



Department of
Environmental
Conservation

Dam Removal is Happening

Helping communities, ecosystems, and dam owners

October 23, 2025

Presentation Outline

- Context
- Dam impacts
- Our approach and case studies
- Challenge

Hudson River Estuary Action Agenda:

Draft Measures of Success 2026-2030

Twenty miles of stream will be restored through at least 10 projects that reconnect habitat and improve stream integrity through dam removal and culvert replacement.



Brown's Pond, Otter Kill, Orange County

Dams are not forever structures

3 possible trajectories

- Dam maintained by owner
(Dam can still fail)
- Dam is removed in a controlled manner
- Dam eventually fails in an uncontrolled/unpredictable manner

Dams are “hidden” pieces of aging infrastructure in high energy environments. They deteriorate just like more visible infrastructure (e.g., roads, bridges, and buildings).

Hard-hit Tuxedo residents want answers about collapse of dam

Flash flood during Irene seems linked, some say

Alyssa Sunkin

Oct. 3, 2011, 2:00 a.m. ET



Dams Provide Some Important Societal Benefits

Dams can provide:

- Recreation
- Drinking/process water supply
- Flood attenuation (Zero in HV)

Common misconceptions that create challenges:

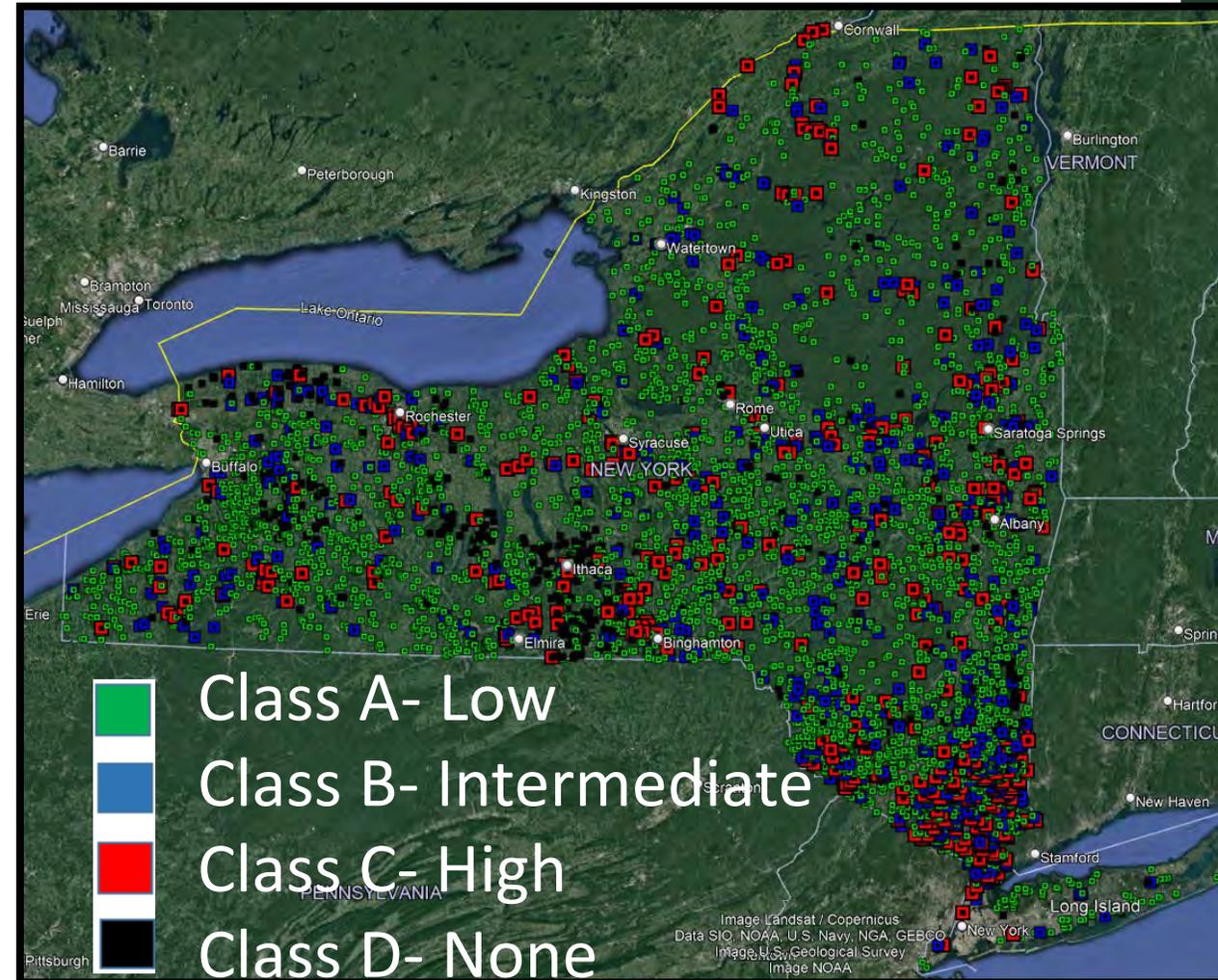
- Dams control flooding.
 - Resilient NY finding the opposite
- Future hydro is a possibility on failing structures.



