



## FERC Scoping Meetings

Northfield Mountain Pumped  
Storage Project  
(FERC No. 2485)

Turners Falls Hydroelectric  
Project  
(FERC No. 1889)



<http://www.northfieldrelicensing.com>

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**FirstLight**  
Power Resources  
GDF SUEZ

Turners Falls Hydroelectric Project and Northfield Mountain Pumped Storage Project Relicensing » Home


FirstLight Power Resources is licensed by the Federal Energy Regulatory Commission (FERC or the Commission) to operate the Turners Falls Hydroelectric Project (FERC No. 1889) and the Northfield Mountain Pumped Storage Project (FERC No. 2485). Both Projects utilize water from the Connecticut River to generate hydroelectric power. The current FERC licenses for both projects expire on April 30, 2018. Every 30-50 years, Licensees are required to relicense their hydroelectric facilities with FERC. By April 30, 2016, two years prior to license expiration, FirstLight is required to file their Final License Applications for both projects.

Learn more about FERC and hydro licensing at <http://www.ferc.gov>.

**Turners Falls Hydroelectric Project and Northfield Mountain Pumped Storage Project Relicensing Website**

We will continue to provide informational materials to keep the public aware of our progress in the relicensing process. A key source for this information will be this website. Please check back again. If you would like to send a comment or request to the relicensing Project Manager please fill out the [Comment/Request form](#) or email to [FirstLight@gomezandsullivan.com](mailto:FirstLight@gomezandsullivan.com).

Or, take a moment to fill out the [Join our mailing list](#) form with your contact information and we will include you in our information distribution list.



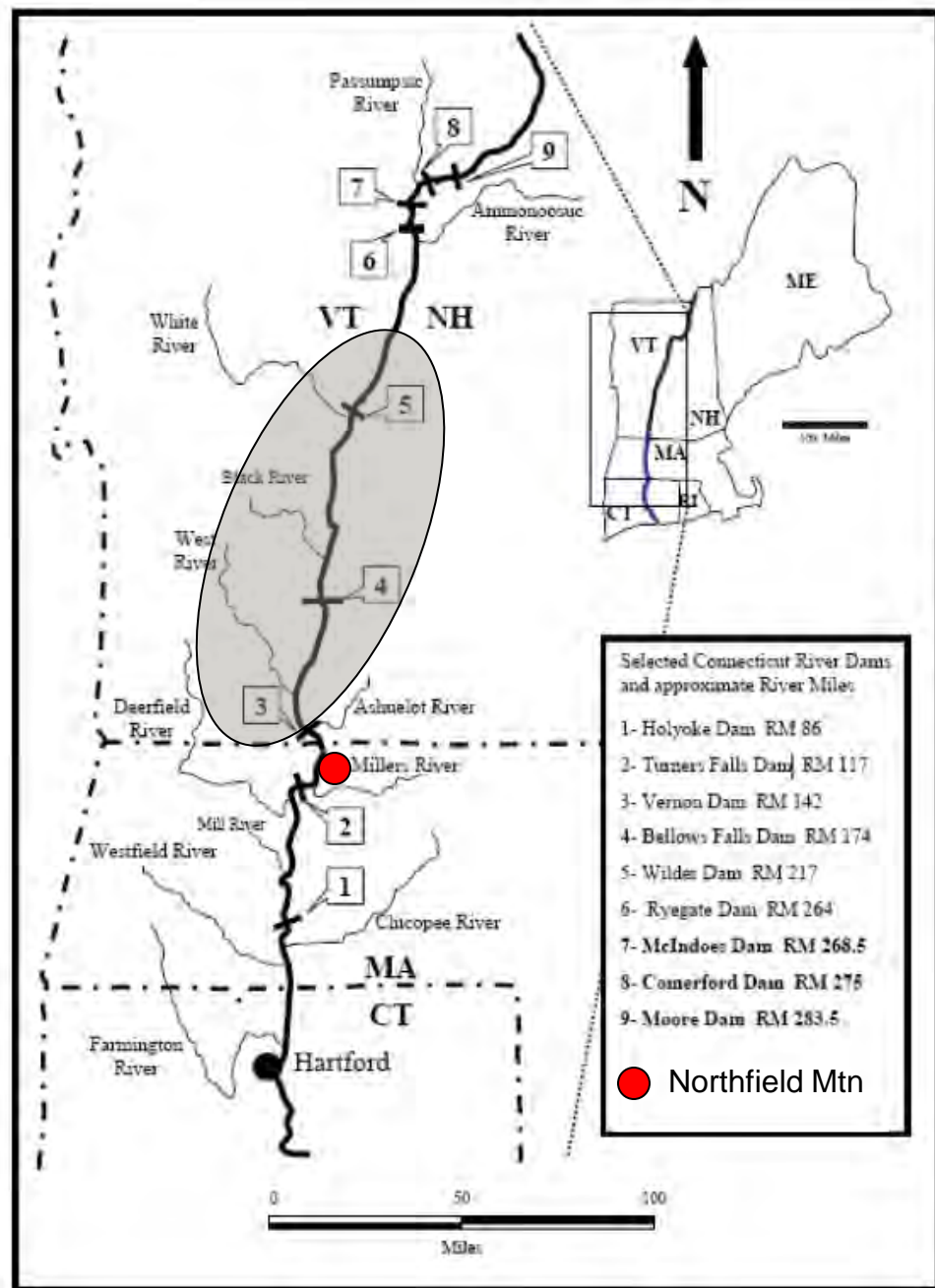
Please visit the links below to familiarize yourself with the Project

