

A Community Conversation About Hardy Dam

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Consumers Energy



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Conversation Objectives

- Share information about the future dam strategy
 - Lifespan of dams
- Gather community input

Overview of Consumers Energy River Hydro Strategy

Mio

Alcona

Loud

Five Channels

Cooke

Foote



August 2022



Rogers

Hardy

Croton

Tippy

Hodenpyl

Webber

Calkins Bridge

CE River Hydro History



Owned more than 90 river hydro assets



Typically, small multi-use assets that supported a local community



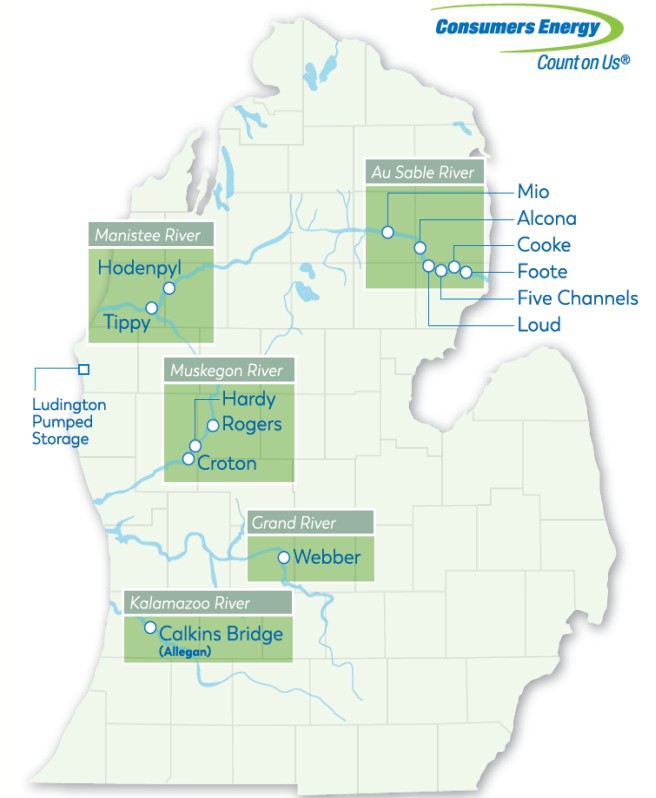
Generation advances and exhaustion of prudent locations stopped expansion



70+ assets sold or retired between 1940 & 1970 due to asset value (*customer value vs. cost*)

River Hydro Fleet Details

Dam	Capacity (MWs)	Average MW/day	Plant Commissioned	FERC License Expiration Date
Rogers	6.75	2.66	1906	6/30/2034
Hardy	31.5	11.87	1931	6/30/2034
Croton	8.85	3.79	1907	6/30/2034
Hodenpyl	17	5.57	1925	6/30/2034
Tippy	20.1	7.13	1918	6/30/2034
Calkins Bridge	2.55	1.52	1935	3/31/2040
Webber	3.25	1.3	1907	5/31/2041
Mio	5	1.74	1916	6/30/2034
Alcona	8	3.29	1924	6/30/2034
Loud	4	2.08	1913	6/30/2034
Five Channels	6	2.79	1912	6/30/2034
Cooke	9	3.15	1911	6/30/2034
Foote	9	3.51	1918	6/30/2034
Total:	131	50	About 1% of CE Total Generation	



