I’ll Be Dammed! Public Preferences and the Future of Dams in New Hampshire

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I’ll Be Dammed!
Public Preferences and the Future of Dams in New Hampshire

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NEW ORLEANS
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Presentation Roadmap

- Overview of dams in NH
- Study motivation
- Methods
- Results
- Ongoing work
- Questions
Overview of Dams in New Hampshire

- 14,000+ in New England
- 2,000+ “active” dams in NH
- Many nearing end of their engineering lifespan

Ownership
- Private (77%)
- Municipal (13%)
- State (9%)
- Federal & utility (<1%)

Public opinion often drives decisions

Contentious

Significant public funding for river restoration

Dams in New Hampshire (shown in red dots). Source: NH dam inventory layer from NH GRANIT.
Wanted: Human Dimensions of Dam Decisions

• Quantitative studies focus on single municipality
  • Place-based, but not necessarily representative of NH public opinion

• State or regional scale studies focus on small number of cases
  • Qualitative: rich context about specific stakeholder groups, but not necessarily representative of NH public opinion

• Need for statewide public opinion data
Methods

• Included 2 questions in Feb. 2018 Granite State Poll (GSP) - UNH Survey Center
• Random sample of NH adults (18+)
• 566 telephone surveys
• Sample weighted to represent NH population
• Analysis in STATA software
Methods: Survey Questions to Explore Tradeoffs

In your opinion, is it more important to use dams on New Hampshire rivers and streams to **generate electricity** or is it more important to remove dams and allow free-flowing rivers that benefit fish and wildlife? [rotated response order]

- Use dams to generate electricity
- Remove the dams and allow free-flowing rivers
- DK/NA

In your opinion, is it more important to keep dams in place on New Hampshire rivers and streams in order to **preserve the lakes and ponds** behind them, or is it more important to remove the dams and allow free-flowing rivers that benefit fish and wildlife? [rotated response order]

- Use dams to preserve the lakes and ponds behind dams
- Remove the dams and allow free-flowing rivers
- DK/NA
WHO supports dam removal?

(a) Keep dams for hydropower, or remove?
- Keep/hydro: 44%
- Remove/fish: 34%
- DK/NA: 22%

(b) Keep dams for lakes, or remove?
- Keep/lake: 50%
- Remove/fish: 28%
- DK/NA: 22%

Data: Granite State Poll, winter 2018, n=566
Graph: N. Leuchanka, UNH
Who prefers dam removal when the alternative is keeping for hydropower?

**Gender**
- Male: 27%
- Female: 41%

**Age**
- 18-29: 47%
- 30-39: 41%
- 40-49: 25%
- 50-64: 29%
- 65+: 40%

**Education**
- HS or less: 42%
- Tech/some coll: 31%
- College grad: 43%
- Postgrad: 27%

**Party**
- Dem: 39%
- Ind: 42%
- Rep: 25%

*Data:* Granite State Poll, winter 2018, n=566
*Graph:* N. Leuchanka, UNH
Who prefers dam removal when the alternative is keeping for lakes/ponds?

**Gender** $p = 0.07$
- Male: 23
- Female: 32

**Age** $p = 0.02$
- 18-29: 44
- 30-39: 30
- 40-49: 26
- 50-64: 21
- 65+: 23

**Education** $p = 0.72$
- HS or less: 32
- Tech/some coll: 25
- College grad: 27
- Postgrad: 27

**Party** $p = 0.09$
- Dem: 37
- Ind: 26
- Rep: 23

**Data:** Granite State Poll, winter 2018 $n=566$

**Graph:** N. Leuchanka, UNH
• Democrats more likely to choose removal
• Level of education has no systematic effect on probability of choosing removal over keeping a dam
• Younger residents more likely to choose removal
• Females more likely to choose removal, regardless of political party affiliation

Who supports dam removal over keeping dams for electricity generation?
• PARTY HAS NO SIGNIFICANT EFFECT
• Level of education has no systematic effect on probability of choosing removal over keeping a dam
• Younger residents more likely to choose removal
• Females more likely to choose removal, regardless of political party affiliation

Who supports dam removal over keeping dams for maintaining lakes and ponds?
Key Findings

• **Education** has no significant effect on people’s preferences, regardless of tradeoff (hydropower or lakes)

• **Age and gender** are strong predictors of people’s preferences, regardless of tradeoff
  • Younger people and females more likely to prefer removal

• Political ideology and **party affiliation** drive people’s preferences on dam removal, when the alternative is to keep dams for hydropower
• In contrast, political ideology and **party affiliation have no significant** effect on preferences when the alternative is to keep dams for lakes and ponds
Ongoing Work: Survey Dataset Expansion

• 4 questions added to April 2018 poll
• Increase sample size of question exploring hydropower preferences
• Better understand preferences by exploring 3 additional tradeoffs

Preserving New Hampshire’s industrial history

Preserving recreation associated with lakes and ponds

Preserving waterfront property values
Ongoing Work: Human Dimensions of Dam Decisions

Better understand decision-making landscape around dams in New Hampshire & New England

Quantitative: Statewide public opinion survey data

Qualitative: Rich context about specific stakeholder groups

Role-play negotiation simulations

Interviews

Stakeholder Interviews (by type)
- State Government 26%
- Municipal Government 19%
- Large/National NGO 14%
- Engineering/Consulting Firms 12%
- Federal Government 10%
- Private Sector/Business 2%
- Community Groups/Local NGOs 17%
Thank you! Questions? Comments?

Photos: N. Leuchanka

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.