- [Background](#)
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## Connecticut River Mainstem

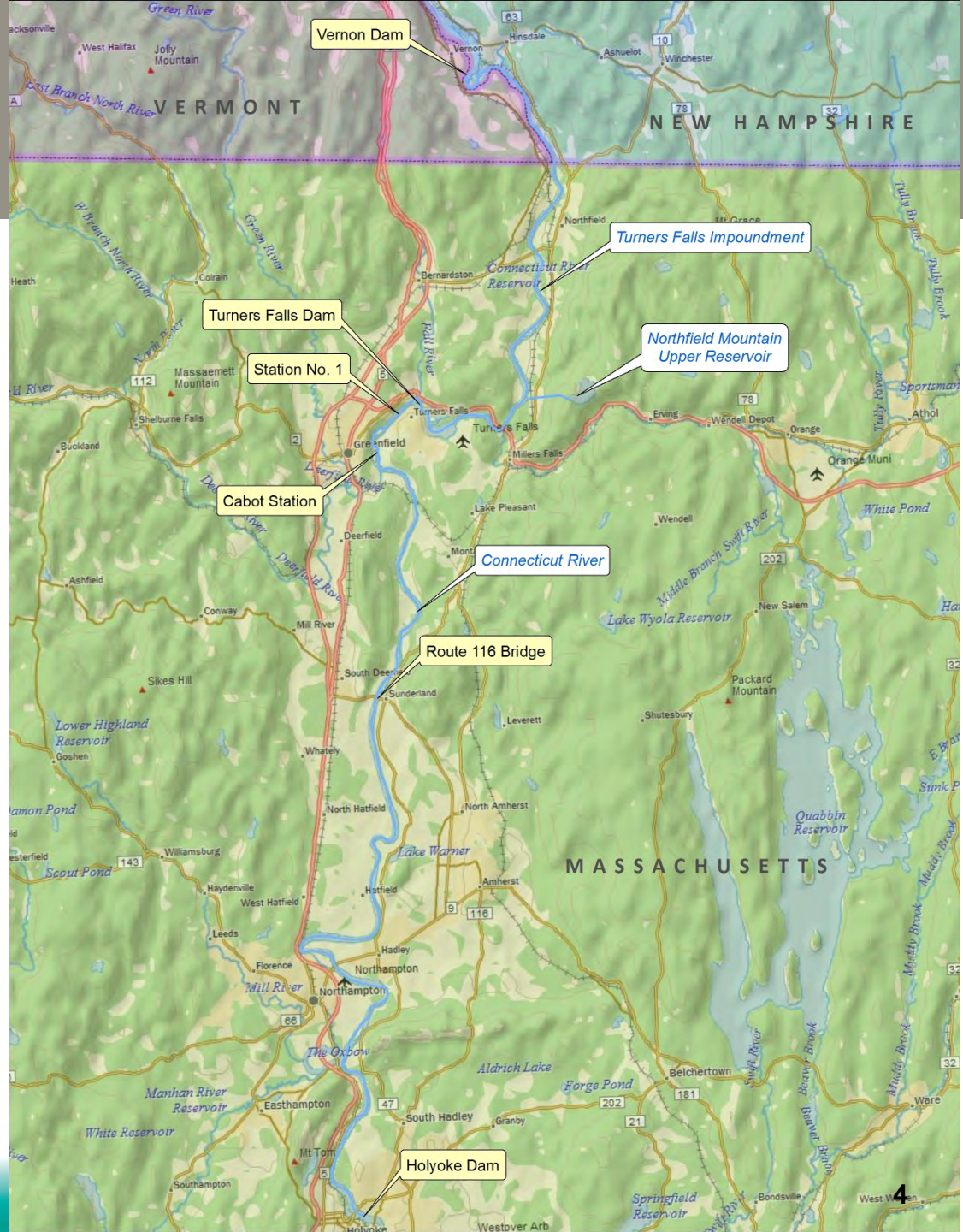
- Vernon (3), Bellows Falls (4) and Wilder (5) Hydros – owned by TransCanada and located upstream of FirstLight Projects. Their FERC Licenses expire simultaneously with FirstLight's Projects





## Project Features

- Turners Falls Impoundment
- Turners Falls Dam
- Northfield Mountain Pumped Storage
- Station No. 1
- Cabot Station
- Riverine reach below Cabot Station