Hydroelectric facilities

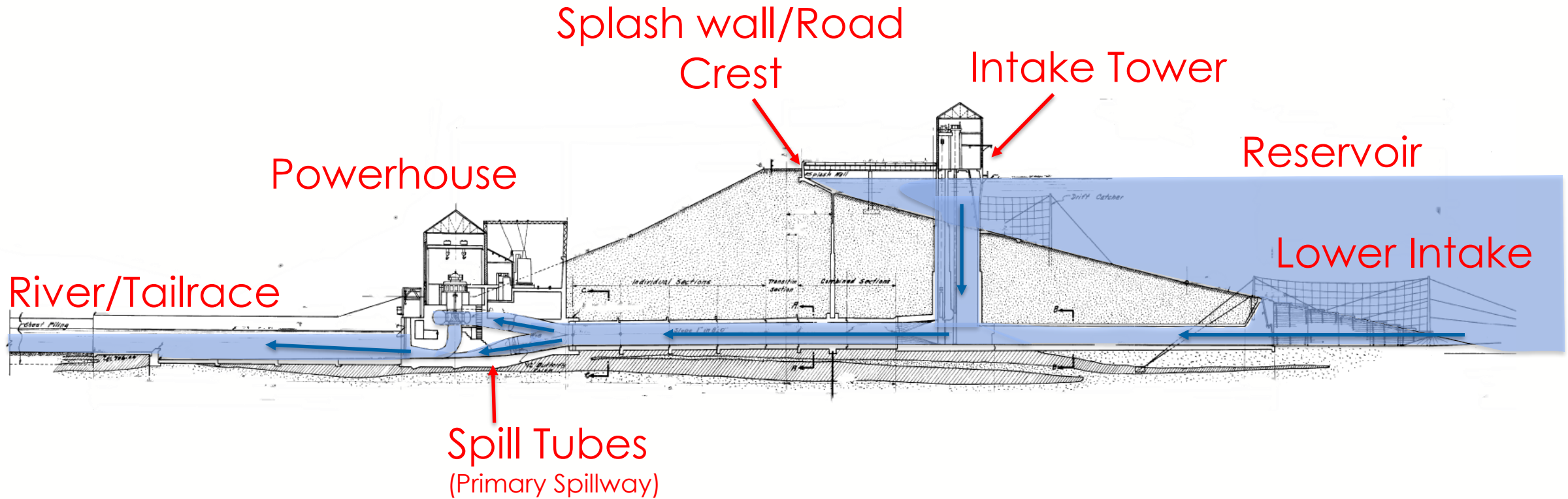
River Hydro Asset Key Terms

Definitions / purpose of the major components and aspects critical of safe, compliant and reliable operations:

- **Dam:** the entire barrier to hold back the water (reservoir) typically consists of embankments, spillways, and powerhouse
- **Spillway:** Primary location for water flow when not used for generation
- **Powerhouse:** location of generation units
- **Embankment:** earthen barrier to hold back the reservoir which contains a hydraulic barrier (core wall)



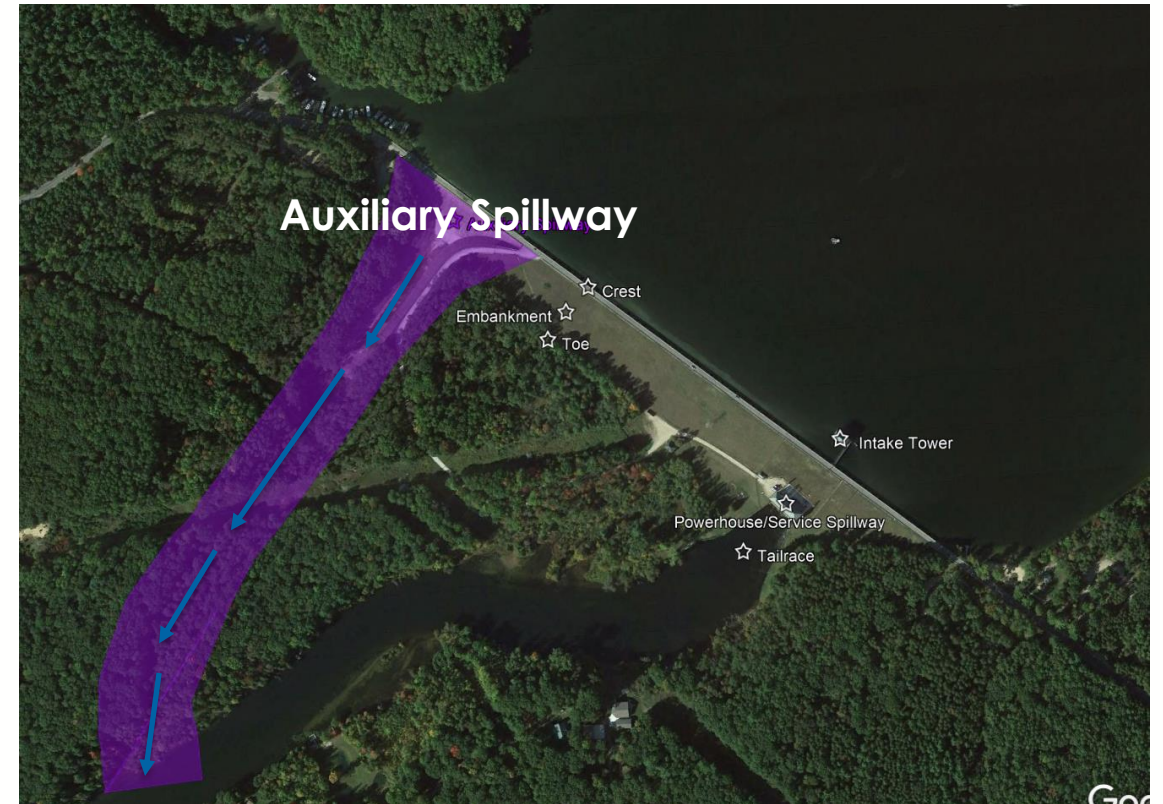
How Does Hardy Work?



