

Dam Removal Partnerships between Dam Safety Agencies & Conservation Organizations

National Dam Safety Program Technical Seminar | February 2023

Jim Howe, Senior Policy Advisor, and Beth Styler Barry, Director of River
Restoration – The Nature Conservancy



FEMA

Abstract:

- **Dam removal can offer win-win solutions to communities dealing with aging infrastructure that poses risks to people and property.**
- **Removing dams can not only eliminate risks from dam failure, but also enhance climate resilience, floodplain health, and aquatic ecology.**
- **How can dam safety agencies team up with the environmental community on high-priority dam removal efforts?**



FEMA



Mission of The Nature Conservancy

*To conserve the lands
and waters on which all
life depends.*

For nature and people





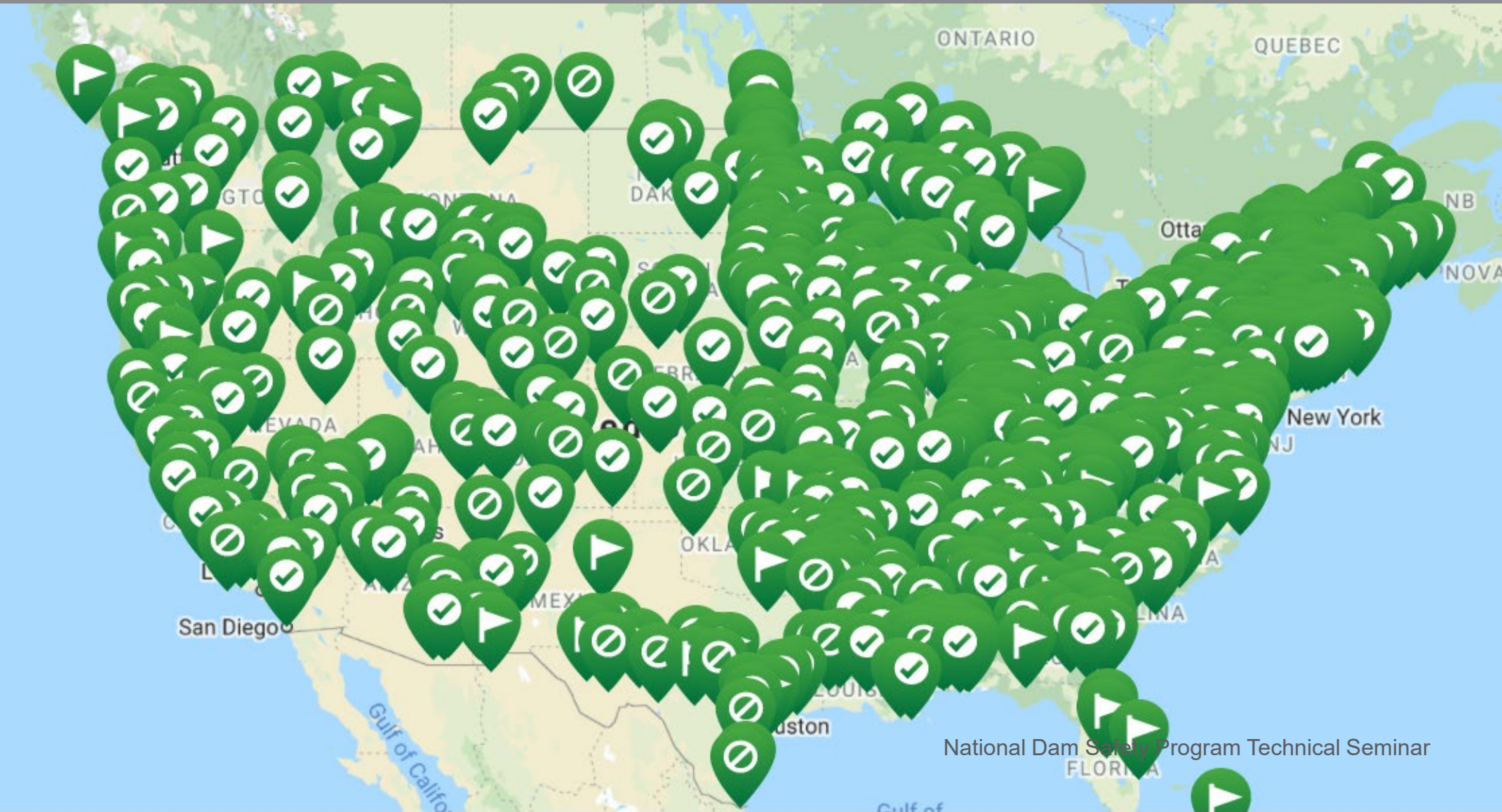
We use science and collaboration to find solutions to environmental challenges.