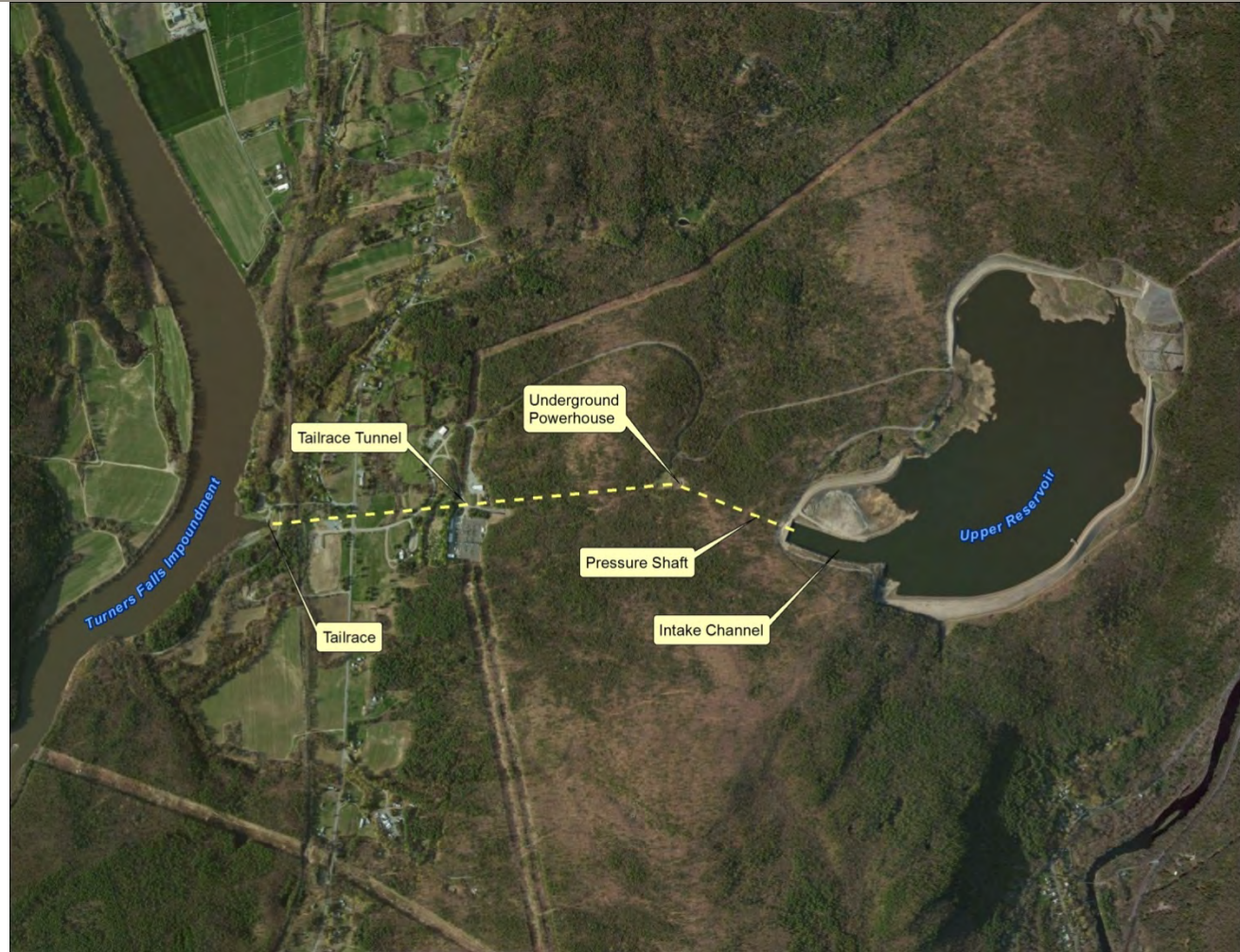




# Northfield Mountain Facility Layout

## Facility Features

- Upper Reservoir (~296 acres, when full)
- Intake Channel
- Underground Powerhouse
- Tailrace Tunnel
- Tailrace
- Turner Falls Impoundment is lower reservoir
- No tributary inflow to Upper Reservoir other than direct precipitation



