



University of  
Massachusetts  
Amherst

## Session C8- Status report on dam removal in the U.S. and American River's role

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# Status Report on Dam Removal in the U.S.

Brian Graber  
American Rivers

Fish Passage 2011  
June 29, 2011



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*Thriving By Nature*



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# Some long-term dam removals are being completed this year



Condit Dam (125-ft high)  
White Salmon River, WA



Elwha Dam (108-ft high)  
Elwha River, WA



Glines Canyon Dam  
(210-ft high) Elwha River



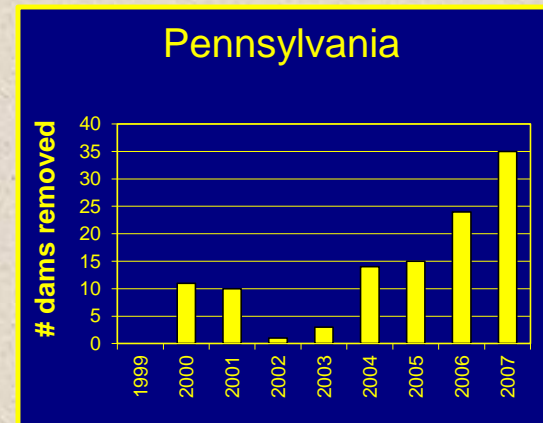
More than 885 dams have been removed around the country (more than 435 since 1999)

# Outline:

## Dam Removal Numbers and Costs

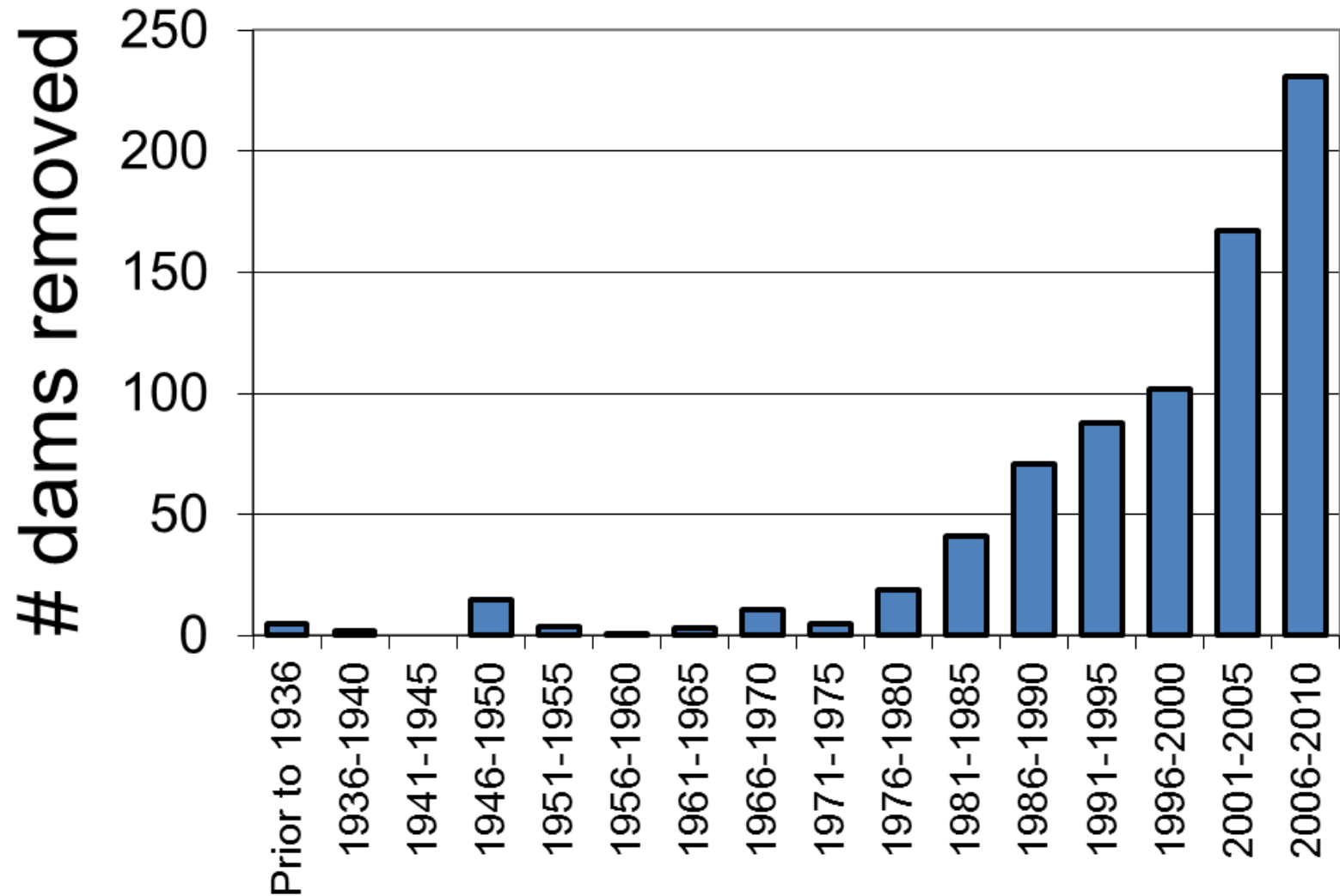
## 6 Factors for Completing More Projects