Learn more at [nature.org](https://www.nature.org)



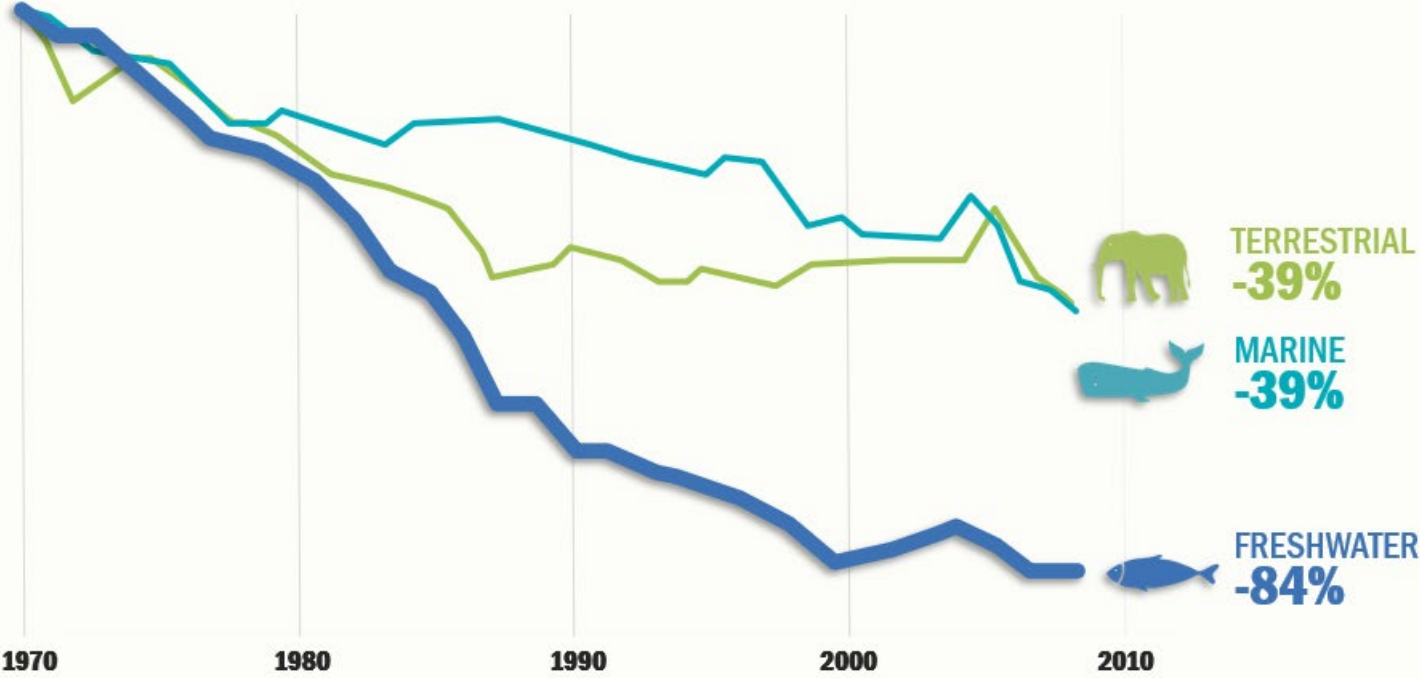
FEMA

The Nature Conservancy is active in every state and 75 countries



Dams have had significant impacts on freshwater ecosystems

Freshwater Species Decline: 1970-2010



Source: WWF, Living Planet Index - D, 2014

