Economic Impacts of Dam Removal in Massachusetts

Renaissance de la Vallee de la Selune
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Outline

1. Background on Division of Ecological Restoration (DER) and dam removal
2. DER’s restoration economy studies
   - Job creation
   - Cost comparisons
3. How we use the information
Take Home Messages

• Dam removal is voluntary; dam owner chooses to remove or repair
• Incentive funding / technical assistance needed for removal
• DER must constantly make a case for state funding
• Economic studies help us demonstrate impact
Massachusetts Division of Ecological Restoration (DER)

- Small state agency
- 20 staff
- Annual capital budget ~$1.5 million
- Leverage our capital budget for other grants ~1:7
- Leveraged $85 million over the last 10 years
DER’s mission: to protect and restore rivers, wetlands and watersheds for the benefit of people and the environment
Massachusetts has over 3000 Dams
Owned by towns, companies, NGOs, private individuals, the state...

50 dams removed over the last 10 years
DER coordinates projects in partnership with agencies, NGOs, interested dam owners.

DER Staff

- Engineering and design
- Permitting
- Partnership with dam owner, agencies, NGOs
- Fundraising
- Outreach
What is the benefit to state taxpayers from investing in the MA Division of Ecological Restoration?

• Inspired by studies in Oregon, California, MontanaS

• Does MA have a “Restoration Economy”?  
  ▪ Job creation
  ▪ Cost of dam removal vs. dam repair; savings to dam owners
  ▪ Tried to quantify ecosystem services; not enough information
Methodology: job creation

- Contracted with IEC, a company with economic analysis expertise.
- IEc examined economic benefits associated with economic activity in MA resulting from restoration projects, including dam removal.
- IEc used IMPLAN, proprietary software: US data plus models; industry standard in the US
- In 2017, DER purchased IMPLAN and now uses it in-house for small studies
- We’ve examined ~10 projects
Results

• Dam removal creates or maintains 12.5 jobs for every $1 million spent
• $1.75 million total economic output for every $1 million spent
• Similar to road / bridge construction or water infrastructure project construction
• Caveat: these are short-term estimates based on a model
Why quantify cost savings for dam owners?

- Most dams owned by municipalities, individuals, companies, or NGOs
- Dam removal is a big up-front cost
- Typically takes 5+ years
- Involves working with the government
- Often controversial
Methodology

- Case study approach
- Used three recently completed projects
- Compared cost of removal with cost of inspections; repair; maintenance over 30 years
Results

- For the three case studies, dam removal was 60% less expensive compared with repair and maintenance over 30 years.

- Case studies provide useful examples, stories, quotes about costs avoided.

- Not statistically significant, but stories are powerful.
We use these studies to explain the benefits of dam removal

- To the state legislature
- To the state’s fiscal / budgeting agency
- To federal funders
- To potential partners who have interests beyond environmental benefit
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Thank you!
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