



Low Impact Hydropower Institute's (LIHI) Certification Review for Chasm Hydroelectric Project

1. BACKGROUND

The Chasm Hydroelectric Project (Project) is located at river mile (RM) 27.9 on the Salmon River near the Town of Malone in Franklin County, New York and is licensed with the Federal Energy Regulatory Commission (FERC) as the Chasm Hydroelectric Project (FERC No. 7320).

The Project was originally constructed in 1913 for the sole purpose of energy production with subsequent improvements made over the years from 1938 through 1997. The Project's installed capacity is 3.35 MW comprising three units; units 1 & 2 at 1.0 MW and unit 3 at 1.25 MW. From 2013 through 2017 the Project produced an average annual generation (AAG) of 10,210 MWh which corresponds to an annual plant factor of 34.8%.

The Project is owned and operated by Erie Boulevard Hydropower, L.P. (EBH)¹, a wholly owned subsidiary of Brookfield Renewable Energy Group (BREG). In the recent FERC relicensing, an Offer of Settlement (OOS)² was executed on April 30, 2015. A Section 401 Water Quality Certificate (WQC)³ was issued by the New York State Department of Environmental (NYSDEC) on May 19, 2015. FERC's Environmental Assessment (FEA)⁴ was issued on July 30, 2015. On November 10, 2015, FERC issued a new 30-year license to EBH⁵. The license expires on October 31, 2045.

EBH submitted an application for LIHI Certification of the Project on February 6, 2019. On March 25, 2019, LIHI notified EBH that the intake review for the Project was complete. The intake review found that only a small amount of supplemental information was needed. EBH supplied a revised application dated April 10, 2019. On April 26, 2019, I committed to perform the certification review for the Project.

2. SALMON RIVER BASIN

The Salmon River originates in the foothills of the Adirondack Mountains in southern Franklin County, New York near the Loon Lake Mountains and Elbow Range at an elevation of approximately 2,000 FTMSL. The river flows northwest about 50 miles through Franklin County draining into the St. Lawrence River near Dundee, Quebec, Canada. All but about three miles of the river are located in New York. The watershed drains 379 square miles, as measured at Ft. Covington, New York (at the US – Canadian border).

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² OOS - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13862996>

³ WQC - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13880042>

⁴ FEA - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13944522>

⁵ FERC License - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14041744>



The upper part of the watershed is a rugged mountainous area, and the river valley is characterized by many narrow valleys with steep elevation drops before it reaches the level plains near the U.S. northern border. Numerous lakes and ponds flow into the river in the upper mountainous region. As the river approaches the relatively flat area in the lower watershed below Malone, New York, many large tributaries flow into it, notably the Little Salmon River (Figure 1).

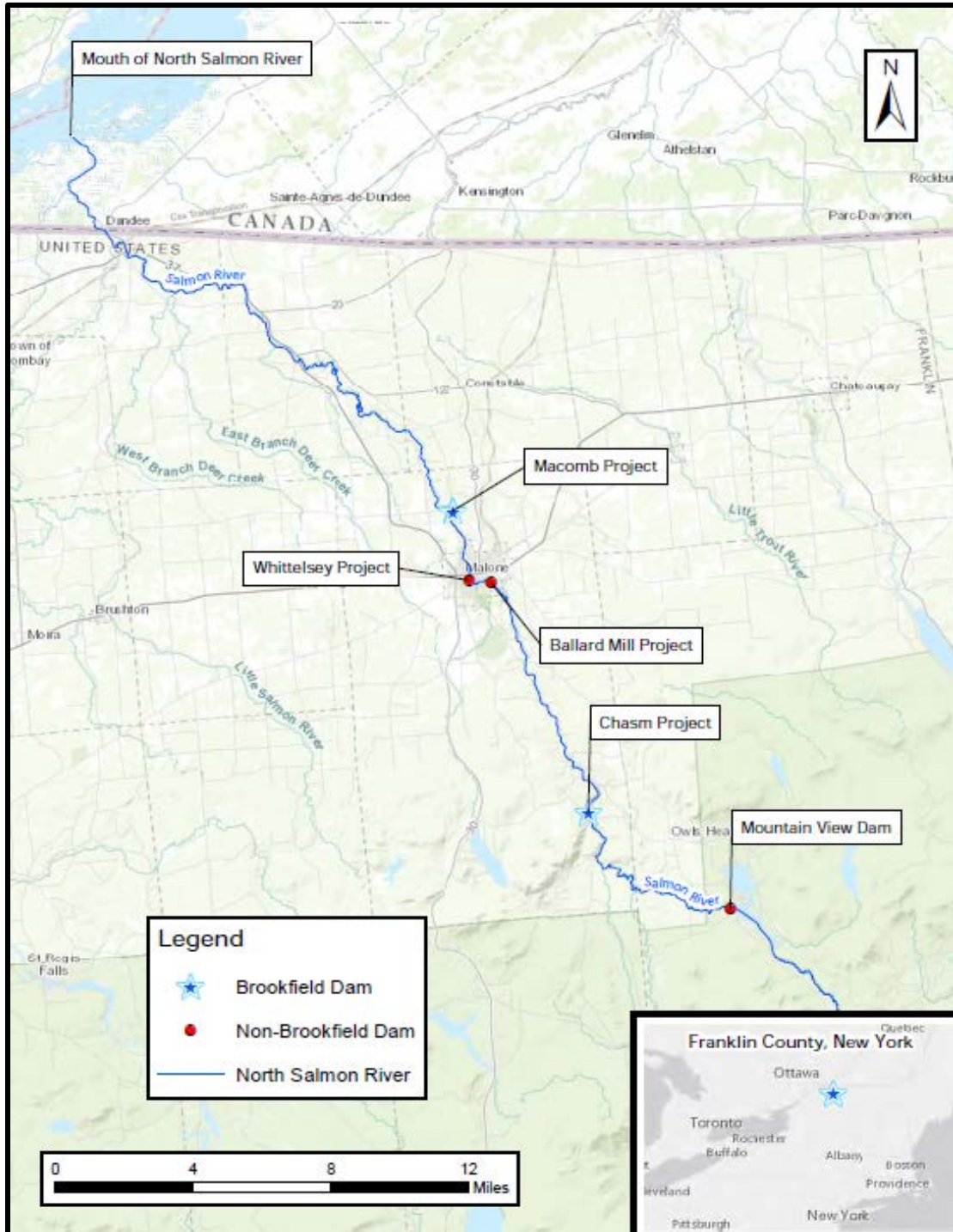


Figure 1 - Location Map



Dams located upstream of the Project include the non-FERC regulated Mountain View Project at RM 35.8, owned by Mountain View Associates. Downstream dams include:

- The Ballard Mill Project at RM 20.5, owned by ECOsponsible LLC and licensed by FERC as Project P-3267,
- The Whittelsey Project at RM 19.8, owned by Malone's Next Gen LLC and licensed by FERC as Project 10522
- The Macomb Hydroelectric Project at RM 17.3, owned by EBH and licensed by FERC as Project 7321.

No dams on the Salmon River provide upstream fish passage.

3. PROJECT DESCRIPTION

The Project dam is located at RM 28.8 on the Salmon River near the Town of Malone in Franklin County, New York (Latitude 44.746° N, Longitude 74.223° W). The Project was originally constructed in 1913 for the sole purpose of energy production and consists of a dam with an integrated spillway and water intake (Figure 2), a pipeline (Figure 3), a powerhouse and the tailrace.



Figure 2 - Looking Downstream at Spillway and Water Intake

The Project dam is 24.8 feet high and creates an impoundment extending about 1.5 miles upstream. At a spillway crest elevation of 1,283.8 feet mean sea level (FTMSL), the impoundment has a surface area of 22 acres, a gross storage capacity of 74 acre-feet (ACFT) and a usable volume of 5.5 ACFT. The spillway is installed with 2-foot-high flashboards. If the flashboards fail, they are reinstalled once the river inflows are once again controllable, typically in June of the year.

The hydraulic capacity of the spillway is about 4,500 cubic feet per second (CFS) which corresponds to an impoundment elevation of 1,288.6 FTMSL (at the top of the non-overflow structure).



Figure 3 - Looking Cross Channel at Pipeline and Bypass Reach Immediately Below Spillway

The 7-foot-diameter welded steel penstock conveys water from the impoundment's intake 3,355 feet to a transitional pipe manifold just above the powerhouse. The water intake has trashracks with 1-inch clear spacing on a year-round basis. The penstock is above ground for the first 100 feet downstream of the intake, then buried thereafter (Figure 4). The transitional pipe manifold is a 6-foot-diameter steel pipeline guiding flow to the powerhouse turbines.



Figure 4 - Looking Downstream at Bypass and Penstock Entering Ground



Over subsequent years dam and penstock improvements have included:

- Installation of steel pipeline saddles in 1938,
- Replacement of the riveted steel pipeline with a welded steel pipeline in 1992, and
- Spillway stabilization with tendon anchors and rehabilitation of intake structure in 1997.

There are presently no plans for any other facility upgrades at the Project.

The Project's powerhouse is approximately 0.9 miles downstream of the dam at RM 27.9. Over subsequent years powerhouse equipment and structural improvements include:

- A tailrace retaining wall in 1955 (Figure 5),
- New runner installed on turbine 2 in 1957,
- Turbine 3 installed in 1963, and
- Civil works updates for new substation in 1964.



Figure 5 - Project's Tailrace

The powerhouse contains three S. Morgan Smith horizontal Francis turbines. A view of one of the Francis turbine/generators is shown in Figure 6 . Turbines 1 and 2 have a design output capacity of 1.31 MW at a design head of 256 feet and a speed of 120 revolutions per minute (rpm). Turbine 3 has a design output capacity of 1.63 MW at a design head of 256 feet and a speed of 120 rpm.

Turbines 1 and 2 have maximum and minimum (efficient) hydraulic capacities of 75 CFS and 65 CFS, respectively. Turbine 3 has a maximum and minimum (efficient) hydraulic capacity of 85 CFS and 70 CFS, respectively.

All three generators are direct-connected, General Electric, 3-phase, 60-cycle, alternating current, synchronous generators.

Generators 1 and 2 have a maximum output of 1.25 MVA, operated at a power factor of 0.8, resulting in maximum power output of 1.0 MW. Generator 3 has a maximum output of 1.5 MVA, operated at a power



factor of 0.9, resulting in a maximum output of 1.35 MW. When all units are running at maximum output, the Project is producing a power output of 3.35 MW.

There are currently no plans for turbine or generator upgrades in the near future.



Figure 6 - View of Francis Turbine/Generator

Historically, Project inflows were estimated using U.S. Geological Survey (USGS) gage 04270000, located on the Salmon River at Chasm Falls, NY. This downstream gage has a drainage area of 132 square miles (SQMI). The drainage area at the Project dam is 126 SQMI. Multiplying the USGS gage flow by $(126/132)$ or 0.955 estimates inflows into the Project. Based on this approach, the Project's period of record (POR) average annual inflow from July 24, 1925 through September 29, 2013 is 228 CFS. This USGS gage terminated recording streamflow starting in water year 2014 (October 1, 2013).

EBH provides a flow of 15 CFS to the bypassed reach year-round through a 10-inch-diameter circular opening in the penstock. The opening is calibrated to ensure at least 15 CFS is flowing when the impoundment's elevation is at its minimum allowable limit.

The Project operates in a minimal pulsing mode. Impoundment fluctuations are limited to 0.25 foot from the top of the 2-foot-high flashboards when installed, or from the spillway crest whenever river inflow exceeds 85 CFS. Impoundment fluctuation is limited to 0.1 foot whenever river flows are less than 85 CFS. This 85 CFS threshold is met by the release of the calibrated 15 CFS minimum flow from the penstock and running Turbine 3 at efficient gate (70 CFS).