Notable New York State Dam Statistics

- Over 7,300 DEC records (>5,500 regulated)
- Many smaller dams (next slide)
- Average dam age in New York is over 85 years old.
- Highest NYS densities in watersheds near NYC
- For example, Ramapo watershed
 - a dam per ~2 sq. miles
 - a dam every ~3 miles stream

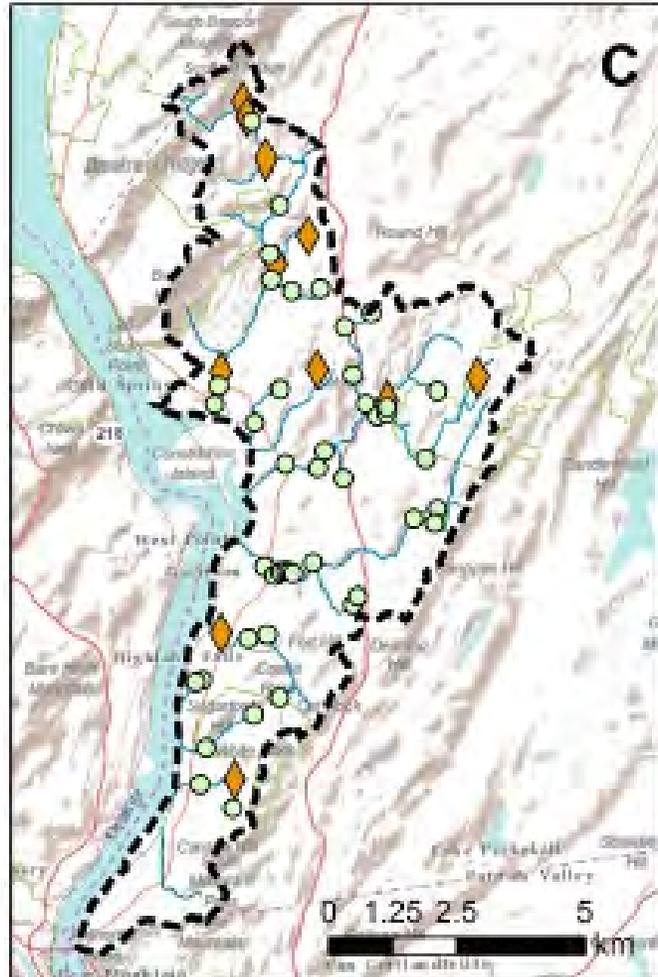
Source: Vedachalam et al. 2013



Many More Small “Unknown” Dams

Foundry Br. Putnam Co.

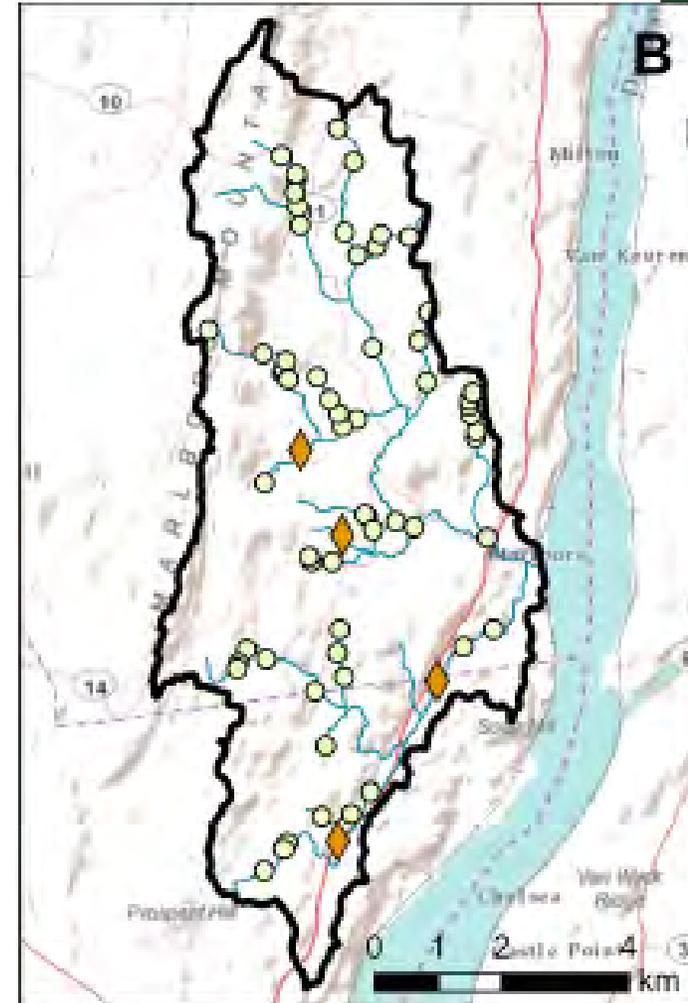
- 11 mapped
- 45 unmapped
- 4 X more



- Unmapped Dams
- ◇ Known Dams

Lattintown Cr. Ulster Co.