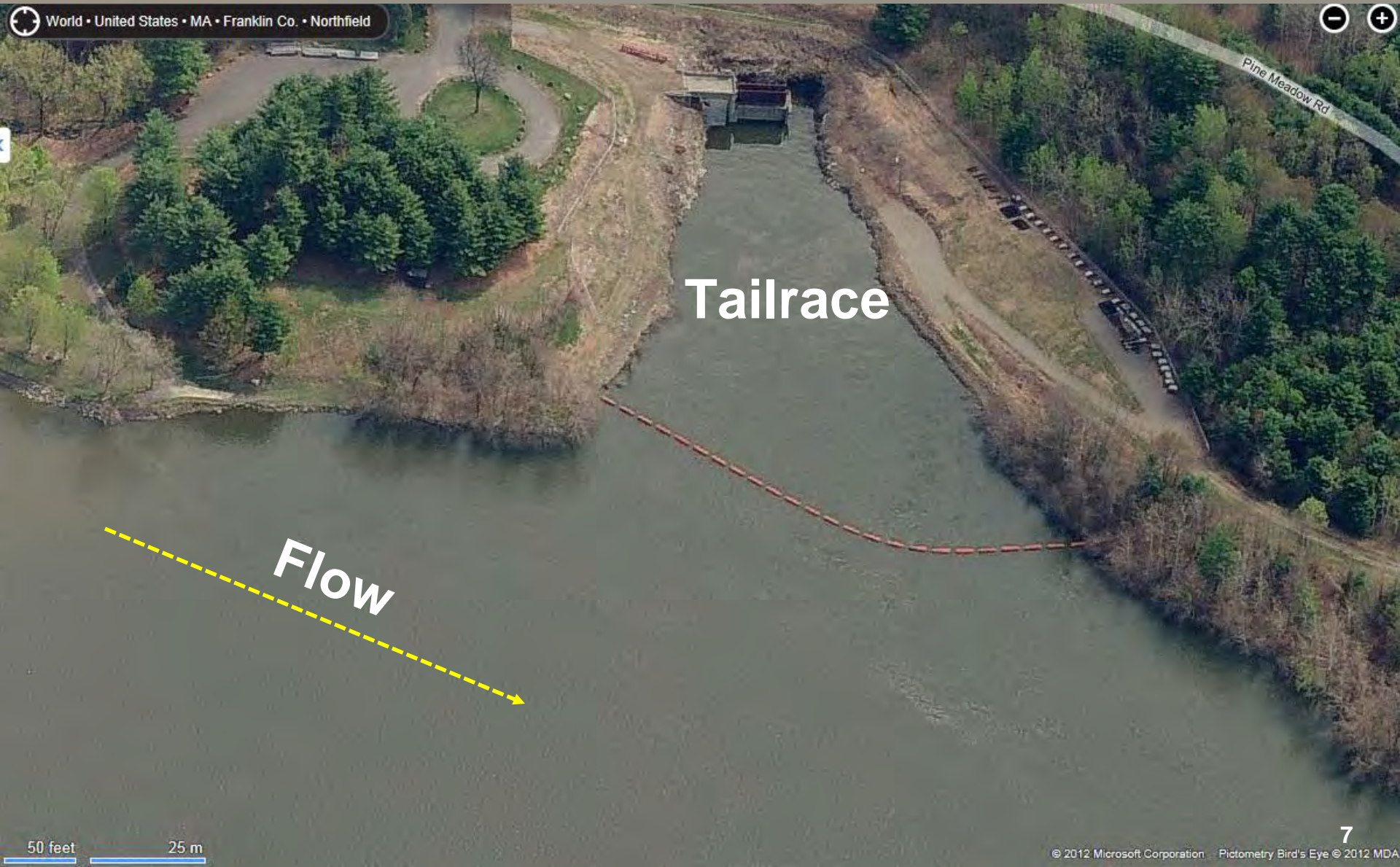
# Northfield Mountain Upper Reservoir

**Intake  
Channel**





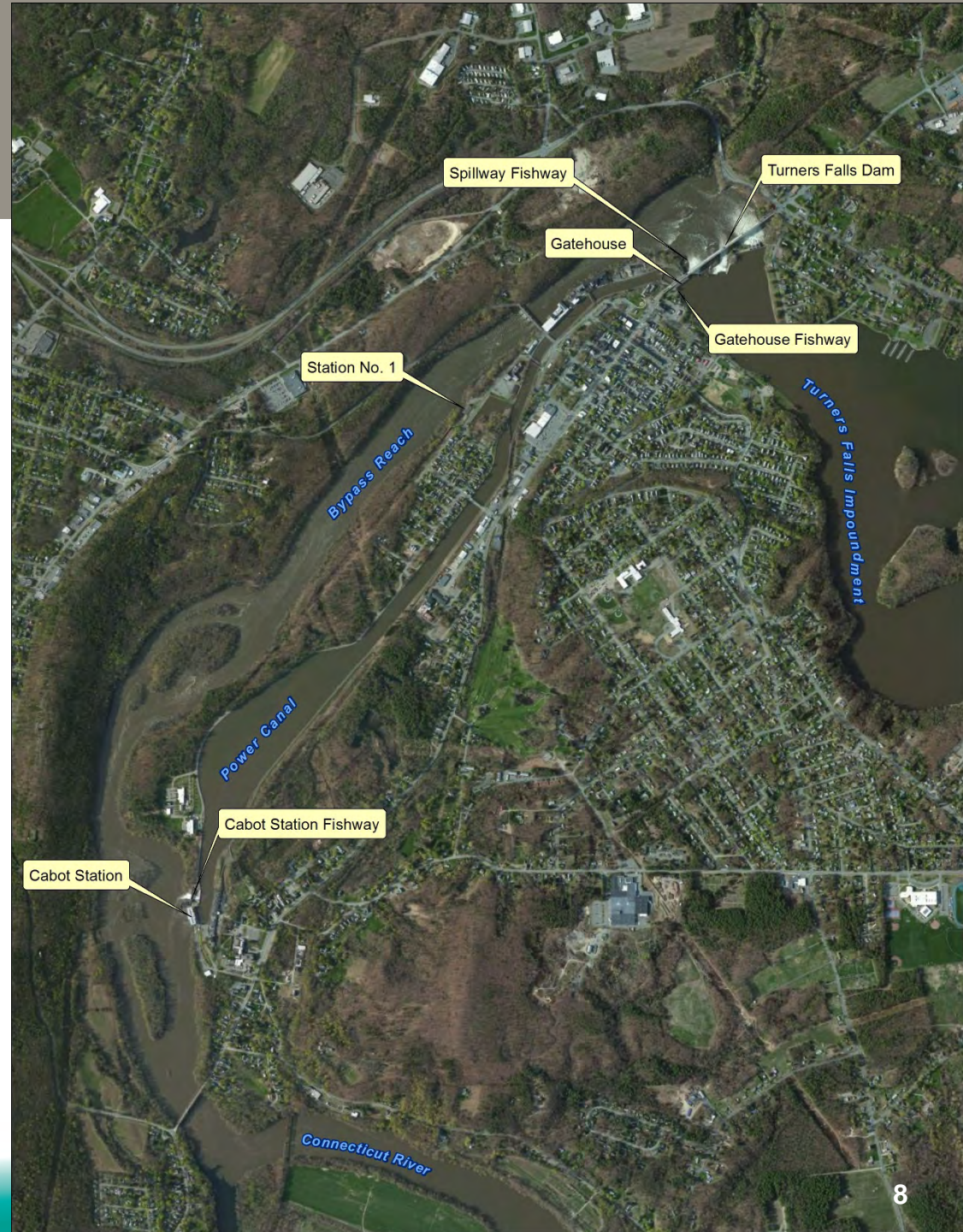
# Northfield Mountain Tailrace





## Project Features

- Turners Falls Dam
- Power Canal
- Station No. 1
- Cabot Station
- Spillway Fish Ladder
- Gatehouse Fish Ladder
- Cabot Fish Ladder
- Bypass Reach



