.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

**Information Required to Support Water Quality Standards.**

## III.B.1 Water Quality: Sewalls Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation. |

| | | |
|---|---|---|
| | | • Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

The Black River Project is in compliance with all conditions issued pursuant to a Clean Water Act – Section 401 WQC. The Section 401 WQC is conditioned on compliance with the terms of the 1995 Settlement Agreement. The WQC for the Project was issued November 3, 1995 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053). On-going water quality monitoring at the Project is not required as part of the WQC or FERC license.

Generally, any changes to the original WQC are necessitated by significant changes in or to the Project environment affecting the Conditions of the original WQC, which culminates in an amendment of the original WQC. This situation has not occurred for the Black River Project WQC, and the original WQC, issued on November 3, 1995, is still in effect.

Additionally, the Applicant contacted the NYSDEC on April 19, 2017, regarding the current WQC status for the Project. The NYSDEC has yet to provide comments regarding the status of the WQC for the Project. A copy of the response letter will be forwarded to LIHI upon receipt.

Per review of the September 2014 Section 303(d) list for New York State, no impaired waters in the Project area or downstream reach are listed. A copy of the September 2014 Section 303(d) list for New York State can be viewed at https://www.epa.gov/sites/production/files/2015-10/documents/ny_303dlist_final_2014_2014-11-3.pdf.

The section of the river in the vicinity of the Sewalls development is classified as Class A. Class A waters are suitable for all uses, including drinking water.

## III.B.2 Water Quality: Sewalls Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.3 Water Quality: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.4 Water Quality: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

## III.B.5 Water Quality: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis. |

| | | |
|---|---|---|
| | | • Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

**Information Required to Support Upstream Fish Passage Standards.**

**III.C.1 Upstream Fish Passage: Sewalls Development Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

Atlantic salmon are only known to have historically (i.e., before 1900) existed in the lower Black River as far upstream as Mill Street Falls/ Beebee Island. The waterfall in the main north channel around Beebee Island may have prevented further upstream migration of Atlantic salmon.

Interior had the opportunity to issue a mandatory fish passage prescription for upstream passage of salmonids pursuant to Section 18 of the Federal Power Act during the relicensing of the Black River Project but declined to do so.

A primary fishery management goal of NYSDEC and USFWS during the relicensing of the Black River Project was restoration of Atlantic salmon between Watertown and Black River Bay (Lake Ontario). Restoration of Atlantic salmon as far as the tailrace of the Beebee Island Project was achieved with the installation of upstream fish passage facilities at two downstream hydroelectric projects. Restoration of migratory salmonids above Beebee Island has not been a goal of NYSDEC or USFWS. As stated in the 1995 Settlement Offer, should the understanding of fish movements, fish-passage technology, fishery management goals, or other needs change during the term of the licenses, Interior has reserved authority to prescribe downstream or upstream fishways as may be deemed necessary.

**III.C.2 Upstream Fish Passage: Sewalls Development Zone 2**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.3 Upstream Fish Passage: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.4 Upstream Fish Passage: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

## III.C.5 Upstream Fish Passage: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the |

| | | |
|---|---|---|
| | | facility is or was not the cause of this. |

See response above for Zone 1.

## Information Required to Support Downstream Fish Passage Standards.

### III.D.1 Downstream Fish Passage: Sewalls Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 1 of the Sewalls development is the trailrace area downstream of the Sewalls powerhouse. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at Sewalls in 2002.

### III.D.2 Downstream Fish Passage: Sewalls Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 2 of the Sewalls development is the south dam bypassed reach. Article 405 of the 1996 FERC License incorporates the requirements of the 1995 Settlement Offer for downstream fish passage at the Black River Project.

Article 405 of the FERC license indicates that to minimize project impacts on fish moving downstream and to provide year-round flows for the protection and enhancement of fish and invertebrate habitat in the Project's bypass reaches, the licensee shall after installation of the flow release structures or fish conveyance measures required in Article 406, provide minimum flows.

For the Sewalls development, provide 32 cfs at all times into the north channel bypassed reach with a minimum for 20 cfs at all times through a notched section of the dam, and the remainder from leakage or other mechanisms; and 137 cfs at all times into the south channel bypassed reach from leakage or other mechanisms.

On September 11, 1998, the licensee submitted to FERC the final plans for the Article 406 flow release structure in support of downstream fish passage, which was approved by FERC on September 22, 1998 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10814691).

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

The recommendations of NYSDEC and USFWS for downstream passage are incorporated into the 1995 Settlement Offer and 1996 license in the form of minimum flow releases at each development's dam from structures designed to minimize adverse impacts to fish moving downstream. These measures are described above.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development.

October 13, 1995 Settlement Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121

## III.D.3 Downstream Fish Passage: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 3 of the Sewalls development is the power canal to the powerhouse. There are no downstream fish passage facilities in this zone. Agency recommendations for fish entrainment protection at the Black River Project are included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. At all developments except for the Sewalls Development, trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at Sewalls in 2002.

## III.D.4 Downstream Fish Passage: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 4 of the Sewalls development is the north dam bypassed reach. Article 405 of the 1996 FERC License incorporates the requirements of the 1995 Settlement Offer for downstream fish passage at the Black River Project.

Article 405 of the FERC license indicates that to minimize project impacts on fish moving downstream and to provide year-round flows for the protection and enhancement of fish and invertebrate habitat in the Project's bypass reaches, the licensee shall after installation of the flow release structures or fish conveyance measures required in Article 406, provide minimum flows.

For the Sewalls development, provide 32 cfs at all times into the north channel bypassed reach with a minimum for 20 cfs at all times through a notched section of the dam, and the remainder

from leakage or other mechanisms; and 137 cfs at all times into the south channel bypassed reach from leakage or other mechanisms.

On September 11, 1998, the licensee submitted to FERC the final plans for the Article 406 flow release structure in support of downstream fish passage, which was approved by FERC on September 22, 1998 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10814691).

During the relicensing proceeding for the Black River Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for these projects. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

The recommendations of NYSDEC and USFWS for downstream passage are incorporated into the 1995 Settlement Offer and 1996 license in the form of minimum flow releases at each development's dam from structures designed to minimize adverse impacts to fish moving downstream. These measures are described above.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development.

October 13, 1995 Settlement Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121

## III.D.5 Downstream Fish Passage: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines).<br>• For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

There are no downstream fish passage barriers or migratory fish management issues in Zone 4 because it is an impoundment. There are no mandatory prescriptions (section 18 or similar) for the passage of riverine fish at the Project.

License Articles 405 and 406 detail the minimum flows and structural modifications to enhance downstream fish passage at all the developments of the Black River Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at each development (see links in previous zones).

**Information Required to Support Shoreline and Watershed Protection Standards.**

**III.E.1 Shoreline and Watershed Protection: Sewalls Development Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

Attachment 1 to the 1995 Settlement Offer and Article 412 of the Black River Project license require Erie to contribute $3,000 per year to the Black River Fund for the first 15 years of the license term and $4,000 a year for the remainder of the license term. The Black River Fund is distributed according to the recommendations of the Black River Advisory Council, composed of signatories to the Settlement Offer. The Black River Fund is to be used within the Black River basin for the purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research, and additional public access to outdoor recreational resources.

Article 412 of the Black River Project license requires Erie to file an annual report with FERC of the contributions to the Black River Fund. To date, the Black River Fund has contributed to development of the Blueway Trail, tree plantings, public fishing events, and public access projects.

Annual Report of Black River Fund Contributions:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14526188

Article 415 of the Black River Project license requires Erie to maintain the existing woodland buffer areas along the shorelines of the Herrings, Deferiet, Kamargo, Black River, and Sewalls developments.

A vegetative buffer plan was submitted to FERC on October 25, 1999 for the Black River Project, which was approved by FERC in an order dated April 7, 2000.

Order Approving Vegetative Buffer Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10853314

## III.E.2 Shoreline and Watershed Protection: Sewalls Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.3 Shoreline and Watershed Protection: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.4 Shoreline and Watershed Protection: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

## III.E.5 Shoreline and Watershed Protection: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

**Information Required to Support Threatened and Endangered Species Standards.**

**III.F.1 Threatened and Endangered Species: Sewalls Development Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

Based on information received from the USFWS's New York Field Office on June 7, 2017, regarding a request for information on RTE species it appears that the northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis* sodalist) may potentially occur within the Project area. There are no critical habitats located within the Black River Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for an updated list of threatened and endangered species that may occur in the vicinity of the Black River Project. By letter dated May 22, 2017, the NYSDEC indicated that the

The Indiana bat, which is state-listed as endangered, has been documented within 2.5 miles of all six developments of the Black River Project. The NYSDEC has not adopted any formal recovery plans for these species.

The USFWS has adopted the following recovery plan for the Indiana bat that may be present in the vicinity of the Black River Project:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Recovery actions identified in USFWS's Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. No Indiana bat hibernacula, which typically include caves and mines, are known to exist in the immediate vicinity of the Black River

Project. Transient individuals, presumably in association with summer habitat, may however exist in the Project area. Operations of the Black River Project, especially with regard to preservation of woodland buffer areas, are consistent with this draft recovery plan. The USFWS has not developed a recovery plan for the northern long-eared bat.

There are no specific requirements for endangered species protection in the FERC license or WQC for the Black River Project.

The record of RTE consultation is included in Appendix E.

## III.F.2 Threatened and Endangered Species: Sewalls Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.3 Threatened and Endangered Species: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.4 Threatened and Endangered Species: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents. |

| | | |
|---|---|---|
| | | • Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

## III.F.5 Threatened and Endangered Species: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

**Information Required to Support Cultural and Historic Resources Standards.**

## III.G.1 Cultural and Historic Resources: Sewalls Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

In 1996, Niagara Mohawk executed a PA with FERC, the Advisory Council on Historic Preservation, and the SHPO for managing historic properties that may be affected by licenses issued for the continued operation of fourteen hydroelectric projects. Appendix A of the Programmatic Agreement discusses historic properties that could potentially be affected by operation of the Black River Project.

Programmatic Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8231177

Niagara Mohawk commissioned surveys of these developments for Duncan Hay's 1991 report, *A History of Hydroelectric Power in New York State*. The Black River Project is not considered potentially eligible for listing on the National Register of Historic Places, and no archaeological properties have been identified within the Project boundaries.

Article 416 of the license requires Erie to implement the PA, including the filing of a CRMP. Erie developed the CRMP in consultation with the SHPO and filed the CRMP with FERC in October 1998. FERC approved the CRMP on November 17, 1998.

Order Approving CRMP:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10817570

Erie files a report of activities associated with the CRMP each year with FERC.

Annual CRMP Report:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14464746

## III.G.2 Cultural and Historic Resources: Sewalls Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.3 Cultural and Historic Resources: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.4 Cultural and Historic Resources: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

## III.G.5 Cultural and Historic Resources: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

**Information Required to Support Recreational Resources Standards.**

## III.H.1 Recreational Resources: Sewalls Development Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

The Black River Project developments are in compliance with recreational access, accommodation, and facilities conditions in the FERC license.

Article 413 of the FERC license required the licensee to file for FERC approval a recreation plan to construct, operate, and maintain existing and then-proposed recreational facilities at each development. Niagara Mohawk filed the final recreation plan for the Black River Project in December 1998, and FERC issued an order approving the plan on February 17, 1999.

Order Approving Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10825943

Article 413 of the FERC license states that the recreation plan is to include provisions for implementing new facilities such as car-top boat launches, canoe portages, interpretive and informational signs, shorefishing areas, and scenic overlooks, but defers to the Settlement Offer for specific enhancements at each development. Recreational enhancements associated with the FERC license, all of which have been implemented, are further described in the final recreation plan for the Black River Project.

Final Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=94805

Erie permits free public access to the shoreline of the Deferiet development across Erie's lands where project facilities, hazardous areas and existing leases, easements, and private ownership do not preclude access.

## III.H.2 Recreational Resources: Sewalls Development Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.3 Recreational Resources: Sewalls Development Zone 3

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.4 Recreational Resources: Sewalls Development Zone 4

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## III.H.5 Recreational Resources: Sewalls Development Zone 5

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## ***BEEBEE ISLAND PROJECT***

### Information Required to Support Ecological Flows Standards.

### III.A.1 Ecological Flows: Beebee Island Project Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 2 | Agency Recommendation (see Appendix A for definitions):<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.<br>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.<br>• Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). |

Zone 1 of the Beebee Island Project is the area downstream of the dam including the tailrace area downstream of the Beebe Island powerhouse. The Project has an integrated powerhouse and dam on the north side of Beebee Island. The Beebee Island Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Beebee Island Project.

- Baseflow: Provide continuous baseflow of 1,000 cfs or inflow, whichever is less.

- Bypassed Reach: A year-round instream flow of not less than 14 cfs will be provided in the south channel bypassed reach through a pipe through the dam with a plunge pool downstream

- Fish Passage: Provide a 37 cfs attractant flow through the modified stop-log ice sluice from April 1 through November 30

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons

for the deviation.

## III.A.2 Ecological Flows: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| A | 1 | Not Applicable / De Minimis Effect:<br>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.<br>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.<br>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.<br>• For impoundment zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – ***NOTE:*** this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion. |

Zone 2 of the Beebee Island Project is the impoundment. The Beebee Island Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 1995 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

For construction and maintenance activities that require lowering the level of an impoundment below the normal operating limits, Erie's operating procedure (HOP 202) requires notification of NYSDEC and compliance with drawdown rates specified in the 401 WQC (1 ft/hr).

Water Quality Certificate:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304053

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Beebee Island Project.

Impoundment fluctuation limitations: 0.5 feet (year-round) from permanent crest of dam or top of flashboards when in place. As per License Article 401 and Section VIII.A of the Settlement Offer, Erie makes a best effort to maintain the impoundment within 0.2 ft of permanent crest of dam or top of flashboards when in place. Also, as required by License Article 401 and Section VIII.A of the Settlement Offer, the Beebee Island Project is operated in a run-of-river mode such that the sum of inflows to the project equals the sum of outflows.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons

for the deviation.

**Information Required to Support Water Quality Standards.**

## III.B.1 Water Quality: Beebee Island Project Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

The Beebee Island Project is in compliance with all conditions issued pursuant to a Clean Water Act – Section 401 WQC. The Section 401 WQC is conditioned on compliance with the terms of the 1995 Settlement Agreement. The WQC for the Project was issued November 3, 1995 (https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8304054). On-going water quality monitoring at the Project is not required as part of the WQC or FERC license.

Generally, any changes to the original WQC are necessitated by significant changes in or to the Project environment affecting the Conditions of the original WQC, which culminates in an amendment of the original WQC. This situation has not occurred for the Beebee Island Project WQC, and the original WQC, issued on November 3, 1995, is still in effect.