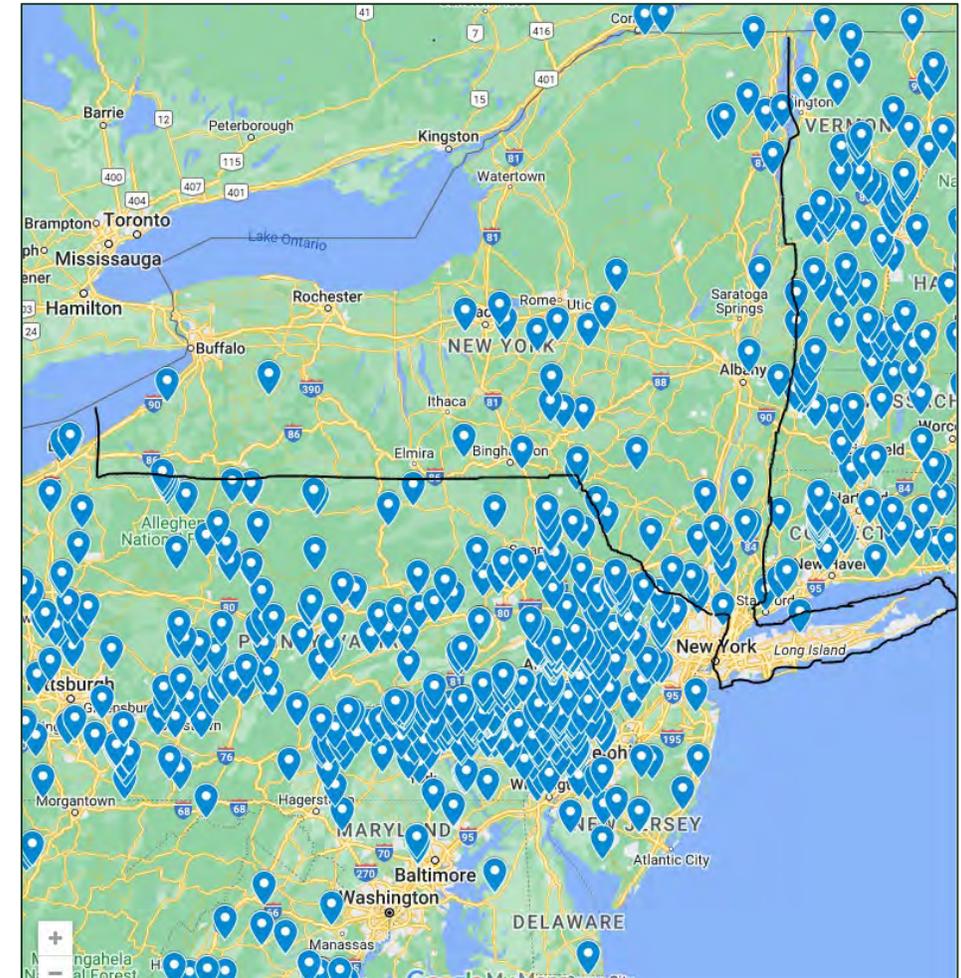
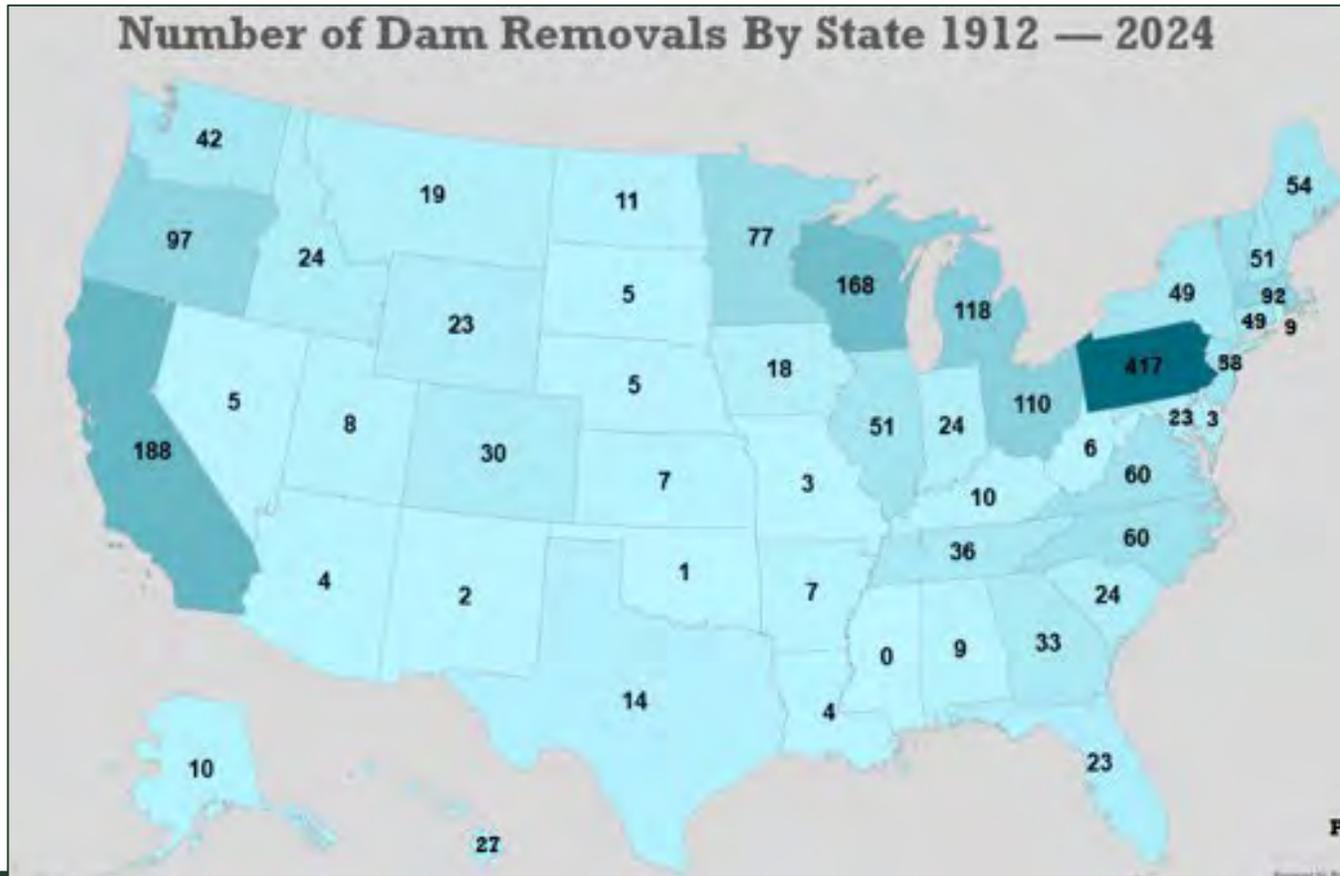
- 4 mapped
- 61 unmapped
- 15 X more



