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Mapping Dam Removal Success: Lessons from United States Dam Removals

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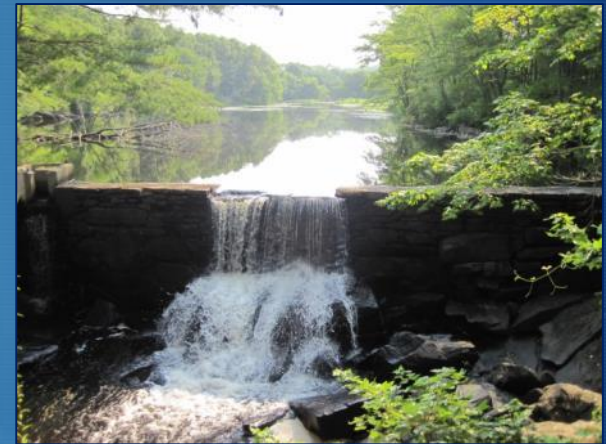
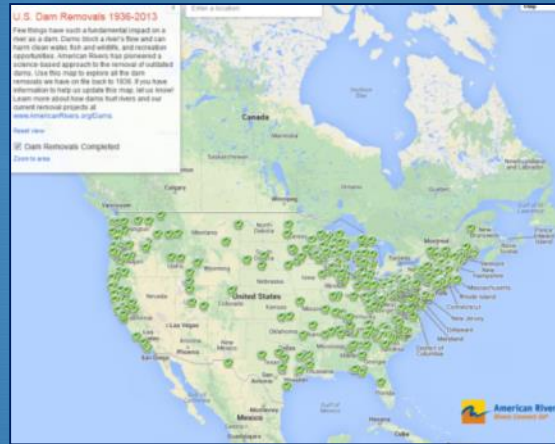
Singler, A., "Mapping Dam Removal Success: Lessons from United States Dam Removals" (2014). *International Conference on Engineering and Ecohydrology for Fish Passage*. 29.