Additionally, the Applicant contacted the NYSDEC on April 19, 2017, regarding the current WQC status for the Project. The NYSDEC has yet to provide comments regarding the status of the WQC for the Project. A copy of the response letter will be forwarded to LIHI upon receipt.

Per review of the September 2014 Section 303(d) list for New York State, no impaired waters in the Project area or downstream reach are listed. A copy of the September 2014 Section 303(d) list for New York State can be viewed at https://www.epa.gov/sites/production/files/2015-10/documents/ny_303dlist_final_2014_2014-11-3.pdf.

The Black River in the vicinity of the Beebee Island Project is classified as Class A. Class A waters are suitable for all uses, including drinking water.

## III.B.2 Water Quality: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|

| | | |
|---|---|---|
| B | 2 | Agency Recommendation:<br>• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.<br>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.<br>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.<br>• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations. |

See response above for Zone 1.

**Information Required to Support Upstream Fish Passage Standards.**

**III.C.1 Upstream Fish Passage: Beebee Island Project Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

During the relicensing proceeding for the Beebee Island Project neither the Department of Commerce nor Interior prescribed riverine fish passage facilities for this project. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future. The 1995 Settlement Offer does not require upstream fish passage measures at the Beebee Island Project.

Atlantic salmon are only known to have historically (i.e., before 1900) existed in the lower Black River as far upstream as Mill Street Falls/ Beebee Island. The waterfall in the main north channel around Beebee Island may have prevented further upstream migration of Atlantic salmon.

Interior had the opportunity to issue a mandatory fish passage prescription for upstream passage of salmonids pursuant to Section 18 of the Federal Power Act during the relicensing of the Beebee Island Project but declined to do so.

A primary fishery management goal of NYSDEC and USFWS during the relicensings of the Black River Projects was restoration of Atlantic salmon between Watertown and Black River Bay (Lake Ontario). Restoration of Atlantic salmon as far as the tailrace of the Beebee Island Project was achieved with the installation of upstream fish passage facilities at two downstream hydroelectric

projects. Restoration of migratory salmonids above Beebee Island has not been a goal of NYSDEC or USFWS. As stated in the 1995 Settlement Offer, should the understanding of fish movements, fish-passage technology, fishery management goals, or other needs change during the term of the license, Interior has reserved authority to prescribe downstream or upstream fishways as may be deemed necessary.

## III.C.2 Upstream Fish Passage: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| C | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

See response above for Zone 1.

### Information Required to Support Downstream Fish Passage Standards.

## III.D.1 Downstream Fish Passage: Beebee Island Project Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 2 | Agency Recommendation:<br>• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).<br>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.<br>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented. |

Zone 1 of the Beebee Island Project is the area downstream of the dam including the tailrace area downstream of the Beebe Island powerhouse. The 1995 Settlement Offer requires Beebee Island to provide downstream fish passage between April 1 and November 30 via a modification to the existing stop-log ice sluice, to be designed in consultation with USFWS and NYSDEC, and with a 37-cfs attractant flow.

License articles 404, 406, and 411 detail the minimum flow, seasonal downstream fish flow, and structural modifications for downstream fish passage at the Beebee Island Project. In addition to the 14 cfs minimum flow released into the south channel bypassed reach, downstream fish movement is provided from April 1 to November 30 via a modified ice chute, in which a flow of

37 cfs is provided to attract and convey fish. This downstream fish passage facility was installed in 1998 and was slightly modified in 2000 in consultation with NYSDEC and USFWS, as described in a final Order Amending Fish Conveyance Structure issued by FERC in 2001.

License Article 411 required, in part, that the licensee file detailed design drawings of a fish conveyance structure to be installed at the project. The licensee's plan, filed September 11, 1998, was approved by FERC in 1998. The licensee's approved downstream fish passage facilities have been in place at the Beebee Island Project since the end of 1998, which were amended and approved by FERC Order issued on March 22, 2001.

Order Amending Fish Conveyance Structure:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10334662

During the relicensing proceeding for the Beebee Island Project neither the Department of Commerce nor Interior prescribed riverine fish passage facilities for this project. Interior did, however, request reservation of its authority to prescribe upstream and downstream fish passage devices in the future.

The recommendations of NYSDEC and USFWS for downstream passage are incorporated into the 1995 Settlement Offer and 1996 license in the form of minimum flow releases at the dam from structures designed to minimize adverse impacts to fish moving downstream. These measures are described above.

October 13, 1995 Settlement Agreement:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13286121

Agency recommendations for fish entrainment protection at the Beebee Island Project is included in Section II.G of the 1995 Settlement Offer and Article 410 of the 1996 license order. To exclude adult fish from being entrained through the turbines, by the end of 2008, Erie was to replace the existing trashracks at each of its Black River developments with trashracks with 2-inch clear bar spacing. The new trashracks with 1-inch clear bar spacing are installed in the top half of the water column from May 1 to October 1. The new trashracks were installed at Beebee Island in 2004.

## III.D.2 Downstream Fish Passage: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| D | 1 | Not Applicable / De Minimis Effect:<br>• Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines).<br>• For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | completion of their life cycles.<br>• Document available fish distribution data and the lack of migratory fish species in the vicinity.<br>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this. |

There are no downstream fish passage barriers or migratory fish management issues in Zone 2 because it is an impoundment. There are no mandatory prescriptions (section 18 or similar) for the passage of riverine fish at the Project.

License articles 404, 406, and 411 detail the minimum flow, seasonal downstream fish flow, and structural modifications for downstream fish passage at the Beebee Island Project. The designs of the minimum flow release structures were approved by FERC in 1998, and the structural modifications and minimum flows required by the license and Settlement Offer have been implemented at the Beebee Island Project (see links in Zone 1).

**Information Required to Support Shoreline and Watershed Protection Standards.**

**III.E.1 Shoreline and Watershed Protection: Beebee Island Project Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities:<br>• Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

The FERC prepared Environmental Assessment of the Project concluded that the implementation of the Settlement Offer's proposed Project conditions will produce beneficial effects. Reducing fluctuations of the impoundment's water levels will enhance habitat and reproduction conditions for resident fish. Fish stranding will be reduced and the more stable wetlands around the impoundment's shoreline will provide increased habitat for birds and other animals.

The Beebee Island Project is located on the Black River in the Black River Basin. The Beebee Island Project does not have an enhancement fund; however, an enhancement fund has been established for the Black River Project owned/operated by Erie. The Black River Project Fund will result in enhancements to the watershed where the Beebee Island Project is located.

Attachment 1 to the 1995 Settlement Offer and Article 412 of the Black River Project license (FERC Project No. 2569) require Erie to contribute $3,000 a year to the Black River Fund for the first 15 years of the license term and $4,000 a year for the remainder of the license term. The Black River Fund is distributed according to the recommendations of the Black River Advisory Council, composed of signatories to the Settlement Offer. The Black River Fund is to be used within the Black River Basin for the purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research, and additional public access to outdoor recreational resources. A Black River Fund Management Plan was submitted to FERC in 1997.

Annual Report of Black River Fund Contributions:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14526188

Article 412 of the Black River Project license requires Erie to file an annual report with FERC of contributions to the Black River Fund. To date, the Black River Fund has contributed to development of the Blueway Trail, tree plantings, public fishing events, and public access projects.

The Beebee Island Project does not have a shoreland buffer or equivalent watershed land protection plan; however, shoreline protection measures have been implemented by the licensee at other Black River Basin developments.

Article 415 of the Black River Project license requires Erie to maintain the existing woodland buffer areas along the shorelines of the Herrings, Deferiet, Kamargo, Black River, and Sewalls developments. A vegetative buffer plan was submitted to FERC on October 25, 1999 for the Black River Project, which was approved by FERC in an order dated April 7, 2000.

Order Approving Vegetative Buffer Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10853314

## III.E.2 Shoreline and Watershed Protection: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| E | 2 | Agency Recommendation:<br>• Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans).<br>• Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect. |
| E | PLUS | Bonus Activities: |

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| | | • Provide documentation that the facility has a formal conservation plan protecting a buffer zone of 50% or more of the undeveloped shoreline that the facility owns around its reservoirs and river corridors<br>• In lieu of a formal conservation plan, provide documentation that the facility has established a watershed enhancement fund for ecological land management that will achieve the equivalent land protection value of an ecologically effective buffer zone of 50% or more around undeveloped shoreline. |

See response above for Zone 1.

**Information Required to Support Threatened and Endangered Species Standards.**

**III.F.1 Threatened and Endangered Species: Beebee Island Project Zone 1**

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

Based on information received from the USFWS's New York Field Office on June 7, 2017, regarding a request for information on RTE species it appears that the northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis* sodalist) may potentially occur within the Project area. There are no critical habitats located within the Beebee Island Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for an updated list of threatened and endangered species that may occur in the vicinity of the Black River Project. By letter dated May 22, 2017, the NYSDEC indicated that the Indiana bat, which is state-listed as endangered, has been documented within 2.5 miles of all six developments of the Black River and Beebee Island Projects. The NYSDEC has not adopted any formal recovery plans for the Indiana bat.

The USFWS has adopted the following recovery plan for the Indiana bat that may be present in the vicinity of the Black River Project:

U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

Recovery actions identified in USFWS's Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. No Indiana bat hibernacula, which typically include caves and mines, are known to exist in the immediate vicinity of the Black River Project. Transient individuals, presumably in association with summer habitat, may however exist in the Project area. Operations of the Beebee Island Project, especially with regard to preservation of woodland buffer areas, are consistent with this draft recovery plan. The USFWS has not developed a recovery plan for the northern long-eared bat.

There are no specific requirements for endangered species protection in the FERC license or WQC for the Beebee Island Project.

The record of RTE consultation is included in Appendix E.

## III.F.2 Threatened and Endangered Species: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| F | 3 | Recovery Planning and Action:<br>• If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents.<br>• Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area. |

See response above for Zone 1.

### Information Required to Support Cultural and Historic Resources Standards.

## III.G.1 Cultural and Historic Resources: Beebee Island Project Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

In 1996, Niagara Mohawk executed a PA with FERC, the Advisory Council on Historic Preservation, and the SHPO for managing historic properties that may be affected by licenses issued for the continued operation of fourteen hydroelectric projects. Appendix A of the Programmatic Agreement discusses historic properties that could potentially be affected by operation of the Black River Project.

Programmatic Agreement:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8231177

Niagara Mohawk commissioned surveys of these developments for Duncan Hay's 1991 report, *A History of Hydroelectric Power in New York State.* The Black River Project is not considered potentially eligible for listing on the National Register of Historic Places, and no archaeological properties have been identified within the Project boundaries.

Article 416 of the license requires Erie to implement the PA, including the filing of a CRMP. Erie developed the CRMP in consultation with the SHPO and filed the CRMP with FERC in October 1998. FERC approved the CRMP on November 17, 1998.

Order Approving CRMP:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10817570

Erie files a report of activities associated with the CRMP each year with FERC.

Annual CRMP Report:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14464746

## III.G.2 Cultural and Historic Resources: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| G | 2 | Approved Plan:<br>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.<br>• Document that the facility is in compliance with all such plans. |

See response above for Zone 1.

**Information Required to Support Recreational Resources Standards.**

## III.H.1 Recreational Resources: Beebee Island Project Zone 1

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

The Beebee Island Project is in compliance with recreational access, accommodation, and facilities conditions in the FERC license.

Article 413 of the FERC license required the licensee to file for FERC approval a recreation plan to construct, operate, and maintain existing and then-proposed recreational facilities at the Beebee Island Project. Niagara Mohawk filed the final recreation plan for the Beebee Island Project in December 1998.

Final Recreation Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=94805

Article 413 of the Project license states that the recreation plan is to include provisions for implementing new facilities such as car-top boat launches, canoe portages, interpretive and informational signs, shorefishing areas, and scenic overlooks, but defers to the Settlement Offer for specific enhancements at the project. Recreational enhancements associated with the FERC license, all of which have been implemented, are further described in the attached final recreation plan for the Beebee Island Project.

Erie permits free public access to the shoreline of the Beebee Island Project across Erie's lands where project facilities, hazardous areas and existing leases, easements, and private ownership do not preclude access.

## III.H.2 Recreational Resources: Beebee Island Project Zone 2

| *Criterion* | *Standard* | *Instructions* |
|---|---|---|
| H | 2 | Agency Recommendation:<br>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.<br>• Document that the facility is in compliance with all such recommendations and plans. |

See response above for Zone 1.

## PART IV. SWORN STATEMENT AND WAIVER

As an Authorized Representative of Erie Boulevard Hydropower, L.P., the Undersigned attests that the material presented in the application is true and complete.

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's Certification Program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The undersigned further acknowledges that if certification of the applying facility is issued, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified.

The undersigned Applicant further agrees to hold the Low Impact Hydropower Institute, the Governing Board and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's Certification Program.

Company Name: Erie Boulevard Hydropower, L.P.

Authorized Representative Name: Matthew Johnson Title: Director of Asset Management

Matthew Johnson

State of New York

County of Warren )

On this, the 9th day of October, 2017, before me a notary public, the undersigned officer, personally appeared Matthew Johnson, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained. In witness hereof, I hereunto set my hand and official seal.

