

PUBLIC INFORMATION DOCUMENT

Prepared by:



July 2017

**GREGORY B. JARVIS PROJECT
RELICENSING**

FERC NO. 3211



**NY Power
Authority**

Table of Contents

1	Introduction	1
2	Project Works.....	1
3	Project Operation	2
4	Environmental Setting.....	2
4.1	Water Uses.....	2
4.2	Minimum Required Flow	3
4.3	Land Use	3
4.4	Recreation	3
4.5	Fisheries Resources	3
5	Relicensing	3

List of Figures

Figure 1: Project Location.....	5
Figure 2: Project Facilities	6
Figure 3: 2012 Hinckley Reservoir Operating Diagram.....	7
Figure 4: Hinckley Reservoir Watershed Map	8
Figure 5: Land Use Map	9
Figure 6: Hinckley Reservoir Recreation Areas	10

List of Abbreviations

cfs	cubic feet per second
El.	elevation
FERC or the Commission	Federal Energy Regulatory Commission
Jarvis Project or the Project	Gregory B. Jarvis Power Project
mi	mile(s)
MVWA	Mohawk Valley Water Authority
MW	megawatt
NYSDOT	New York State Department of Transportation
NOI	Notice of Intent
NYPA	New York Power Authority
NYS	New York State
NYSCC	New York State Canal Corporation
NYSDEC	NYS Department of Environmental Conservation
PAD	Pre-Application Document

1 Introduction

The New York Power Authority's (NYPA or the Power Authority) Gregory B. Jarvis Power Project (Jarvis Project or the Project) was issued a 40-year license by the Federal Energy Regulatory Commission (FERC or the Commission) on August 12, 1982. In 1984, the New York State Department of Transportation (NYSDOT) conveyed a permanent easement to NYPA for hydroelectric generating facility or facilities. This easement includes the area surrounding the generating facilities, the dam itself, a substation site on the north side of NYS Route 365, a recreational boat launching site, and the reservoir upstream of the dam up to elevation 1225.00 feet.¹ NYPA owns the generating station and ancillary equipment. The power plant was commissioned on June 22, 1986. The current license is set to expire on July 31, 2022.

The Jarvis Project is located on West Canada Creek approximately 0.5 miles upstream of the Hamlet of Hinckley in the towns of Remsen, Russia, Ohio, and Trenton, in the counties of Oneida and Herkimer, NY. In this area, West Canada Creek flows south out of the Adirondack Mountains, through the reservoir, and then approximately 35 miles to its confluence with the Mohawk River. The Hinckley Dam, Reservoir, and associated lands are owned by the State of New York, under the jurisdiction of the New York State Canal Corporation (NYSCC).²

Hinckley Reservoir was constructed by the State of New York in the valley formed by West Canada Creek for the purpose of supplying water to the New York State Barge Canal. The reservoir was commissioned in 1915. When full, the reservoir has a surface area of approximately 4.46 square miles (mi²) and a total drainage area at the Project site of approximately 372 mi². When full (El. 1225), the volume of the reservoir is approximately 25.8 billion gallons. Much of the northern and eastern portions of the reservoir are within the Adirondack Park ([Figure 1](#)).

2 Project Works

The 9-megawatt (MW) Project is located on West Canada Creek at the Hinckley Reservoir Dam. The dam consists of a 570-foot long north earthen embankment dam, a 65-foot long concrete non-overflow intake structure, a 400-foot long concrete ogee spillway, and a 2,600-foot long south earthen embankment. The Project works are shown on [Figure 2](#).

Water is conveyed to the powerhouse through a 15-foot diameter penstock, which bifurcates into two 90-foot long, 10.5-foot diameter penstocks, which lead to the two horizontal Kaplan turbine units. The powerhouse discharges into a short tailrace that meets West Canada Creek approximately 150 feet downstream of the powerhouse. This tailrace is cut into bedrock and has nearly vertical side slopes. A 60-inch diameter pipe acts as a low level outlet for the Project in addition to a penstock bypass.

The upstream section of the spillway south (left) wingwall contains a gatehouse from which the Mohawk Valley Water Authority (MVWA) on average draws up to 30-35 cubic feet per second (cfs) for water supply under existing agreements. Flow into each of the two 42-inch diameter water supply conduits is controlled by two 3- by 4-foot gate valves located on an outer gate shaft. These valves lead to a 42-inch diameter

¹All elevations are referenced to Hinckley Datum. Elevations referenced to the Hinckley datum are 1.04 feet higher than elevations referenced to the National Geodetic Vertical Datum (MSL of 1929), thus, 1225.00 Hinckley Datum = 1223.96 NGVD29. (The Hinckley Datum is the same as the Barge Canal Datum).