Starting on October 2, 2019, a seasonal minimum flow is required to be released. From October 2 through April 30, the minimum flow will increase to 23 CFS. The additional 8 CFS will be released through a second flow tap in the Project's penstock. A minimum bypass flow of 15 CFS will be required from May 1 through October 1. Flow monuments in the bypass reach are required to verify the accuracy of minimum flow releases.



4. REGULATORY SUMMARY

The FERC issued the original license⁶ for the Project to Niagara Mohawk Power Corporation (NMPC) on July 26, 1985. The FERC license was transferred to EBH on July 29, 1999. EBH received a new FERC license issued on November 10, 2015⁷, effective November 1, 2015 and expiring on October 31, 2045.

A. Summary of Project Licensing and Agency Consultation Process

The following important correspondence occurred leading up to the FERC relicensing for the Project:

- On June 30, 2013, EBH filed an application for new license for the Project.⁸
- On October 9, 2013⁹, FERC issued a notice accepting EBH's license application effective July 1, 2013 and solicited motions to intervene and protests.¹⁰ The deadline for filing motions to intervene and protests was December 8, 2013.
- On November 4, 2013, U.S. Department of the Interior (USDOI) filed a timely motion to intervene.¹¹
- On May 16, 2014, FERC issued notice indicating the license application was ready for environmental analysis, and soliciting comments, recommendations, terms and conditions, and prescriptions.
- On August 22, 2014, USDOI, the New York State Department of Environmental Conservation (NYSDEC), and the New York State Council of Trout Unlimited (TU) filed comments and recommendations.¹² None of the entities opposed relicensing the Project.
- On April 30, 2015, EBH filed an OOS.¹³
- On May 1, 2015, FERC issued notice of the Project Settlement Agreement (PSA)¹⁴, soliciting comments.
- On May 19, 2015, NYSDEC filed the WQC for the Project.¹⁵
- On May 20, 2015, US Fish and Wildlife Service (USFWS) filed comments in support of the PSA.¹⁶ No reply comments were filed.
- On July 30, 2015, FERC issued the Final Environmental Assessment (FEA).¹⁷
- EBH filed comments on the FEA¹⁸ on September 14, 2015.
- On November 10, 2015, FERC issued its order for OOS and issued the subsequent license for Project.¹⁹

B. Compliance Issues

⁶ Prior License - <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13367558>

⁷ New License - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14041744>

⁸ New License Application - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13295944>

⁹ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13367605>

¹⁰ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13367457>

¹¹ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13387286>

¹² <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13620549>

¹³ OOS - <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13862996>

¹⁴ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13864720>

¹⁵ WQC - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13880042>

¹⁶ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13880885>

¹⁷ FEA - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13944522>

¹⁸ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13986255>

¹⁹ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14041744>



My review of the FERC docket found the following compliance correspondence relating to the LIHI criteria:

- On December 8, 2015, FERC filed the Programmatic Agreement for the Project.²⁰
- On November 7, 2016, EBH filed a Minimum Flow Release Plan (MFRP) providing supplemental information regarding the new minimum flow pipe.²¹
- On December 19, 2016, EBH filed its 2015 Sediment Management Monitoring Report.²²
- On January 12, 2017, EBH submitted the Project's 2016 Sediment Monitoring Report.²³
- On January 13, 2017, EBH submitted concurrence letters from NYSDEC and USFWS pertaining to the Project's Minimum Flow Pipe.²⁴
- On February 14, 2017, FERC filed an order approving the MFRP.²⁵
- On January 11, 2017, EBH filed its 2016 Sediment Management Monitoring Report.²⁶
- On November 9, 2017, EBH submitted a Stream Flow and Water Level Monitoring Plan (SFWLMP) for the Project.²⁷
- On December 8, 2017, EBH notified FERC of a potential impoundment level excursion.²⁸
- On February 26, 2018, FERC informed EBH the impoundment deviation occurring on November 28, 2017 was a violation of the License for the Project.²⁹
- On March 29, 2018, FERC filed an order modifying and approving SFWLMP.³⁰
- On February 14, 2019, EBH filed as-built drawing to FERC.³¹
- On April 2, 2019, the NYSDEC filed documentation that a Dam Safety Inspection for the Project occurred on September 20, 2018.³²

5. ZONES OF EFFECT (ZOE)

The Project has three zones of effect (Figure 7). ZOE 1 extends from the head of the impoundment downstream approximately 1.5 miles to the Chasm dam (RM 30.3 to 28.8), ZOE 2 extends from the Chasm dam, downstream along the bypassed reach approximately 0.9 miles (RM 28.8 to 27.9). ZOE 3 extends from the Chasm powerhouse, downstream approximately 0.3 miles (RM 27.9 to 27.6).