Notary Public Brenda J Schermerhorn

BRENDA J SCHERMERHORN
NOTARY PUBLIC, State of New York
Reg. No. 01SC6169934
Qualified in Saratoga County
My Commission Expires July 2, 2019

## PART V. CONTACTS

**Table V-1. Complete contact information for Erie Boulevard Hydropower, L.P.**

| | |
|---|---|
| **Project Owner:** | |
| Name and Title | |
| Company | Erie Boulevard Hydropower, L.P., a subsidiary of Brookfield Renewable |
| Phone | |
| Email Address | |
| Mailing Address | 200 Donald Lynch Boulevard, Marlborough, MA 01752 |
| **Project Operator (if different from Owner):** | |
| Name and Title | |
| Company | |
| Phone | |
| Email Address | |
| Mailing Address | |
| **Consulting Firm / Agent for LIHI Program (if different from above):** | |
| Name and Title | |
| Company | |
| Phone | |
| Email Address | |
| Mailing Address | |
| **Compliance Contact (responsible for LIHI Program requirements):** | |
| Name and Title | Daniel Daoust, Compliance Specialist |
| Company | Brookfield Renewable |
| Phone | 315-598-6131 |
| Email Address | Daniel.Daoust@brookfieldrenewable.com |
| Mailing Address | 33 West First Street South, Fulton, NY 13069 |
| **Party responsible for accounts payable:** | |
| Name and Title | |
| Company | Brookfield Renewable |
| Phone | |
| Email Address | AP@brookfieldrenewable.com |
| Mailing Address | 41 Victoria, Gatineau, QC J8X 2A1 |
| Name and Title | Sandeep Mascarenhas, Senior Analyst, Capacity & Ancillary Services Management |
| Company | Brookfield Renewable |
| Phone | 819-561-2722 ext. 6743 |
| Email Address | Sandeep.Mascarenhas@brookfieldrenewable.com |
| Mailing Address | 41 Victoria, Gatineau, QC J8X 2A1 |

**Table V-2. Complete contact information for current and relevant state, federal, provincial, and tribal resource agency contacts.**

| | |
|---|---|
| **Agency Contact** (Check area of responsibility: Flows_X_, Water Quality _X_, Fish/Wildlife Resources _X_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation _X_): | |
| Agency Name | New York State Department of Environmental Conservation |

| | |
|---|---|
| Name and Title | Jessica Hart, Environmental Analyst |
| Phone | 315-785-2246 |
| Email address | Jessica.Hart@dec.ny.gov |
| Mailing Address | 317 Washington Street, Watertown, NY 13601 |

| **Agency Contact** (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. _X_, Cultural/Historic Resources __, Recreation __): | |
|---|---|
| Agency Name | New York State Department of Environmental Conservation |
| Name and Title | Nicholas Conrad, Information Resources Coordinator |
| Phone | 518-402-8935 |
| Email address | Nick.Conrad@dec.ny.gov |
| Mailing Address | 625 Broadway, Albany, NY 12233-4757 |

| **Agency Contact** (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. _X_, Cultural/Historic Resources __, Recreation __): | |
|---|---|
| Agency Name | U.S. Fish and Wildlife Service |
| Name and Title | Robyn Niver, Endangered Species Biologist |
| Phone | 607-753-9334 |
| Email address | Robyn_Niver@fws.gov |
| Mailing Address | 3817 Luker Road, Cortland, NY 13045 |

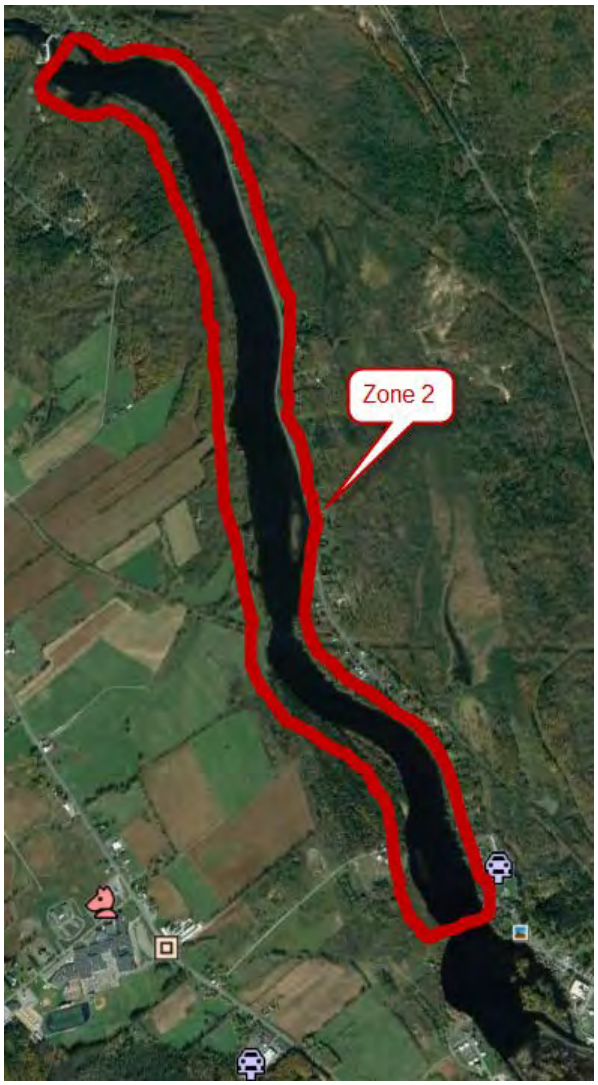
| **Agency Contact** (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources _X_, Recreation __): | |
|---|---|
| Agency Name | New York State Division for Historic Preservation |
| Name and Title | Michael Lynch, Division Director |
| Phone | 518-237-8643 |
| Email address | Michael.Lynch@parks.ny.gov |
| Mailing Address | Peebles Island State Park, P.O. Box 189, Waterford, NY 12188-0189 |

# APPENDIX A

# BLACK RIVER AND BEEBEE ISLAND ZONES OF EFFECT

**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

## HERRINGS DEVELOPMENT ZONES OF EFFECT

**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS ZONES OF EFFECT**

**DEFERIET DEVELOPMENT ZONES OF EFFECT**

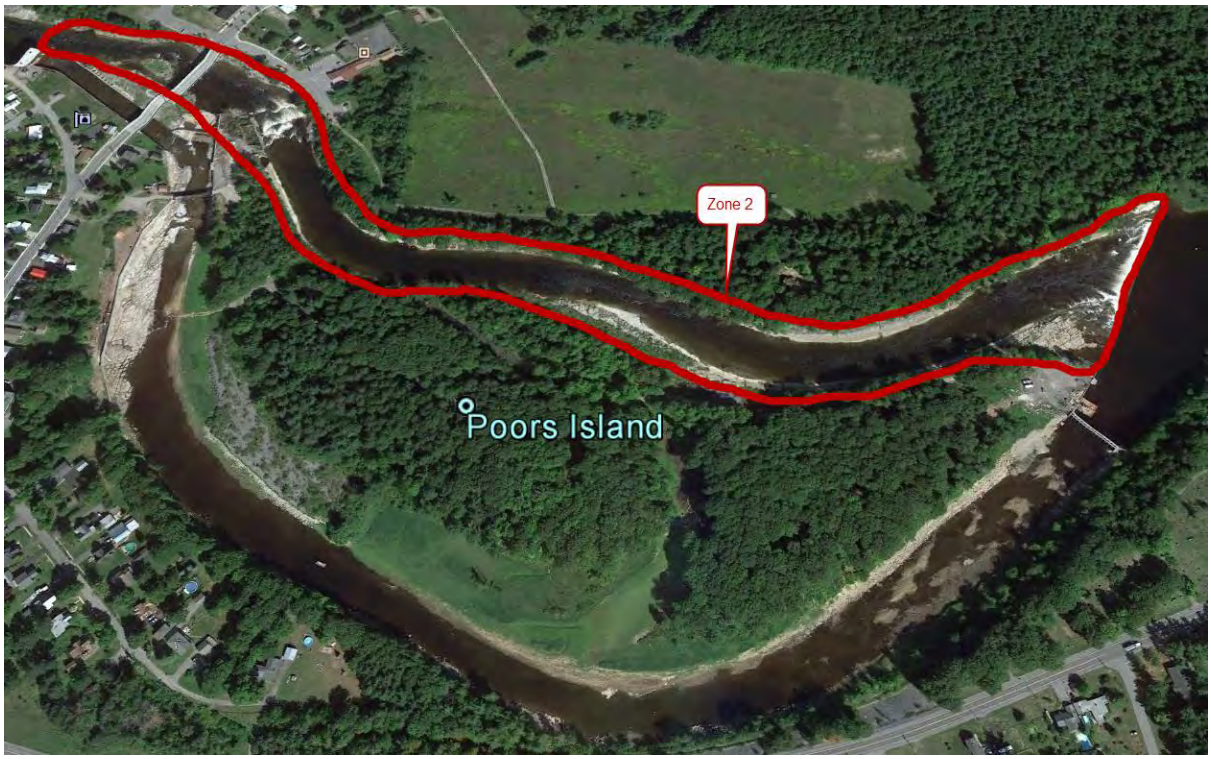
**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

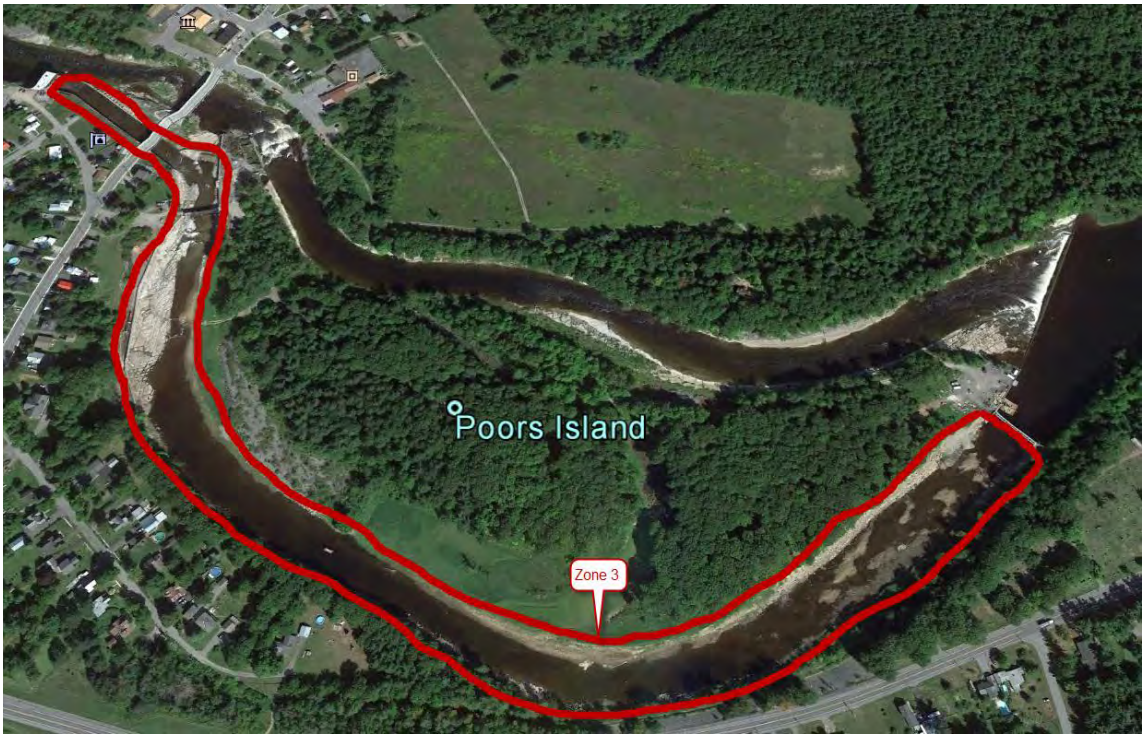
**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

## KAMARGO DEVELOPMENT ZONES OF EFFECT

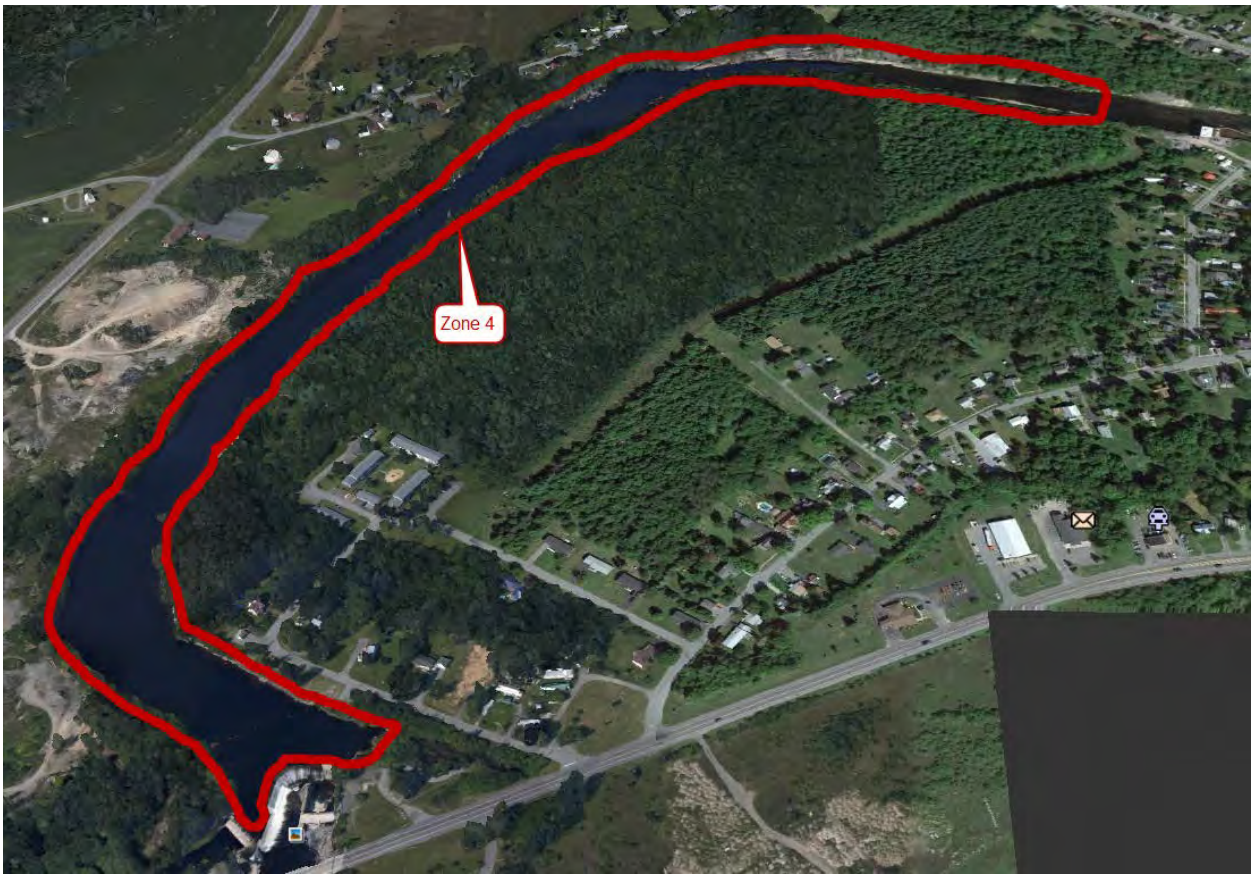
**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**