² The New York State Legislature transferred control of the NYS Canal System from NYSDOT to NYSTA in 1992 and then from NYSTA to the Power Authority in 2016. Effective April 1, 2016, the Power Authority is financially responsible for the NYSCC. As of January 1, 2017, the NYSCC became a subsidiary of the Power Authority.

sluice gate at invert El. 1161.5, located in an inner gate shaft. The water supply conduits pass under the south embankment dam in a trench excavated into rock and backfilled with concrete.

The Project's concrete powerhouse is a semi-underground structure located 200 feet downstream of the non-overflow intake. The powerhouse is 120 feet long, 55 feet wide, and 43 feet deep below grade. The powerhouse contains two 4.5-megawatt horizontal Kaplan turbines operating under a maximum head of 67.5 feet, plus surcharge, at normal pool (El. 1225) with tailwater level at El. 1157.5.

3 Project Operation

The Project is operated in accordance with the 2012 Hinckley Reservoir Operating Diagram (Operating Diagram, [Figure 3](#)).³ In accordance with the February 1, 2013 Settlement Agreement, NYSCC agreed to maintain the reservoir within a normal operating range of El. 1195 and above, except during certain adverse conditions. Under some conditions, NYSCC deviates from the Operating Diagram as necessary to maintain reservoir releases. Releases through the powerhouse are determined by the time of year and Hinckley Reservoir elevation, as plotted in the Operating Diagram. Project operations are adjusted on a twice weekly basis in accordance with the Operating Diagram. The Jarvis Project has the ability to peak on a limited basis, so long as Project operations meet the criteria of the Operating Diagram.

Based upon these operating criteria, the reservoir levels are usually maintained between El. 1195 and El. 1225 (the elevation of the spillway crest); however reservoir water levels can fall below El. 1195 when prolonged dry conditions occur. The Jarvis Project does not operate when reservoir levels are below El. 1195. Consistent with the Operating Diagram, during the winter months, the reservoir is generally drawn down and then allowed to refill during spring melt. Deviations from the Operating Diagram may occur in the following situations:

Decreased release

- at low reservoir levels to maintain MVWA water supply
- at low reservoir levels so that 160 cfs minimum flow downstream of the diversion weir for the NYS Barge Canal (Morgan Dam, also known as the Nine Mile Creek Feeder Dam) will always be available if it is anticipated that low reservoir inflow will occur in the immediate future
- for public safety (to allow bridge reconstruction, alleviate downstream flooding, etc.)

Increased release

- at high reservoir levels to possibly provide some flood storage

4 Environmental Setting

4.1 Water Uses

Hinckley Reservoir serves a variety of purposes including: 1) supplying water to the New York State (NYS) canal system; 2) serving as the sole source of drinking water for approximately 130,000 people in the

³ The 2012 Hinckley Reservoir Operating Diagram was established as part of a settlement between NYS and MVWA, effective February 1, 2013.

greater Utica area; 3) hydropower generation at the Jarvis Project; 4) supplementing flows for downstream hydropower generation and aquatic resources; and 5) recreation.

4.2 Minimum Required Flow

In accordance with its FERC license, the Jarvis Project is required to maintain a continuous minimum flow of 160 cfs in West Canada Creek as measured downstream of the NYSCC diversion at the Nine Mile Feeder Canal Dam. During the Canal's operating season, the minimum flow below Trenton Falls must equal the sum of the FERC required minimum flow of 160 cfs, as measured below the Nine Mile Creek Feeder Dam structure, plus the amount diverted into the Nine Mile Feeder Canal by the NYSCC.

4.3 Land Use

The Hinckley Reservoir watershed encompasses 372 mi² (see [Figure 4](#)). Ninety-three percent of the watershed is located within the Adirondack Park. The land use is mainly classified as forested, representing 86.5% of the total watershed area. Wetlands, shown in [Figure 5](#), make up 7.5% of the total watershed area, while lakes and reservoirs comprise 4% of the area. The remaining 2% is split between urban build-up, agriculture, range land, and mining⁴.