²⁰ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14066721>

²¹ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14393534>

²² <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14442388>

²³ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14465077>

²⁴ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14466129>

²⁵ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14492543>

²⁶ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14464857>

²⁷ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14753473>

²⁸ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14773855>

²⁹ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14829610>

³⁰ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14857662>

³¹ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=15162439>

³² <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=15204124>

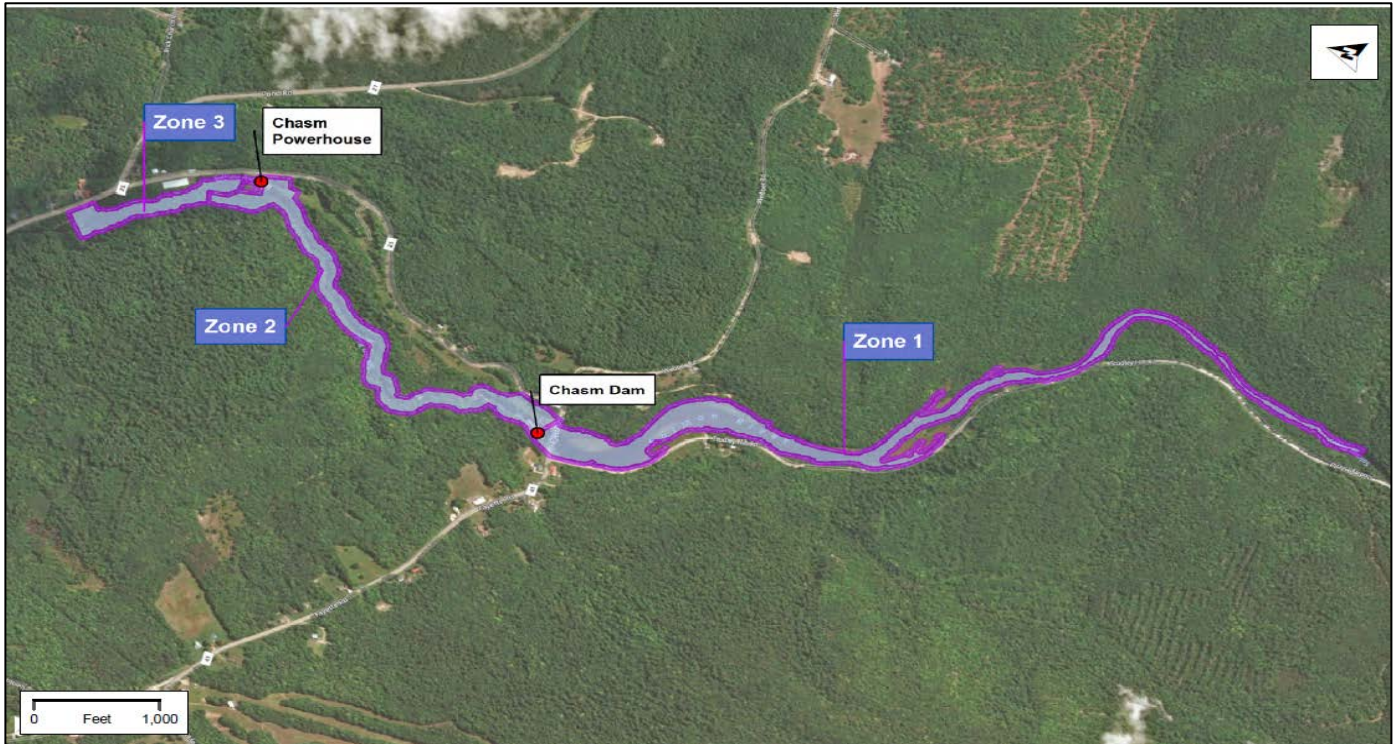


Figure 7 - Zones of Effect

The ZOE 1 alternative standards selected are shown in Figure 8.

Criterion	Alternative Standards				
	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				
F Threatened and Endangered Species Protection			X		
G Cultural and Historic Resources Protection		X			
H Recreational Resources		X			

Figure 8 - ZOE 1 Alternative Standards



The ZOE 2 alternative standards selected are shown in Figure 9.

Criterion	Alternative Standards				
	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				
F Threatened and Endangered Species Protection			X		
G Cultural and Historic Resources Protection		X			
H Recreational Resources		X			

Figure 9 - ZOE 2 Alternative Standards

The ZOE 2 alternative standards selected are shown in Figure 10.

Criterion	Alternative Standards				
	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				
F Threatened and Endangered Species Protection			X		
G Cultural and Historic Resources Protection		X			
H Recreational Resources		X			

Figure10 - ZOE 3 Alternative Standards

6. LIHI CERTIFICATION PROCESS

EBH submitted an application for certification of the Project on February 28, 2019. On March 25, 2019, LIHI notified EBH that the intake review for the Project was complete. The intake review found that some information was missing and the application needed modification. EBH supplied a revised application on April 26, 2019. On April 26, 2019, I committed to perform the certification review for the Project.

A. Comment Letters

On April 30, 2019, LIHI filed notice on their email list that the public comment period for the application has been opened. The notice states, “LIHI is seeking comment on these applications. Comments that are directly tied to specific LIHI criteria (flows, water quality, fish passage, etc.) will be most helpful, but all comments will be considered. Comments may be submitted on either application to the Institute by e-mail at comments@lowimpacthydro.org with ‘Chasm Project Comments’ or ‘Macomb Project Comments’ in the subject line, or by mail addressed to the Low Impact Hydropower Institute, 329 Massachusetts Avenue, Suite 6, Lexington, MA 02420. Comments must be received at the Institute on or before 5 pm Eastern time on June 29, 2019 to be considered. All comments will be posted to the web site and the applicant will have



an opportunity to respond. Any response will also be posted. The Chasm project description and complete application can be found [HERE](#)³³.” No comments were received.

B. Agency Correspondence

On April 30, 2019, LIHI³⁴ emailed contacts³⁵ listed in the Project application as knowledgeable about the Project stating, “*You may have already received this notice if you are on the Low Impact Hydropower Institute (www.lowimpacthydro.org) email list. However, you were also identified as an agency contact on the LIHI certification application recently submitted by Erie Boulevard Hydropower LP (a subsidiary of Brookfield Renewable Energy Group) for the Chasm and Macomb Hydroelectric Projects located on the Salmon River. The application reviewer, Gary Franc (copied here), may be in contact with you if he has questions about these projects or wishes to clarify any aspects of the LIHI applications. You may also provide comments directly to LIHI as indicated below.*

More information about the projects and their application can be found in the link below. If you would like to receive additional notices about these projects or other hydroelectric projects in your region applying for LIHI certification, please sign up for our mailing list at <https://lowimpacthydro.org/join-our-list/>.” No agencies comments were received.