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Mapping Dam Removal Success: Lessons from United States Dam Removals

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International Conference on Engineering and
Ecohydrology for Fish Passage
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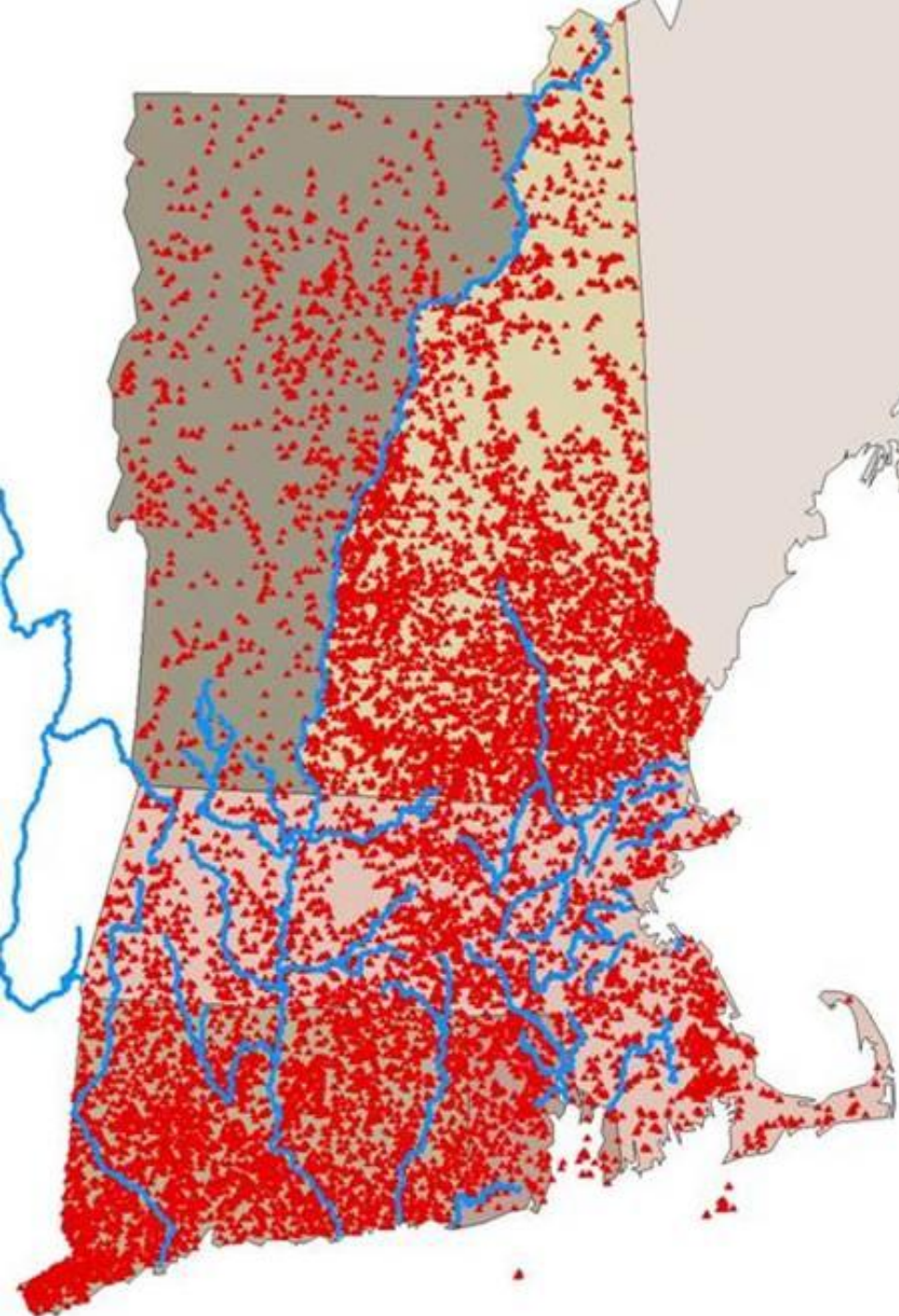
American Rivers
Rivers Connect Us®

