

## Katie Pritchard & Sophia Paul

*Graduate Students, University of Michigan School for Environment and Sustainability*

Call-in number: 1-888-240-2560

Passcode: 7347630061#



National Estuarine  
Research Reserve System  
Science Collaborative

# Assessing Collaboration Potential in the Saco River Watershed for the Wells Reserve

## Summary Points:

Sophia Paul and Katie Pritchard are second-year Master's students at the University of Michigan School for Environment and Sustainability (SEAS). Sophia studies Environmental Policy & Planning and Environmental Justice and Katie studies Conservation Ecology and Environmental Policy & Planning.

Also featured in this webinar are Dr. Julia Wondolleck and Dr. Chris Feurt. Julia is a professor at SEAS and member of the NERRS Science Collaborative team. She teaches courses in Collaborative Natural Resource Management, Environmental Conflict Management, Negotiation, and Mediation. She served as the faculty advisor for this project.

Chris is the Coastal Training Program Director at the Wells National Estuarine Research Reserve (NERR) and the Director of the Center for Sustainable for Communities at the University of New England in the Department of Environmental Studies. Chris was the client contact for this project.

# Master's Projects

- Capstone requirement for MS degree
- Interdisciplinary, team-based research
- Client-focused, professional product
- 3-6 students/team, 20-25 projects/year
- Public and private sector clients
  - Local, state, federal agencies; communities; NGOs
  - Private sector companies

## Summary Points:

- The Master's program at SEAS is a professional degree program structured to give students the knowledge and skills to become effective environmental professionals. The program is two years and each entering class contains 125-150 students.
- Students specialize in a one or more fields, such as Environmental Policy & Planning, Conservation Ecology, Sustainable Systems, Environmental Justice, Environmental Informations, or Behavior, Education & Communication.
- The degree has a capstone requirement and 25% of students fulfill this by completing a traditional research thesis, while 75% elect to conduct a Master's project.
- Master's projects focus on a pressing, real-world problem or question of interest to a real-world client. All projects result in a professional product for that client.

# Master's Project Process

## Project Proposals

- Client, faculty, or student-initiated
- **December 1** deadline for submission ([seas.umich.edu/research/capstone](https://seas.umich.edu/research/capstone))

## Project Adoption

- Client fair (early January)
- Student teams form (late January)

## Project Implementation

- 12-16 months

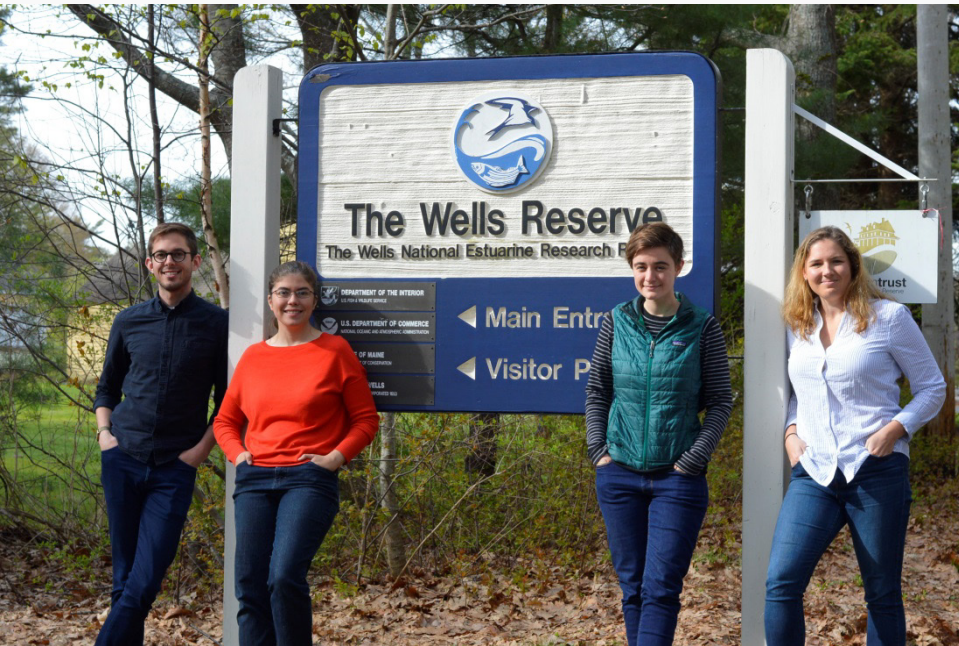
## Summary Points:

- Projects can be proposed by faculty, students, or clients. There is a formal proposal submission process, with a December 1 submission deadline (the exact date changes year-to-year).
- Students cluster into teams and select the projects they'll work on in early January. SEAS hosts a client fair in early January where clients can join in person or remotely to talk to students about their proposed project.
- About 50 projects are proposed each year and 20-25 of these projects are ultimately selected by students.
- Project implementation occurs over the ensuing 12-16 months in an interactive way with the client.
- The project, "Possibilities for Collaboration in the Saco River Watershed: An Assessment," was the product of a conversation that Chris and Julia had at the NERRS Annual Meeting a few years ago. Chris put together a draft proposal, Julia reviewed it and made a few suggestions, and Chris submitted the proposal for consideration to SEAS.