7. CERTIFICATION REVIEW

This section contains my certification review of the Project with regard to the LIHI Certification criteria. As part of my review, I conducted a FERC e-library search and review of the WQC, PSA and other relicensing documents to verify claims in the certification application. Given that the application documents adequately provide documentation for my review, I felt no need to reach out to agency contacts. My review concentrated on the period from June 30, 2013, the start of FERC relicensing, through February 2019, for FERC docket number P-7320.

A. LIHI Criterion-Flows

The goal of this criterion is to support habitat and other conditions that are suitable for healthy fish and wildlife resources in riverine reaches that are affected by the facility. The application states that the Project satisfies the LIHI flows criterion in ZOE 1 by meeting alternative standard A-1³⁶ and in ZOE 2 and ZOE 3 by meeting alternative standard A-2³⁷. ZOE 1 is the Project impoundment. ZOE 2 is the bypassed reach. ZOE 3 is the reach downstream of the powerhouse. Impoundments are eligible for the A-1 Standard under the 2nd Edition LIHI Handbook, but in this case A-2 also applies given Project operations and impoundment restrictions.

The Applicant states the Project is in compliance with resource agency conditions issued regarding flow conditions and impoundment fluctuations. All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Project.

³³ Project Application on LIHI website - <https://lowimpacthydro.org/chasm-project-complete-application-received/>

³⁴ Maryalice Fischer – LIHI Certification Program Director - mfischer@lowimpacthydro.org - 603-664-5097 office - 603-931-9119 cell

³⁵ Jessica Hart – Jessica.Hart@dec.ny.gov; Nicholas Conrad - Nick.Conrad@dec.ny ; Robyn Niver - Robyn.Niver@fws.gov ; Steve Patch - Stephen.Patch@fws.gov ; Michael Lynch - Michael.Lynch@parks.ny.gov .

³⁶ NA.

³⁷ Agency recommendation.



The FERC license, PSA³⁸ and WQC³⁹ include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS. The PSA does not require EBH to monitor or test the effectiveness of any fish protection measures included in the agreement. License Article 401 requires a SFWLMP⁴⁰ to ensure compliance with impoundment fluctuations. A MFRP⁴¹ defines required minimum flows in the bypass reach.

EBH provides 15 CFS to the bypassed reach year-round through a 10-inch-diameter circular opening in the penstock. The opening is calibrated to ensure at least 15 CFS is flowing when the impoundment's elevation is at its minimum allowable limit. Starting on October 2, 2019, a seasonal minimum flow is required to be released. From October 2 through April 30, the minimum flow will increase to 23 CFS. The additional 8 CFS will be released through a second flow tap in the Project's penstock. A minimum bypass flow of 15 CFS will be required from May 1 through October 1. Flow monuments in the bypass reach are required to verify the accuracy of minimum flow releases.

EBH also provides a base flow of 70 CFS, or Project inflow whichever is less, through a combination of releases from the powerhouse and the minimum flow taps.

The Project operates in a minimal pulsing mode with a maximum daily fluctuation limit of 0.25 feet when river flows are 85 CFS or greater, and 0.1 feet when river flows are less than 85 CFS. The impoundment fluctuation is measured from the crest of spillway elevation of 1,283.8 FTMSL or top of seasonal flashboards, at elevation of 1,285.8 feet when installed. This 85 CFS threshold is met by the release of the calibrated 15 CFS minimum flow from the penstock and by running Turbine 3 at efficient gate (70 CFS).

As provided in the PSA, impoundment levels of 0.5 feet or greater below the spillway crest will be considered a violation of normal operation. The reduced reservoir fluctuation helps support downstream habitat areas in the event of a potential unit trip during non-spill events. According to the FEA⁴², reduced water level fluctuations in the impoundment protects wetland, riparian, and littoral habitat in the vicinity of the Project. In addition, the FEA states that limiting fluctuation and maintaining near-crest water levels benefits aquatic resources in the event of a prolonged powerhouse outage.

A review of the FERC docket indicates that on December 8, 2017, EBH notified FERC of an impoundment level violation⁴³. EBH stated on November 28, 2017, the impoundment level dropped below the -0.5 foot lower limit from 2:10 a.m. to 6:34 a.m. (approximately 4 hours and 23 minutes). The EBH control center received multiple lowered impoundment level alarms. However, the alarms were incorrectly configured and the new instrumentation failed to trigger the units to back down when the low level alarms occurred. The impoundment reached a low limit of -2.0 feet before the operator backed the units down to allow the impoundment to recover.

To prevent similar recurrence, EBH contacted the instrumentation manufacturer and the alarms were reconfigured and recalibrated. EBH notified the NYSDEC of the incident in a timely fashion. No environmental effects as a result of this incident were observed.

³⁸ OOS - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13862996>

³⁹ WQC - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13880042>

⁴⁰ SFWLMP - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14857662>

⁴¹ MFRP - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=1439353>

⁴² FEA - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13944522>

⁴³ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14773855>



On February 26, 2018, FERC informed EBH the impoundment deviation occurring on November 28, 2017 is a violation of the License for the Project⁴⁴. FERC determined the incident to be a violation of license article 401 since the EBH operators did not respond to the lower elevation readings until the impoundment was 1.5 feet below the allowable limit, in spite of two alarm alerts.

In my view, EBH's actions taken in response to the November 28, 2017 impoundment level violation should significantly reduce the chance of reoccurrence. It is my recommendation that, except for the single deviation occurrence, the Project complies with resource agency conditions and recommendations issued regarding flow conditions and impoundment fluctuations, and therefore meets Standard A-2 and satisfies the flows criterion.

B. LIHI Criterion-Water Quality

The goal of this criterion is to ensure water quality is protected in water bodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions. The Applicant states that the Project satisfies the LIHI water quality criterion in ZOE's 1, 2 and 3 by meeting alternative standard B-2⁴⁵.

The Project is in compliance with all conditions issued pursuant to the WQC⁴⁶ issued on May 19, 2015 and adopted into the FERC license. Water quality monitoring at the Project is not required. EBH contacted the NYSDEC on January 3, 2019, regarding the current WQC status for the Project. The NYSDEC has yet to respond, however the current WQC is adequate for LIHI review, given it was issued only 4 years ago. (Appendix A, page A-2).