U.S. Dams



- NID ~75,000 dams
- Many dams serve important purposes:
 - Water supply (residential, industrial, farm ponds, fire ponds, irrigation)
 - Flood control
 - Hydropower
 - Recreation
 - Navigation
- Even for the largest dams (NID)
 - 14.6% are flood control
 - 2.9% are hydropower

New England Dams



- 13,126 Dams in CT, RI, MA, VT, NH (databases)
- Majority not serving original purpose

Benefits of Dam Removal

- Fish and wildlife passage
- Habitat connectivity
(longitudinally and across the floodplain)
- Flow restored
- Water quality (temp/DO)
- Sediment movement
- Nutrient movement
- Eliminate maintenance
- Eliminate liability
- Eliminate hazard/attractive nuisance



Dam removal is a one-time cost and permanent solution!

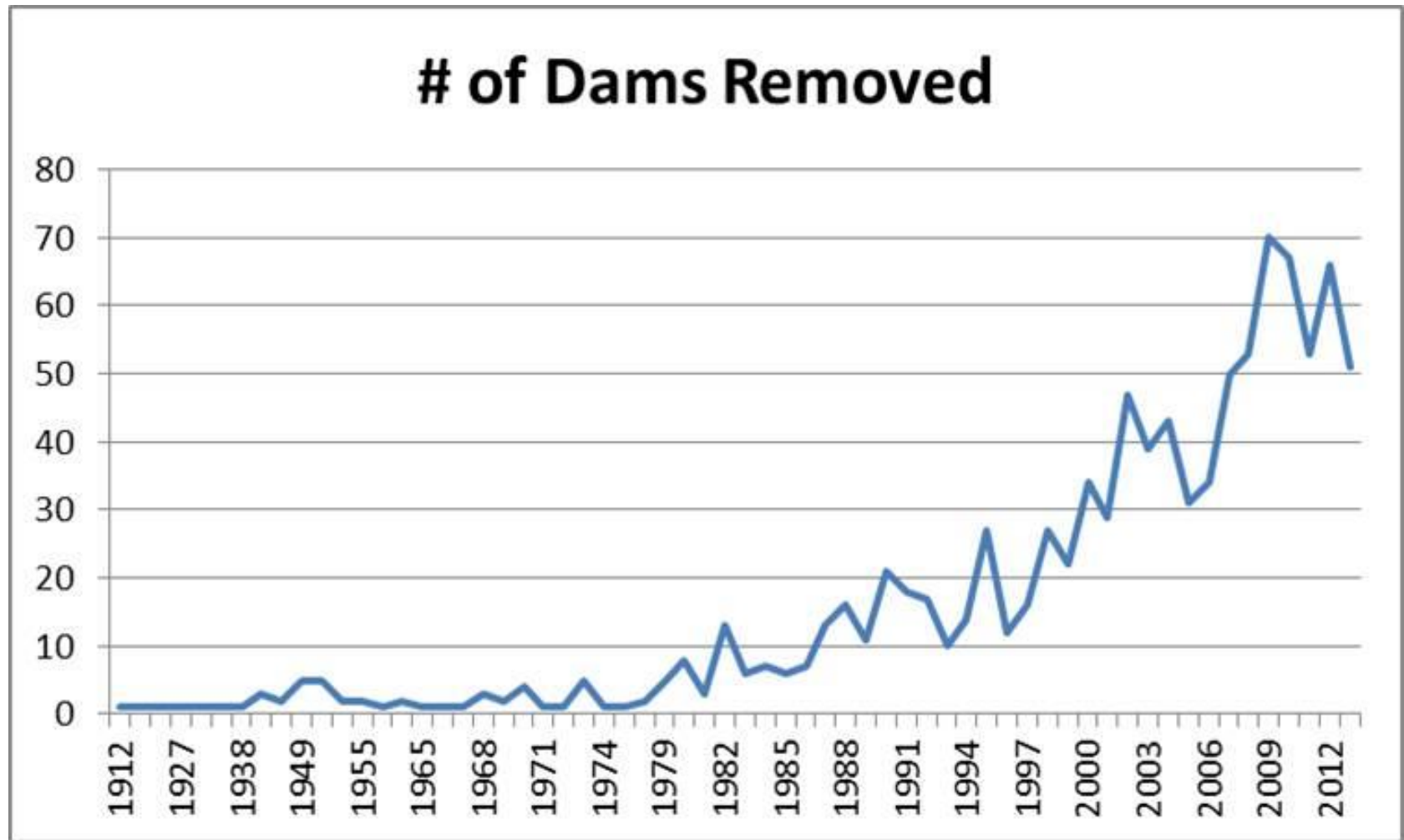
1,100 U.S. Dams Removed through 2013



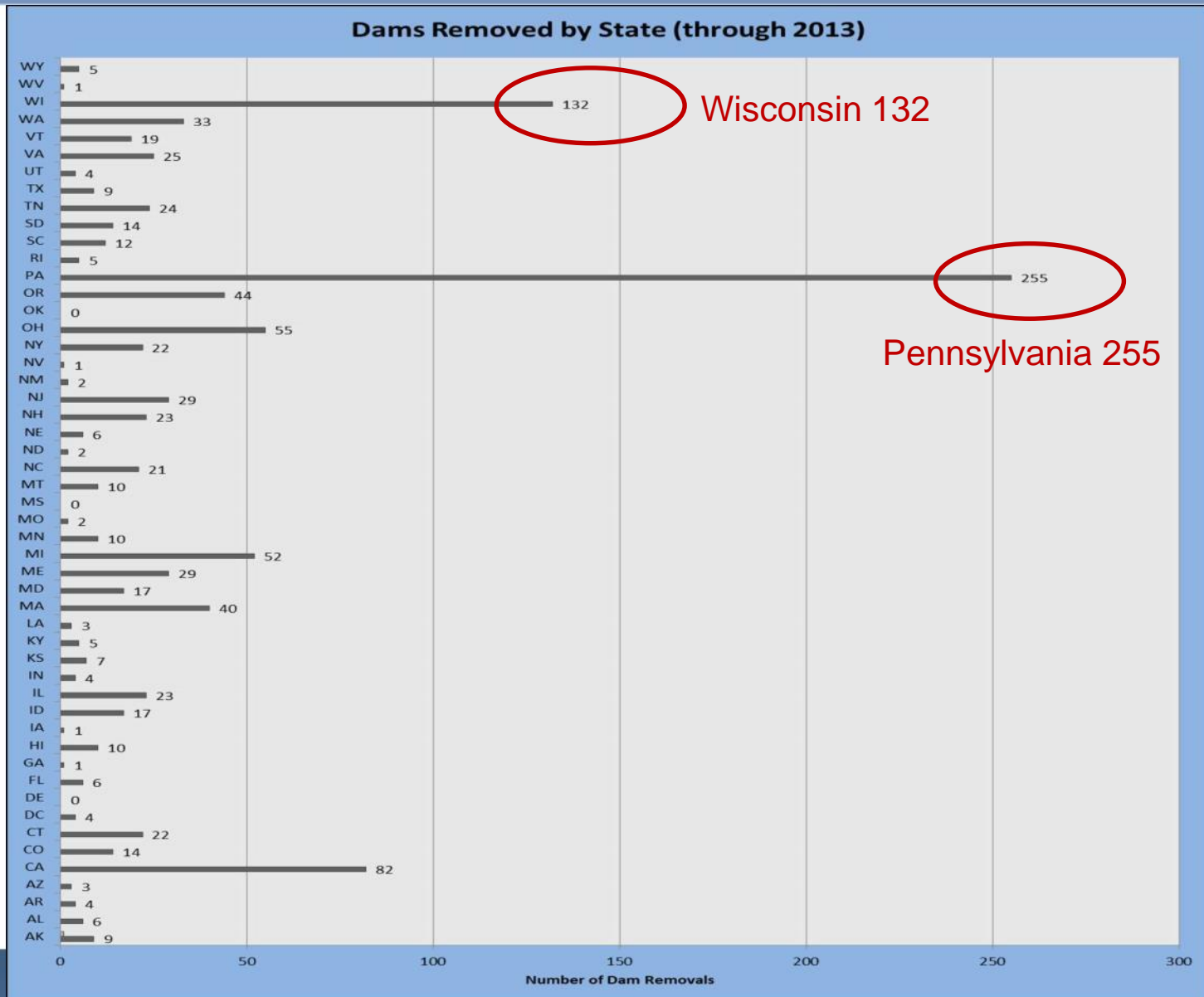
Data Considerations

- State reported data
- Information from partners
- States define 'dam' differently
- Collecting information since 1998