# Project Team

## U-M SEAS Masters Students



**Garrett Powers**

**Alice Elliott**

**Sophia Paul**

**Katie Pritchard**

Academic focuses in Environmental Policy & Planning, Environmental Justice, and Conservation Ecology

Professional experience in nonprofit management, project management, consensus processes

## Summary Points:

- The Master's project team for the project, "Possibilities for Collaboration in the Saco River Watershed: An Assessment," was comprised of four SEAS students representing diverse professional backgrounds and academic specializations.
- Katie and Sophia are two members of this four-person team.



# Saco River Watershed

Spans Maine and New  
Hampshire  
Drains 1,700 sq. mi.  
Home to 250,000 people



Heavily forested and rural  
Historical lack of industry  
High quantity and quality  
surface and ground water



Source: MWW Chamber of Commerce/Wiseguy Creative, Flickr

## Summary Points:

- The Saco River watershed spans Maine and New Hampshire and is home to a quarter million people.
- The Saco's headwaters originate in the White Mountain National Forest and extend southeast through Conway, NH - one of the watershed's three major cities.
- The middle stretch of the river begins at the Maine-New Hampshire border and extends southeast through approximately 20 Maine municipalities. This stretch of the watershed is largely rural and undeveloped.
- The river meets the Atlantic Ocean in the Saco River Estuary, which is surrounded by the cities of Saco and Biddeford. Wells NERR is located just south of the estuary, in Wells, Maine.
- Because the watershed is largely rural and the river's headwaters are located in a protected forest, water quality is excellent. In addition, due to high precipitation and the fact that the watershed is underlain by a stratified drift aquifer, there is a high quantity of both ground and surface water.

# Saco River Watershed

## Activities and Uses



**Water Extraction**



**Forestry**



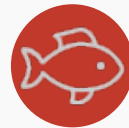
**Recreation**



**Agriculture**



**Hydropower**



**Fishing**

## Summary Points:

The watershed's high quality and quantity of ground and surface water allow it to support

- a multitude of different activities and uses, including:
  - Public and private water extraction. The Saco River is a major regional drinking water source and many municipalities in Maine, including Saco and Biddeford, rely on the river for drinking water. Residents in the middle stretch are largely reliant on private well water. In addition, Poland Spring, which is a subsidiary of Nestle Waters North America, engages in private water extraction on the Maine side of the watershed.
  - Recreation. The river supports a robust tourism economy in the middle stretch during the summer months, drawing visitors from around the country for tubing, paddling, and camping.
  - Hydropower. The river supports six hydroelectric dams on the Maine side.
- There has been discussion for years among residents about the need to manage competing and conflicting uses more collaboratively.

Interest in managing competing and conflicting uses more collaboratively

# Project Goal and Objectives

To inform ongoing discussions about ways to enhance communication and collaboration in the Saco River watershed by providing an **independent** and **nonpartisan** assessment of current issues, activities, and aspirations for the watershed.

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**01** Identify major issues confronting the watershed

**02** Identify individuals and parties with interest or stake in the watershed

**03** Learn individuals' and parties' values and visions of the watershed, perspectives of issues, level of interest in greater collaboration

**04** Assess transferable lessons from existing watershed collaboratives

## Summary Points:

- Chris Feurt, who had facilitated a collaborative process in the Saco River Estuary, proposed that a student team come in and conduct background research that could inform the creation of collaborative organization in the greater Saco River watershed.
- Unexpectedly, a Saco Watershed Collaborative began to take shape around the same time the student team signed onto the project. This collaborative was partially funded by Poland Spring, which was a source of controversy among some residents in the watershed who had previously expressed interest in creating a collaborative.
- The fact that the student team was independently funded and providing an neutral, third-party assessment of issues, activities, and aspirations in the watershed became particularly important.
- Ultimately, the student team's findings and recommendations were targeted to both the emergent Saco Watershed Collaborative, as well as stakeholders more generally in the watershed who aspire to greater collaboration.