Source: Buchanan et al. 2021

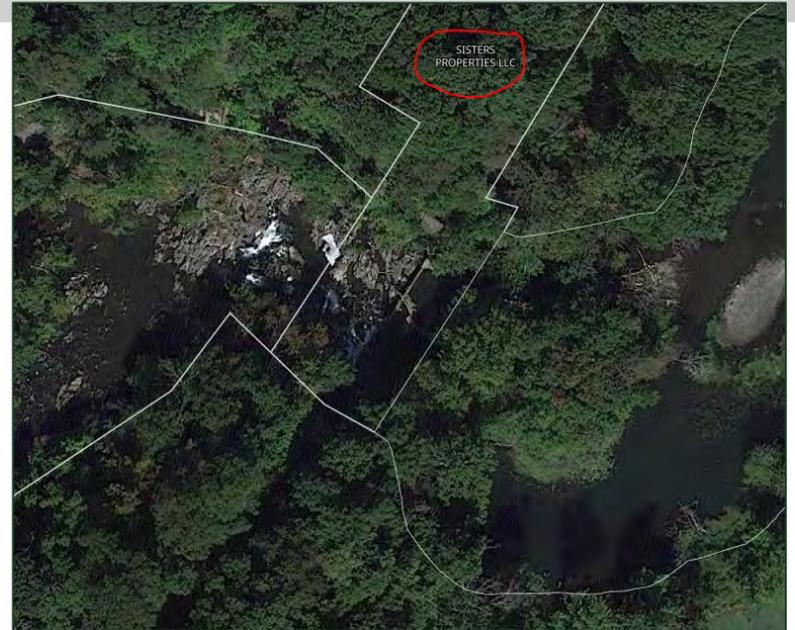
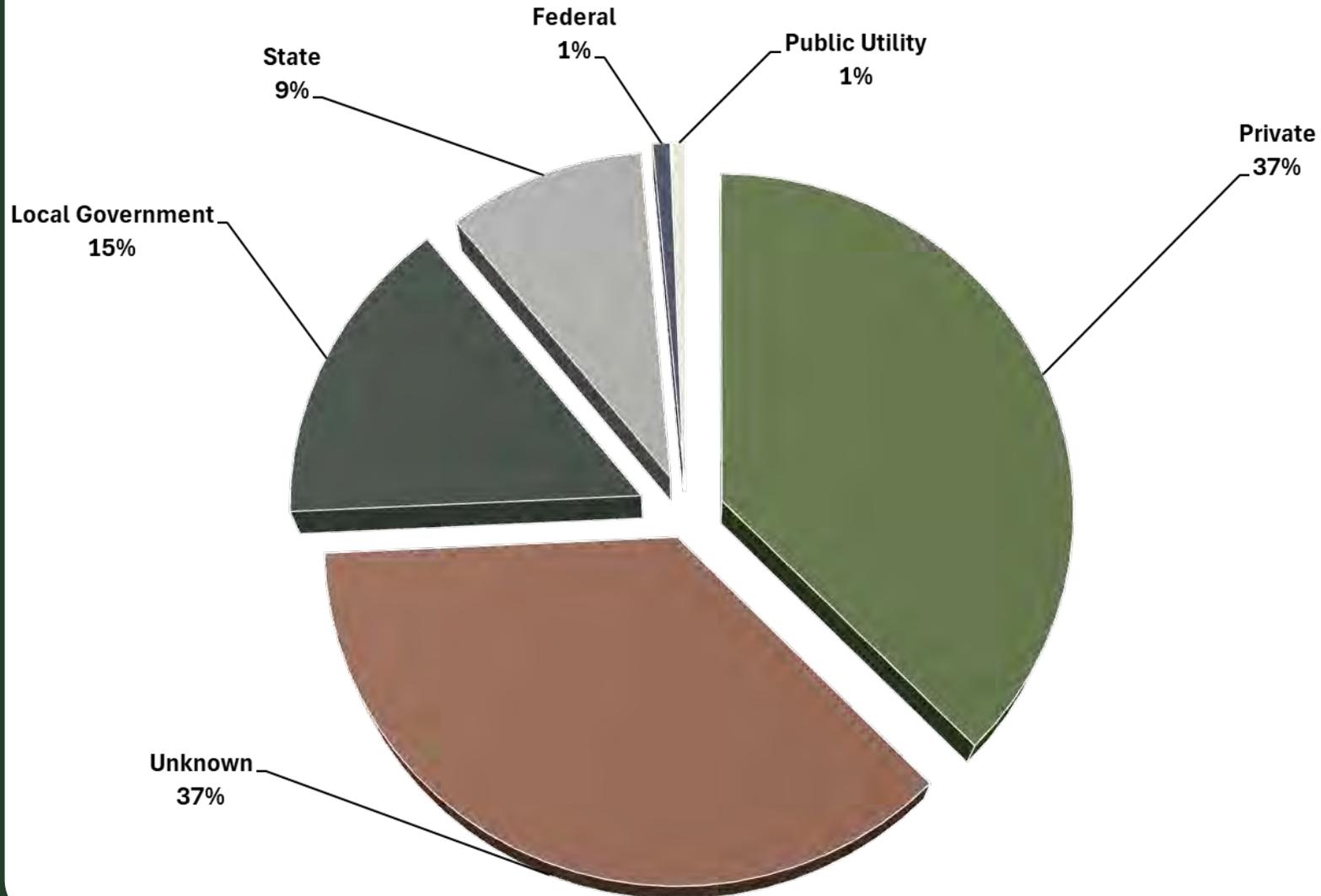
Dam Removals in NY and Nation (1912-2024)

- 49 removed in NY
- ? failures/breaches
- 417 in PA (highest #)



Source: American Rivers

Dam Ownership



Dams Impact Streams in Many ways

Fundamental shift from natural system to “artificial”
pond/lake/wetland = society managing an unnatural system



Trout stream

+ Dam =



Frog pond

Some Dam Impacts

- Disrupts river continuum
 - Flow/sediment/nutrients/wood
- Aquatic life barrier
- Water quality/benthic habitat shift
 - Temp and DO
- HAB ingredient – ponded/slow water
- Can facilitate invasives plants
 - Can also block them...
- Recreation user risks
- Flooding risks up and downstream



Our Approach and Some Successful Case Studies

Estuary Program Approach to Dam Removal

“Project pipeline” of outreach, technical supp., funding, and research



Outreach and
Education
Reconnaissance
Feasibility Studies

Designs
Permit applications
Technical assistance

Funding removal
Leverage larger
funding opps

Monitoring pre-
and post-
removal

Dam Removals Partners

- Riverkeeper
- HV Stream Conservancy
- Trout Unlimited
- Counties (mainly Dutchess and Westchester)
- Private owners
- NYS Water Resources Inst.
- Excavators
- Engineering firms

