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People and Conflicts in Dammed New England Landscapes: From a Stakeholder Assessment to a Science-Based Role-Play Simulation

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INTRODUCTION

- **"Future of Dams" project objective:** understand how science is used in decisions around current and future dam management in New England.
- **Trend:** Increased demand from stakeholders to participate in dam decision-making.
- **Problem:** Hard-bargaining approaches to negotiations over water resources often do not have the right or all relevant stakeholders represented.
- **Need:** 1) Strengthen consensus building approaches to dam negotiations and 2) data about social context within which decisions are made.
- **Solutions:** 1) Conduct a stakeholder assessment and 2) develop a science-based role-play negotiation simulation to strengthen consensus building.

STAKEHOLDER ASSESSMENTS

- **Stakeholders** are "those who have an interest in or are affected by a decision. Stakeholders are also those who have influence or power in a situation" (NOAA, 2007).
- Used to determine whether a consensus building process is appropriate, and if so, who should be involved and what issues should be addressed.
- Stakeholder assessments identify and prioritize:
  - Key issues, stakeholders, their interests and constraints;
  - Social and natural system attributes that might be affected by a decision.
- Key steps: Gather data: interviews, document analysis, public dam meetings → Analyze data → Recommend process design for collaboration: role-play design → Share report

METHODS

- Identified stakeholders using 1) over 1,000 media news articles and 2) snowball sampling method (known stakeholders reference other stakeholders) *(Figure 1)*
- Conducted interviews with 46 stakeholders *(Figures 3 and 4)*
- Interviews focused on 4 key themes *(Figure 2)*
- Analyzed interviews using qualitative social science methods
- Ongoing: Qualitative coding and analysis using NVivo software
  - Identified the most common stakeholder interests *(Figure 5)*, issues *(Figure 8)*, constraints
  - Identified common features of dam decisions (What types of dams? *(Figure 6)* Who are the dam owners? Who is involved? Example river systems *(Figure 7)*)

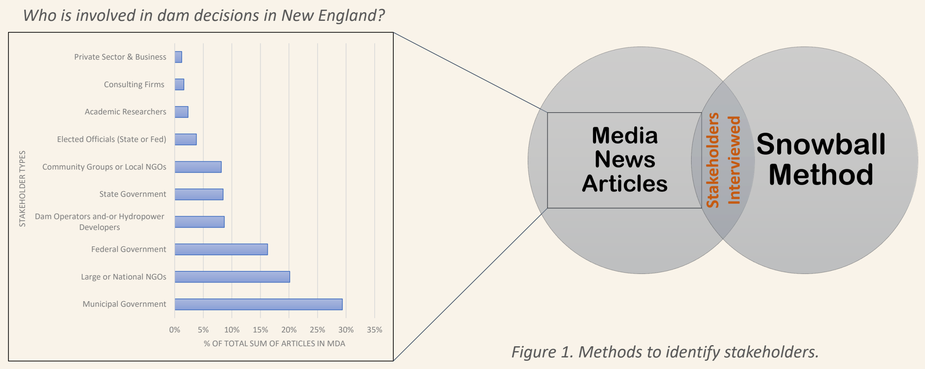

Figure 1. Methods to identify stakeholders.

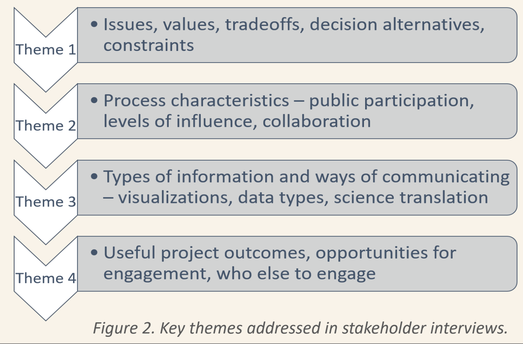

Figure 2. Key themes addressed in stakeholder interviews.

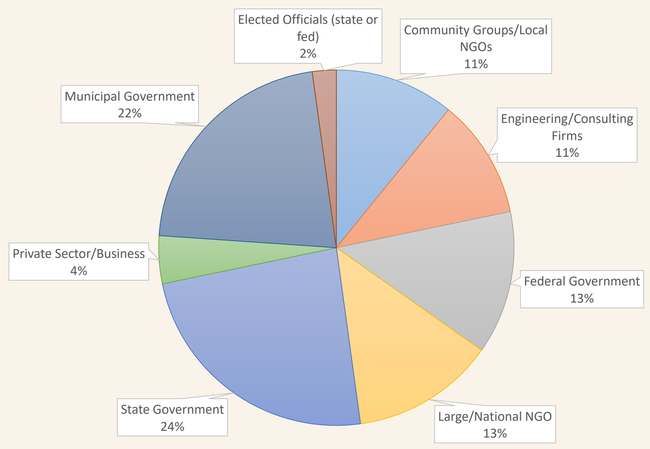

Figure 3. Types of stakeholders interviewed in New England (total = 46).