**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

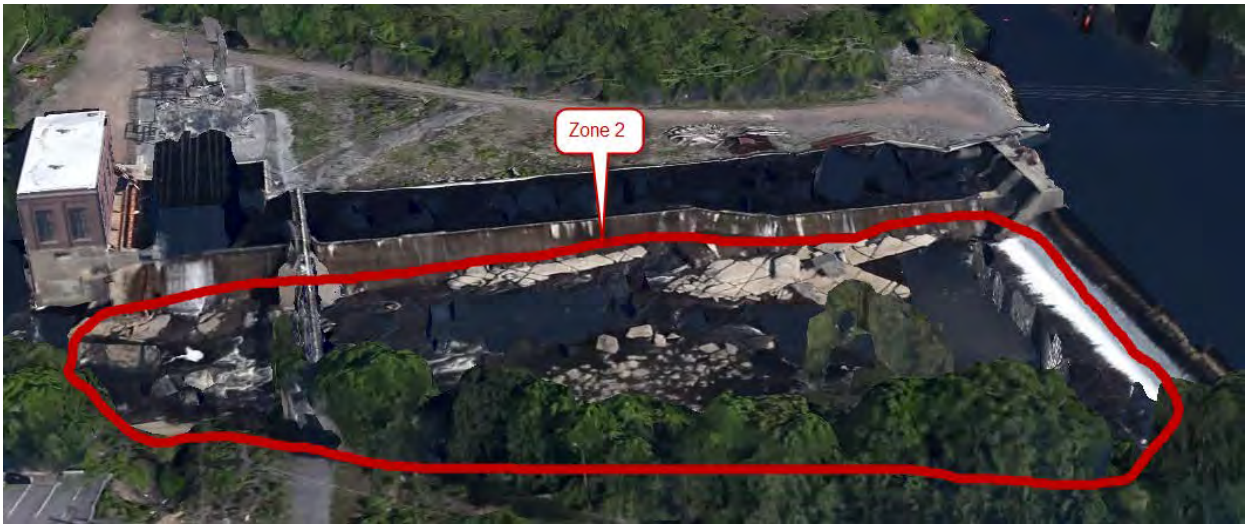
## BLACK RIVER DEVELOPMENT ZONES OF EFFECT


**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

## SEWALLS DEVELOPMENT ZONES OF EFFECT


**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**


**APPENDIX A – BLACK RIVER AND BEEBEE ISLAND PROJECTS**
**ZONES OF EFFECT**

## BEEBEE ISLAND PROJECT ZONES OF EFFECT


# APPENDIX B

# PHOTOS OF KEY PROJECT FEATURES

**APPENDIX B – PHOTOGRAPHS OF KEY FEATURES OF THE FACILITY AND EACH OF THE DESIGNATED ZONES OF EFFECT**

## HERRINGS DEVELOPMENT

Powerhouse and L-shaped dam at the Herrings Development

## DEFERIET DEVELOPMENT

Deferiet dam with 3-foot pneumatic flashboards

**APPENDIX B – PHOTOGRAPHS OF KEY FEATURES OF THE FACILITY AND EACH OF THE DESIGNATED ZONES OF EFFECT**

## KAMARGO DEVELOPMENT

Downstream view of power canal and bypassed reach at the Kamargo Development

## BLACK RIVER DEVELOPMENT

Upstream view of tailrace, powerhouse, canal, and bypassed reach at the Black River Development

**APPENDIX B – PHOTOGRAPHS OF KEY FEATURES OF THE FACILITY AND EACH OF THE DESIGNATED ZONES OF EFFECT**

## SEWALLS DEVELOPMENT

Downstream view of the Sewalls Development, which is located within the City of Watertown

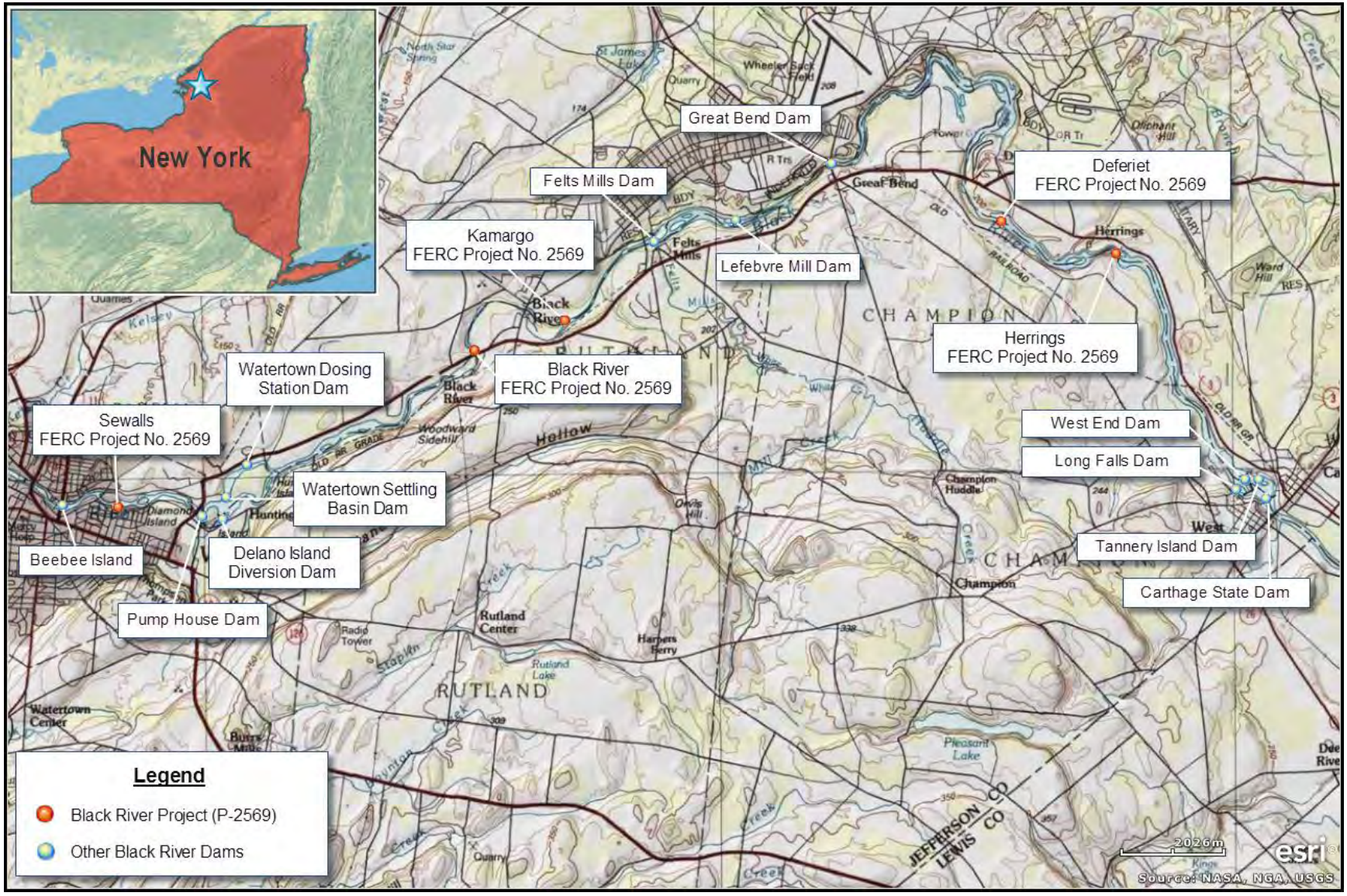
## BEEBEE ISLAND PROJECT

Downstream view of the Beebee Island Project located in the City of Watertown

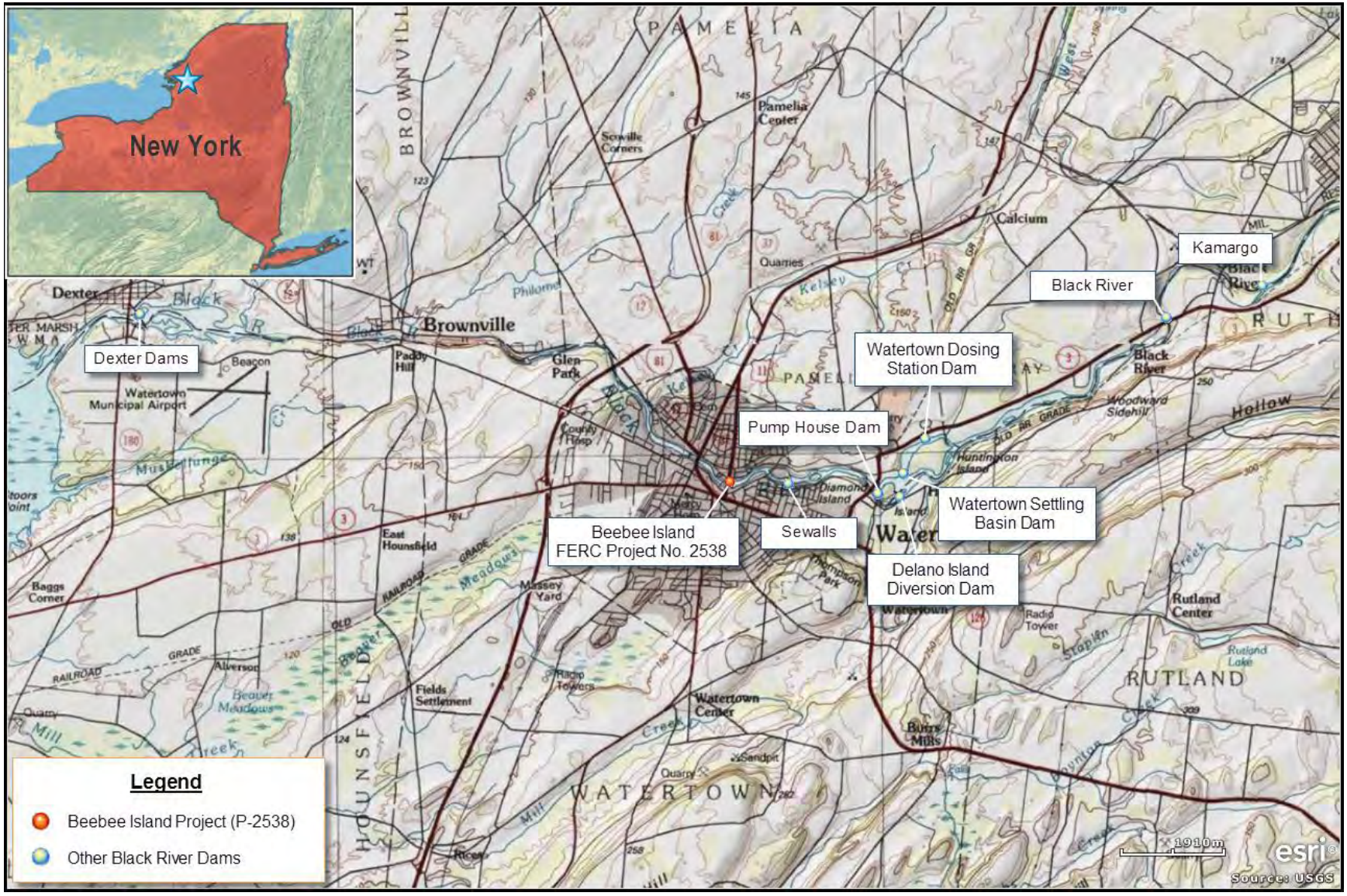
# APPENDIX C

# PROJECT MAPS AND AERIALS

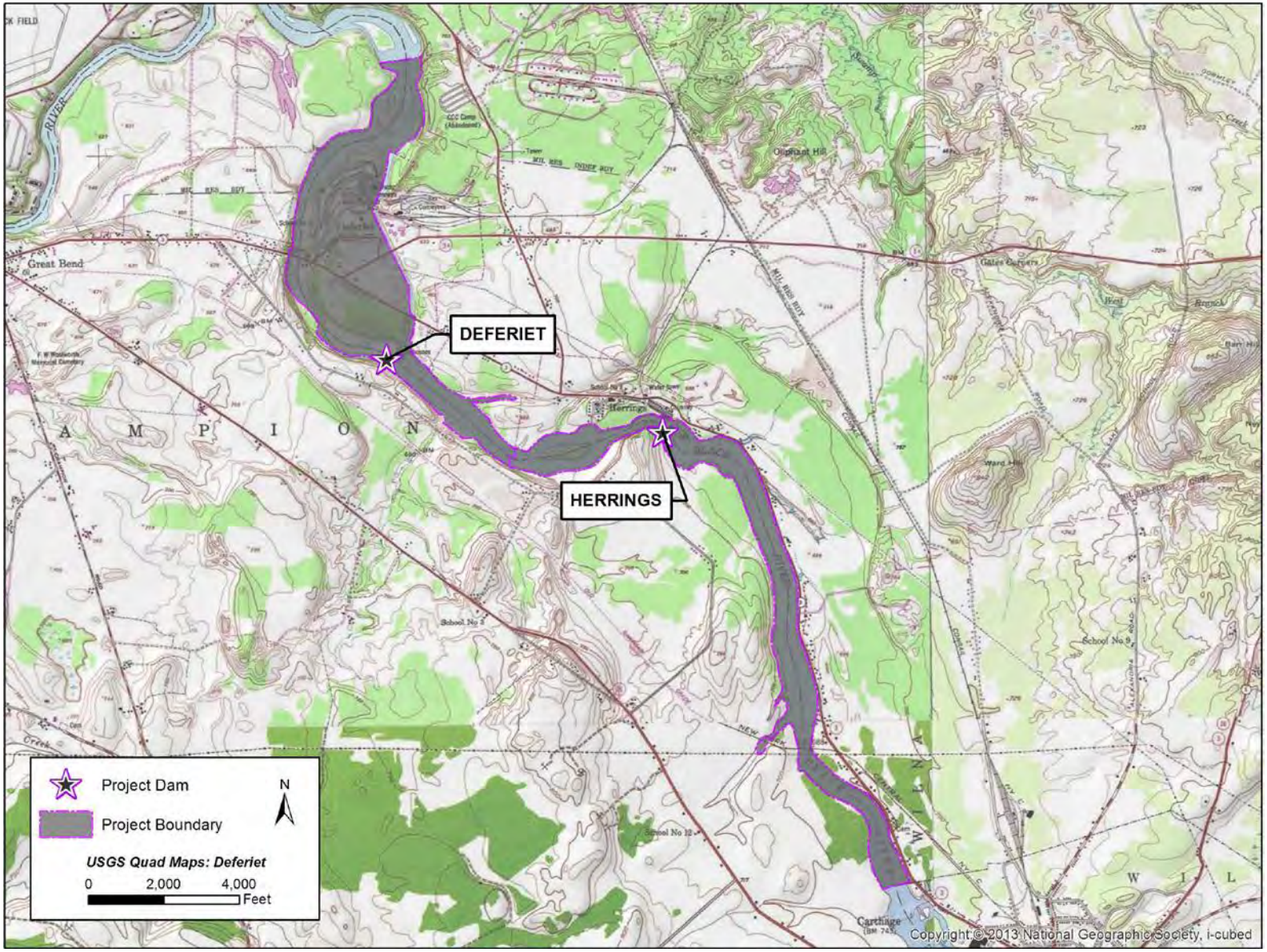
# APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN