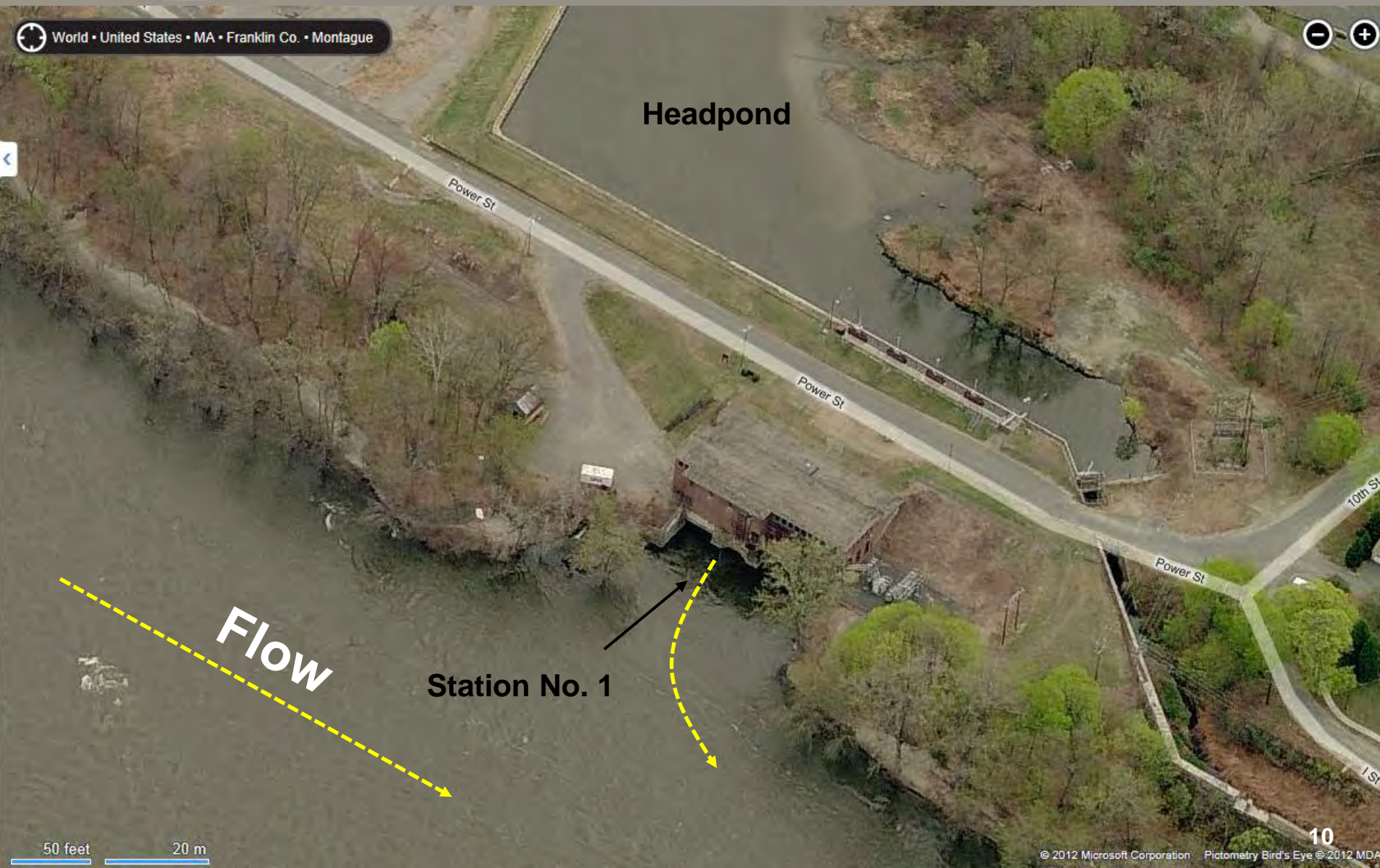


# Turners Falls Dam





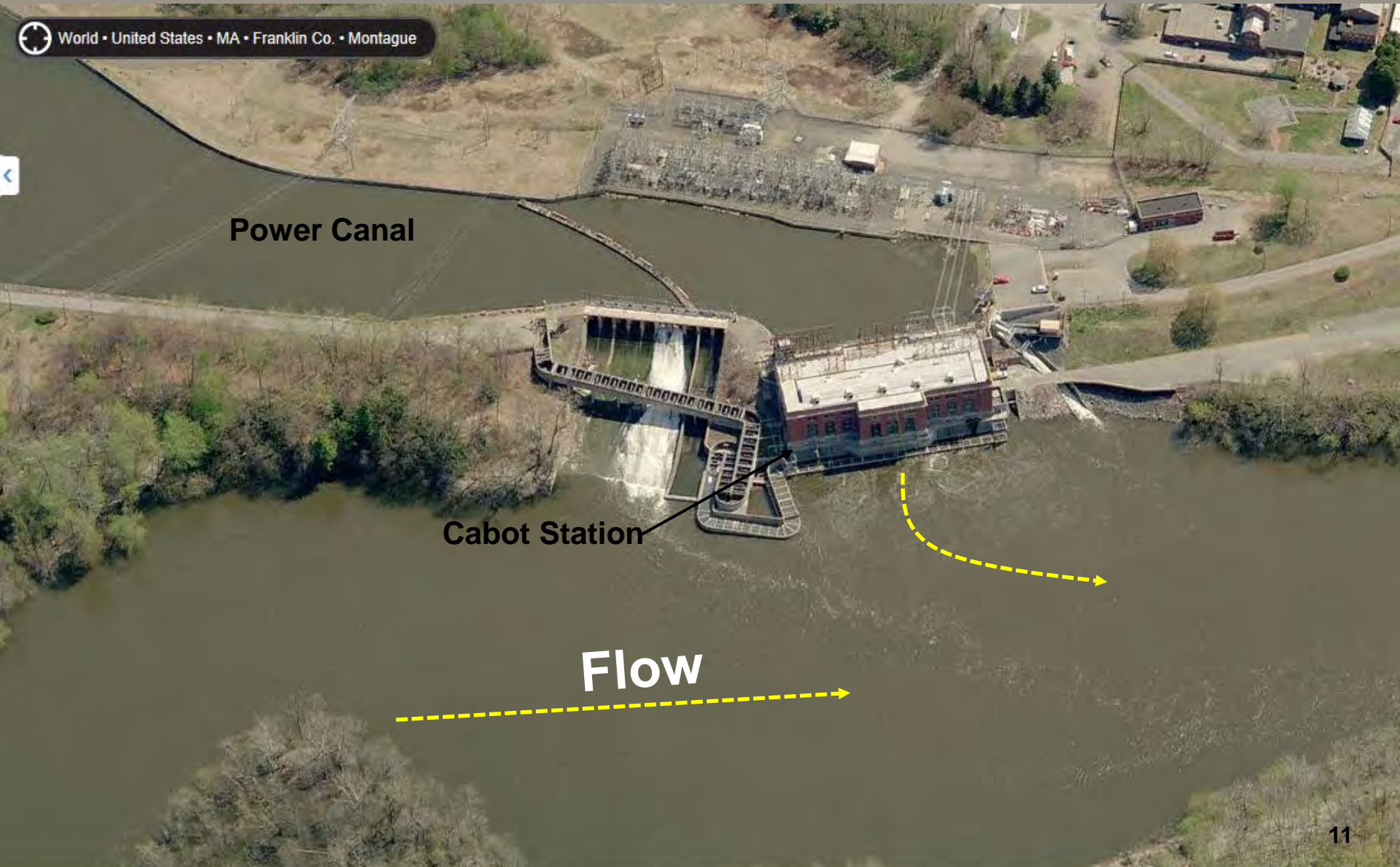
# Station No. 1





# Cabot Station

World • United States • MA • Franklin Co. • Montague



**Power Canal**

**Cabot Station**

**Flow**

# Background

	Northfield Mountain Pumped Storage Project	Turners Falls Hydroelectric Project
Constructed	Commercial operation 1972	Dam and Canal constructed ~1798
Description	4 units that can pump and generate	Two facilities off of the canal Station No. 1 (five units) Cabot Station (six units)
Generation Capacity	1,119.2 MW	67.709 MW
Average Annual Generation	1,007,480 MWH/yr (2004-07)	18,711 MWH/yr (2005-09) @ Station 1 351,039 MWH/yr (2005-09) @ Cabot
Hydraulic Capacity	~20,000 cfs (generation) ~15,200 cfs (pumping)	~2,210 cfs @ Station 1 ~13,728 cfs @ Cabot
Minimum Flow Requirements	---	Lowest of 1,433 cfs or inflow, below Cabot -400 cfs bypass during fish pass (Apr-Jun) 120 cfs end fish pass until water is 7°C (~Nov)
FERC License Expiration	4/30/2018	4/30/2018



# Northfield Mountain and Turners Falls Operation

## Northfield Mountain

- Upper Reservoir operating range is 62.5 feet
- Lower Reservoir (Turners Falls Imp.) operating range is 9 feet at TF Dam

## Turners Falls

### *Station No. 1*

- Generally operates as a base load plant when river flow is greater than 13,728 cfs and when river flows are very low

### *Cabot Station*

- Generally operates as a peaking plant with flows between 1,433 cfs and 13,728 cfs, and as a base load plant when river flows exceed 13,728 cfs

# Potential Modifications (to be evaluated during relicensing)

- Upgrading Station No. 1 with new or rehabilitated turbines.
- Closing Station No. 1 and adding a turbine-generator at Cabot of similar hydraulic capacity as Station No. 1's.
- Utilizing the full hydraulic capacity of the Cabot turbines that currently exists, but has not been used.
- Utilizing more storage in the Northfield Mountain Project's upper reservoir.
- Increasing the unit and station capacity at the Northfield Mountain Project.