4.4 Recreation

Hinckley Reservoir is currently used for a number of recreation activities including fishing, boating, swimming, beach activities, and picnicking. Current formal recreation facilities in the Project vicinity include the Power Authority boat launch, a FERC approved facility, located in Remsen on the north shore of the reservoir off of Route 365. Another recreation facility is the Hinckley Reservoir NYS Department of Environmental Conservation (NYSDEC) Day Use Area, which is located five miles east of Hinckley, in Herkimer County. The facility features a picnic area, swimming/beach area, fishing, and a boat launch. These two sites as well as other beaches and fishing access sites located around Hinckley Reservoir are shown in [Figure 6](#).

4.5 Fisheries Resources

West Canada Creek is one of New York's most renowned trout streams. Species of interest to anglers include both brook trout and brown trout. Upstream of Hinckley Reservoir, brook trout are stocked in the Creek by NYSDEC. Brook trout also occur naturally near the mouths of small tributaries in this region. This reach is classified as a cold water fishery. The Hinckley Reservoir is considered a cool water fishery.

Downstream of Hinckley Dam to Herkimer, brown trout are stocked as yearlings and two-year-olds. Smallmouth bass and fallfish can also be found in this reach. The reach of West Canada Creek below Trenton Falls Dam contains larger trophy-sized trout.

5 Relicensing

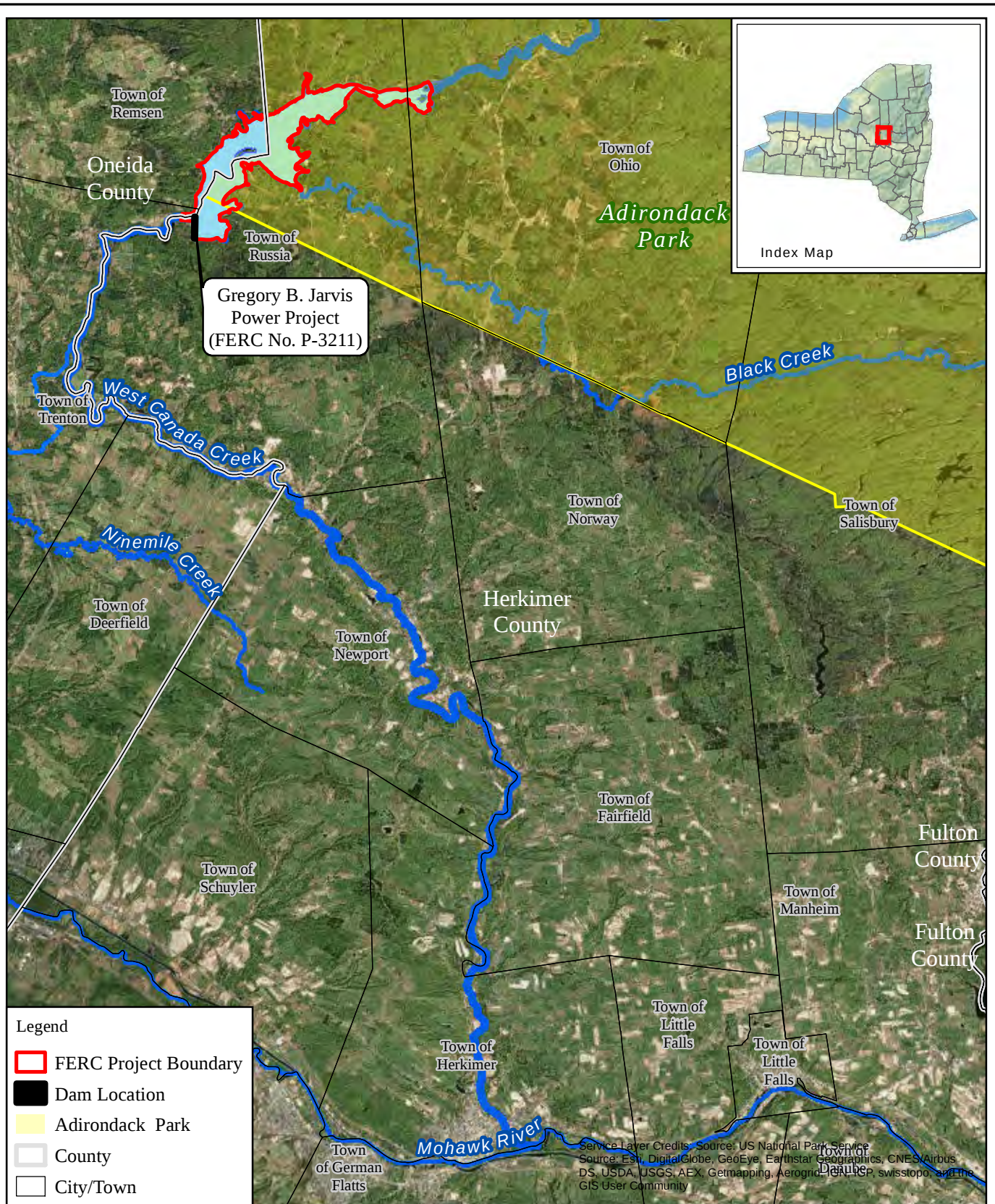
The FERC relicensing process is a 5 to 5½-year process that begins with the filing of the Pre-Application Document (PAD) and Notice of Intent (NOI). The current FERC license for the Project expires on July 31, 2022. In order to continue operation of the Project beyond this date, NYPA has to obtain a new license from FERC. As required by the Federal Power Act, NYPA must notify FERC of its intent to relicense the Project at least five years in advance, but not more than five and one-half years before the existing license