## AR partnership programs

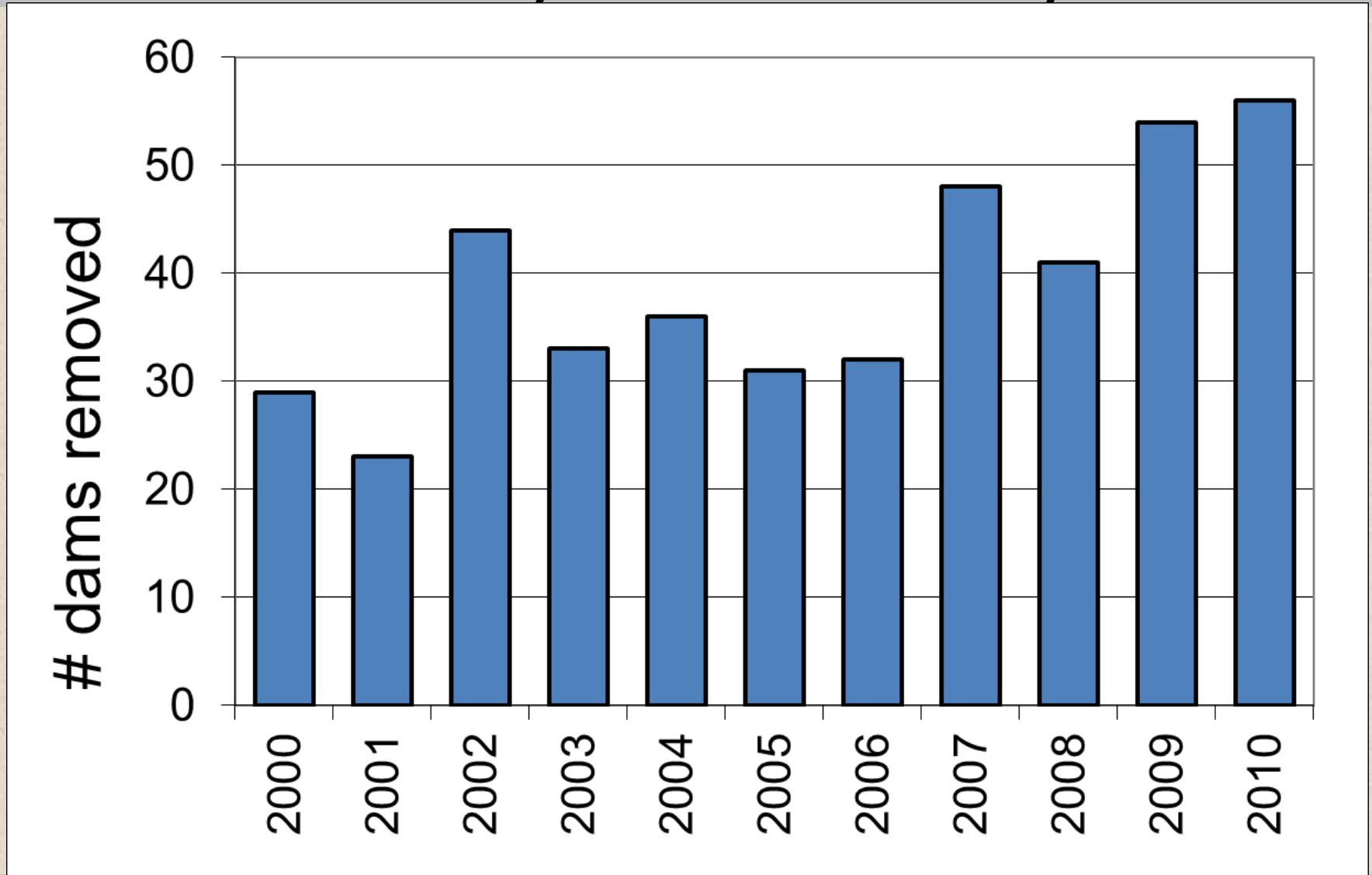


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