1,100 U.S. Dams Removed through 2013

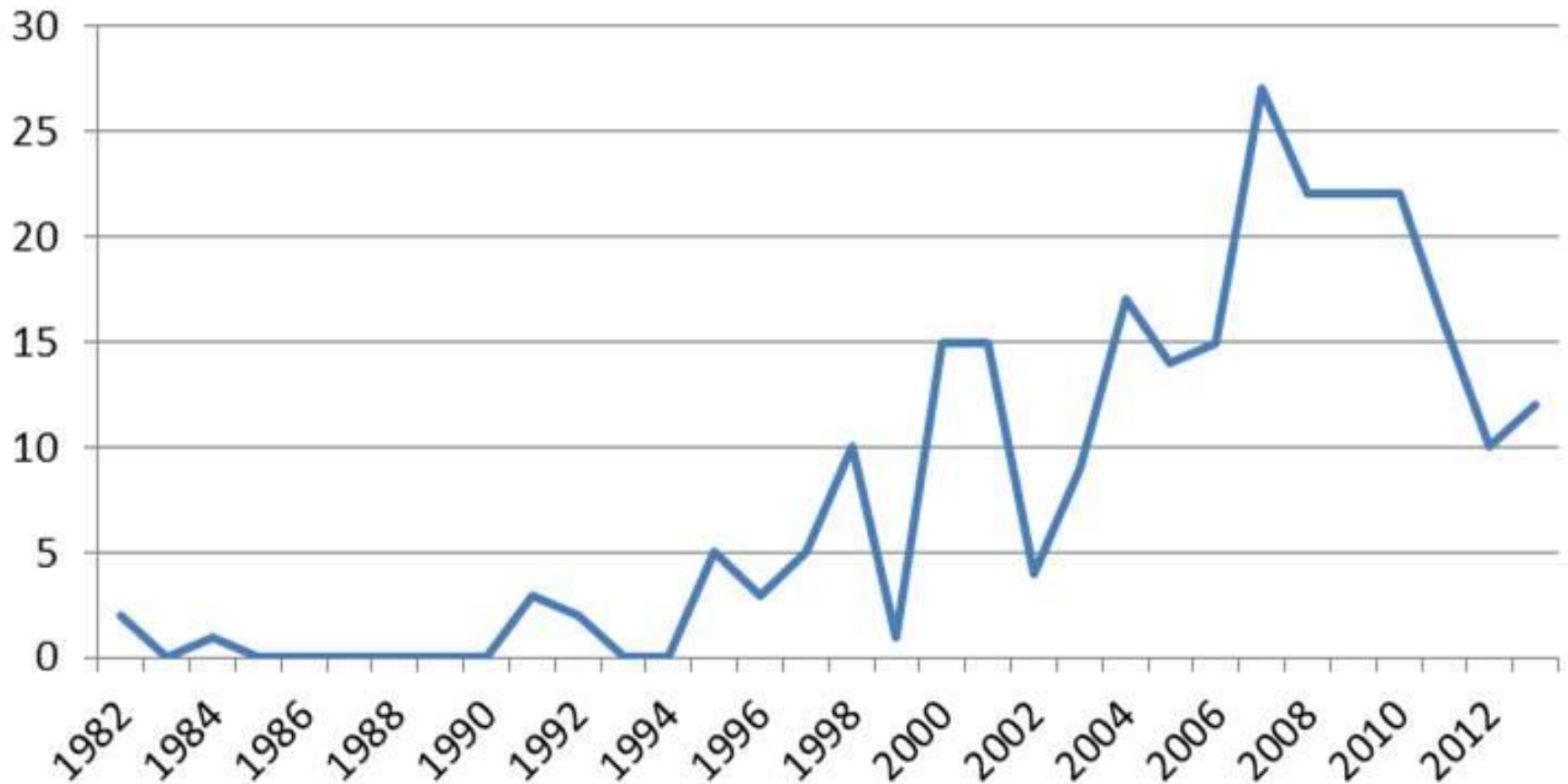


1,100 U.S. Dams Removed through 2013



Pennsylvania Dam Removal Trends

Dams Removed in PA



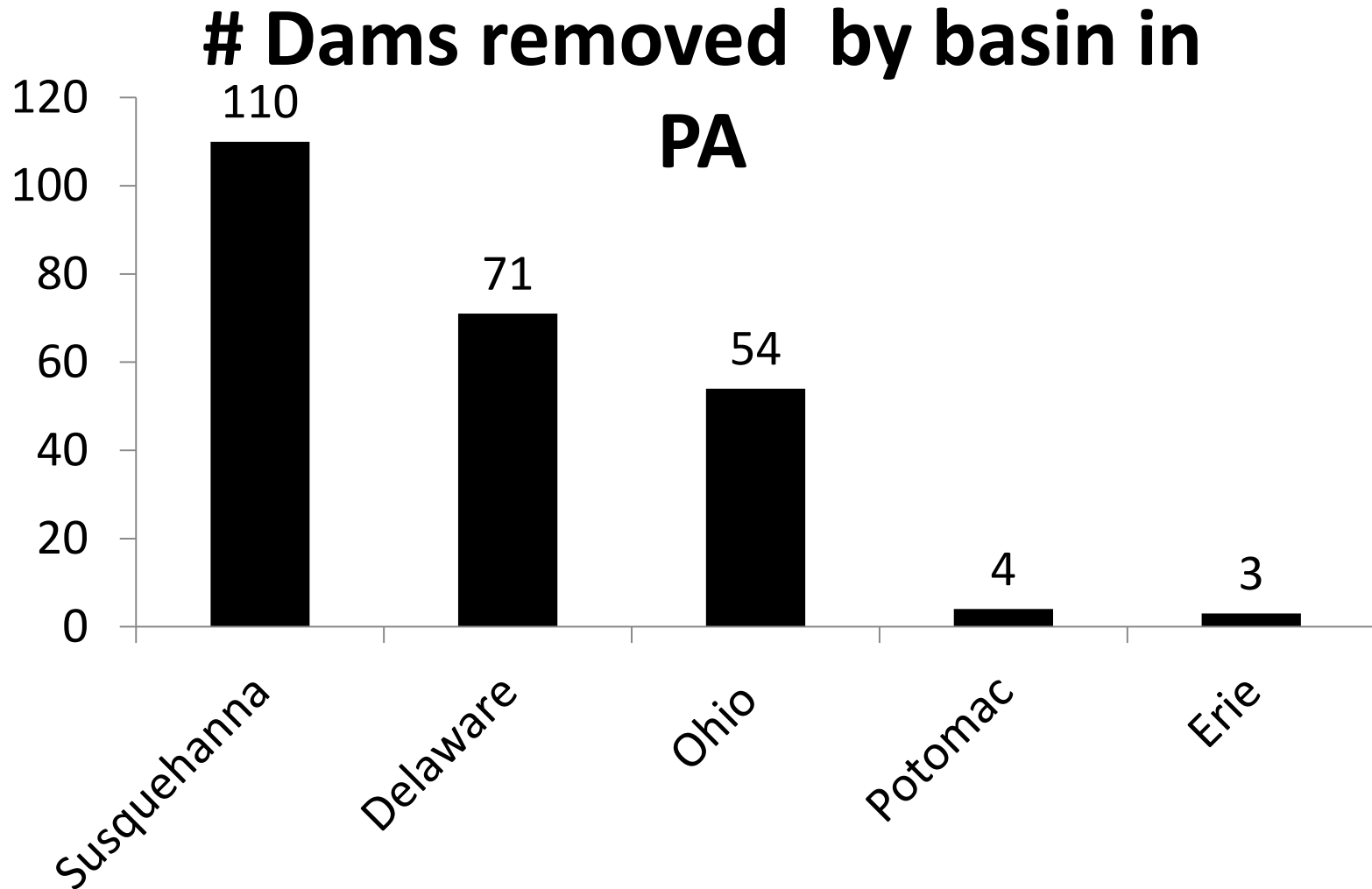
Keys to Success in PA

- Streamlined permitting for dam removal
 - Restoration Waiver and single point of contact for permitting process
- Dam Safety
 - Active dam safety program that encourages removals and holds dam owners accountable for maintenance
- Funding
 - PA DEP Growing Greener-Free Flowing PA Program (2004-2012). Dedicated source to cultivate and fund projects.