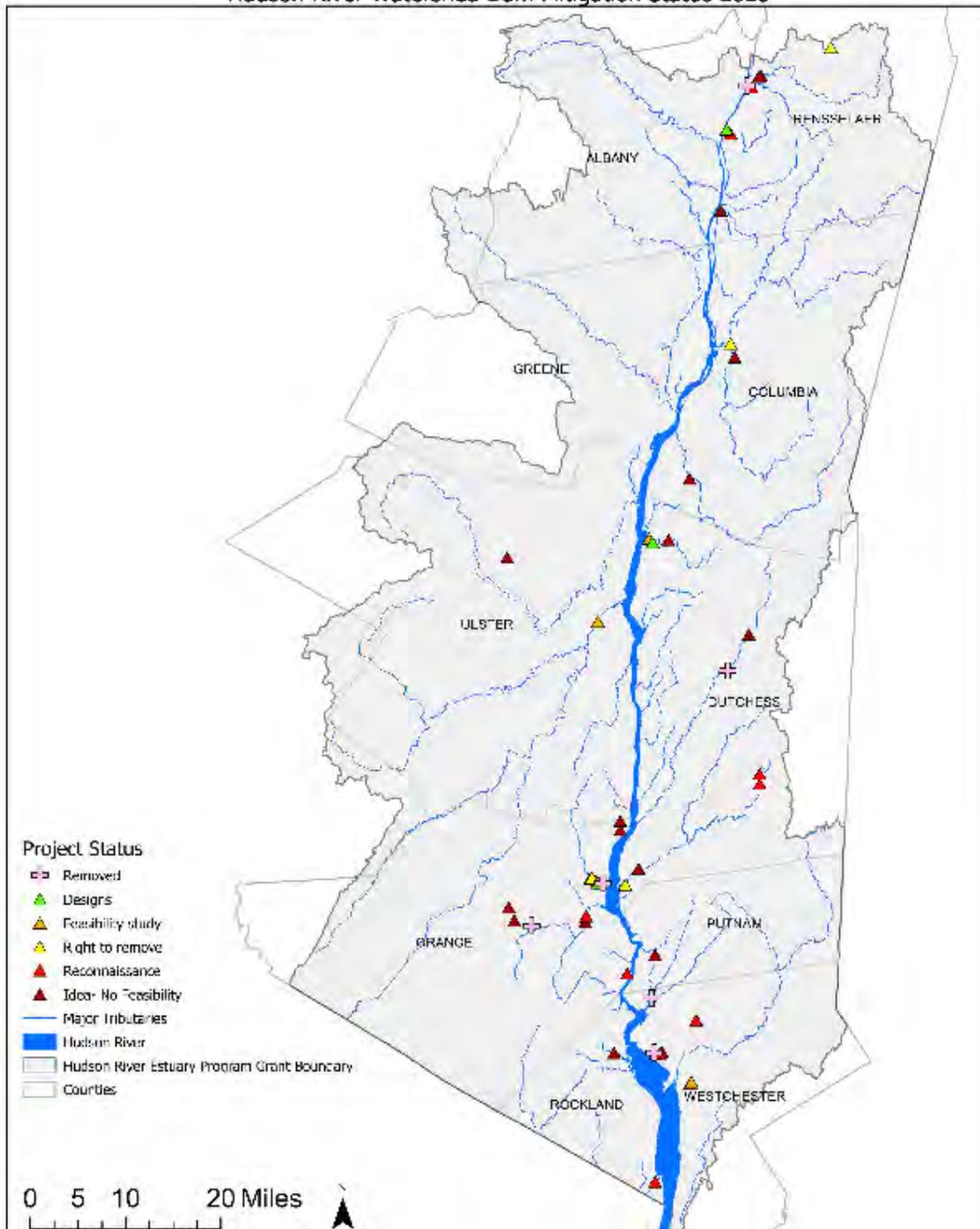


Dam Removal Locations and Opportunities

~45 dams in a spectrum of stages
(in the pipeline):

- Interested owners
- Studies
- Designs
- Permits
- Removals

Where we have a little traction.