# Methods

Used SEAS courses and literature to determine elements of successful collaboration

## Literature Review

01

02

## Interviews

Interviewed 52 people from 30 organizations and coded transcripts for common themes

Studied nine watershed collaboratives to assess transferable lessons

## Case Profiles

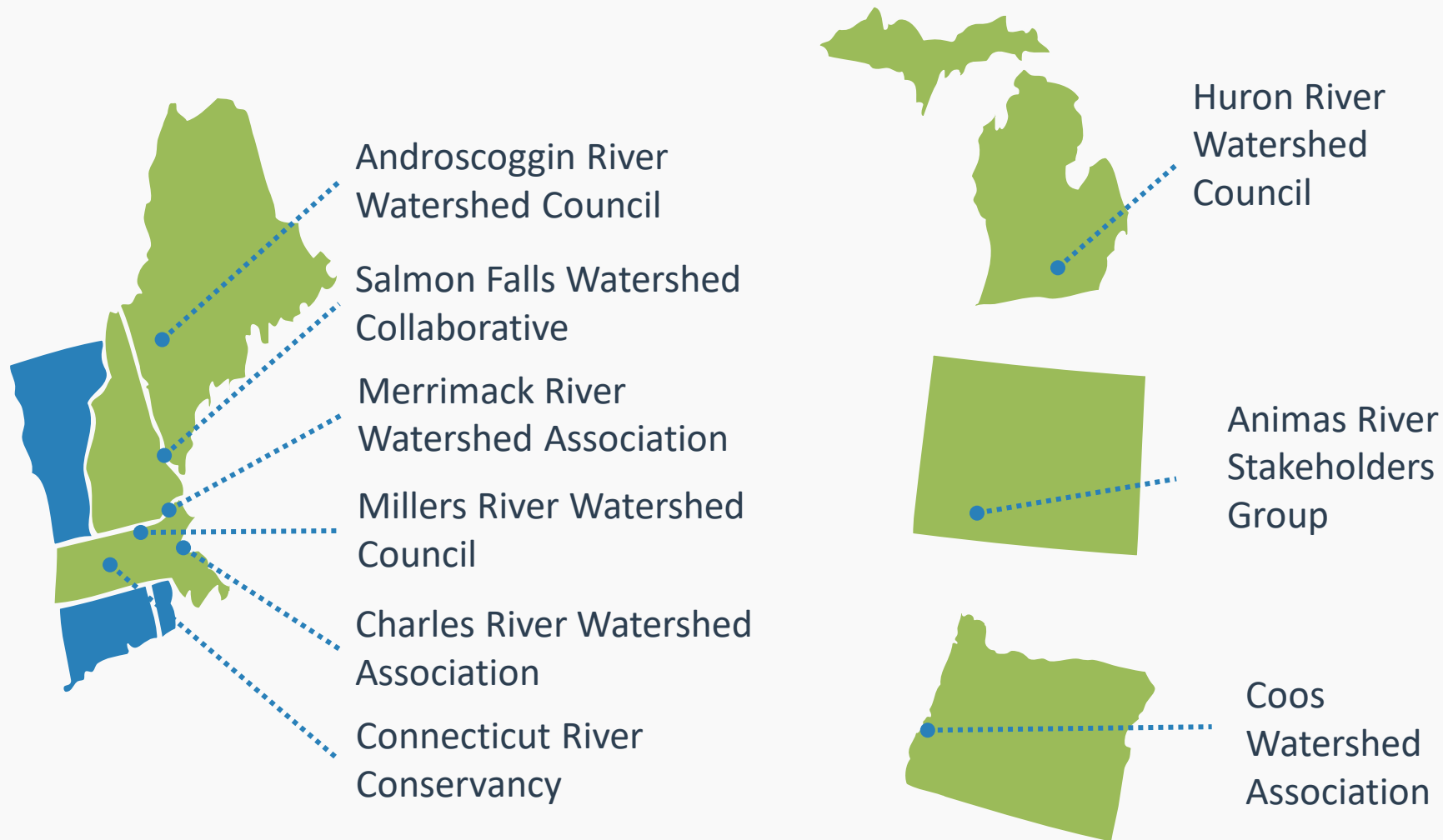
03

## Summary Points:

- The team first conducted a literature review to understand the components of successful collaboration in natural resource management, as well as potential roadblocks. They drew upon their coursework at SEAS, as well as published literature, and developed a set of interview questions.
- The student team conducted interviews with 52 individuals representing 30 organizations in the watershed, including federal and state agencies, nonprofits, local governments, and regional planning commissions. They spoke to people about their values, aspirations, perceptions of issues, and aspirations for collaboration in the watershed. The team transcribed and coded interviews for common themes using NVivo software.
- Finally, the team studied nine other watershed collaboratives across the country to assess lessons and best practices that might apply in the Saco River watershed.