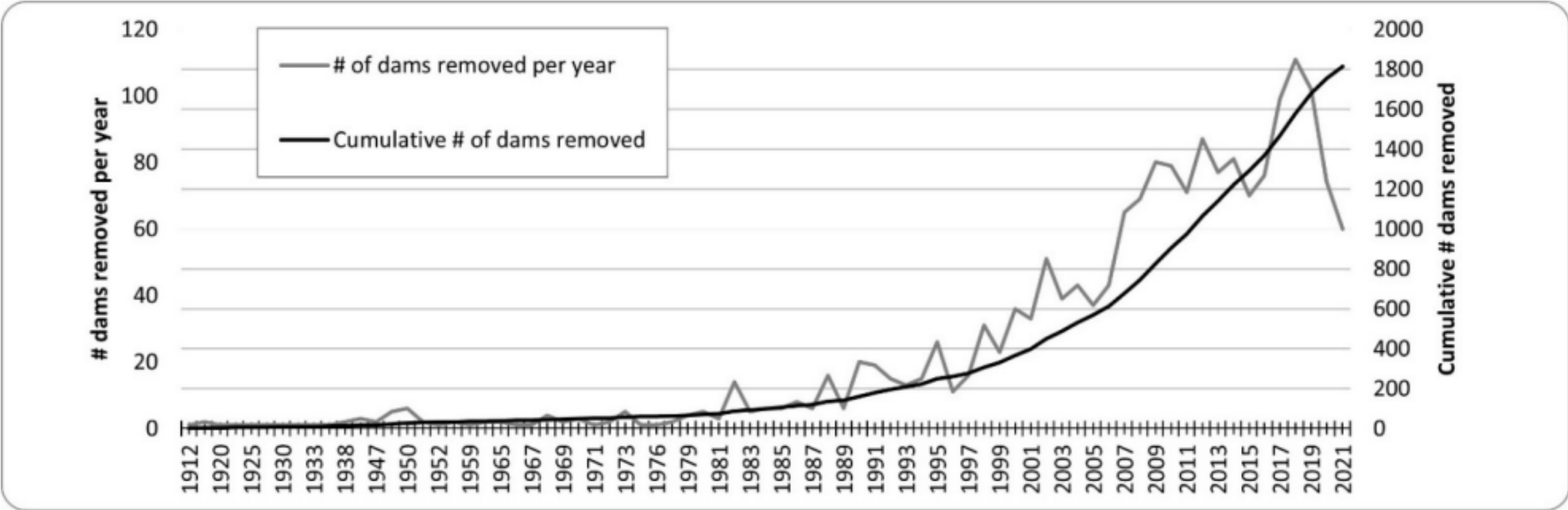


FEMA

Ecological Impacts of Dams

- Fragment rivers, blocking connectivity for fish and other aquatic organisms
- Disrupt natural flows that:
 - serve as cues for spawning and migration
 - create and sustain wetland, floodplain, and riparian communities
- Disrupt temperature and sediment regimes