Wynants Kill – Tide Gate – 1st upstream dam 2016

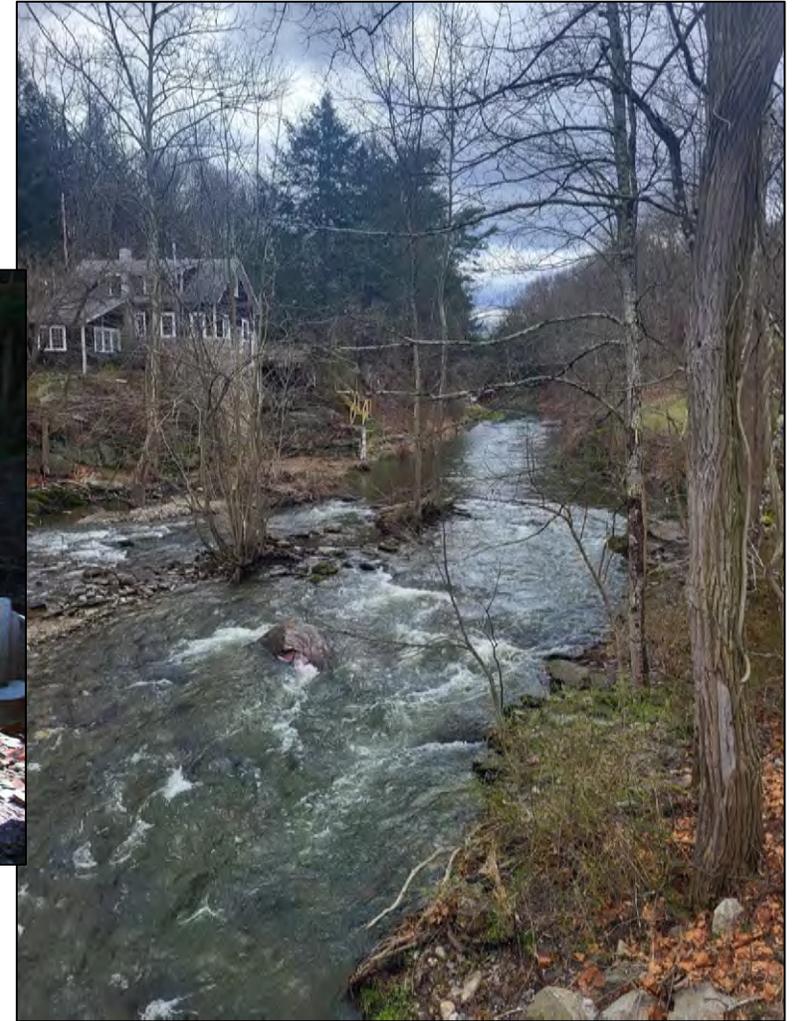
- 1st upstream dam (or last one downstream on tributary).
- Riverkeeper and City of Troy
- HREP funded removal

Before, during and after



Shapp Pond – E. B. Wappinger 2017

- 4th dam upstream
- Private owner and Dutchess SWCD
- HREP funded removal



Before, during and after

Quassaick Creek –Strooks Felt Dam 2020

- 1st upstream dam
- C. of Newburgh, Orange County, Riverkeeper
- HREP funded design and removal