As documented in the November 2016 Section 303(d) list for New York State, no waters in the Project area or downstream reach are listed as impaired.⁴⁷

The Salmon River in the vicinity of the Project impoundment and tailrace is classified by NYSDEC as Class C waters with an accompanying standard as trout waters. 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.

The Project has a Sediment Management Plan⁴⁸ first developed as an interim plan in 2004/2005 as required by FERC in a December 19, 2001 letter order issued under the prior FERC license and WQC⁴⁹ and under Condition 13 of the current WQC. The Plan was later finalized and approved by NYSDEC and subsequently filed with FERC on July 5, 2012 (privileged information). The purpose is to minimize the potential for significant sediment releases that could adversely impact downstream fish and aquatic habitat by degrading cobble and gravel habitat during routine and non-routine operations such as impoundment drawdowns. The Plan is based on field investigations of the river's hydro-geomorphology in the impoundment and downstream reach. Sediment is managed via early spring high flow flushing of water/sediment through the low-level sluice gates over a period of 24 to 36 hours each year, if inflows are expected to exceed 700 CFS for at least 24 hours and remain at 500 CFS for another 24 hours, and upon notification of the planned flushing events to NYSDEC. This procedure removes accumulated fine particles from the cobble/gravel

⁴⁴ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14829610>

⁴⁵ Agency recommendation.

⁴⁶ WQC - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13880042>

⁴⁷ 303(d) - https://www.dec.ny.gov/docs/water_pdf/303dListfinal2016.pdf

⁴⁸ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10151516> and <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10158384>

⁴⁹ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=1058889>



substrate in the downstream reach. Monitoring was required from 2012-2016 before and after flushing flows in order to detect significant changes in downstream streambed conditions related to sediment deposition or transport. Bathymetric monitoring in the impoundment was conducted in 2012, 2014, and 2016 to measure the effects on sediment accumulation in the impoundment. Monitoring results indicated little to no changes in substrate embeddedness over time, such that downstream sediment deposition does not appear to be problematic.

My review found no license deviations nor any issues pertaining to the Project's water quality compliance. Based on the information provided and given the recent WQC and ongoing sediment management and flushing procedures, it is my recommendation that the Project meets Standard B-2 and satisfies the water quality criterion.

C. LIHI Criterion-Upstream Fish Passage

The goal of this criterion is to ensure safe, timely and effective upstream passage of migratory fish so that the migratory species can successfully complete their life cycles and maintain healthy, sustainable fish and wildlife resources in areas affected by the facility. The Applicant states that the Project satisfies the LIHI upstream fish passage criterion in ZOE 1, 2 and 3 by meeting alternative standard C-1.

The Project dam is constructed at Chasm Falls, a natural hydraulic barrier that separates the Salmon River into distinct upstream and downstream fish habitats. The FEA indicates that fishery investigations found white sucker as the most abundant fish collected, primarily within the impoundment. The impoundment also contained a few smallmouth bass and yellow perch. These studies also indicated a diverse and abundant fish community in the middle and lower bypassed reach that included both stocked and wild brook and brown trout. Non-sport fish discovered included longnose dace, cutlips minnow, blacknose dace, slimy sculpin, and creek chub.

During relicensing, the USDO I did not prescribe anadromous or catadromous fish passage facilities. By letter dated July 14, 2014⁵⁰, the USDO I did request reservation of its authority to prescribe upstream fish passage devices in the future, as provided in license Article 402. The USDO I also stated their desire was to maintain separate fisheries above and below the dam, negating any need for upstream or downstream fishways.

My review found no license deviations nor any issues pertaining to upstream fish passage. Given the lack of migratory species and resident fishery management priorities, it is my recommendation that the Project meets Standard C-1 and satisfies the upstream fish passage criterion.

D. LIHI Criterion-Downstream Fish Passage

To goal of this criterion is to ensure safe, timely and effective downstream passage of migratory fish and for riverine fish such that the facility minimizes loss of fish from reservoirs and upstream river reaches affected by facility operations. The Applicant states that the Project satisfies the LIHI downstream fish passage criterion in ZOE 1 and 2 by meeting alternative standard D-2 and the LIHI downstream fish passage criterion in ZOE 3 by meeting alternative standard D-1.

⁵⁰ USDO I - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13593019>



In the USDOJ July 14, 2014 letter⁵¹, the agency stated their desire to maintain separate fisheries above and below the dam due to the natural hydraulic barrier of Chasm Falls, therefore no fishways were required for upstream and downstream passage. However, the USDOJ did request reservation of its authority to prescribe downstream fish passage devices in the future.

There is no downstream fish passage monitoring associated with the operation of the Project. No downstream fish passage barriers or migratory fish management issues exist below the powerhouse, so the downstream reach qualifies for Standard D-1.

EBH maintains trashracks with 1-inch clear spacing on a year-round basis to exclude most adult game fish and other fish from potential entrainment into the Project's penstock and powerhouse turbines. No other fish passage related measures were requested by any resource agencies for downstream fish passage at the Project.

During relicensing, fishery investigations indicated white sucker as the most abundant fish collected, primarily within in the impoundment. The impoundment also contained a few smallmouth bass and yellow perch. These studies also indicated a diverse and abundant fish community in the middle and lower bypassed reach that included both stocked and wild brook and brown trout. Non-sport fish discovered included longnose dace, cutlips minnow, blacknose dace, slimy sculpin, and creek chub.

My review found no license deviations nor any issues pertaining to downstream fish passage. Given the lack of migratory species and current resident fishery management priorities, it is my recommendation that the Project meets the D-2 and D-1 standards in applicable ZOE's and satisfies the downstream fish passage criterion.