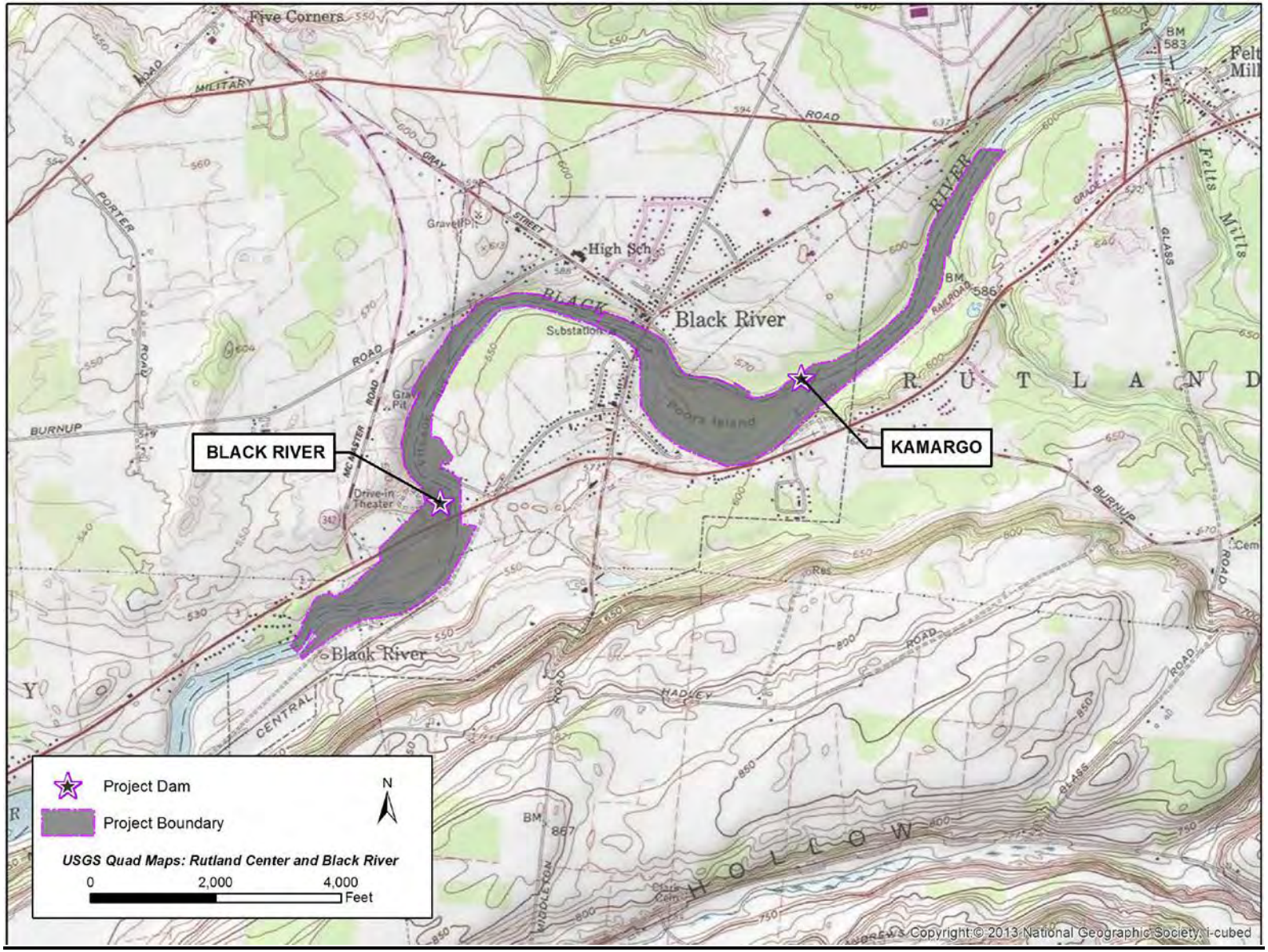
# APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN



## APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN



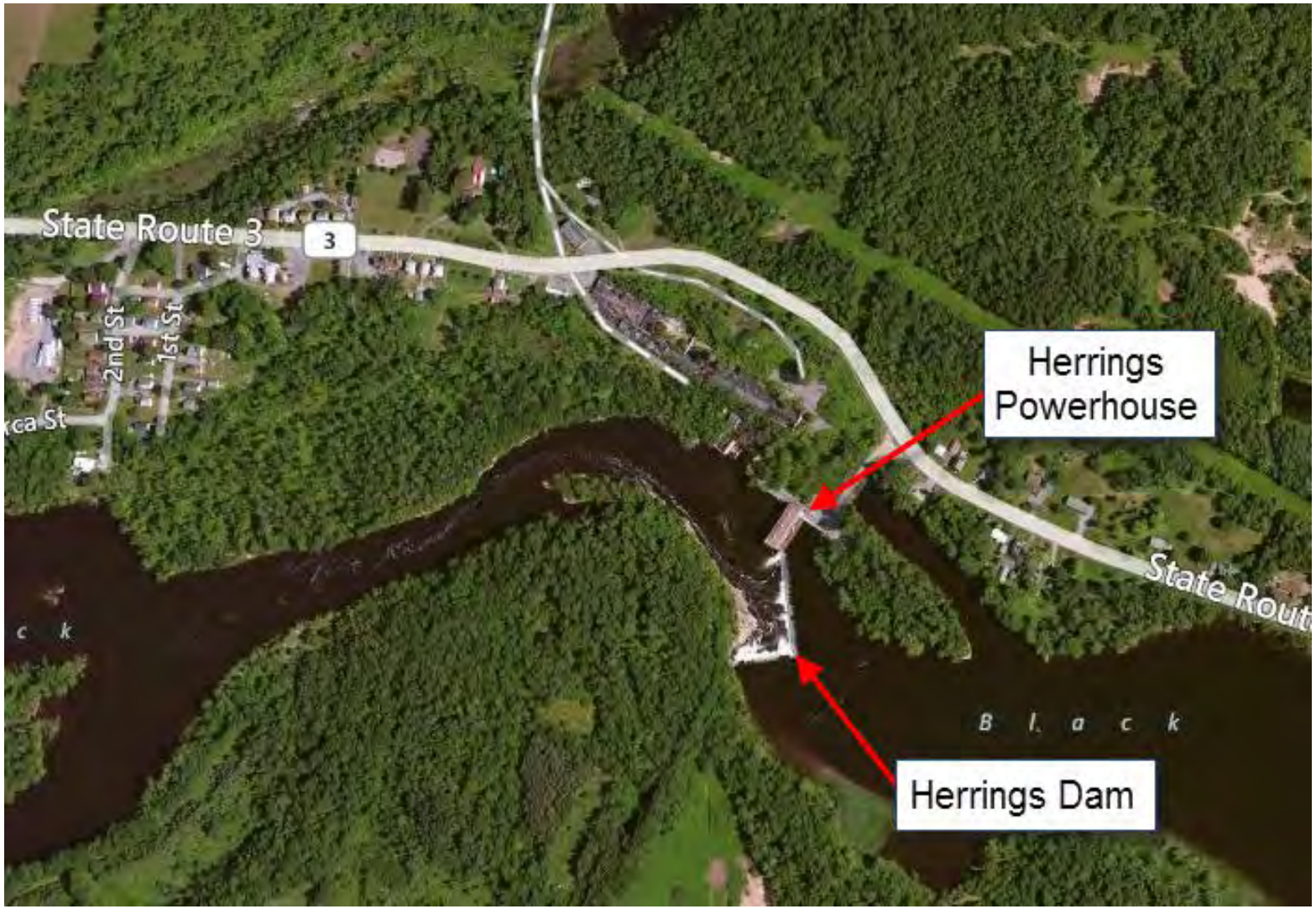
# APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN



# APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN

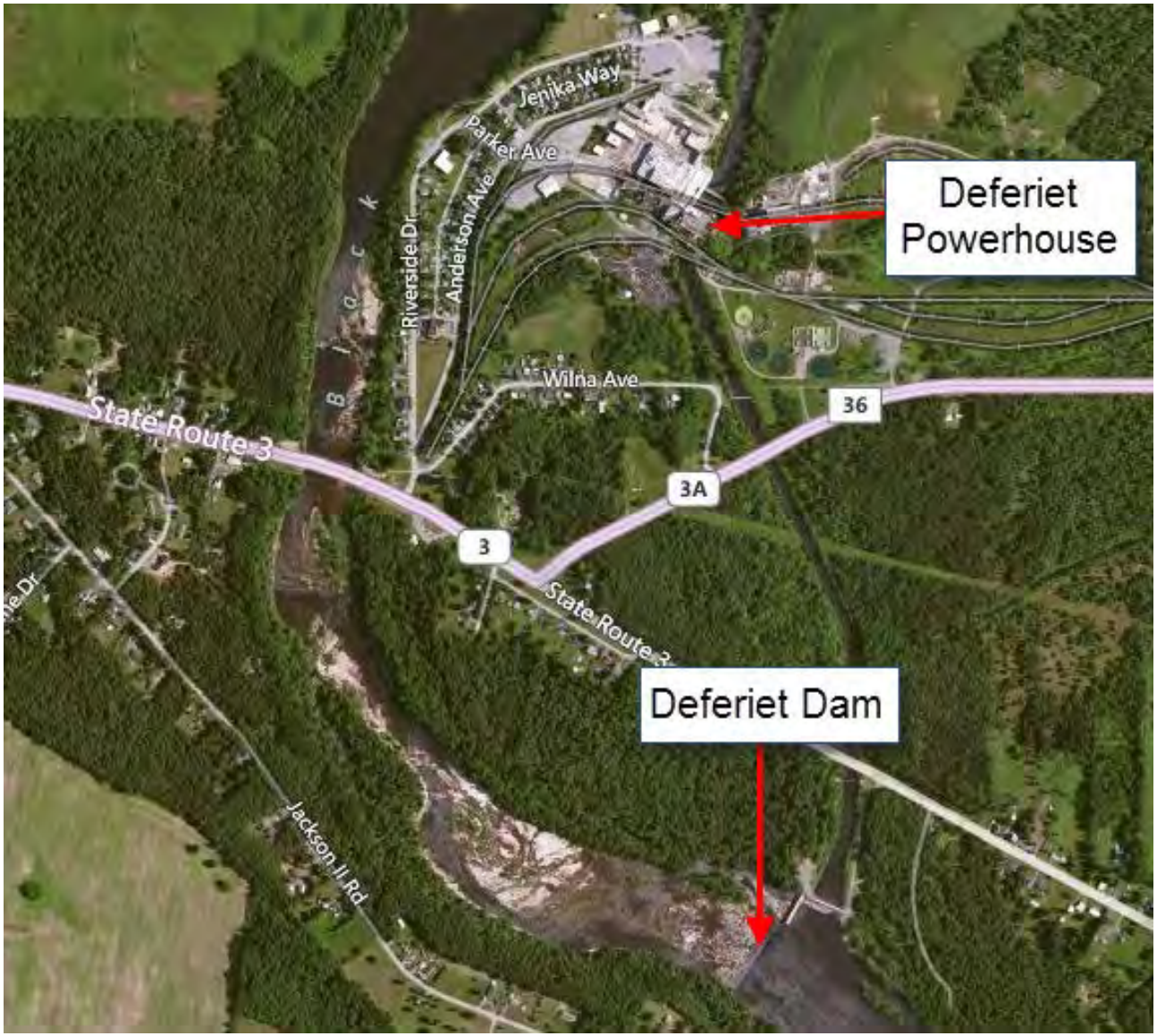
**APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN**

## HERRINGS DEVELOPMENT



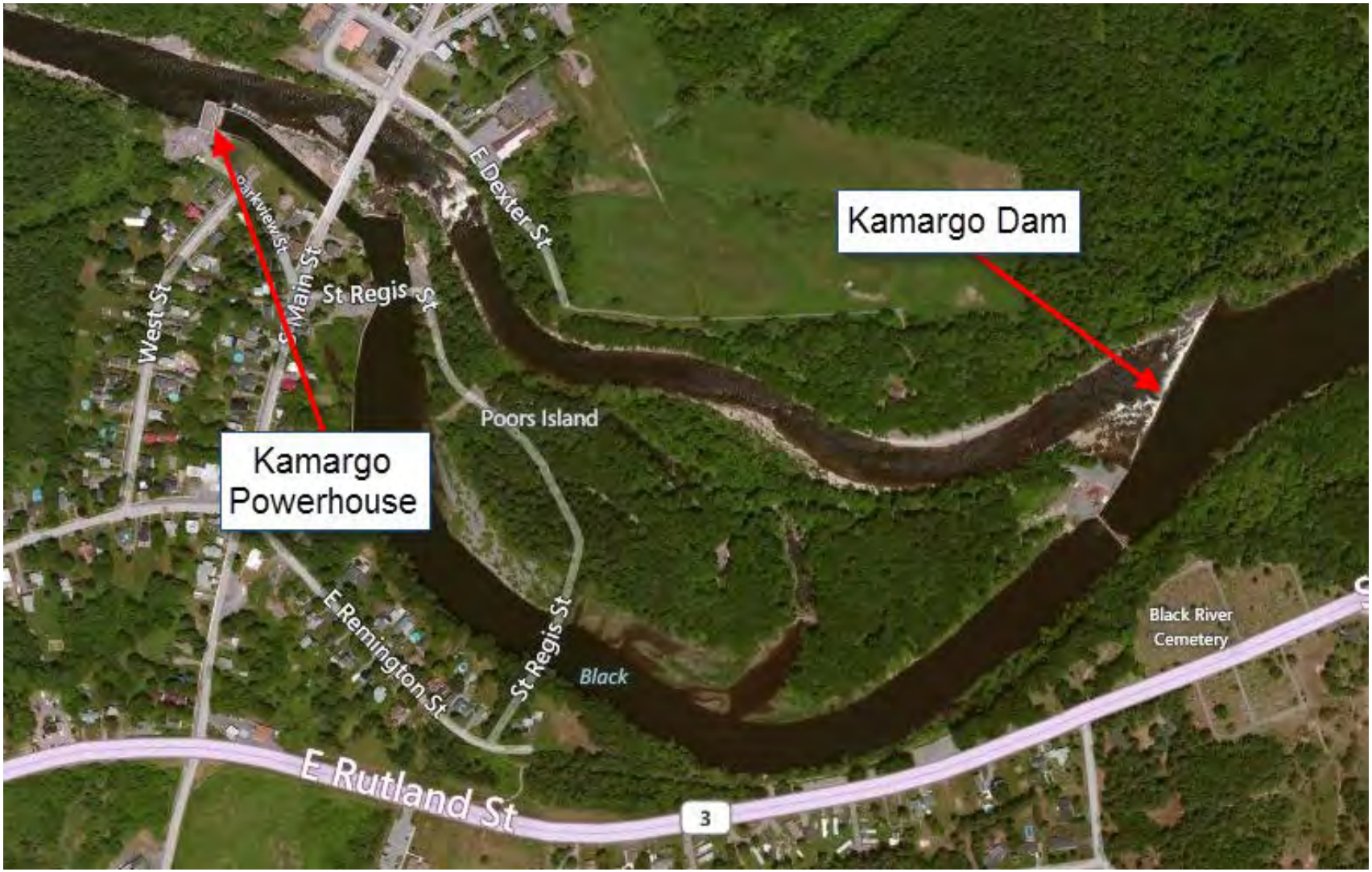
**APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN**