Auxiliary Spillway: Secondary spill location required to pass the high flow events up to the Probable Maximum Flood.

Water Flow
←

Hardy Dam Structures



Detailed Review



Safety



Satisfactory Condition with FERC



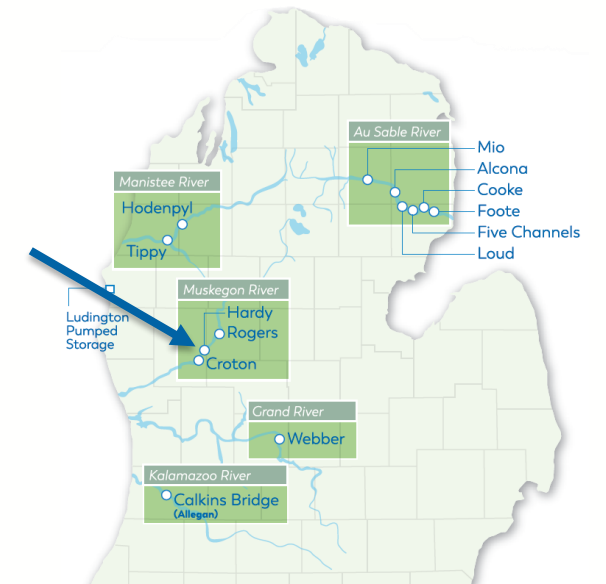
FERC Inspections



Owner's Dam Safety Program



Public Safety



Complying with Regulations



Division of Hydropower Administration and Compliance



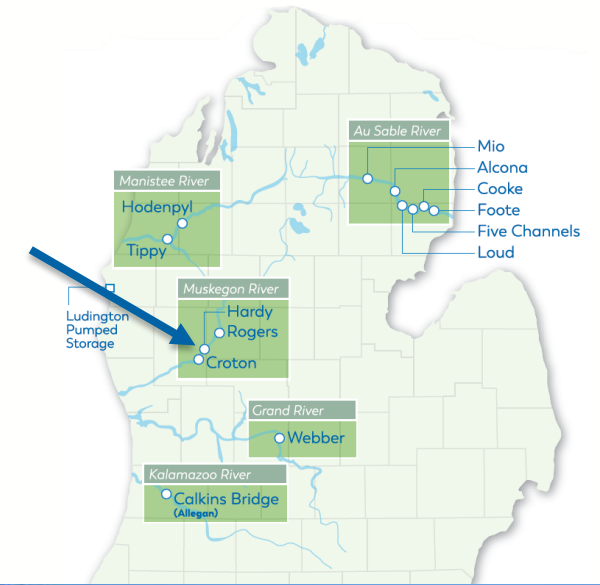
FERC Licensing Process

- Integrated Licensing Plan



Dam Safety and Inspections

- Updated Regulations in 2022





Cost of Operation (Fleet)

Benefit of CE River Hydros:

Total Average Value = \$12.9M/year

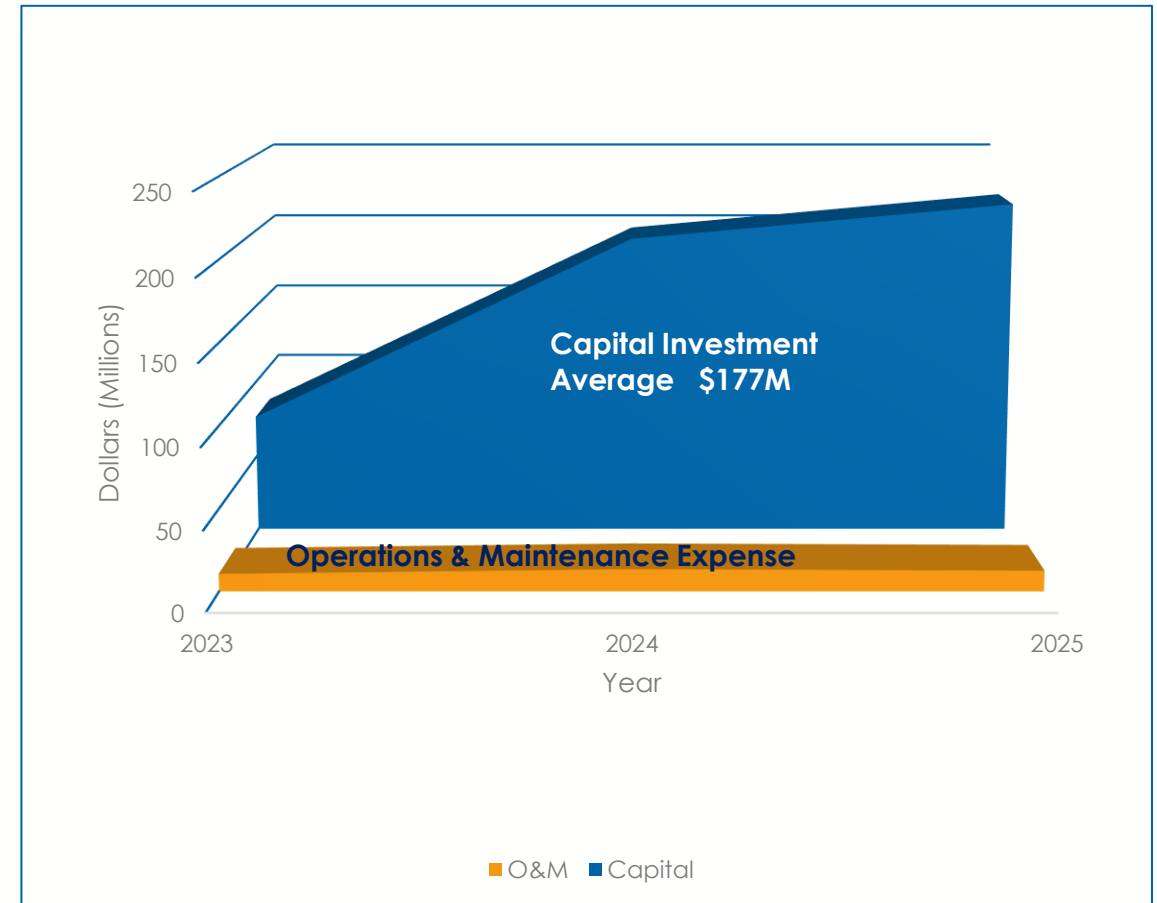
Cost of River Hydros:

Operations & Maintenance = \$12.6M/year

- Funding for internal/external labor to operate and maintain equipment.

Capital Investments = \$165.0M/year

- Major projects ie: replacement of spillway, new generators, new spill gates, new splash wall or new wicket gates



Hardy Dam Cost

	Actual O&M Costs 2017-2021	Forecasted O&M Costs 2023-2027	Actual Capital Costs 2017-2021	Forecasted Capital Costs 2023-2027
Hardy	\$4.72M	\$6.35M	\$22.52M	\$411.43M