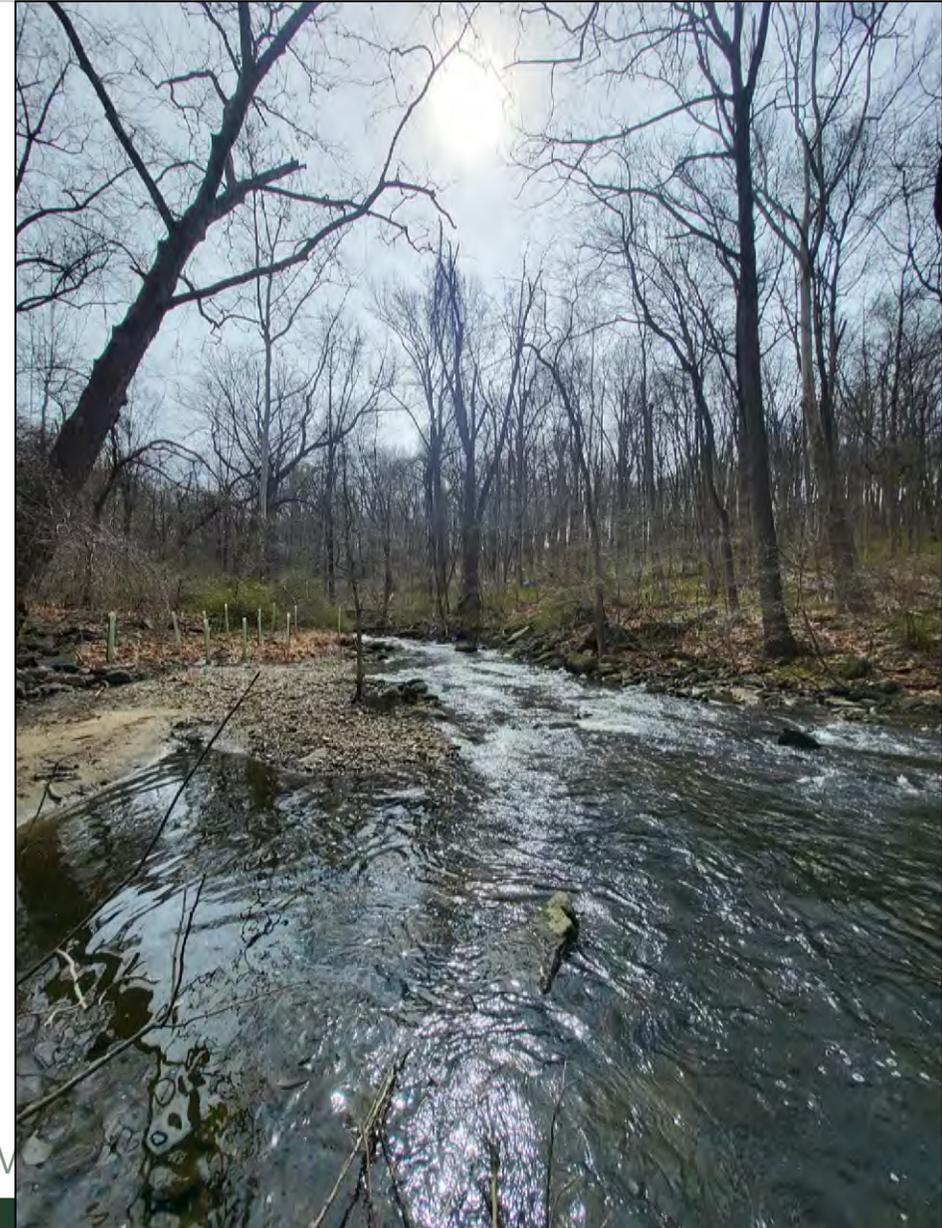
Before, during and after

Furnace Brook (Jamawissa) 2020

- 1st upstream dam
- Riverkeeper and Westchester Co.
- HREP funded design and removal



Before &
After



Sprout Brook 2024

- 1st upstream, Annsville Creek trib
- T. of Cortlandt, HV Stream Conservancy
- HREP funded planning, design, and removal



Scenic Huson and Hudson River Foundation chipped in match

Before, during and after

Philips Brook, Putnam County 2026?

- 1st dam upstream (barriers downstream)
- Nonprofit owner
- HREP funded eng./design/permitting
- DEC WQIP funding removal



Claverack/Stockport - Van De Cars Dam - 2028?

- 1st dam upstream
- Private owner
- HREP funding planning and design

- 25 Years in the making...
Patience is a virtue



Others in the Near-term Queue – Design/Removal (~3 years)

1. Quassaick (Newburgh)

- Holden Dam (new 1st upstream) – NFWF funding removal
- Walsh Road (next upstream) – HREP funding design

2. Unnamed tributary in Highland Falls

- Crystal Lake (1st upstream dam) – WQIP funding removal

3. Klein Kill/Walkkill trib (T. Gardiner/Mohonk)

- Duck Pond (~4th upstream dam) – WQIP funding removal

4. Mill Creek (C. Rensselaer)

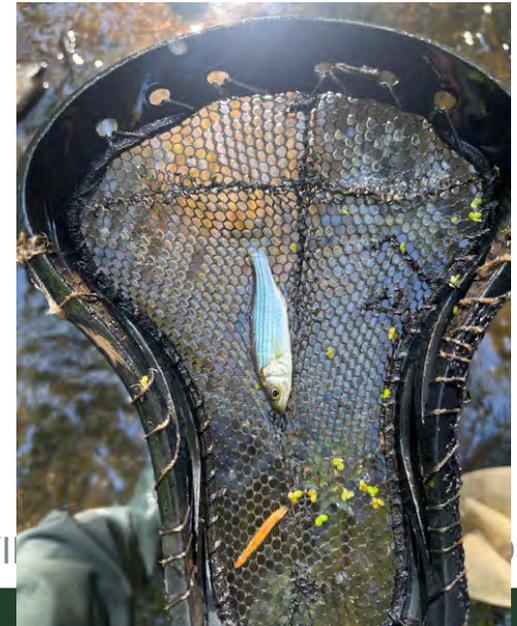
- Kenwood Dam (1st upstream dam) – HREP funding design