⁴ Land use information obtained from a 2001 EPA report titled "Effective Source Projection for Large Rural Watersheds".

expires. Therefore, a Notice of Intent (NOI) must be filed between January 31, 2017 at the earliest, and July 31, 2017 at the latest.

Regulatory agency and public participation are included in the FERC relicensing process. The process is intended to inform all interested parties about the Project and NYPA's plans for its continued operation, and to allow these parties to express their interests and views to NYPA and FERC.

NYPA is beginning outreach to inform interested parties of its relicensing plans for the Gregory B. Jarvis Power Project to solicit their comments and participate in the FERC relicensing process. NYPA looks forward to discussing the process and its plans with interested parties.



Gregory B. Jarvis Power Project
FERC No. 3211

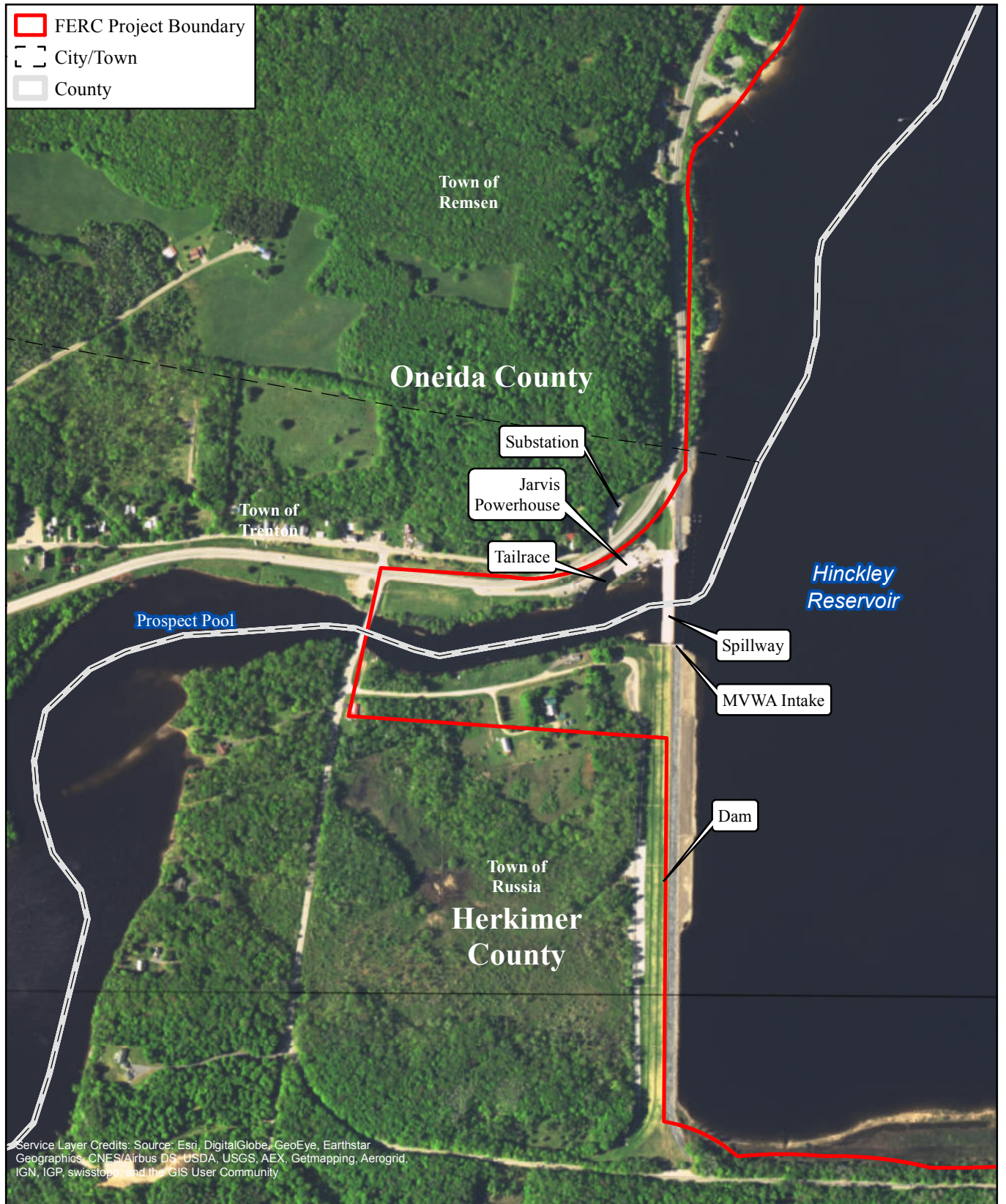
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0 1 2 4
Miles