E. LIHI Criterion-Shoreline and Watershed Protection

The shoreline and watershed protection criterion is designed to ensure that sufficient action has been taken to protect, mitigate and enhance environmental conditions on shoreline and watershed lands associated with the facility. The Applicant states the LIHI shoreline and watershed protection criterion in ZOE 1, 2 and 3 are satisfied by meeting alternative standard E-1.

The Project is located in the Town of Malone, New York. The NYSDEC characterizes land use by scattered residences, private recreation areas, summer camps, and forested land managed for forest production and recreation. These NYSDEC managed lands include the Titusville Mountain State Forest, which is located adjacent to the Project's impoundment. Residential and commercial land use in the region is concentrated in and around Malone, downstream from the Project. The NYSDEC's Natural Heritage Program indicates there are no records of significant natural communities or other significant habitats, on or in the immediate vicinity of the Project.

The FEA concluded that although activities such as logging in the upper watershed and agriculture in the lower watershed of the Salmon River accelerated erosion, the river is not currently considered impaired or threatened. There is no evidence that Project operation has contributed to existing shoreline erosion. Reduced water level fluctuations in the impoundment protect wetland, riparian, and littoral habitat in the Project vicinity. In addition, no shoreline management requirements were recommended by agencies for the Project.

⁵¹ USDOJ - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13593019>



As discussed in Section 7.B, the Project's Sediment Management Plan requires sediment flushing when inflows exceed 700 CFS at the upstream Chasm Project. The SMP required EBH to submit an annual Sediment Management Report (SMR) to NYSDEC from 2012-2016 detailing sediment flushing activities.

The Project has implemented an Invasive Species Management Plan (Appendix B of the Settlement Agreement) which contains provisions for vegetation management, construction operations, and inspection and removal of aquatic invasives that might adhere to EBH's boats and trailers.

My review found no license deviations nor any issues pertaining to the Project's shoreline and watershed protection activities. Based on my review and given the lack of apparent Project effects and ongoing efforts to control invasive species, it is my recommendation that the Project meets Standard E-1 and satisfies the shoreline and watershed protection criterion.

F. LIHI Criterion-Threatened and Endangered Species

The threatened and endangered species protection criterion is designed to ensure that the facility does not negatively impact state or federally-listed threatened or endangered species. The Applicant states the LIHI threatened and endangered species criterion is satisfied in ZOE 1, 2 and 3 by meeting alternative standard F-3, recovery planning and action.

There are no specific requirements for threatened or endangered species protection in the FERC license or WQC for the Project. Based on information received from the USFWS's New York Field Office on January 30, 2019, regarding a request for information on RTE species (Appendix A, page A-3), it appears that the northern long-eared bat (*Myotis septentrionalis*) may potentially occur within the Project area. There are no critical habitats located within the Project area.

EBH also consulted with NYSDEC's Natural Heritage Program for a list of threatened and endangered species that may occur in the vicinity of the Project (Appendix A, page A-10). Pursuant to a letter dated January 29, 2019, NYSDEC indicated that there are no records of state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of the Project.

The USFWS has not adopted a formal recovery plan for the northern long-eared bat. On January 14, 2016, the USFWS published the final 4(d) rule identifying prohibitions for the protection of northern long-eared bats⁵². Operations of the Project, especially with regard to tree clearing from June 1 through July 31, adhere to the prohibitions outlined in the final 4(d) rule.

My review found no license deviations nor any issues pertaining to the Project's threatened and endangered species protection activities. Based on the information provided, and the Applicant's adherence to Northern long-eared bat recovery efforts, it is my recommendation that the Project meets Standard F-3 and satisfies the threatened and endangered species protection criterion.

⁵² <https://www.fws.gov/midwest/endangered/mammals/nleb/4drule.html>



G. LIHI Criterion-Cultural Resource Protection

The cultural and historic resource protection criterion is designed to ensure that the facility does not negatively impact approved state, federal, and recognized tribal plans designed for the protection, enhancement and mitigation of cultural and historic resources. The Applicant states the LIHI cultural and historic resources criterion in ZOE 1, 2 and 3 is satisfied by meeting alternative standard G-2.

During relicensing, EBH conducted a Phase IA Literature Review and Archaeological Sensitivity Assessment (Phase IA Study). The Phase IA Study identified the Adirondack Pulp Mill Site, located along the Project's bypassed reach. The site consists of the remnants of a former saw mill that was later converted to a pulp mill.

In order to protect the Adirondack Pulp Mill Site, EBH executed a Programmatic Agreement (PA)⁵³ with FERC, the Advisory Council on Historic Preservation, and the New York State Historic Preservation Officer (SHPO).

The Project is in compliance with all license requirements regarding cultural resource protection. License Article 407 requires EBH to implement the PA, and the Historic Properties Management Plan (HPMP)⁵⁴. EBH developed the HPMP in consultation with the SHPO, the St. Regis Mohawk Tribe, and the National Park Service.

My review found no license deviations nor any issues pertaining to the Project's cultural and historical resources protection activities. Based on the information provided, and the Project's adherence to the HPMP, it is my recommendation that the Project meets Standard G-2 and satisfies the cultural and historic resources protection criterion.

H. LIHI Criterion-Recreation

The goal of this criterion is to ensure that recreation activities on lands and waters controlled by the facility are accommodated and that the facility provides recreational access to its associated land and waters without fee or charge. The Applicant states the LIHI recreation criterion in ZOE 1, 2 and 3 is satisfied by meeting alternative standard H-2.

EBH filed a Recreation Management Plan (RMP) in Appendix A of the Settlement Agreement on April 20, 2015 to construct, operate, improve, and maintain the existing Chasm Falls recreation area which includes a parking area and a river access trail. There is also an informal bypassed reach access area with parking and a footpath. The Project receives little recreation visitation based on surveys conducted in 2011 and 2012. Non-Project recreation facilities include angler access at several formal and informal locations downstream of the Project. Upstream, the William A. King Memorial Park is operated by the Town of Malone and the NYSDEC Titusville Mountain Access Site provides anglers and boaters with access to the impoundment and upstream reach to the next upstream dam.