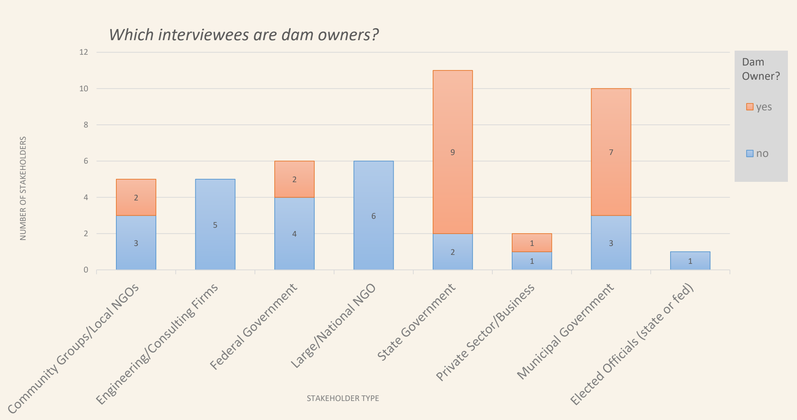

Figure 4. Roughly half of interviewed stakeholders are dam owners (21 out of 46).

PRELIMINARY INSIGHTS FROM NH INTERVIEWS

	Assist with permitting process	Collaboration	Cost	Fish passage and habitat	Flood control	General ecosystem health	Historic preservation	Hydroelectric generation	Participatory & transparent decision-making	Prioritization	Recreational resources	Regulatory process	Safety	Water quality	Wildlife habitat	Property Values & Economic Development	Use of Science/Data in Decisions
Local community group representing homeowner interests	No	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No	Yes	Yes	No
State government representing safety interests	No	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	No	No	Yes
State government representing ecosystem health interests	Yes	No	No	Yes	No	Yes	No	No	No	No	No	No	Yes	No	No	No	Yes
State government representing fish and wildlife interests	No	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	Yes	Yes	No	Yes
Federal government representing fish and wildlife interests	No	Yes	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No	No	No	No
State and municipal government representing historic interests	Yes	No	No	No	No	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No
Private sector/business representing hydropower interests	No	No	Yes	No	No	No	No	Yes	No	No	Yes	Yes	No	No	No	No	No
National NGO representing ecosystem health interests	No	Yes	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No	No	No	Yes
Local/regional NGO representing ecosystem health interests	Yes	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No
Municipal government	No	Yes	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No
Engineering consulting firm	No	No	No	No	Yes	No	No	No	No	No	No	No	Yes	No	No	No	No

Figure 5. Priority interests identified by interviewees.

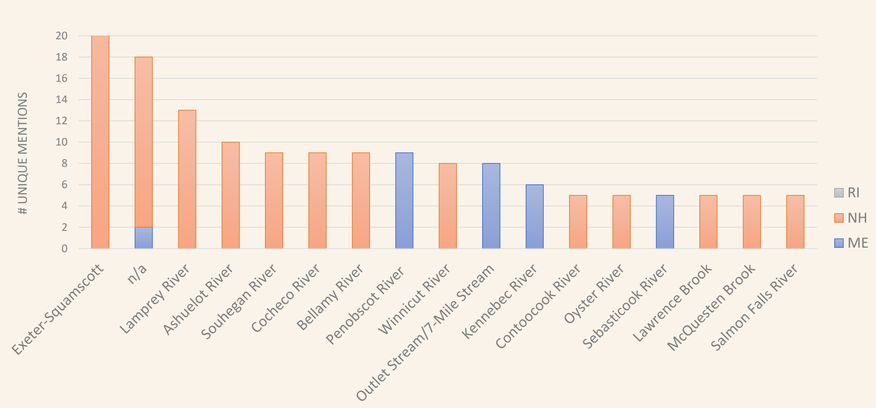

Figure 7. River systems mentioned most frequently during interviews.

Figure 6. Types of dams discussed during interviews. Image credits: N. Leuchanka.

What are the key issues?

- Regulatory process burdens, challenges, and constraints
- Funding for different kinds of dam management options
- Collaboration among diverse stakeholders
- Inadequate public participation and engagement process
- Contaminated sediments
- Complicated and lengthy permitting & administrative process
- Project prioritization: opportunistic vs. strategic

Figure 8. Types of issues commonly identified by interviewees.

NEXT STEPS

- Complete interview analysis.
- Use results to design and implement a series of two science-based role-play negotiation simulation workshops in both New Hampshire and Rhode Island; evaluate effectiveness.

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