Figure 1:
Project Location



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FERC No. 3211

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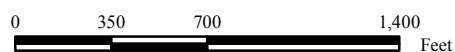
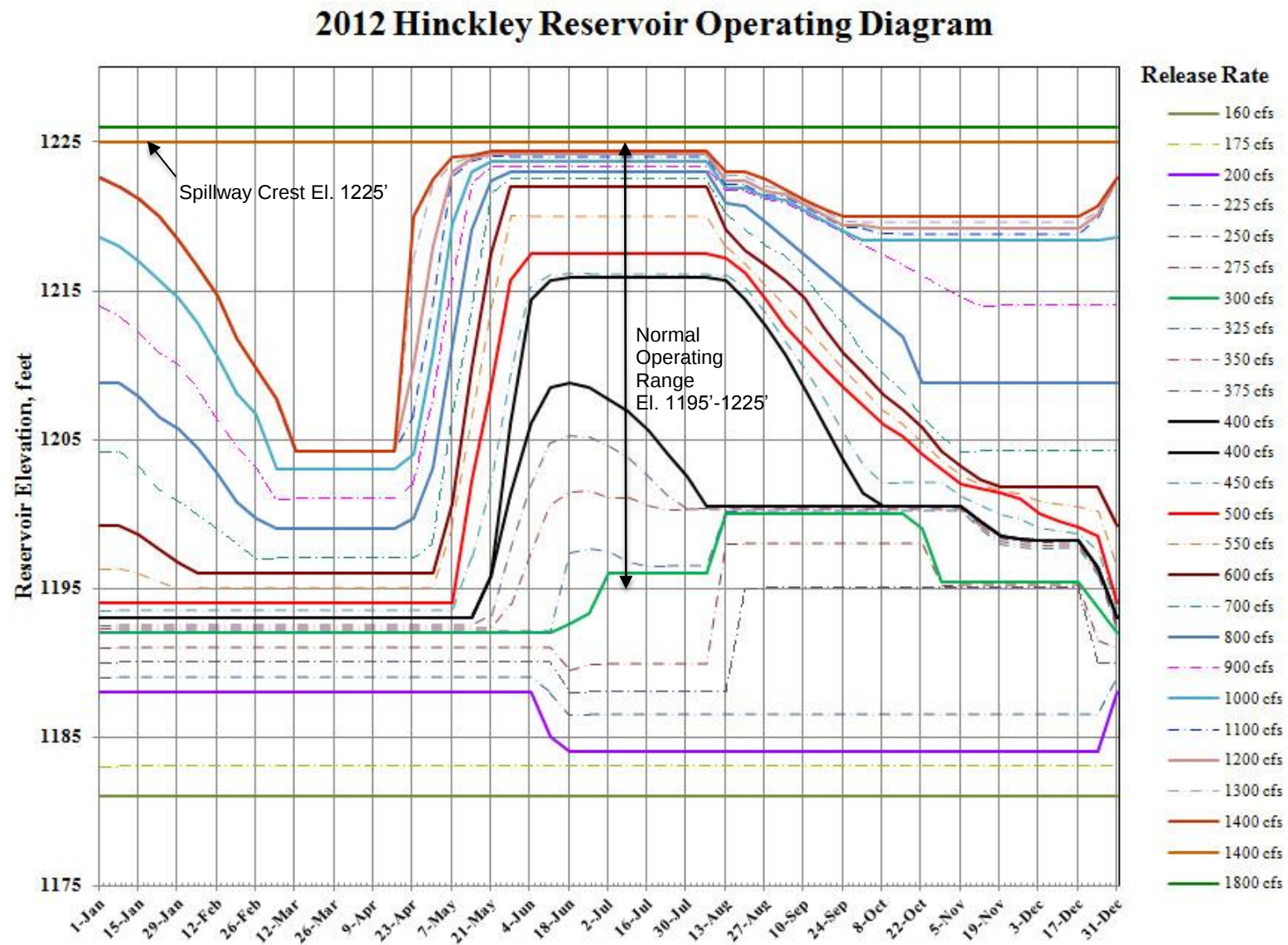
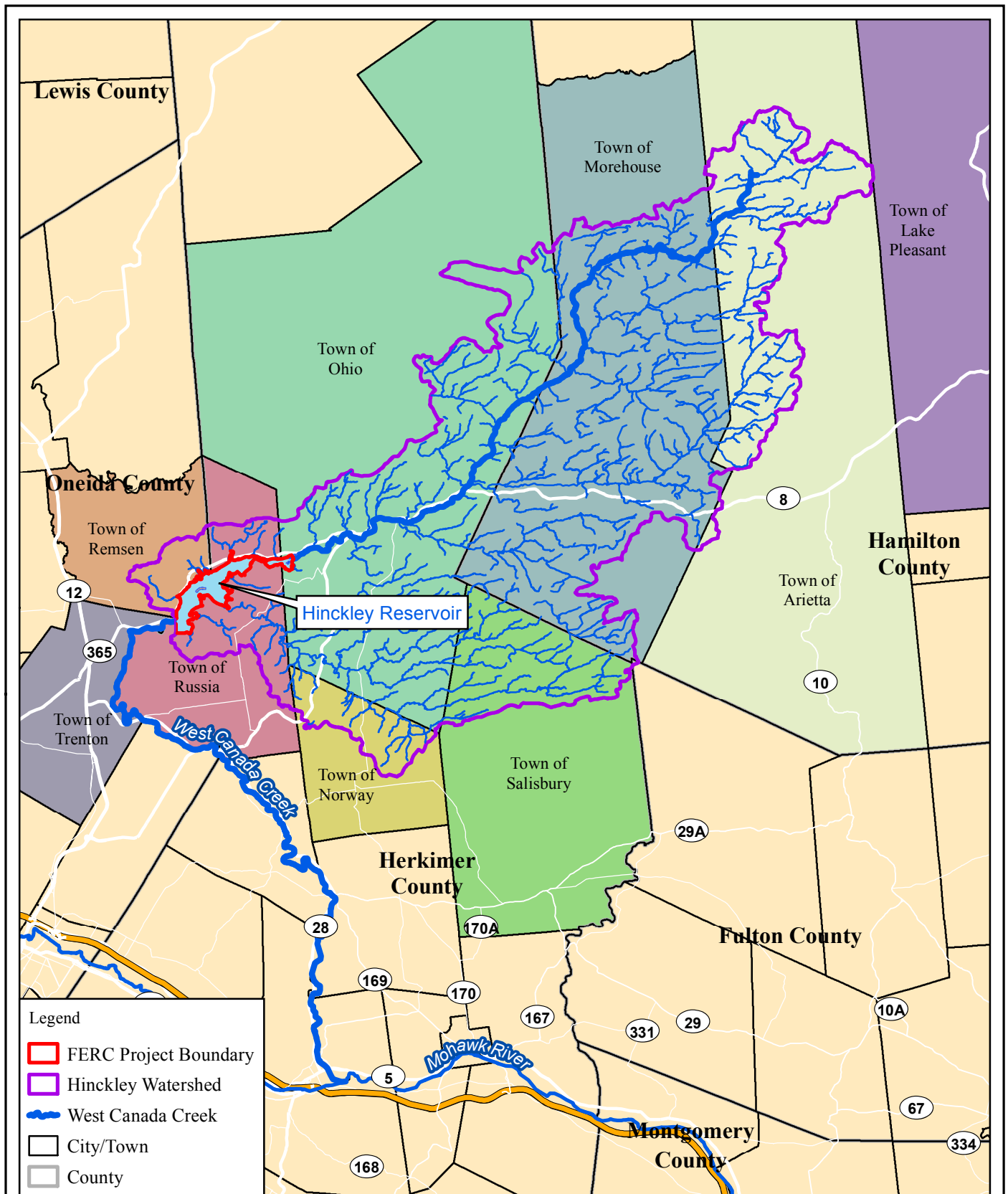