# Methods

## Case Profiles



## Summary Points:

- The team looked for collaboratives with similar scales, locations, and issues as the Saco River watershed, as well as collaboratives that had similar goals and purposes as those expressed by interviewees.
- Ultimately, team selected nine watershed groups from across the country and conducted online research and, as possible, interviews with staff of those organizations.



## Summary Points:



# Findings from Interviews



# Values and Aspirations

## Why values and aspirations?

People's values and aspirations provide common ground for collaboration and shape their perceptions of its issues and challenges

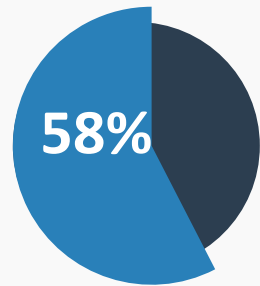
- Tell us why the SRW is special to you. What's it like living and working here? What makes the watershed important? What qualities are most important to you?
- What is your biggest hope for the future of the SRW?
- Imagine a collaborative was formed and we are now 5 years into the future. What would success look like to you?

## Questions we asked

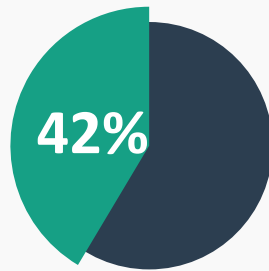
## Summary Points:

- The first set of questions that the team asked interviewees was geared toward understanding their values of the watershed and aspirations for the future.
- Understanding values and aspirations is an important first step in creating a collaborative organization, since values and aspirations provide common ground and shape people's perceptions of issues and challenges.

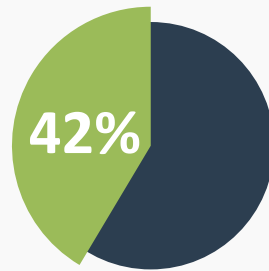
# Values



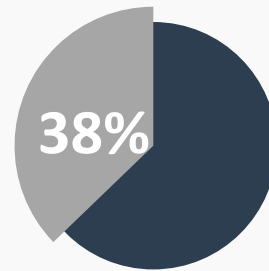
Recreation



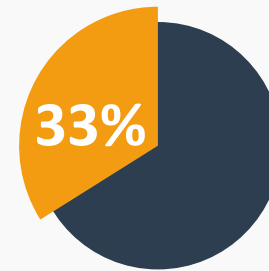
Clean water



Biophysical attributes



Aesthetic qualities



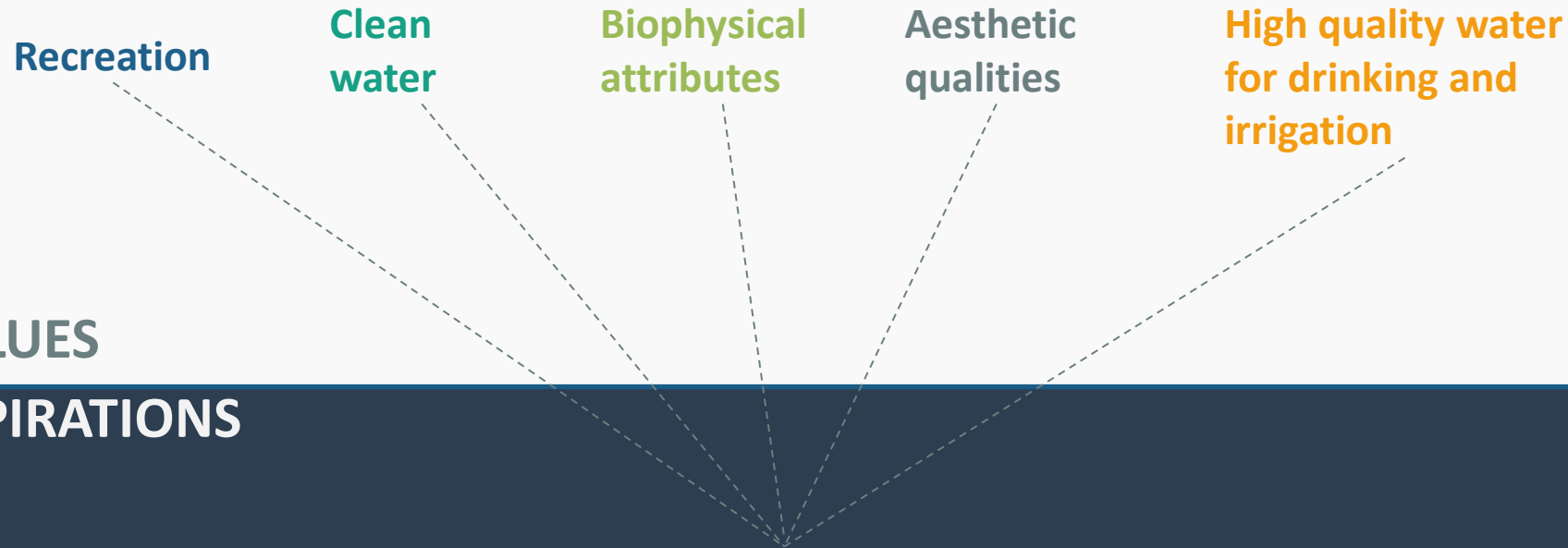
High quality water for drinking and irrigation