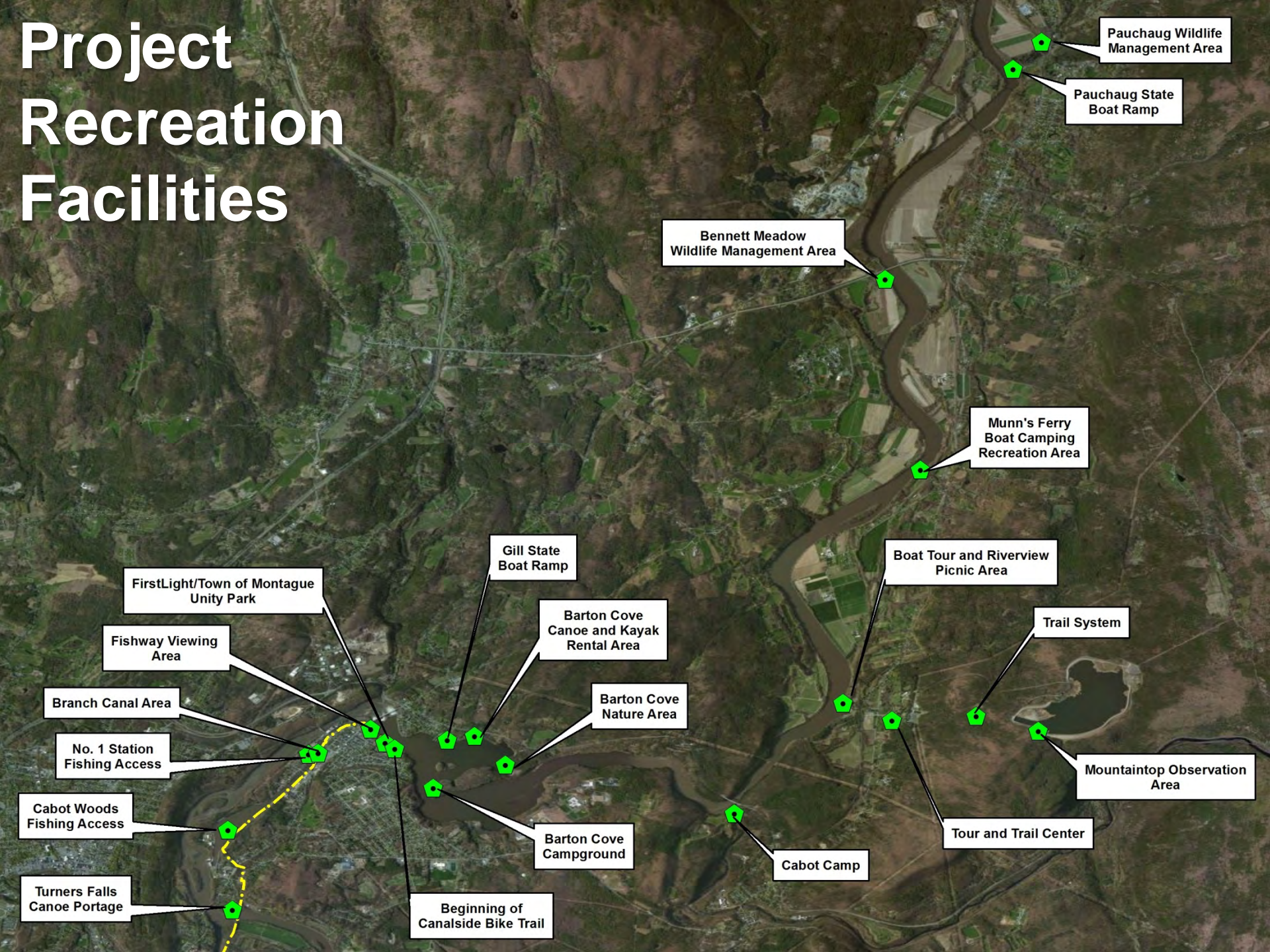
# Recreation Facilities

## Northfield Mountain / Turners Falls Recreation Facilities

- Bennett Meadow Wildlife Management Area
- Munn's Ferry Boat Camping Area
- Boat Tour and Riverview Picnic Area
- Tour and Trail Center
- Mountaintop Observation Area
- Trail System
- Fishway Viewing Area
- Branch Canal Area
- Station No. 1 Fishing Access Area
- Unity Park
- Barton Cove Nature Area (campground, canoe rentals, picnic area)
- Gill State Boat Launch
- Barton Cove Canoe & Kayak Rental Area
- Cabot Camp
- Pauchaug Wildlife Management Area & State Boat Launch
- Cabot Woods Fishing Access
- Canalside Trail Bike Path
- Canoe Portage



# Project Recreation Facilities



Pauchaug Wildlife  
Management Area

Pauchaug State  
Boat Ramp

Bennett Meadow  
Wildlife Management Area

Munn's Ferry  
Boat Camping  
Recreation Area

Boat Tour and Riverview  
Picnic Area

Trail System

Mountaintop Observation  
Area

Tour and Trail Center

Cabot Camp

Barton Cove  
Campground

Barton Cove  
Nature Area

Barton Cove  
Canoe and Kayak  
Rental Area

Gill State  
Boat Ramp

Beginning of  
Canalside Bike Trail

Turners Falls  
Canoe Portage

Cabot Woods  
Fishing Access

No. 1 Station  
Fishing Access

Branch Canal Area

Fishway Viewing  
Area

FirstLight/Town of Montague  
Unity Park



## **Geology and Soils**

- 2013 Full River Reconnaissance study and development of QAPP for the Turners Falls Impoundment.
- Hydrologic, Hydraulic and Geomorphic Analysis of Erosion in Turners Falls Impoundment.
- Analysis of Erosion in Vicinity of Route 10 Bridge Spanning the Connecticut River (completed 2012).
- Riverbank Erosion Comparison along the Connecticut River (completed 2012).

## Water Resources

- Develop operations model on an hourly time step (using HEC-ResSim).
- Water quality study of dissolved oxygen, temperature, percent saturation. Monthly profiles, and continuous monitoring during summer.
- Establish the project induced area of inundation in the Turners Falls Impoundment utilizing the 2006 hydraulic model.



## **Fish and Aquatic Resources**

- Habitat mapping of bypass and below Cabot Station (completed 2012).
- Mussel survey of bypass and Turners Falls Impoundment (completed 2012).
- Conduct instream flow study of bypass reach and below Cabot Station.
- Assess impacts of Project operations on sturgeon spawning near Cabot.

## Terrestrial Resources

- Baseline inventory study of botanical resources in the Turners Falls Impoundment, bypass reach, and below Cabot Station (wetlands, wildlife, RTE species, SAV, EAV, littoral zone).



## Threatened and Endangered Species

- See Terrestrial Resources.

## **Recreation and Land Use**

- Conduct recreation use/user contact survey to assess recreation use.
- Conduct recreation facilities inventory and assessment (will be conducted by February 2013, weather permitting).
- Land use classification inventory.
- Effect of project operations on recreation and land use.



## **Cultural Resources**

- Conduct Phase 1A archeological survey and historic structures survey.