FERC approved the RMP with issuance of the license. Recreation enhancements were completed in the fall 2018. EBH submitted as-built drawings of the recreational facilities to FERC on February 14, 2019. FERC

⁵³ PA - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14022240>

⁵⁴ HPMP - <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13657711>



approved the as-built drawings on February 25, 2019.⁵⁵ Recreation area modifications included formalization of designated fishing areas; addition of signage directing visitors to Project and non-Project facilities; and providing picnic tables to the King park (while removing picnic tables from the Chasm Falls recreation area to emphasize river access over picnicking. As noted in Section 7.E, the Project has an invasive species management plan that includes informational signage and an aquatic invasives disposal station at the Titus Mountain boat launch, both maintained by NYSDEC.

My review found no license deviations nor any issues pertaining to the Project's recreational resources activities. The Project is in compliance with the license recreational access, accommodation, and facility conditions. Therefore, it is my recommendation that the Project meets Standard H-2 and satisfies the recreational resources criterion.

8. RECOMMENDATION

A review of the certification application and supporting documentation, and a search of the entire FERC docket shows EBH has been proactive in meeting the Project's FERC license articles, and related obligations. Filings were on time without the need of time extension requests. Other than the one impoundment fluctuation deviation that occurred on November 28, 2017, no other FERC compliance issues were found. Throughout the relicensing process, the USDOJ and NYSDEC filed comments and recommendations that were adopted within the license. No resource agencies or other entities opposed relicensing the Project. On May 1, 2015, the FERC issued notice of the PSA, soliciting comments. Only responses in support of the Project were received. As discussed in the sections above, the Project satisfies all of the LIHI criteria.

I recommend issuing a five-year LIHI Certificate to EBH for the Chasm Falls Project with no conditions.

Gary M. Franc



FRANC LOGIC

Licensing & Compliance

Hydropower Consulting & Modeling

⁵⁵ <https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=15168120>



FRANC LOGIC

June 2019

APPENDIX A DOCUMENTS



Brookfield

Brookfield Renewable
184 Elm Street
Potsdam, NY 13676

Tel 315.267.1020
www.brookfieldrenewable.com

Sent Electronically Only

January 3, 2019

Erin Burns
New York State Department of Environmental Conservation
P.O. Box 296
1115 NYS Route 86
Ray Brook, NY 12977-0296

Subject: **Chasm Hydroelectric Project (FERC No. 7320)
Low Impact Hydropower Institute Certification
Water Quality Certificate Verification**

Dear Ms. Burns:

Erie Boulevard Hydropower, L.P. (Erie) is applying for Low Impact Hydropower Institute (LIHI) certification for the Chasm Hydroelectric Project (FERC No. 7320). This Project is located on the Salmon River near the Town of Malone in Franklin County, New York.

Erie is requesting confirmation from the New York State Department of Environmental Conservation stating that the 401 Water Quality Certificate issued for the operation of the Chasm Hydroelectric Project on May 19, 2015 is still valid. Please provide this confirmation by reply to this letter via letter or email.

Erie respectfully requests 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) 267-1036 or by email at Danny.Maguire@brookfieldrenewable.com.

Sincerely,

Daniel Maguire, P.E.
Compliance Manager
North Atlantic Operations



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

January 30, 2019

Consultation Code: 05E1NY00-2019-SLI-0735

Event Code: 05E1NY00-2019-E-02233

Project Name: Chasm 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 13045-9385
(607) 753-9334



01/30/2019

Event Code: 05E1NY00-2019-E-02233

2

Project Summary

Consultation Code: 05E1NY00-2019-SLI-0735

Event Code: 05E1NY00-2019-E-02233

Project Name: Chasm Project

Project Type: DAM

Project Description: The Chasm Hydroelectric Project is applying to the Low Impact Hydropower Institute (LIHI) for a certification of their project, 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/44.742925752783265N74.22103421086408W>



Counties: Franklin, NY



Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



Caley, Katherine

From: naturalheritage@nynhp.org
Sent: Thursday, January 03, 2019 6:14 PM
To: Caley, Katherine
Subject: Confirmation of your submitted request to New York Natural Heritage

Submission ID: 2902
Submitted on Thursday, January 3, 2019 - 18:13 Submitted values are:

Company, Organization, or Agency: HDR, Inc.
Requestor Name: Katherine Caley
Requestor Address (Street/PO Box): 1304 Buckley Road, Suite 202 Requestor City: Syracuse Requestor State: New York
Requestor Zip Code: 13212 Requestor Telephone #: 315-414-2213 Requestor Email: katherine.caley@hdrinc.com Project
Type: hydroelectric facility/project Project Name: Chasm LIHI Consultation Project Applicant: Erie Boulevard Hydropower, LLC Project County: Franklin Town (Franklin County): Malone Project Summary:
Erie is presently working with the Low Impact Hydropower Institute (LIHI) to certify the Chasm Hydroelectric Project (FERC No. 7320) as a low impact project. 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 the hydroelectric development. 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.

As a matter of background, the license from the Federal Energy Regulatory Commission (FERC) was issued for this Project on November 10, 2015. Project operations and environmental protection measures at this Project 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 2015. The licensing processes for this Project included consultation with resource agencies regarding threatened and endangered species.

Current Land Use: The site is currently developed for the primary purpose of hydroelectric energy production on the Salmon River.

Tax parcel number:
Latitude: 44.746
Longitude: -74.223
Street Address of Project:
Project Notes:





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

January 29, 2019

Katherine Caley
HDR, Inc.
1304 Buckley Road, Suite 202
Syracuse, NY 13212

Re: Chasm LIHI Consultation
County: Franklin Town/City: Malone

Dear Ms. Caley:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on 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 resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; 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 5 Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Heidi Krahlting
Environmental Review Specialist
New York Natural Heritage Program

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