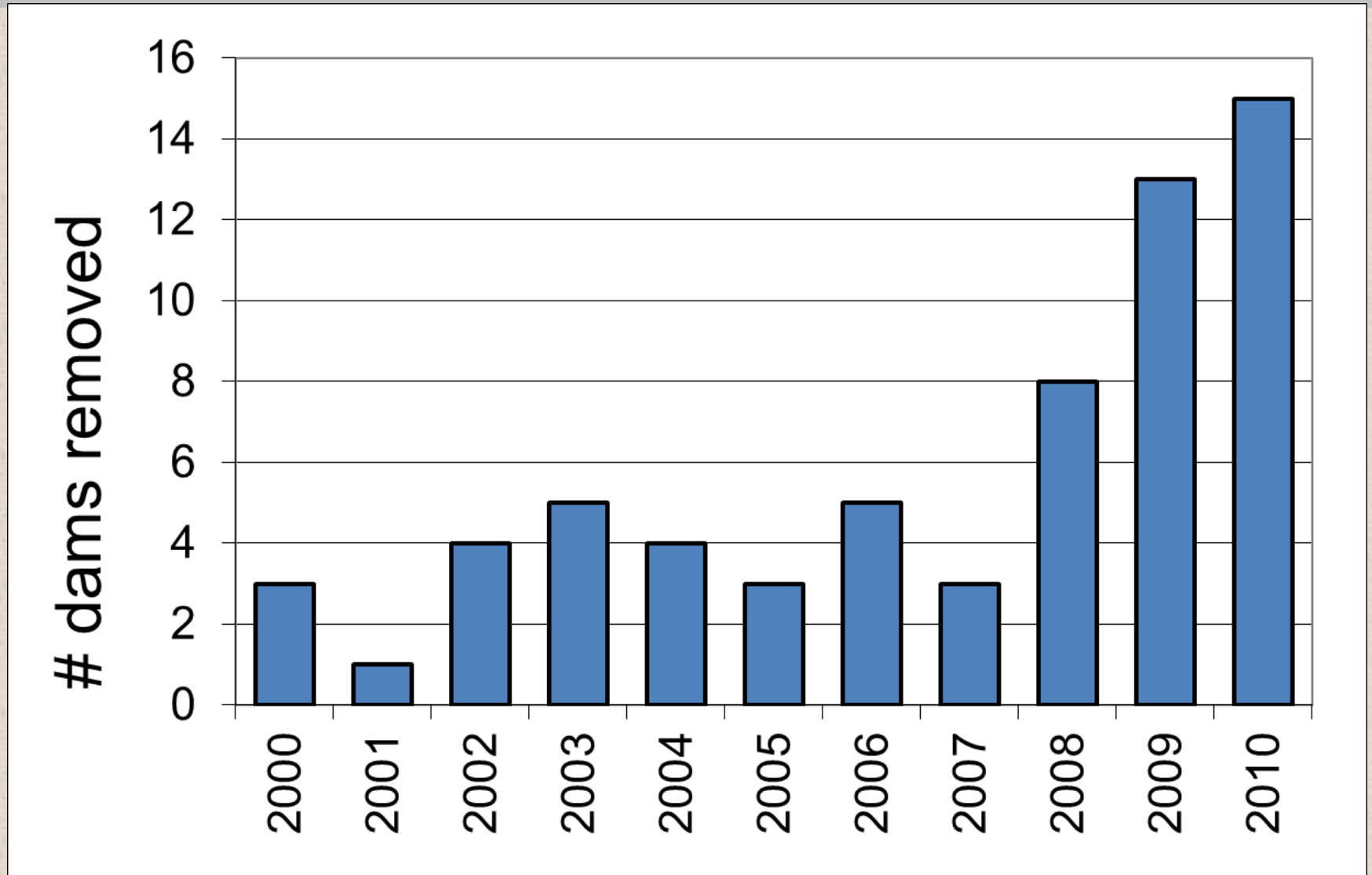
# Dam removal is not new nationally, but tremendous growth is new