## DEFERIET DEVELOPMENT



**APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN**

# KAMARGO DEVELOPMENT



**APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN**

## BLACK RIVER DEVELOPMENT

**APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN**

## SEWALLS DEVELOPMENT

**APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN**

## BEEBEE ISLAND PROJECT

# APPENDIX D

# 401 WATER QUALITY CERTIFICATION CONSULTATION

Brookfield

Brookfield Renewable
Erie Boulevard Hydropower, L.P.
33 West 1st Street South
Fulton, New York 13069

Tel 315.593.3118
Fax 315.598.4831
www.brookfieldrenewable.com

April 19, 2017

Ms. Jessica Hart
New York State Department of Environmental Conservation
317 Washington Street
Watertown, NY 13601

Subject: **Black River Hydroelectric Projects (FERC Nos. 2569 & 2538)**
**Low Impact Hydropower Institute Re-certification**
**Water Quality Certificate Verification**

Dear Ms. Hart:

Erie Boulevard Hydropower, L.P. (Erie) is applying for Low Impact Hydropower Institute (LIHI) re-certification for the Black River (FERC No. 2569) and Beebee Island (FERC No. 2538) projects. These projects are comprised of six hydroelectric developments located at six dams along the Black River in Jefferson County. From upstream to downstream, these are the Herrings (River Mile [RM] 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), Sewalls (RM 10.0), and Beebee Island (RM 9.0) developments. LIHI requires that the re-certification application include confirmation that the subject projects are in compliance with conditions issued pursuant to Clean Water Act Section 401 water quality certifications issued for the projects, and that the previously issued water quality certificates are still valid.

Erie is requesting confirmation from the New York State Department of Environmental Conservation stating that the 401 Water Quality Certificates issued for the operation of the Black River and Beebee Island Projects on November 3, 1995 are still valid. Please provide this confirmation by reply to this letter via letter or email.

Erie would appreciate a response within 30 days of the date of this letter. Thank you in advance for your assistance, and if you have any questions, please do not hesitate to contact me at (315) 598-6131 or by email at daniel.daoust@brookfieldrenewable.com.

Sincerely,

Daniel Daoust
North Atlantic Operations

cc: I. Borlang (Erie)

# APPENDIX E

# RARE, THREATENED AND ENDANGERS SPECIES CONSULTATION

Brookfield

Brookfield Renewable
Erie Boulevard Hydropower, L.P.
33 West 1st Street South
Fulton, New York 13069

Tel 315.593.3118
Fax 315.598.4831
www.brookfieldrenewable.com

April 19, 2017

Mr. Nick Conrad
New York State Department of Environmental Conservation
New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

Subject: **Black River Hydroelectric Projects (FERC Nos. 2569 & 2538)**
**Threatened and Endangered Species Consultation**

Dear Mr. Conrad:

Erie Boulevard Hydropower, L.P. (Erie) is the owner, operator, and licensee of the Black River (FERC No. 2569) and Beebee Island (FERC No. 2538) projects. These projects are comprised of six hydroelectric developments located at six dams along the Black River in Jefferson County. From upstream to downstream, these are the Herrings (River Mile [RM] 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), Sewalls (RM 10.0), and Beebee Island (RM 9.0) developments.

As a matter of background, licenses from the Federal Energy Regulatory Commission (FERC) were issued for these two projects on December 24, 1996. Project operations and environmental protection measures at these projects have been largely determined by a comprehensive Offer of Settlement that Erie developed in conjunction with the New York State Department of Environmental Conservation and other entities in 1995. The licensing processes for these projects included consultation with resource agencies regarding threatened and endangered species.

Erie is presently working with the Low Impact Hydropower Institute (LIHI) to recertify the Black River and Beebee Island projects as low impact projects. In preparing the application for LIHI certification, Erie must update or confirm consultation with resource agencies with respect to the presence of threatened or endangered species within the vicinity of these six hydroelectric developments.

Per the request from LIHI, Erie respectfully requests information on the presence of threatened or endangered species within the vicinity of the above-listed projects. The project location coordinates have been provided below, as well as on the enclosed maps.

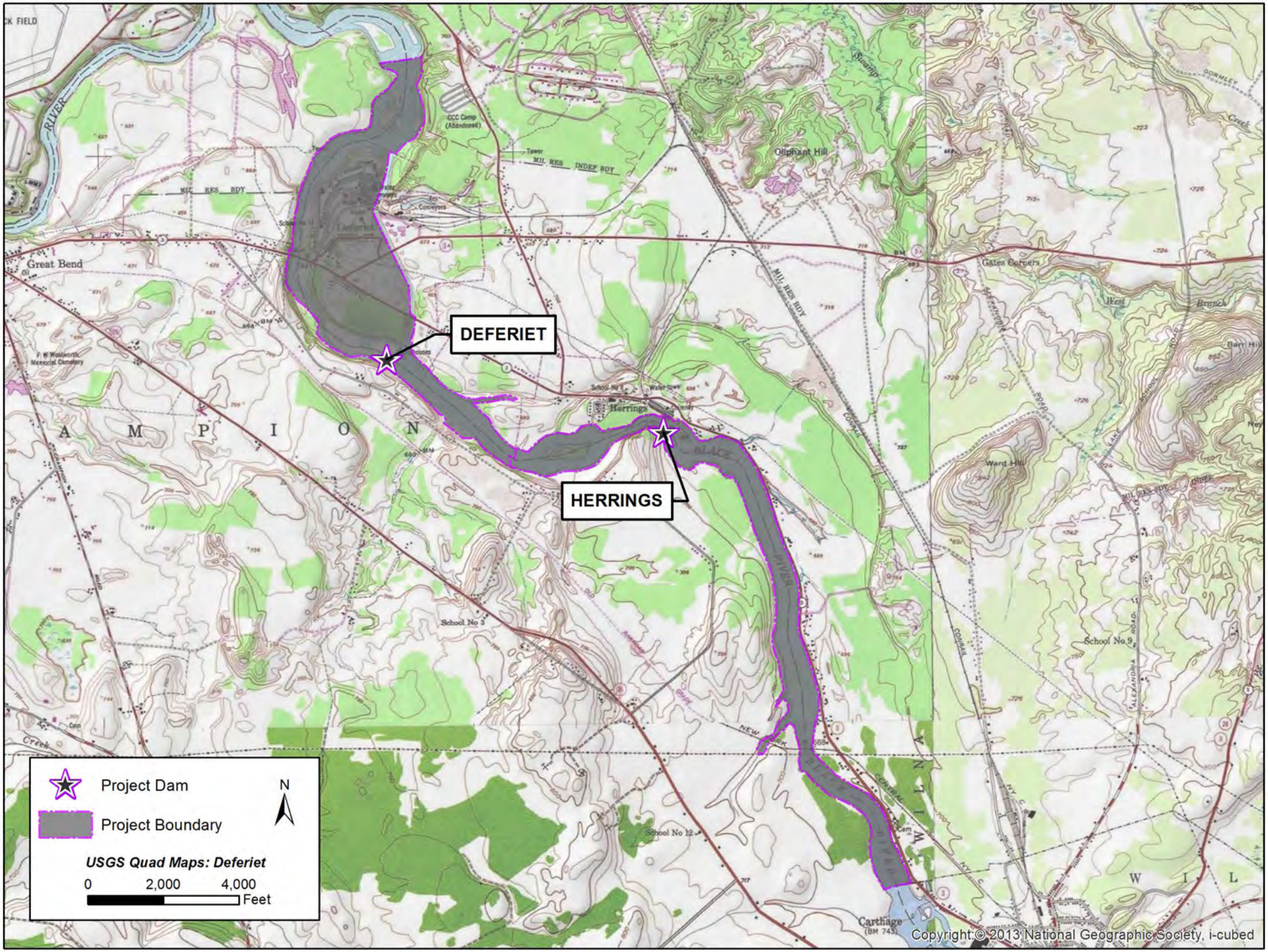
- Herrings..... Latitude: 44.0205; Longitude: -75.6508
- Deferiet ..... Latitude: 44.0277; Longitude: -75.6772
- Kamargo..... Latitude: 44.0080; Longitude: -75.7852
- Black River ..... Latitude: 44.0038; Longitude: -75.8066
- Sewalls ..... Latitude: 43.9772; Longitude: -75.8933
- Beebee Island ..... Latitude: 43.9767; Longitude: -75.9069

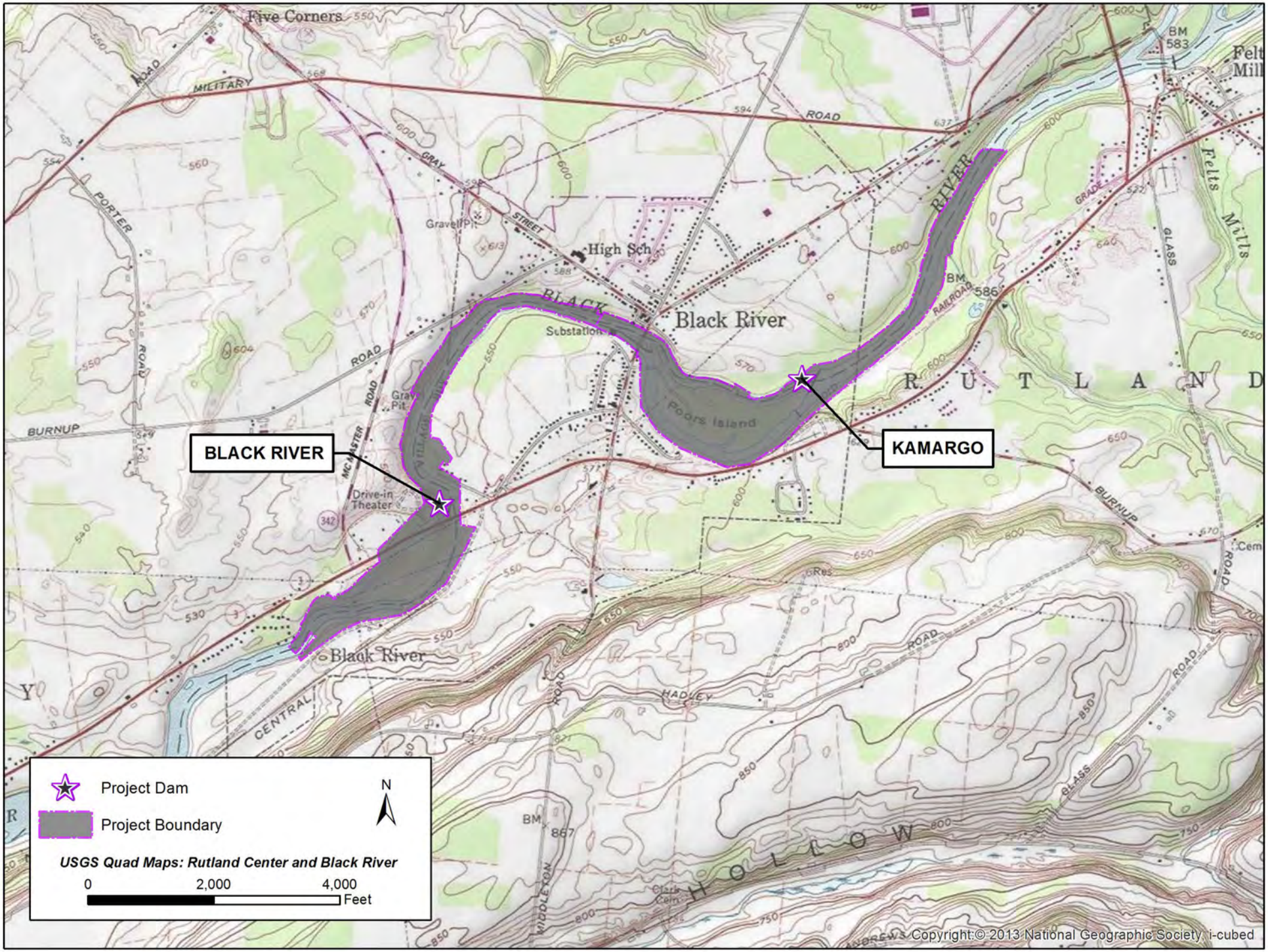
Erie would appreciate a response within 30 days of the date of this letter. Thank you in advance for your assistance, and if you have any questions, please do not hesitate to contact me at (315) 598-6131.