Auxiliary Spillway, Crest, Splashwall Projects Forecast (2023-2027): \$403.7M

Electrical Safety Project Forecast (2026-2028): \$3.1M





Tailrace Sheetpile Replacement (2024-2026): \$2.2M

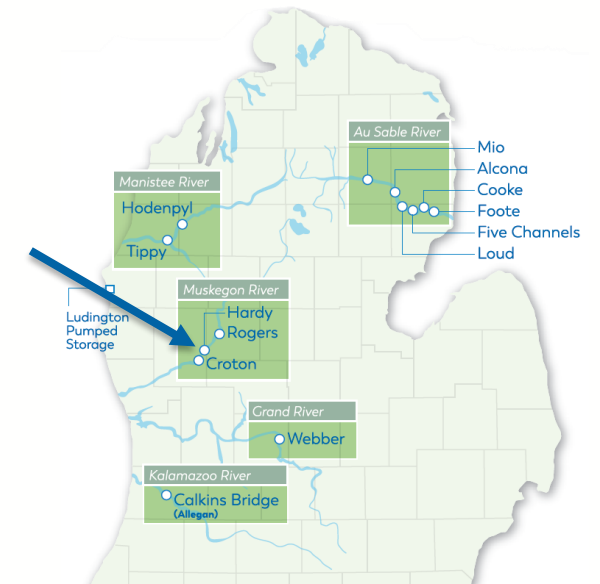
Hardy Avg O&M Cost: \$1.11M

Hardy Avg Value: \$3.037M of the \$12.9M (fleet)





*All forecasts are subject to change or shift

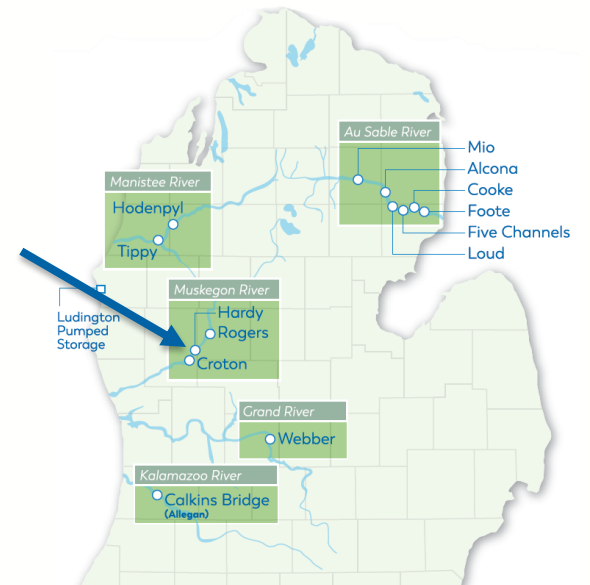
Environment

-  River Sedimentation
-  Water Quality
-  Not a downstream barrier (invasive species)
-  CE owns 3,500 acres surrounding Hardy Pond



Community

-  Listed on the National Register of Historic Places
 - Only CE Dam with Spanish Colonial Revival architecture style
-  World's tallest earthen dam at 100 feet when completed
-  Impoundment is popular for house boats
-  Here for Feedback



Recreation



Popular site with ~473K annual recreational visitors



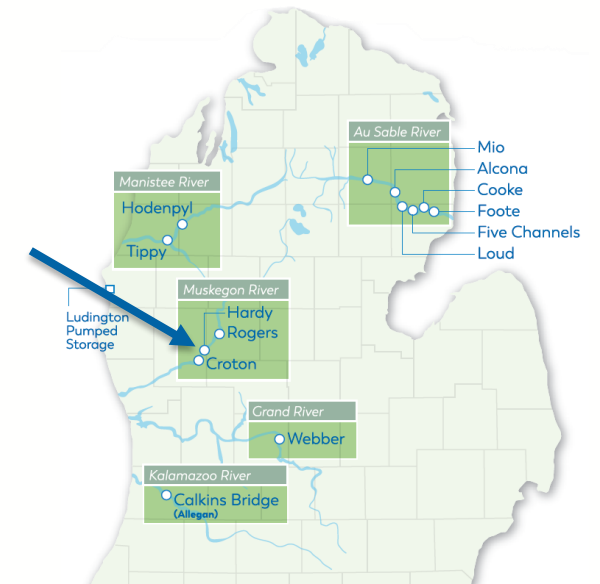
15 Marinas - 13 Boat Launches



Swimming Beaches, Fishing Piers, Campgrounds
• Operator's Village



Michigan's Dragon Trail at Hardy Dam



Engagement Process and Plan Development Timeline

- August–October 2022: Community engagement
 - Community meetings around each dam
 - Website launched
 - Survey of property owners located within 100 feet of Consumers’ property lines
- Early 2023: Long-term hydro strategy is developed
- 2023–2033: Relicensing and/or retiring process underway including community engagement

Community Input



Community Input

What is this community's relationship to the river, the dam, and its impoundment?