U.S. dams removed annually and cumulatively

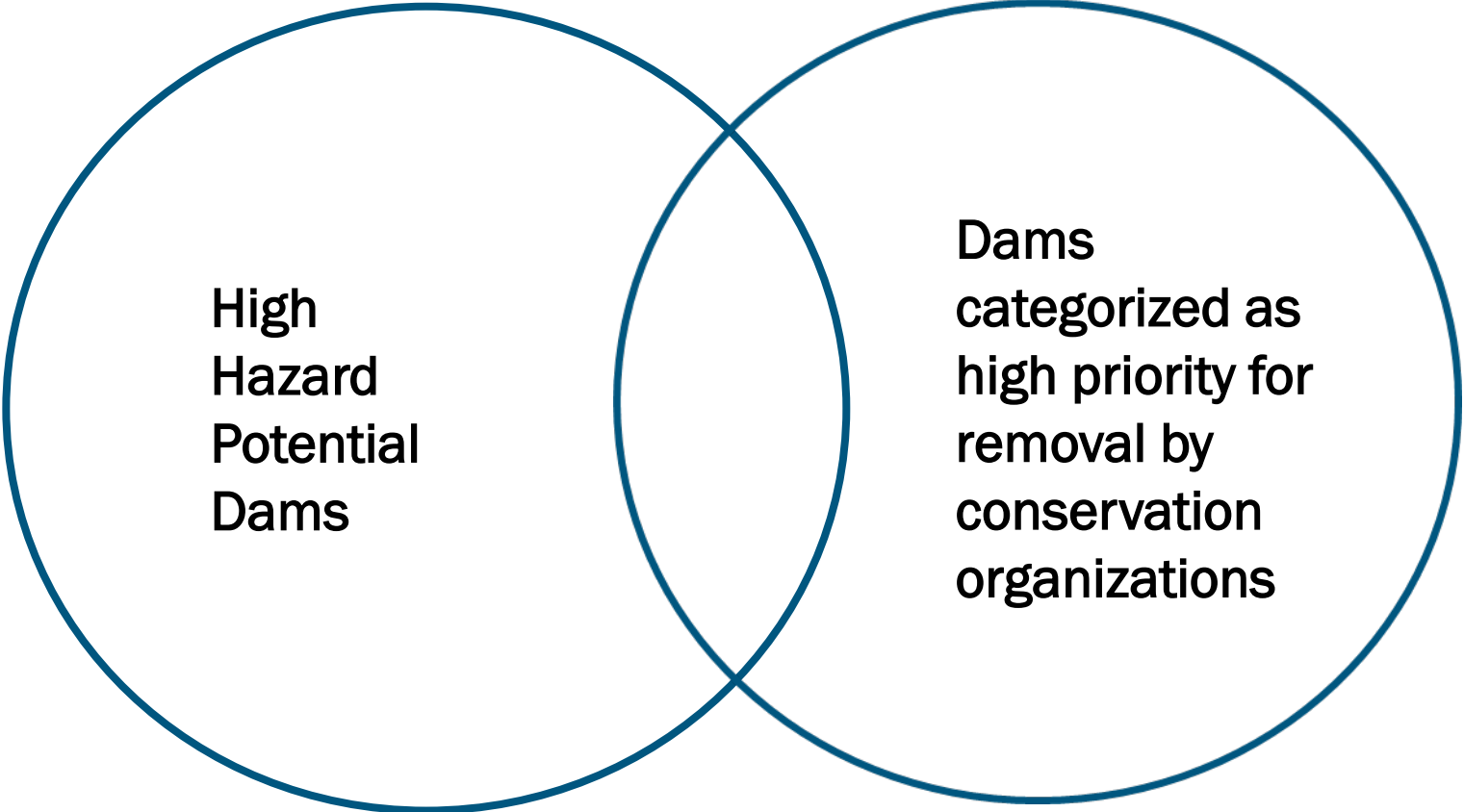


Source: American Rivers



FEMA

Intersections between dam safety & environmental organizations

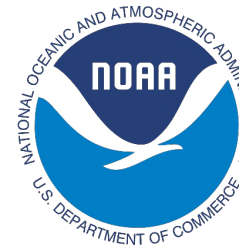




2021 Infrastructure Act included billions of dollars for removing dams and culverts



FEMA



— BUREAU OF —
RECLAMATION

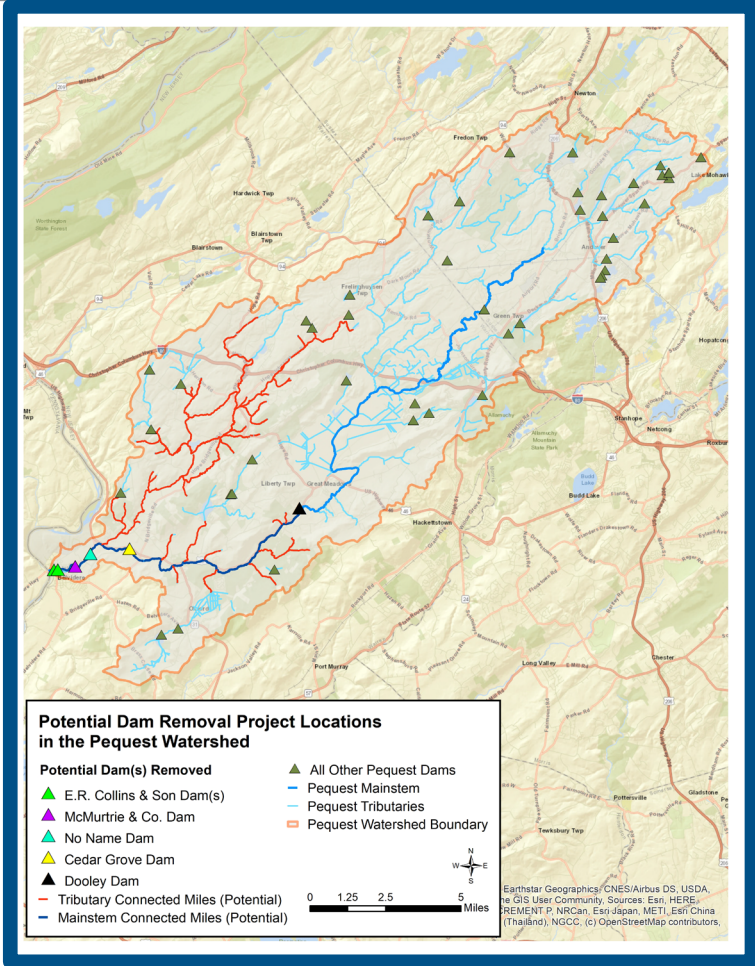
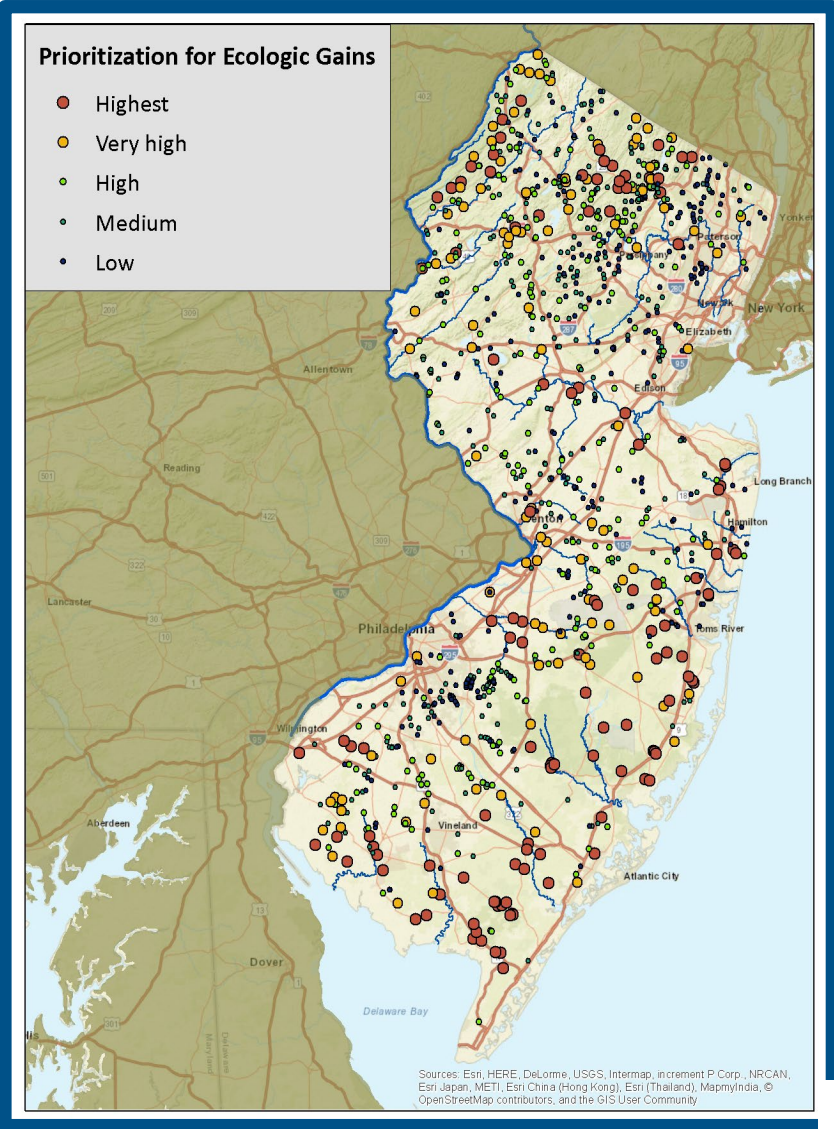




Partnering for Success:

- Case Study
 - Determining Co-Benefits (Flood Reduction, Environmental Justice, Economic)
 - Prioritizing for Ecological Benefits
 - Finding a Partner
- 

Case Study: E.R. Collins Dams



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



Case Study: E.R. Collins Dams (2)



Lower E.R. Collins Dam



Upper E.R. Collins Dam



FEMA



Ecological Benefits

- Reintroduction of Fish Migration
- Restoration of Sediment Transport
- Decreased Water Temperature
- Increased Dissolved Oxygen
- Improved aquatic habitat for spawning and foraging.