Success: A collective ecosystem bump

- Herring - Wynants Kill
- Blue crab - Sprout Brook
- Blue crab - Quassaick
- Stripers - Furnace Brook
- Water quality benefit – E. B. Wappinger
- Water quality benefit – Sprout Br.

Returning habitat and improving water quality quickly



Success: Helping people

Shapp Pond dam owner quote after removal

“The stream is now so beautiful and magical, it keeps shifting and changing. From my living room window, I can see so many creatures enjoying it, turtles, possums, beavers and herons, and I'm sure many more hidden from my sight. THANK YOU!”



Some Challenges

- Willing dam owners
- Matching high eco. value projects with willing dam owners
- Expense
- Can take a long time – persistence and patience required
- Maintaining consistency between multiple phases/grants
- Monitoring success – pre monitoring juggle
- Leaning into removal to frame as restoration, as opposed to assuming a negative impact – risk-based perspective
- Sediment guidance clarity
- Dams listed as historic structures, or in regulated districts
- Public perception



Bob Ewald watching the Quassaick dam come down. He waited 20 years.

Thank you for listening

Scott Cuppett

845-256-3029

Scott.cuppett@dec.ny.gov

NYSDEC HR Estuary Program

NYS Water Resources Institute, Cornell

Fumbled another fish...