Figure 2:
Project Facilities

Figure 3: 2012 Hinckley Reservoir Operating Diagram





Gregory B. Jarvis Power Project
FERC No. 3211

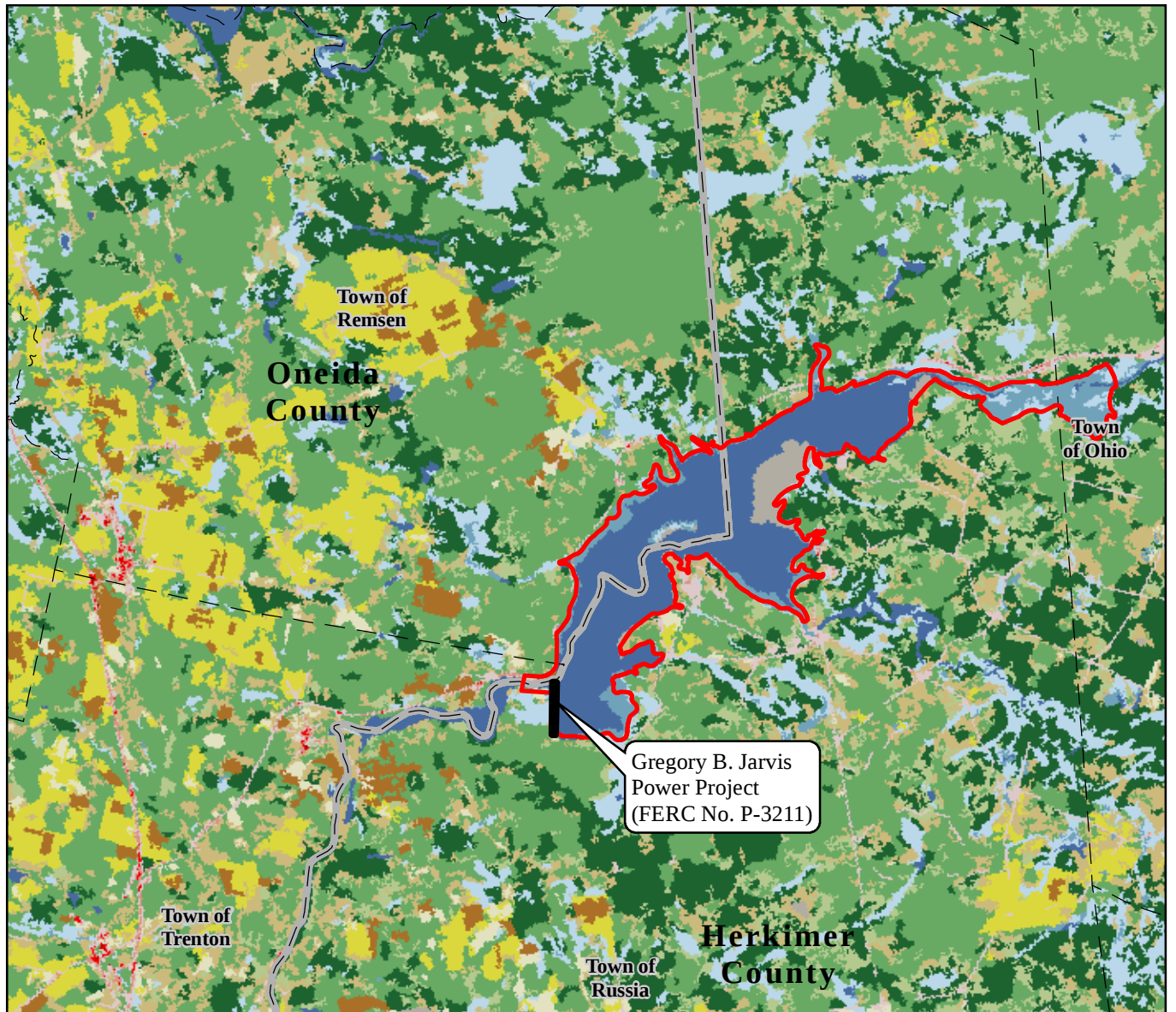


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Figure 4:
Hinckley Reservoir
Watershed



Legend

- | | |
|--|---|
| FERC Project Boundary | Barren Land (Rock/Sand/Clay) |
| Dam Location | Deciduous Forest |
| City/Town | Evergreen Forest |
| County | Mixed Forest |
| Land Use/Land Cover (NLCD 2011) | |
| Open Water | Shrub/Scrub |
| Developed, Open Space | Grassland/Herbaceous |
| Developed, Low Intensity | Pasture/Hay |
| Developed, Medium Intensity | Cultivated Crops |
| Developed, High Intensity | Woody Wetlands |
| | Emergent Herbaceous Wetlands |

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, MEI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community National Land Cover Database 2011 (NLCD 2011) data obtained from Multi-Resolution Land Characteristics Consortium (MRLC).