## Summary Points:

Interviewees consistently pointed to five common values:

- 1. Recreation - Interviewees valued the availability and diversity of recreational activities in the watershed, as well as the economic significance of the recreation industry.
- 2. Clean water - Interviewees valued the watershed's uniquely clean ground and surface water, noting the importance of the White Mountains National Forest, low level of impervious cover, and sand and gravel aquifer in maintaining high quality water.
- 3. Biophysical attributes - Interviewees mentioned the stratified drift aquifer, intact floodplain, and high levels of forest cover as key geologic and ecological components. Some specifically mentioned the importance of cobble barrens and pitch pine habitat.
- 4. Aesthetic qualities
- 5. High quality water for drinking and irrigation - One-third of interviewees specifically valued the Saco as a drinking water source, noting its good taste, abundance, and role as a life-giving force in the area.

# Aspirations



## VALUES

## ASPIRATIONS

1. The Saco River's ecosystem and water quality are protected
2. Future decisions are informed by sound and credible science
3. There is greater public awareness and concern about the river and watershed
4. More coordination and resource/information-sharing among organizations
5. Issues are dealt with more proactively

## Summary Points:

- When speaking about their aspirations for the watershed, some interviewees jumped to specific action strategies that they hoped people would undertake to protect or enhance the things they valued, while others spoke about specific issues facing the watershed.
- The student team pulled out the aspirations embedded in the concerns and action items voiced by interviewees. These aspirations align closely with interviewees' values of the watershed.



# Issues

## Why issues?

The SRW is geographically, socially, economically, and ecologically diverse. How does this diversity influence people's perceptions of issues?

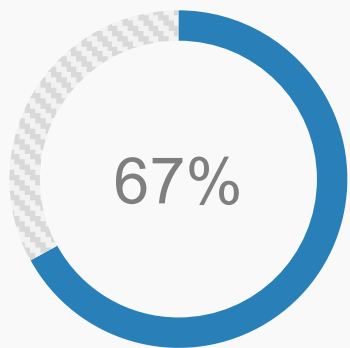
- What do you consider to be the most important issues in the watershed?
- What is currently being done to address these issues?

## Questions we asked

## Summary Points:

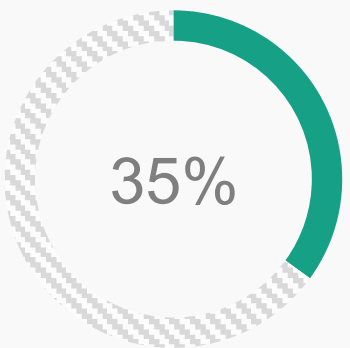
- After understanding values and aspirations, the team wanted to learn what people's perceptions were of issues facing the watershed. Since the watershed is socially, ecologically, economically, and politically diverse, the team wanted to understand how perceptions of issues might vary.

# Perceptions of Issues



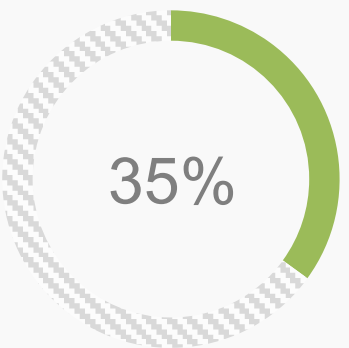
## Recreation

- Overuse
- Safety, security, privacy
- Lack of awareness of impacts



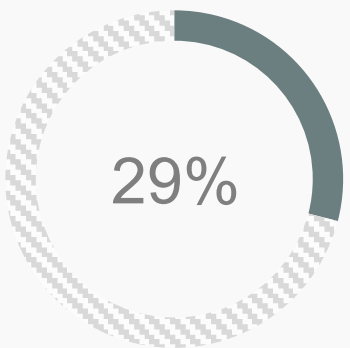
## Dams and Fish Passage

- Ecological connectivity
- Inadequacy of federal standards
- Benefits of hydroelectric power generation