Socioeconomic Benefits

- Flood Reduction
- Removal of a Safety Hazard
- Opportunities for angling and paddling are improved
- Regional tourism can be revitalized in river-adjacent towns



FEMA



“In addition to Hurricane Irene, a sudden tropical storm caused the Pequest River to flood and spill out into the town, resulting in closed streets, flooded homes and mandatory evacuations.”

Perry, Todd, “Belvidere 'caught with pants down during flood”, Warren Reporter, Sep. 22, 2011



FEMA

Flooding

Review of FEMA flood profiles indicate that removal of the Upper E.R. Collins dam will mitigate flooding for the 10-, 50- and 100-year floods by up to three feet.

Case Study: E.R. Collins Dams (3)

Belvidere has been identified by the NJDEP as an overburdened community in its groundbreaking Environmental Justice Bill.

NJDEP Bureau of GIS

Overburdened Communities under the New Jersey Environmental Justice Law

Authoritative

NJ Dept. of Environmental Protection
Bureau of GIS
NJDEP Bureau of GIS

Summary

The purpose of this dataset is to identify Overburdened Communities under the New Jersey Environmental Justice Law.

[View Full Details](#)

[Download](#)

Details

Dataset
Feature Layer

I want to use this



FEMA

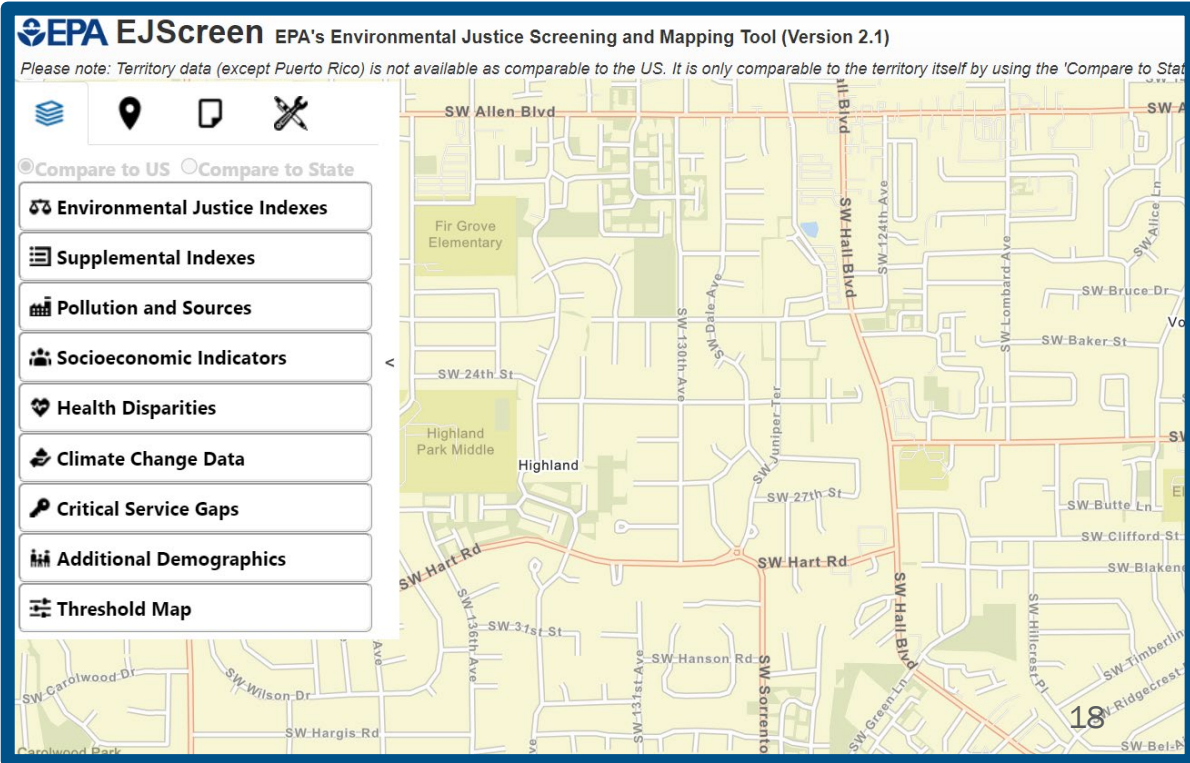


EPA EJ Screen Tool

EJScreen is EPA’s interactive environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset and approach for combining environmental and demographic socioeconomic indicators. ([EJScreen mapping tool online at https://www.epa.gov/ejscreen](https://www.epa.gov/ejscreen))

Office Hours regularly scheduled:

- Check EPA website for dates
- Multiple recordings are available



FEMA



Ecological Prioritization Tools

- NE Aquatic Connectivity Aquatic Barrier Prioritization