Gregory B. Jarvis Power Project FERC No. 3211



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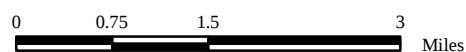
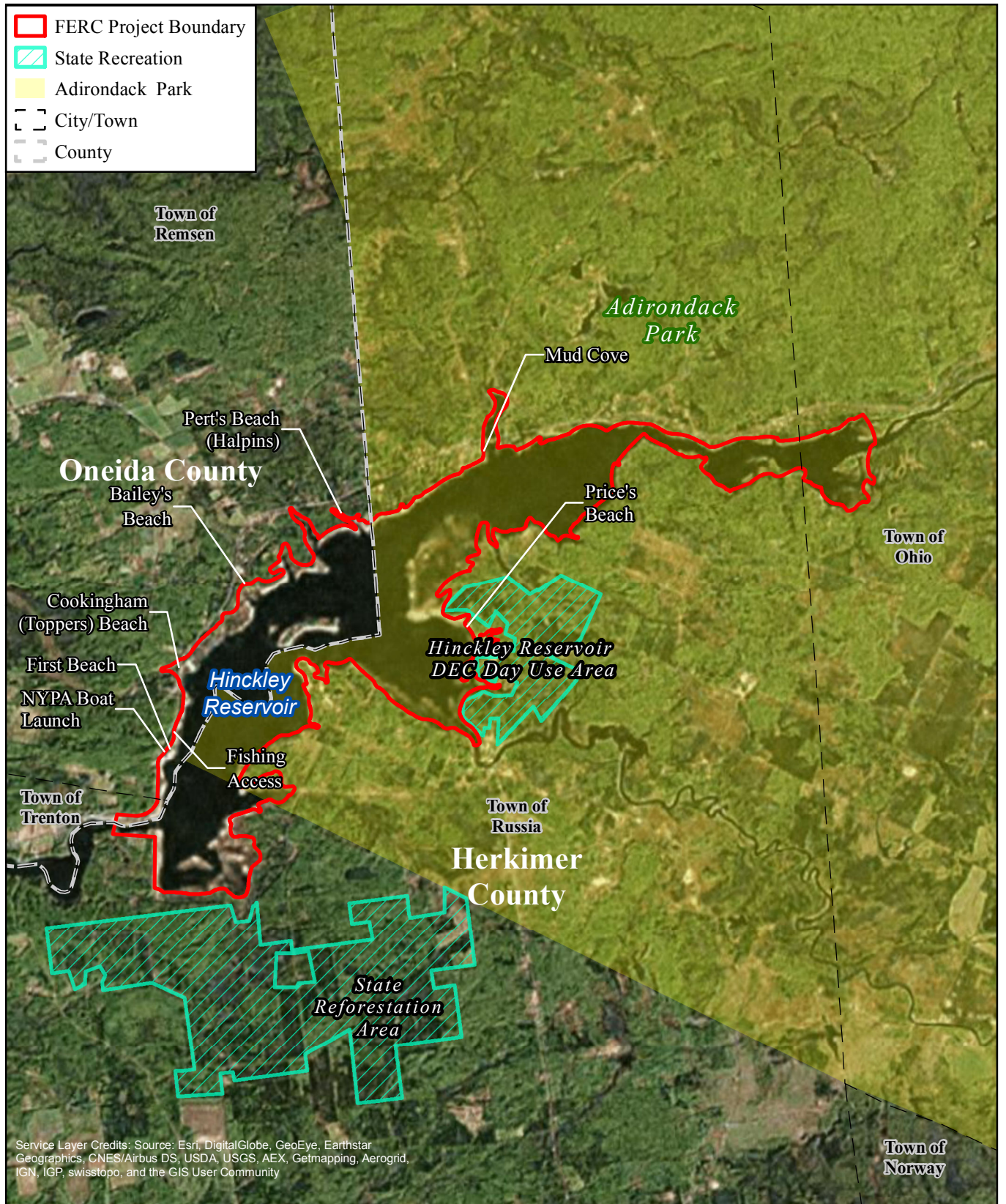


Figure 5:
Hinckley Reservoir
Land Use Map



Gregory B. Jarvis Power Project
FERC No. 3211



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Figure 6:
Hinckley Reservoir
Recreation Areas