# 50 to 60 dams are now removed each year nationally



# A programmatic approach has helped New England have recent growth in projects

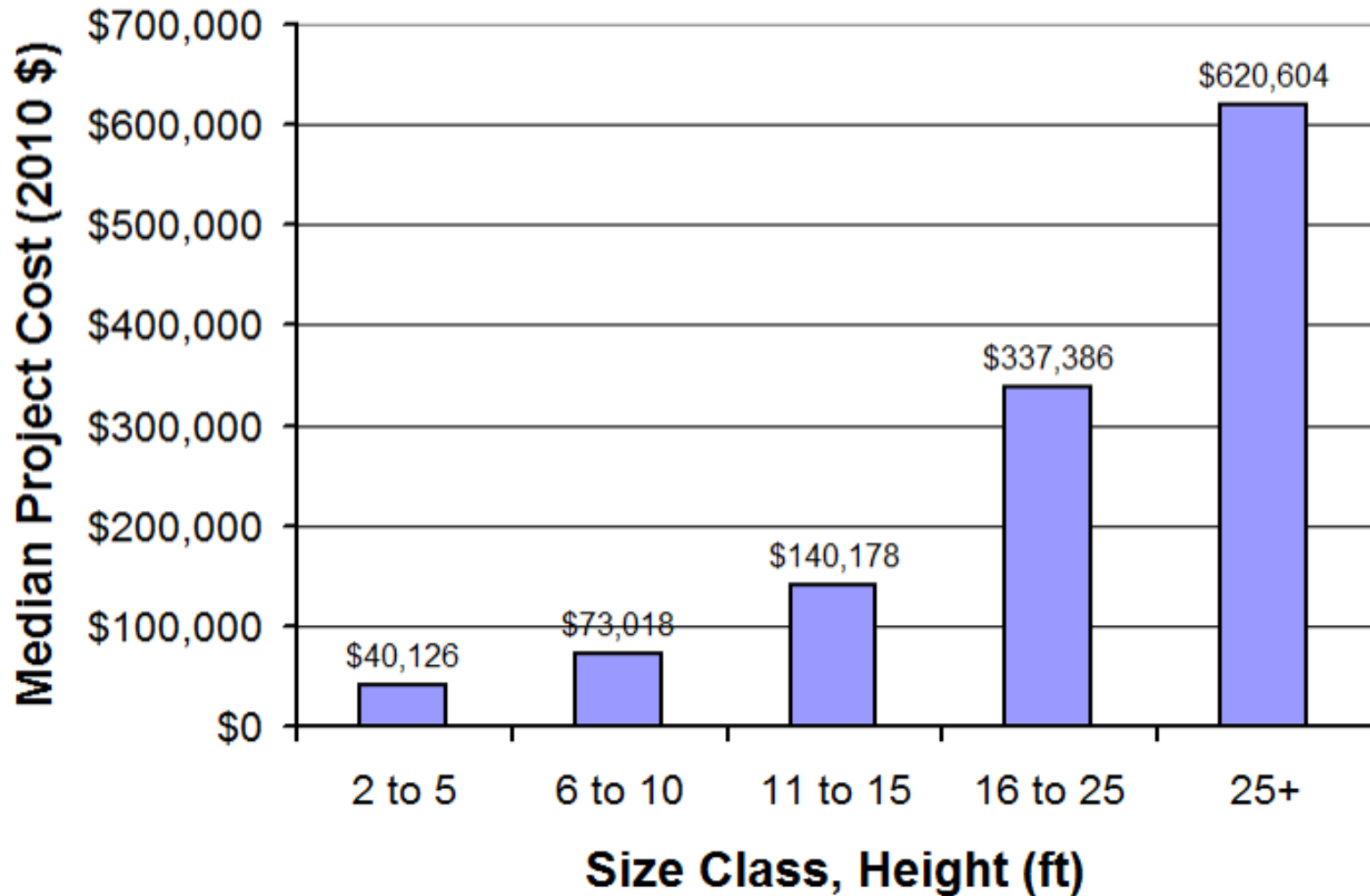


# What will a dam removal cost?

## The data set

- 225 total projects nationwide with cost data
- Median dam height is 9 feet
  - range 2 ft to 85 ft
  - 92% were less than 25 ft
- Converted to 2010 dollars
  - range \$1,769 to \$5.9 million
- 60 projects from PA

Median *total* dam removal costs:  
~\$8,000 - \$20,000 per vertical foot  
Feasibility + Design + Permitting = 25% of total costs