## Development

- Stormwater runoff
- Conversion of private forestlands
- Growth of Conway and Biddeford/Saco



## Water Extraction

- Loss of local control
- Private benefit from a public good
- Distrust of science

## Summary Points:

- Interviewees spoke to four primary issues facing the watershed. These issues are multifaceted and interviewees held many nuanced perspectives, seeing both benefits and drawbacks to many of activities in the watershed.
- Interestingly, recreation, which was the most frequently mentioned value, was the most frequently discussed issue. Although many spoke about the economic and cultural significance of the area's recreation industry, many had concerns about the impact of recreation on private property, safety and security. Some interviewees were concerned about the impacts of overuse on the environment and thought that residents and vacationers did not have a proper understanding of the impacts of their activities on the river and its ecosystem.

# Purpose

## Why purpose?

Establishing a concrete answer to “*Why should we collaborate?*” enables people to construct a meaningful, focused process

- Do you think forming a SRW collaborative is a good idea?
- What would a collaborative contribute to the watershed? Who would be acting upon the collaborative’s advice?

## Questions we asked

## Summary Points:

- In learning people’s values, aspirations, and perceptions of issues, the team next wanted to understand how a collaborative might work to address challenges facing the watershed.
- They first asked interviewees if they were interested in forming a watershed collaborative and, overwhelmingly, the answer was “yes.” 85% of interviewees voiced enthusiastic support for the creation of a watershed collaborative, while 15% indicated conditional interest (i.e. they would be interested in forming a collaborative depending upon the collaborative’s purpose).



# Purpose

What would a collaborative do?



## Enhance Members' Relationships, Knowledge & Capabilities

- Networking & information sharing (48%)
- Coalition- and capacity-building (15%)



## Influence the Knowledge and Behavior of Others

- Public education and outreach (31%)
- Advising municipalities and state governments (17%)
- Advocacy (8%)



## Enable Watershed-Scale Management & Planning

- Ecosystem perspective in decision-making (21%)
- Coordinating conservation efforts (8%)
- Tackling cross-jurisdictional issues (4%)

## Summary Points:

- Interviewees described a wide range of purposes that they envisioned a collaborative in the Saco watershed adopting, generally describing purposes that fell into one of three major categories: enhancing members' relationships, knowledge, and capabilities; influencing the knowledge and behavior of others; and enabling watershed-scale management and planning.
- Although a collaborative can adopt multiple purposes, it is important that these potential purposes are discussed, selected, and clearly defined. This is a foundational step in creating a collaborative, and informs the type of activities and work that a collaborative will execute.

# Structure

## Why structure?

Structure shapes participants' experience of the process and determines if they find it trustworthy and worthwhile

- Formal or informal structure?
- Sources of funding?
- Membership? Paid staff?
- Codified mission and goals?

## Questions we asked

## Summary Points:

- Finally, the team asked interviewees about their vision for a collaborative's structure.

# Structure

60% of interviewees had no opinion.

However, four concerns related to structure emerged:

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- 1 Credibility
- 2 Transparency
- 3 Flexibility in participation
- 4 A focus on things that matter

## Summary Points:

The biggest finding was that most interviewees (60%) had not thought about structure. However,

- many interviewees discussed concerns they had related to structure, including:
  - 1. Credibility. Interviewees wanted a collaborative that was credible.
  - 2. Transparency. Interviewees wanted a process that was transparent, especially with regards to funding. People wanted to know where money was coming from, how it was being spent, and how decisions were being made.
  - 3. Flexibility. Interviewees wanted flexible participation. The watershed is big and people in different organizations and stretches of the river have different capacities and interests. They wanted a structure that would enable them to participate in what they wanted.
  - 4. A focus on things that matter. Interviewees wanted to ensure the collaborative focused on issues that mattered to them, recognizing that people have different levels of interest in issues depending on their occupations and locations in the watershed.

## Summary Points:

- After learning people's values, aspirations for the watershed, perceptions of issues, and interest in collaboration, the team developed a set of recommendations for people in the Saco to consider in forming a collaborative organization. These recommendations were informed by the case profiles, which provided lessons learned and best practices that could be adopted in the Saco River watershed.

# Recommendations

# Recommendations

## Summary Points:

### Craft a Shared Mission Statement

- Use shared aspirations to develop a mission statement

### Develop Specific Goals & Objectives

- Capitalize on shared values to develop specific goals

### Disaggregate and prioritize issues

- Recognize the varied interests, concerns, and capacities to understand and prioritize issues. Work to include entities with jurisdiction in this process.