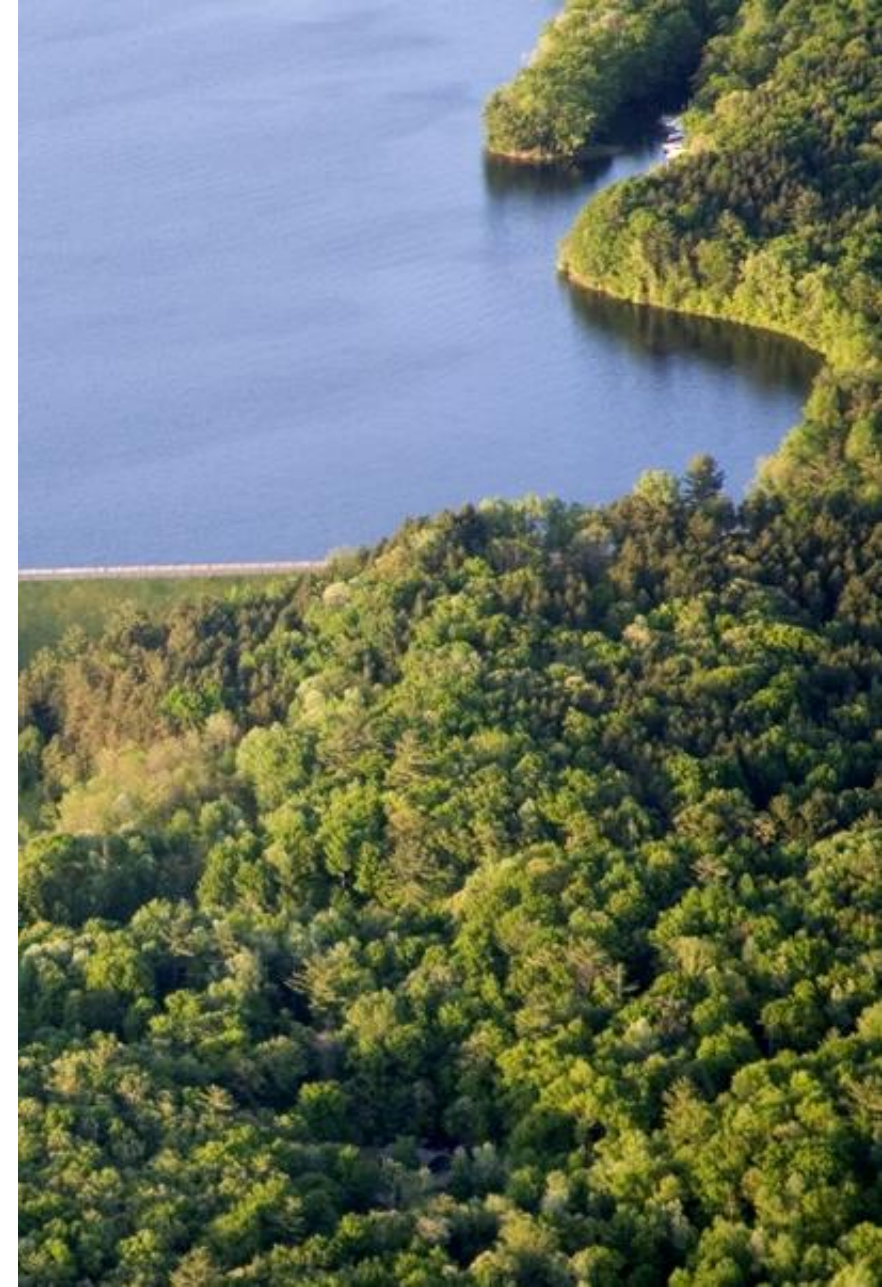
Community Input

How would that relationship change if the dam was retired and removed?