The strategy: 6 factors separate states completing many versus few projects



Leadership

Dam Safety

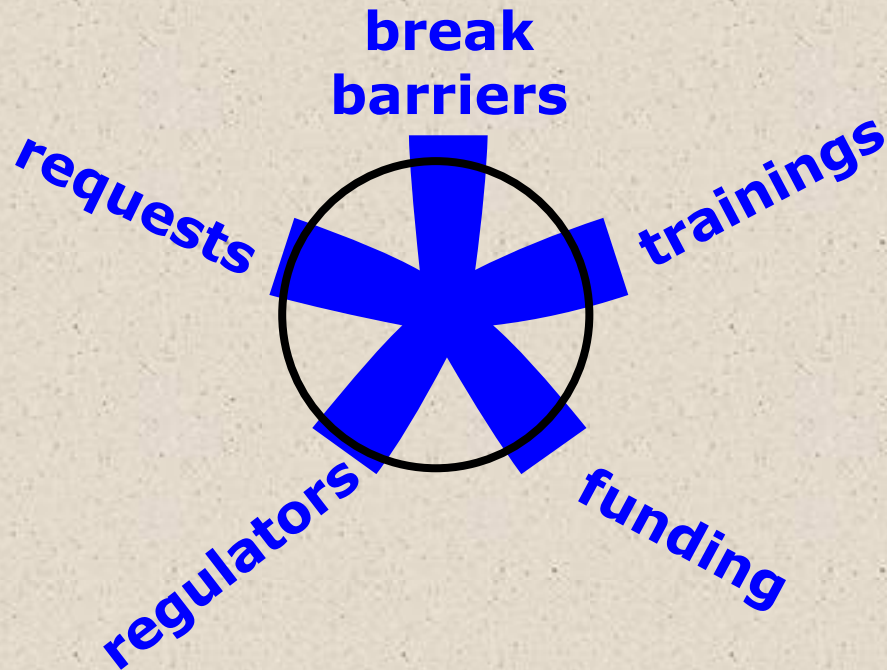
Funding

Regulations

Project  
Managers

Momentum

# Leadership: Leaders are necessary to overcome barriers



## Several states have dam task forces:

Vermont Dam Task Force

New Hampshire River Restoration Task Force

Rhode Island River Restoration Working Group

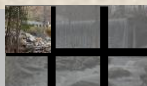
Connecticut Riverine Migratory Corridors Restoration Team

Maine Interagency Stream Connectivity Work Group

Long Island Diadromous Fish Work Group

Chesapeake Bay Fish Passage Work Group

Ohio Dam Removal Task Force



# Dam Safety: Dams are removed where dam safety is enforced



# Funding: Many dam removal funding sources exist



**= Dam Removal**

US Fish and Wildlife Service

National Oceanic and Atmospheric Administration

Natural Resources Conservation Service

State funds

Corporate Wetlands Restoration Partnership

Private foundations



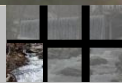
# Regulations: Regulators understand long-term benefits versus short-term impacts



## Dam Removal and the Wetland Regulations

Massachusetts Department of Environmental Protection  
Bureau of Resource Protection  
Wetlands/Waterways Program  
1 Winter Street, 5th floor  
Boston, MA 02108

December 2007



# Project Managers: Having sufficient project managers can be a limiting factor

## Tasks of project managers:

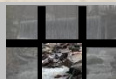
Work with dam owners

Coordinate project team

Fundraise

Hire consultants

Scope work

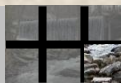


# Momentum: Completed projects lead to more projects

Find the easiest projects possible to start:



Robbins Dam  
Red Brook, Wareham, MA



Many states are successful with some factors and complete 1-3 projects per year



Leadership

Dam Safety

Funding

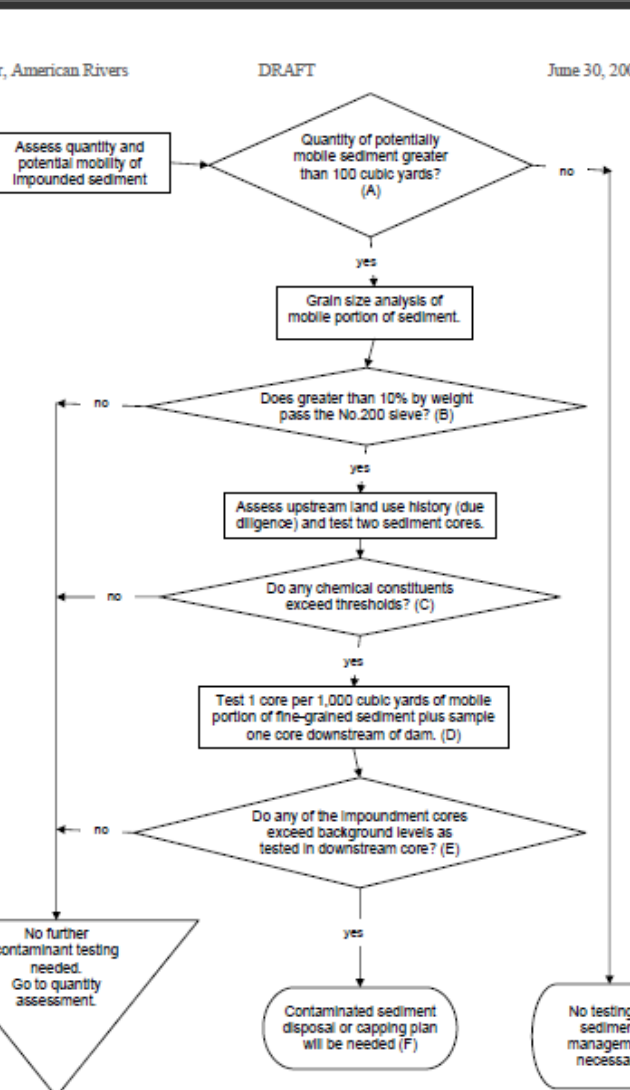
Regulations

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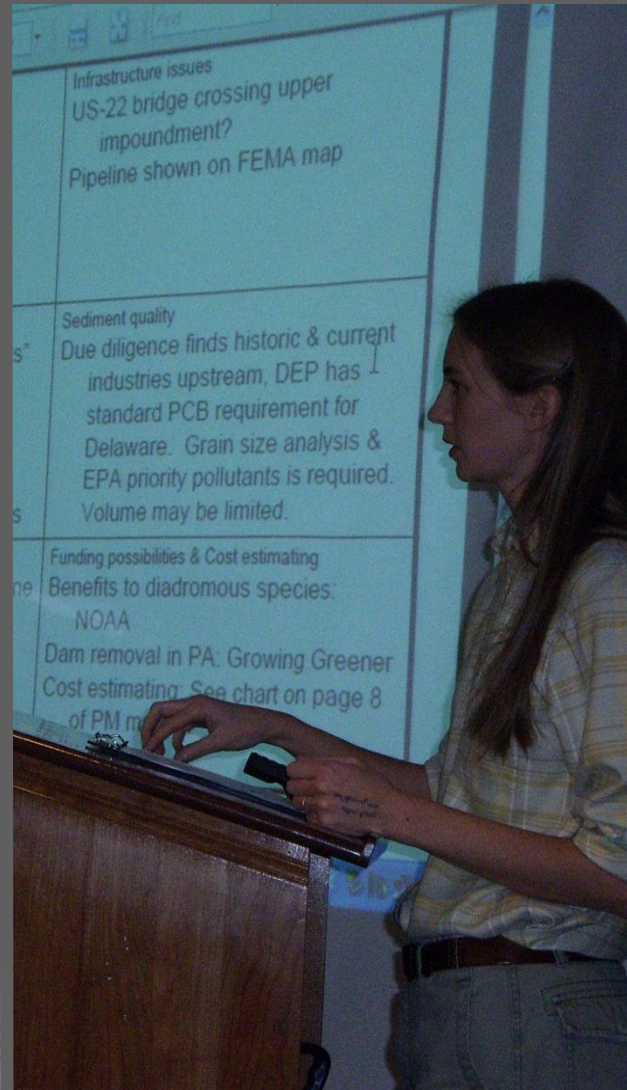
Momentum

Current state ceiling for all factors = 35 projects per year

# American Rivers fills whatever role is necessary to complete more effective projects



Programmatic Assistance and Policy Advocacy



Trainings



Project Management and Technical Assistance

# AR has several funding/technical assistance partnerships



## PA Growing Greener

- AR provided dam removal project management and technical assistance from 2003 – 2010
- \$1.6 million in state funds distributed to projects
- Removed 96 dams
- Made 500 river miles fish-accessible
- Restored 34 miles of river/riparian habitat
- Leveraged an additional \$5.8 million for dam removals



## AR-NOAA Partnership

- From 2001 – 2010, the partnership provided technical assistance and \$4.6 million to diadromous fish restoration projects (mostly dam removals)
- Funded 142 projects through competitive grants and AR provided technical assistance to many more
- Projects are in the Northeast, Mid-Atlantic, Northwest, California, and, most recently, the South-Atlantic



## AR-EPA Potomac Highlands Program

- AR's newest partnership
- Will provide more than \$1.4 million to river restoration projects including dam removals
- Projects will be in the Potomac Highlands region of MD, PA, VA, and WV
- Grants will range from \$150,000-\$300,000 for project implementation

# Dam Removal Clearinghouse:

<http://wrca.library.ucr.edu/CDRI/>

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