### Discuss and determine purpose

- Explicitly discuss parties' ideas about the collaborative's purpose and chose one or more to focus on

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# Recommendations

## Summary Points:

### Use Structure to Ensure Credibility

- Consider: consensus-based decision making; craft bylaws outlining voting rights, decision rules; diversify and release sources of funding

### Use Structure to Ensure Transparency

- Consider: hosting open meetings; releasing scheduled updates or newsletters; email updates; frequently updated and informative web presence

### Use Structure to Enable Flexible Participation

- Consider: creating working groups and subcommittees; creating different membership levels; helping to defray costs of participation

### Use Structure to Enable Group to Make a Difference

- Consider: initiatives that have a visible impact (i.e. Source to Sea events) to enable residents to feel engaged in their watershed; hire a coordinator to handle logistics

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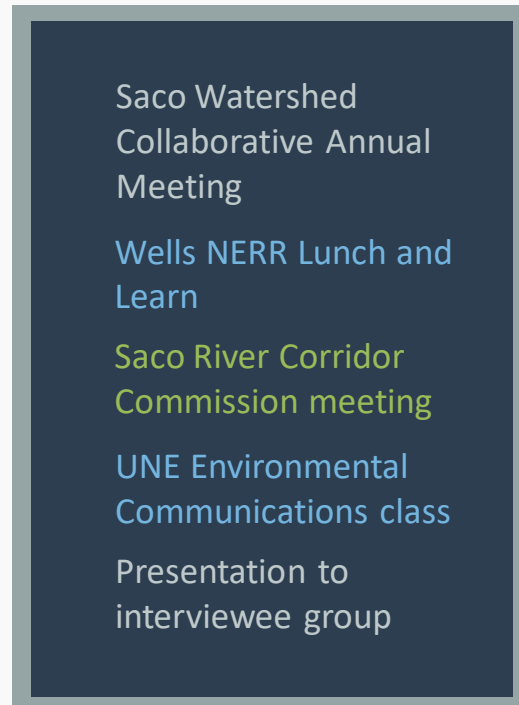
# Products

August 2017



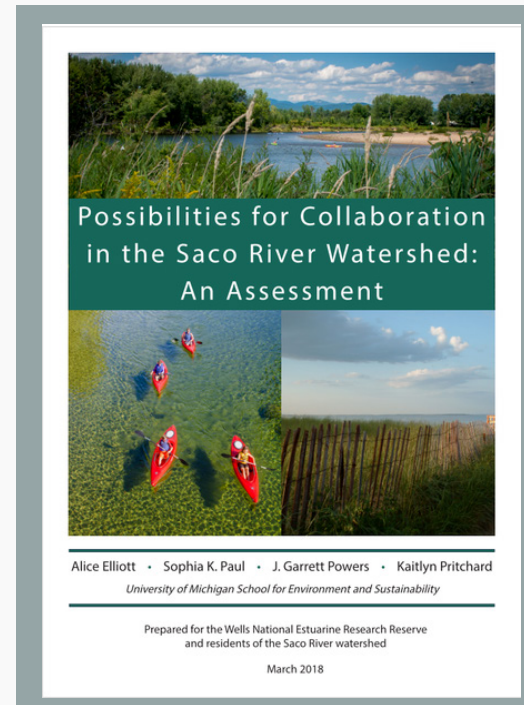
Preliminary report  
released

January 2018



Presentations in  
ME and NH

March 2018



Final report  
released

## Summary Points:

- The original project timeline was January 2017-April 2018. However, because the Saco Watershed Collaborative was forming as the team was working on the project, the timeline was bumped up so that the team could provide findings and recommendations for the emergent collaborative to consider in its first year. The student team delivered a series of different products and presentations to meet this need:
- Following the completion of interviews and interview analysis in August of 2017, the team drafted a preliminary report and held a call with members of the Saco Watershed Collaborative.
- The team returned to the watershed in January of 2018 to present their findings and recommendations at the Saco Watershed Collaborative's Annual Meeting. In addition, the team made presentations to a variety of different audiences, including a Lunch n' Learn at Wells NERR and presentation to students in Chris Feurt's Environmental Communications class at UNE.
- The final report was released in March of 2018. Next, Chris Feurt discusses how the report is being used and the experience of being a Master's project client.





## Summary Points:

- Although Wells NERR is not located in the Saco River watershed, it has long worked in the watershed on other projects. And like most NERRs, their work depends on partnerships.
- The students' assessment was a high-level needs assessment for what a Saco River watershed partnership could look like. It was a huge advantage to be starting a new partnership and to have the advantage of having this research guide its development.
- More than any project Chris has done with the Wells NERR Coastal Training Program, the conflict in the watershed around issues was intense and was becoming a barrier to moving forward. Having a neutral team looking from outside-in provided them with information they otherwise would not have been able to access. The team talked to a number of people who would not engage with the collaborative due to distrust, and the report gave the collaborative a richer, deeper understanding of issues and perspectives.