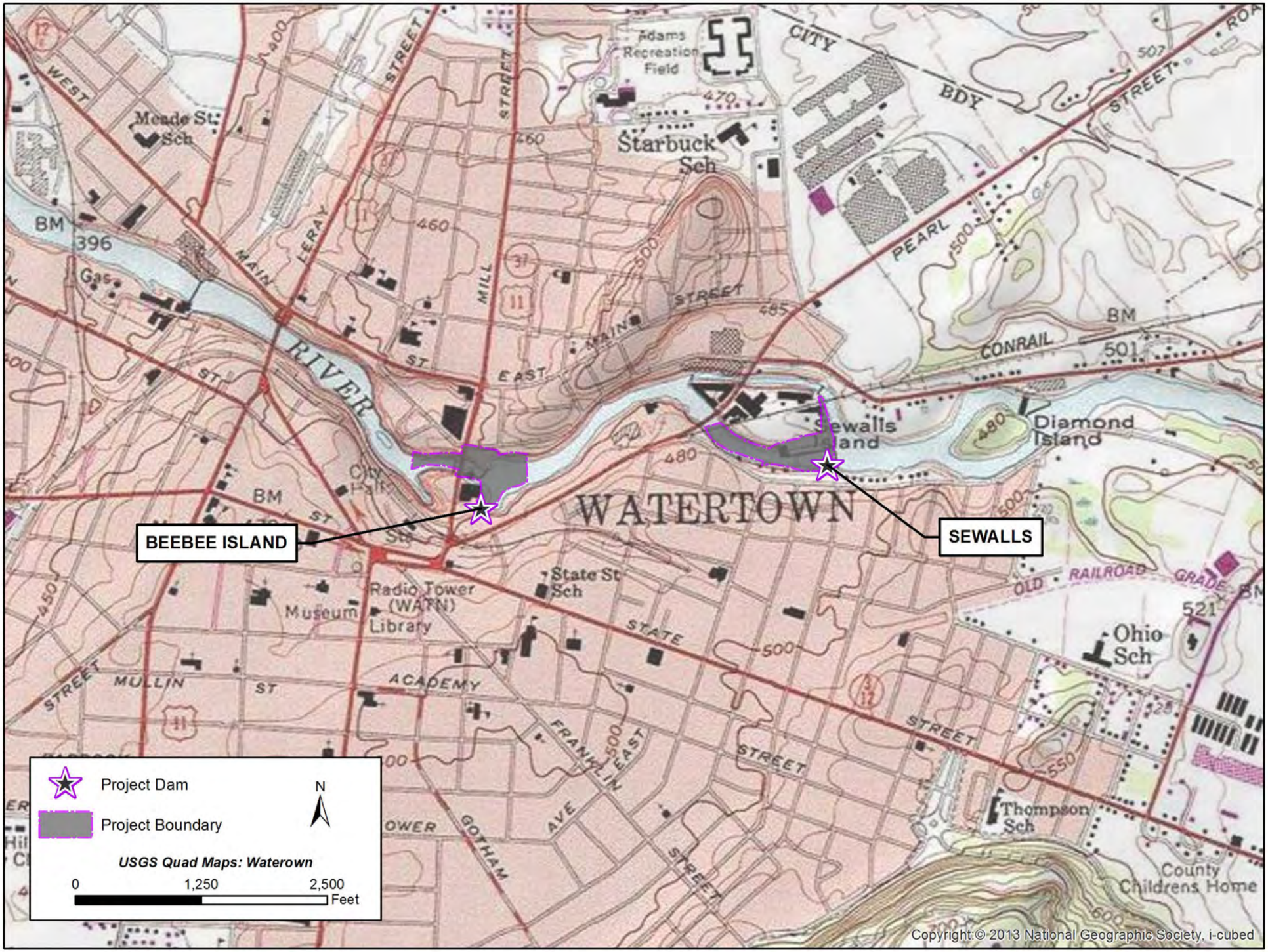
Sincerely,

Daniel Daoust
North Atlantic Operations

Enclosure


DEFERIET
HERRINGS
Project Dam
Project Boundary
N
USGS Quad Maps: Deferiet
0
2,000
4,000
Feet
Copyright © 2013 National Geographic Society, i-cubed


BLACK RIVER
KAMARGO
Project Dam
Project Boundary
N
USGS Quad Maps: Rutland Center and Black River
0
2,000
4,000
Feet
Five Corners
Black River
Poors Island
High Sch
Drive-in Theater
Gravel Pit
Substation
RUTLAND
HOLLOW
Copyright © 2013 National Geographic Society, i-cubed


BEEBEE ISLAND
SEWALLS
WATERTOWN
RIVER
Project Dam
Project Boundary
N
USGS Quad Maps: Waterown
0
1,250
2,500
Feet
Copyright © 2013 National Geographic Society, i-cubed

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

May 22, 2017

Daniel Daoust
Brookfield Renewable Erie Boulevard Hydropower, L.P.
33 West 1st Street South
Fulton, NY 13069

Re: Recertification of Black River and Beebee Island Hydroelectric Projects at six dams along the Black River
County: Jefferson Town/City: Champion, Le Ray, Rutland, Wilna

Dear Mr. Daoust:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur within the project boundaries or in their vicinity.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 6 Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

434

# The following state-listed animals have been documented within the project boundaries, or in their vicinity.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

**For information about any permit considerations for the project, contact the Permits staff at the NYSDEC Region 6 Office. For information about potential impacts of the project on these species, and how to avoid, minimize, or mitigate any impacts, contact the Wildlife Manager.**

**A listing of Regional Offices is at http://www.dec.ny.gov/about/558.html.**

**The following species has been documented within the project boundaries along the Black River between the Black River and Kamargo Dams.**

| COMMON NAME | SCIENTIFIC NAME | NY STATE LISTING | FEDERAL LISTING | |
|---|---|---|---|---|
| **Reptiles** | | | | |
| **Blanding's Turtle** | *Emydoidea blandingii* | Threatened | | 142 |

**The following species has been documented within the project boundaries along the Black River downstream of the Deferiet Dam.**

| COMMON NAME | SCIENTIFIC NAME | NY STATE LISTING | FEDERAL LISTING | |
|---|---|---|---|---|
| **Mayflies** | | | | |
| **Tomah Mayfly** | *Siphlonisca aerodromia* | Endangered | | 13905 |

**The following species has been documented within 1.5 miles of the Black River/Karmago developments. Individual animals may travel 1.5 miles from documented non-winter locations.**

| COMMON NAME | SCIENTIFIC NAME | NY STATE LISTING | FEDERAL LISTING | |
|---|---|---|---|---|
| **Northern Long-eared Bat** *Non-winter location* | *Myotis septentrionalis* | Threatened | Threatened | 14538 |

**The following species has been documented within 2.5 miles of all six development areas. Individual animals may travel 2.5 miles from documented non-winter locations.**

| COMMON NAME | SCIENTIFIC NAME | NY STATE LISTING | FEDERAL LISTING | |
|---|---|---|---|---|
| **Indiana Bat** *Non-winter roost location* | *Myotis sodalis* | Endangered | Endangered | 11657 |

New York Natural Heritage Program

Report on Rare Animals, Rare Plants, and Significant Natural Communities

# The following rare plants and rare animals have been documented within the project boundaries, or in their vicinity.

We recommend that potential onsite and offsite impacts of the proposed project on these species be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

| *COMMON NAME* | *SCIENTIFIC NAME* | *NY STATE LISTING* | *HERITAGE CONSERVATION STATUS* |
|---|---|---|---|

**The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.**

| | | | |
|---|---|---|---|
| **Cloud Sedge** | *Carex haydenii* | Endangered | Critically Imperiled in NYS |

Black River shore within project boundaries, downstream of Deferiet Dam, 2012-06-21: The plants are growing along the edge of a wide, flat creek. The creek is underlain with calcareous limestone flats. The creekside is primarily vegetated with graminoids, with some woody vegetation present. 13807

**The following animals, while not listed by New York State as Endangered or Threatened, are of conservation concern to the state, and are considered rare by the New York Natural Heritage Program.**

| | | | |
|---|---|---|---|
| **Red-headed Woodpecker** | *Melanerpes erythrocephalus* | Special Concern | Imperiled in NYS |
| *Breeding* | | | |

Fort Drum, including 1/4 mile north of Deferiet development, 2011: The birds were observed in several locations in forest edge habitat. 13766

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

PLEASE NOTE

**Requests for Information May Be Submitted Online or Via E-Mail**

For future requests, we are pleased to invite you to use our new online Project Screening Request Form (www.nynhp.org/ProjectScreening), which allows online submission of information requests. Alternatively, you may submit requests via e-mail to our dedicated e-mailbox, NaturalHeritage@dec.ny.gov. Instructions for submitting requests can be found at http://www.dec.ny.gov/animals/31181.html. While we encourage submission of requests via e-mail, we will still accept mailed requests.

In order to receive responses to requests sooner, we recommend that before you submit a request for a project screening, you use the newly upgraded online Environmental Resources Mapper, http://www.dec.ny.gov/animals/38801.html.
** If your project site does not fall within an area displayed in the Rare Plants and Rare Animals layer, then New York Natural Heritage has no records in the vicinity of your project site, and you will know that we have nothing to report. Therefore, you will not need to submit a request for a project screening. **
For a record of your results, use the Identify Tool to click on your project location, and print or save the Identify Results window that opens.
(Information on Significant Natural Communities is provided in the Identify Results Window.)

If your project site does fall within an area displayed in the Rare Plants and Rare Animals layer, and you would like more information, then submit a request for a project screening via our new online Project Screening Request Form or our dedicated e-mailbox as described above.

Thank-you,
The New York Natural Heritage Information Services Team

Brookfield

Brookfield Renewable
Erie Boulevard Hydropower, L.P.
33 West 1st Street South
Fulton, New York 13069

Tel 315.593.3118
Fax 315.598.4831
www.brookfieldrenewable.com

April 19, 2017

Ms. Robyn Niver
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045

Subject: **Black River Hydroelectric Projects (FERC Nos. 2569 & 2538)**
**Threatened and Endangered Species Consultation**

Dear Ms. Niver:

Erie Boulevard Hydropower, L.P. (Erie) is the owner, operator, and licensee of the Black River (FERC No. 2569) and Beebee Island (FERC No. 2538) projects. These projects are comprised of six hydroelectric developments located at six dams along the Black River in Jefferson County. From upstream to downstream, these are the Herrings (River Mile [RM] 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), Sewalls (RM 10.0), and Beebee Island (RM 9.0) developments.

As a matter of background, licenses from the Federal Energy Regulatory Commission (FERC) were issued for these two projects on December 24, 1996. Project operations and environmental protection measures at these projects have been largely determined by a comprehensive Offer of Settlement that Erie developed in conjunction with the U.S. Fish and Wildlife Service and other entities in 1995. The licensing processes for these projects included consultation with resource agencies regarding threatened and endangered species.

Erie is presently working with the Low Impact Hydropower Institute (LIHI) to recertify the Black River and Beebee Island projects as low impact projects. In preparing the application for LIHI certification, Erie must update or confirm consultation with resource agencies with respect to the presence of threatened or endangered species within the vicinity of these six hydroelectric developments.

Per the request from LIHI, Erie respectfully requests information on the presence of threatened or endangered species within the vicinity of the above-listed projects. The project location coordinates have been provided below, as well as on the enclosed maps.

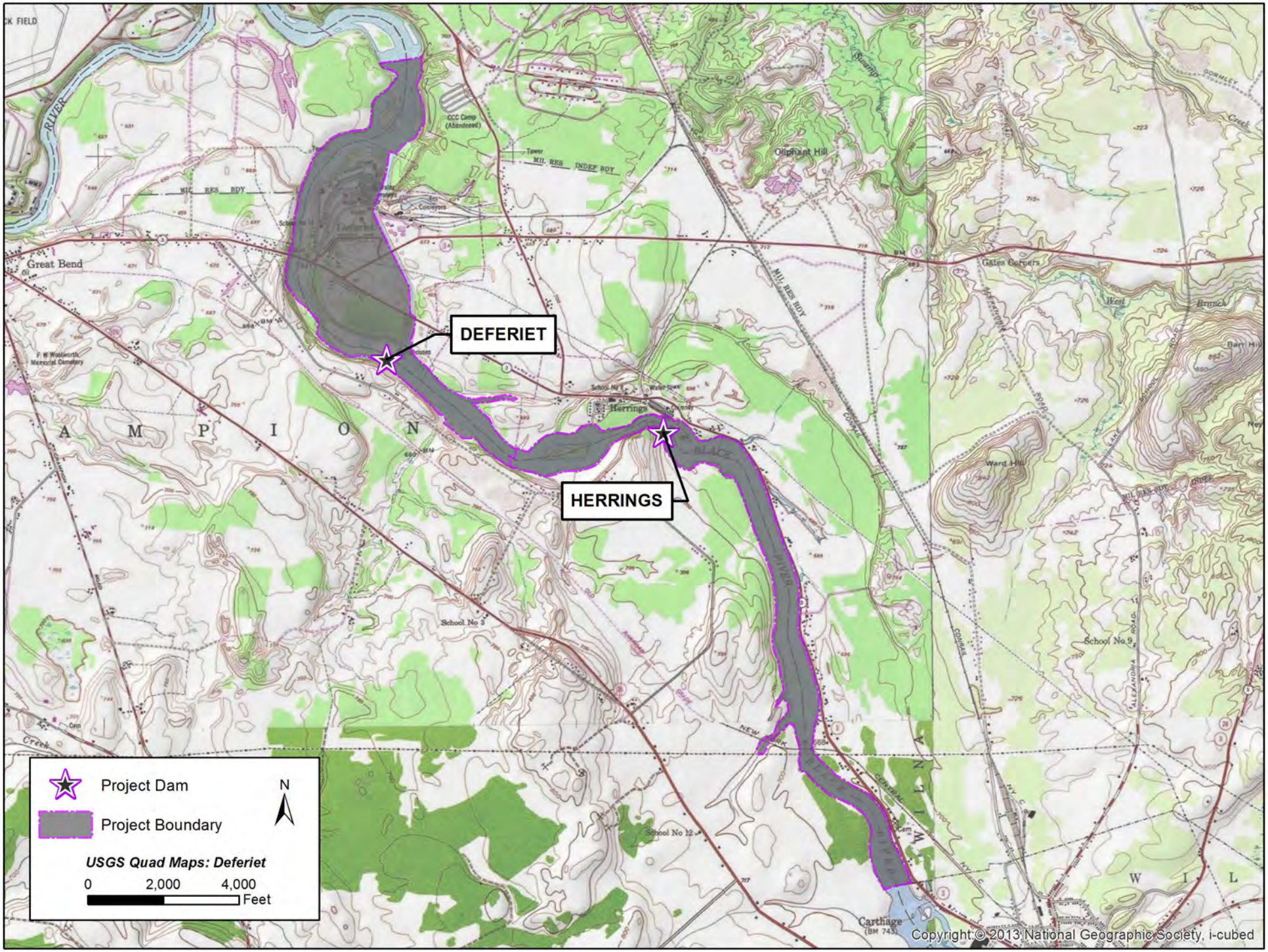
- Herrings..... Latitude: 44.0205; Longitude: -75.6508
- Deferiet ..... Latitude: 44.0277; Longitude: -75.6772
- Kamargo..... Latitude: 44.0080; Longitude: -75.7852
- Black River ..... Latitude: 44.0038; Longitude: -75.8066
- Sewalls ..... Latitude: 43.9772; Longitude: -75.8933
- Beebee Island ..... Latitude: 43.9767; Longitude: -75.9069

Erie would appreciate a response within 30 days of the date of this letter. Thank you in advance for your assistance, and if you have any questions, please do not hesitate to contact me at (315) 598-6131.