Community Input

**Does the information presented
this evening change your opinion
on the dam and its future?**



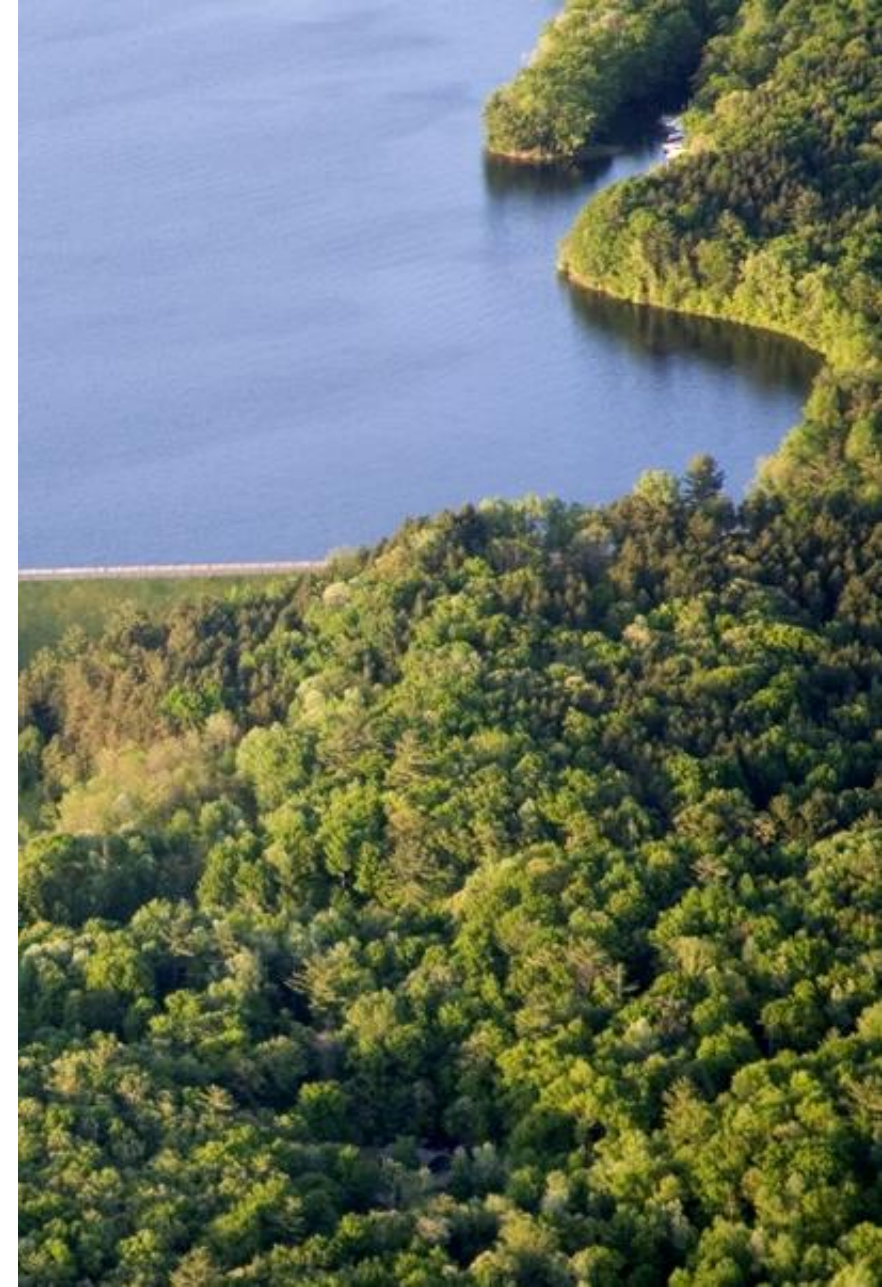
Community Input

What factors do you believe Consumers Energy should prioritize when determining the future of the dam?



Community Input

What would Consumers Energy need to do to make you feel their decision is sound?



For more information, please visit
www.consumersenergy.com/hydrofuture



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