## Summary Points:

- Here, the student team is presenting to the Saco River Corridor Commission (SRCC), which has regulatory authority over the river and its buffer in Maine. In addition to helping Wells NERR, the team's report also gave SRCC a better understanding of what residents value in the watershed and what the roots of the conflicts are - something that will be valuable to them in their work.
- The project is a good example of the way that social science research contributes to the mission of the NERRS. It also showed a model of engaging graduate researchers in the NERRS and showed how the NERRS can also help make a contribution to graduate education - something that the system is currently reevaluating.
- The Saco Watershed Collaborative will use the results of the project to reach out to groups that didn't want to participate or didn't have time to participate initially. The report will serve as a cornerstone of the partnership.
- The case profiles could be particularly useful to anyone interested in forming a watershed partnership - they are a great collection of nine approaches to watershed stewardship.



# For More Information...

- To view the full report, “Possibilities for Collaboration in the Saco River Watershed: An Assessment,” visit <http://www.wellsreserve.org/writable/files/Possibilities-for-Collaboration-in-the-Saco-River-Watershed-An-Assessment-by-the-University-of-Michigan.pdf>
- To learn more about the Saco Watershed Collaborative, email Chris Feurt ([cfeurt@une.edu](mailto:cfeurt@une.edu))
- To submit a Master’s project idea for 2019, visit <http://seas.umich.edu/research/capstone> or email Julia Wondolleck with questions ([juliaw@umich.edu](mailto:juliaw@umich.edu))

## Questions:

- **To what extent has the collaborative had an opportunity to connect with the organizations profiled in the case studies?**
- **How are the case studies being used?**
- Chris: Wells NERR was heavily involved in one of the groups involved - the Salmon Falls Watershed Collaborative (SFWC). SFWC actually provided an impetus for exploring collaboration in the Saco. But many of the other examples are of much older organizations, and they have provided the Saco Watershed Collaborative with great ideas and models. It has been particularly useful to look at them and think about possibilities for where our group could be in ten or fifteen years down the road.
- **What types of resources did Wells NERR bring to the project? What resources did U-M bring to the project?**
- Julia: U-M allocates \$1,500/student for Master’s projects so this four-person student team had an initial budget of \$6,000. In this case, this was enough to cover the student team’s travel, transportation, and other expenses. On projects where students need to travel farther or have greater expenses, they seek extra funding through grants or by getting funding or other assistance from the client. Wells NERR, for instance, hosted the student team in their dormitory while they were doing their fieldwork. Wells NERR and Chris also connected the students to individuals in the watershed, which really paved the way for them to do their interviews and engage in the project. Each project is a true partnership between U-M SEAS, the student team, and the client and they work together and contribute in different ways to ensure that the projects can be completed.



# For More Information...

- To view the full report, “Possibilities for Collaboration in the Saco River Watershed: An Assessment,” visit <http://www.wellsreserve.org/writable/files/Possibilities-for-Collaboration-in-the-Saco-River-Watershed-An-Assessment-by-the-University-of-Michigan.pdf>
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## Questions:

• **Could you explain the distinction between organizational mission and purpose? Has the Saco Watershed Collaborative moved forward in defining these?**

- Julia: The difference comes down to a matter of scale. Mission is what an organization aspires to be contributing to the watershed (i.e. protecting water quality). It’s the amalgam of aspirations and values and is loftier than purpose. Purpose is a specific, explicit way to achieve your broader mission (i.e. protecting water quality by providing advice to government agencies versus protecting water quality by providing education to residents of the watershed).
- Chris: The Saco Watershed Collaborative has now created an Action Plan that includes four broad goals with specific objectives for each goal. For anyone who is interested, you can see the current version of the Action Plan on Wells NERR’s website (<http://www.wellsreserve.org/project/the-saco-watershed-collaborative-safeguarding-the-future-of-the-saco-river>).

• **Katie and Sophia, what is one main takeaway you’ve had from this project or one thing you have learned that has been particularly valuable?**

- Sophia: I’ve always been interested in process and organizational structure and this project was a helpful way to think about that from the ground-up. I hadn’t been a part of that process from that level before, so that was useful and interesting.
- Katie: It was really interesting to learn that people’s values and core aspirations for the watershed were so strikingly similar. It is really easy to get tied up in differences and conflicts in natural resource management, which are of course important to understand. But seeing the convergence of values and aspirations was really exciting and encouraging, and I think is something I’ll be more conscious of in my future work.