- Southeast Aquatic Resources Partnership (SARP) (<https://southeastaquatics.net/>)
- Southwest Region (<https://connectivity.sarpdata.com/regions/southwest/>)
- Chesapeake Fish Passage Prioritization
(<https://maps.freshwaternet.org/chesapeake/>)
- The MI DNR Great Lakes Stream Crossing Inventory (<https://great-lakes-stream-crossing-inventory-michigan.hub.arcgis.com/>)

Partnerships

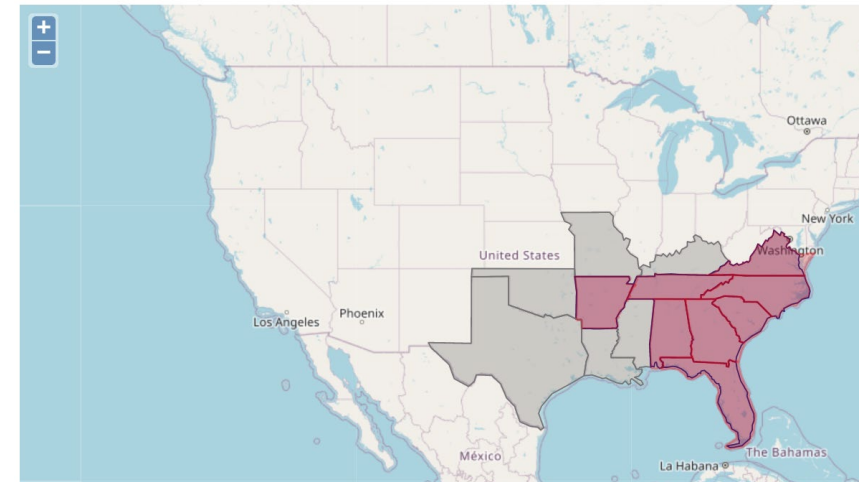
- NJ Statewide Dam Removal Partnership
- VT Task Force
- Southeast Aquatic Connectivity Team (SEAC)
- Georgia Aquatic Connectivity Team (GA-ACT)
- Conservation Resource Alliance (NW MI)
- Huron Pines (NW MI)
- Tribal/Indigenous Communities

[Aquatic Connectivity Teams by State](https://southeastaquatics.net/sarps-programs/aquatic-connectivity-program-act/act)

<https://southeastaquatics.net/sarps-programs/aquatic-connectivity-program-act/act>



Click on the map to learn more about the Aquatic Connectivity Teams by state.





Summary of Benefits of Partnering

- Leverage funding from sources unavailable to state agencies
- Build on existing relationships with stakeholders
- Team up with other local efforts (Neighborhood Preservation, Land Preservation, Economic Revitalization)
- Benefit from experience with local officials
- Make grant applications more competitive by partnering with an environmental or environmental justice organization



Discussion Topics

1. Does your dam safety agency evaluate which dams, if removed, would offer the most environmental benefits?
2. What tools and data would be helpful to you? (Maps, contacts at state environmental agencies and NGOs?)
3. To what extent is funding for non-federal match a bottleneck?
4. Is your agency able to weigh environmental benefits when choosing projects?