Sincerely,

Daniel Daoust
North Atlantic Operations

Enclosure


DEFERIET
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Project Dam
Project Boundary
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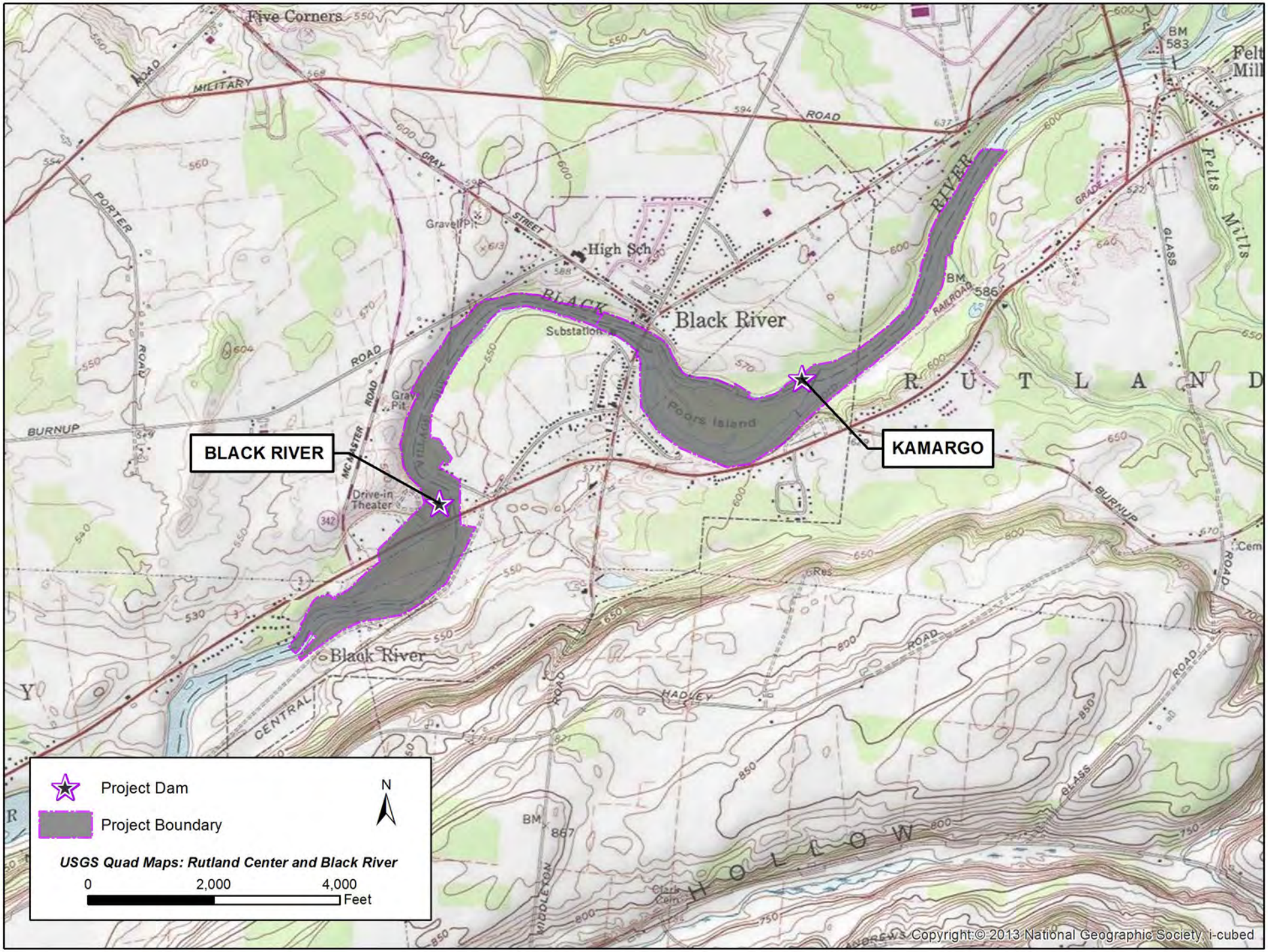
BLACK RIVER
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Five Corners
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Gravel Pit
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RUTLAND
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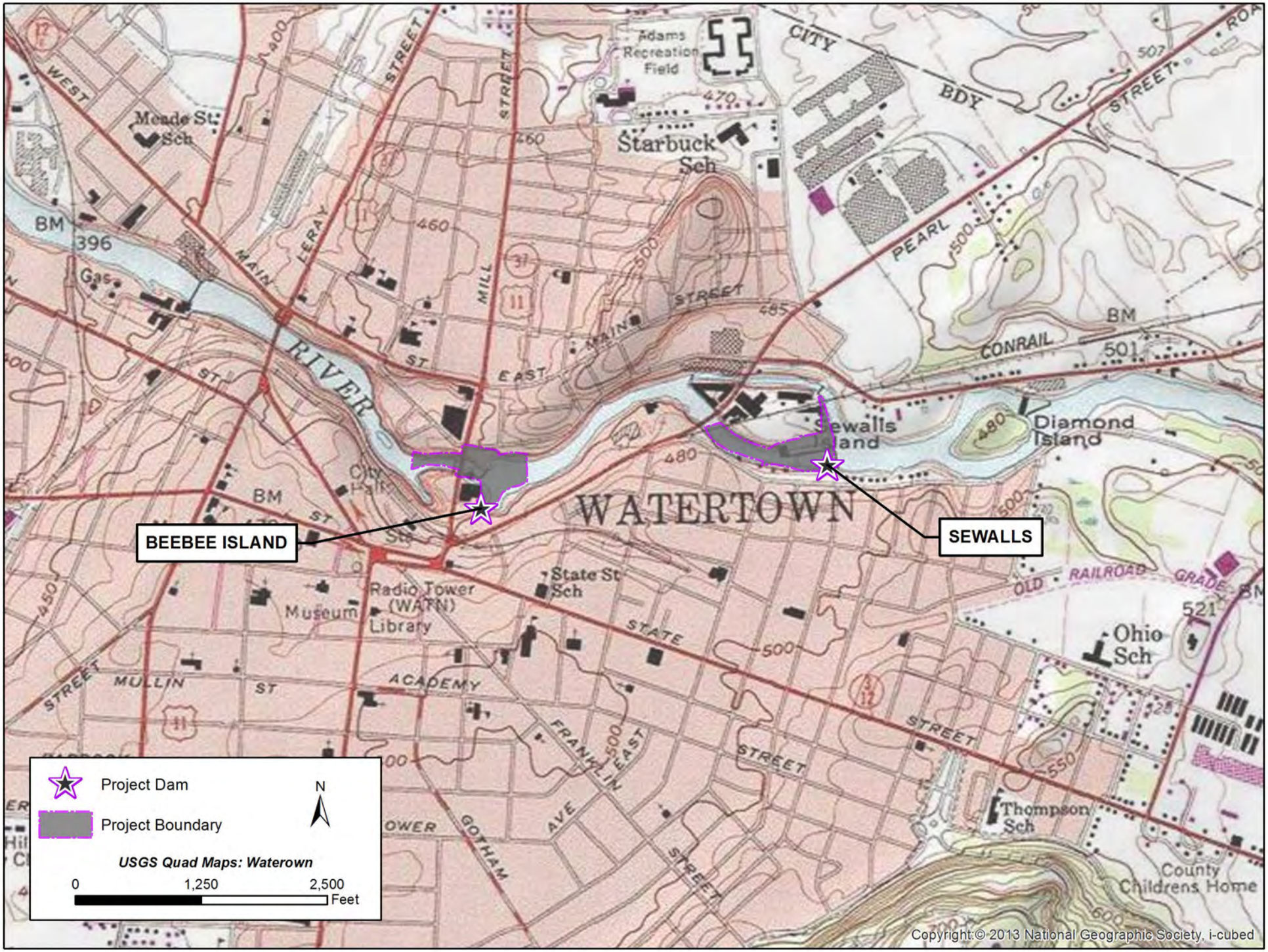
Copyright © 2013 National Geographic Society, i-cubed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Copyright © 2013 National Geographic Society, i-cubed

# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

New York Field Office
3817 Luker Road
Cortland, NY 13045
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo

Document Control Number: 17TA1973

To: Daniel Daoust Date: Apr 25, 2017

Regarding: FERC 2569 and 2538 Black River Hydro

Town/County: Jefferson County

We have received your request for information regarding occurrences of federally-listed threatened and endangered species within the vicinity of the above-referenced project/property. In an effort to streamline project reviews, species lists may now be obtained from our website at **http://www.fws.gov/northeast/nyfo/es/section7.htm**. Please go to this site and follow the instructions to obtain: an official list request response; information about listed, proposed, and candidate species; and steps to complete initial assessments of whether a species may be present and impacted by a proposed action. Please note that this process involves two parts: (1) visiting the U.S. Fish and Wildlife Service's IPaC website to obtain an official species list; and (2) returning to the New York Field Office's website to complete the remaining steps in determining your project's potential impacts.

As a reminder, Section 9 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) prohibits unauthorized taking* of listed species and applies to federal and non-federal activities. Additionally, threatened and endangered species and their habitats are protected by Section 7(a)(2) of the ESA, which requires federal agencies, in consultation with the Service, to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all federal actions that may affect listed species.

For projects not authorized, funded, or carried out by a federal agency, we provide technical assistance to individuals and other non-federal entities to assist with project planning to avoid the potential for "take," or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. If you have any questions or require further assistance regarding threatened or endangered species, please contact the Endangered Species Program at (607) 753-9334. Please refer to the above document control number in any future correspondence.

*Under the ESA and regulations, it is illegal for any person subject to the jurisdiction of the United States to ***take*** (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 07, 2017
Consultation Code: 05E1NY00-2017-SLI-2485
Event Code: 05E1NY00-2017-E-07068
Project Name: Black River - Herrings and Deferiet Developments

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

# Project Summary

Consultation Code: 05E1NY00-2017-SLI-2485

Event Code: 05E1NY00-2017-E-07068

Project Name: Black River - Herrings and Deferiet Developments

Project Type: DAM

Project Description: The Black River Hydroelectric Project (FERC No 2569) consists of five developments along the Black River in Jefferson County, NY. The five hydropower dams and powerhouses that comprise the Black River Project lie between the City of Watertown and west of the Village of Carthage. Progressing downstream from Carthage, these are the Herrings (RM 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), and Sewalls (RM 10.0) developments. The Black River Project is applying to the Low Impact Hydropower Institute (LIHI) for a recertification of their project that expires on December 7, 2017 and is looking for information regarding rare, threatened or endangered species that may occur in the project area. LIHI requires documentation of a finding of no negative effects or documentation that the facility is in compliance with relevant conditions in the species recovery plans. This RTE request is specific to two of the developments included in the Black River Project (Herrings and Deferiet).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.01768634795275N75.64296660879607W


Counties: Jefferson, NY

# Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

## Mammals

| NAME | STATUS |
|---|---|
| Indiana Bat *(Myotis sodalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat *(Myotis septentrionalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Threatened |

## Critical habitats

There are no critical habitats within your project area.

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 07, 2017
Consultation Code: 05E1NY00-2017-SLI-2488
Event Code: 05E1NY00-2017-E-07074
Project Name: Black River - Kamargo and Black River Developments

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

# Project Summary

Consultation Code: 05E1NY00-2017-SLI-2488

Event Code: 05E1NY00-2017-E-07074

Project Name: Black River - Kamargo and Black River Developments

Project Type: DAM

Project Description: The Black River Hydroelectric Project (FERC No 2569) consists of five developments along the Black River in Jefferson County, NY. The five hydropower dams and powerhouses that comprise the Black River Project lie between the City of Watertown and west of the Village of Carthage. Progressing downstream from Carthage, these are the Herrings (RM 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), and Sewalls (RM 10.0) developments. The Black River Project is applying to the Low Impact Hydropower Institute (LIHI) for a recertification of their project that expires on December 7, 2017 and is looking for information regarding rare, threatened or endangered species that may occur in the project area. LIHI requires documentation of a finding of no negative effects or documentation that the facility is in compliance with relevant conditions in the species recovery plans. This RTE request is specific to two of the developments included in the Black River Project (Kamargo and Black River).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.00917460547038N75.7882955367835W


Counties: Jefferson, NY

# Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

## Mammals

| NAME | STATUS |
|---|---|
| Indiana Bat *(Myotis sodalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat *(Myotis septentrionalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Threatened |

## Critical habitats

There are no critical habitats within your project area.

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 07, 2017
Consultation Code: 05E1NY00-2017-SLI-2490
Event Code: 05E1NY00-2017-E-07078
Project Name: Black River - Sewalls Development

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

# Project Summary

Consultation Code: 05E1NY00-2017-SLI-2490

Event Code: 05E1NY00-2017-E-07078

Project Name: Black River - Sewalls Development

Project Type: DAM

Project Description: The Black River Hydroelectric Project (FERC No 2569) consists of five developments along the Black River in Jefferson County, NY. The five hydropower dams and powerhouses that comprise the Black River Project lie between the City of Watertown and west of the Village of Carthage. Progressing downstream from Carthage, these are the Herrings (RM 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), and Sewalls (RM 10.0) developments. The Black River Project is applying to the Low Impact Hydropower Institute (LIHI) for a recertification of their project that expires on December 7, 2017 and is looking for information regarding rare, threatened or endangered species that may occur in the project area. LIHI requires documentation of a finding of no negative effects or documentation that the facility is in compliance with relevant conditions in the species recovery plans. This RTE request is specific to one of the developments included in the Black River Project (Sewalls).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.97778135994676N75.8972319648941W


Counties: Jefferson, NY

# Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

## Mammals

| NAME | STATUS |
|---|---|
| Indiana Bat *(Myotis sodalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat *(Myotis septentrionalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Threatened |

## Critical habitats

There are no critical habitats within your project area.

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: June 07, 2017
Consultation Code: 05E1NY00-2017-SLI-2492
Event Code: 05E1NY00-2017-E-07082
Project Name: Beebee Island Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

# Project Summary

Consultation Code: 05E1NY00-2017-SLI-2492

Event Code: 05E1NY00-2017-E-07082

Project Name: Beebee Island Project

Project Type: DAM

Project Description: The Beebee Island Hydroelectric Project (FERC No 2538) consists of one development located at river mile 9.0 on the Black River in Jefferson County, NY. The Beebee Island Project is applying to the Low Impact Hydropower Institute (LIHI) for a recertification of their project that expires on December 7, 2017 and is looking for information regarding rare, threatened or endangered species that may occur in the project area. LIHI requires documentation of a finding of no negative effects or documentation that the facility is in compliance with relevant conditions in the species recovery plans.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.97674757186232N75.90558745857061W


Counties: Jefferson, NY

# Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

## Mammals

| NAME | STATUS |
|---|---|
| Indiana Bat *(Myotis sodalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat *(Myotis septentrionalis)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Threatened |

## Critical habitats

There are no critical habitats within your project area.