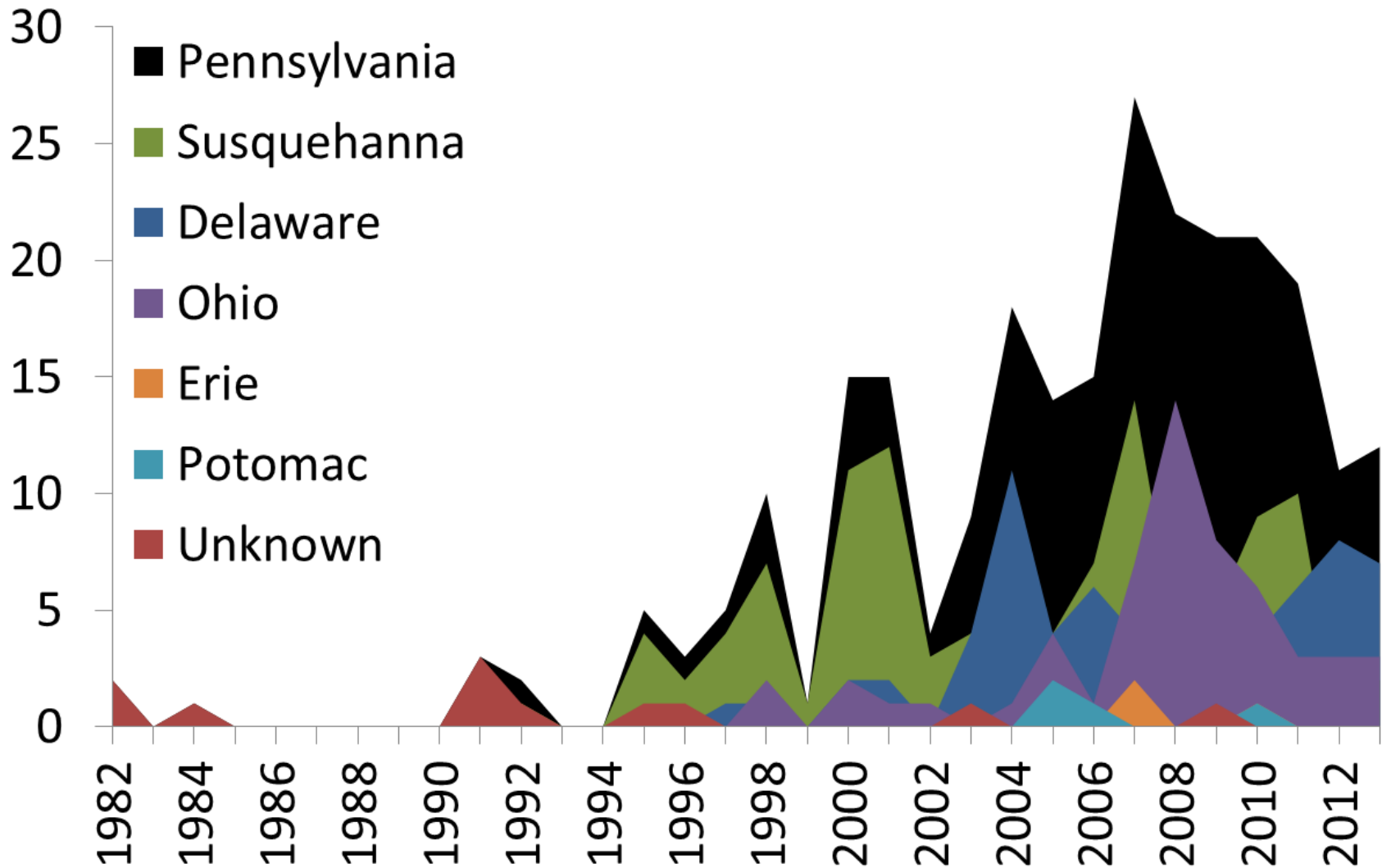
Keys to Success in PA

- Strong Project Managers
 - American Rivers, PA DEP, Land Trusts, etc.
- Leadership
 - American Rivers, partners and state actively pursued dam removal
- Momentum
- PA counts and reports dams of all size to American Rivers
- Quantity ≠ Quality: learned valuable lessons about sediment management from early removals

Dam Removal in PA



Shifts in Dam Removal in PA



Transferring the Lessons of PA to New England

What has worked in Massachusetts:

- Well publicized near failure of a dam in 2005 led to stronger dam safety regulations.
- State rivers program shifted focus to restoration and dam removal around the same time.
- Improved and clarified permitting process for restoration.
- Developed and trained project managers.



Replicating Dam Removal in Other States



- Develop a state “Dam Removal Task Force”
- Identify areas for improvement (Dam Safety/Permitting/Project Managers/Funding)
- Share successes and struggles
- Use new prioritization methods to proactively ID new project opportunities

Dam Removal Map Data

- Review your state/watershed and send us information on missing or incorrect data.
- Send American Rivers your dam removal information annually in December.
- Using the data: data requests will be considered on an individual basis. Keep in mind the limits of the data. Requests can be made from our website. Form to be available soon.



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Farmington River, Connecticut.
Former site of Spoonville Dam.

