

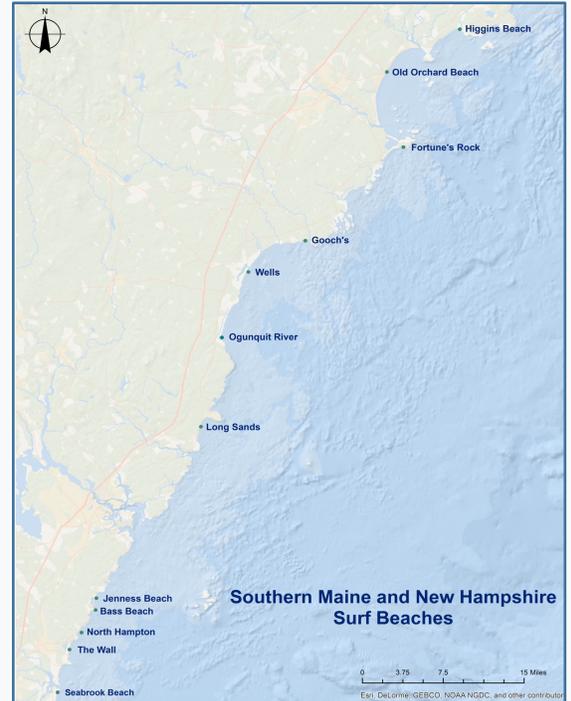
How do surfers perceive the risk of impaired water quality?

Fall 2016 • Sophia Scott • Shannon Rogers • Center for the Environment • Plymouth State University

The Gulf of Maine is a resource region in the North Atlantic and home to 11.2 million people in Maritime Canada and New England. Tourism is a major industry in Maine and New Hampshire and coastal tourism and recreation represent a large portion of the tourist economies of ME and NH. Beach visits are a popular tourist activities for those who visit southern ME and coastal NH. Recreational beach advisories and closures can impact the socio-economic systems in the two states through perception and value of place, health implications, and loss of revenue from unwarranted beach closures.

The New England Sustainability Consortium (NEST) is a sustainability science project focused on bridging the gap between science and decision making with respect to water quality in the Gulf of Maine. This place-based, problem-driven, and solutions oriented transdisciplinary research project spans states and institutions focused on working collaboratively to solve a regional problem.

As part of the NEST project and focused on recreational beach advisories we chose to study the surfing population of southern ME and NH given that they represent a beach stakeholder group who are more prone to issues of poor water quality. Specifically, we were interested in understanding surfers' perceptions of risk, whether they considered water quality a risk, and how this impacted their decision-making around when to enter the water to surf.



Study Area

As shown above we focused on 12 surf beaches in southern ME and NH. We attempted to survey surfers at our study beaches a total of 63 times over the course of our field season from May to October 2015.

To understand surfers' perceptions of risk and water quality we interviewed and surveyed over 300 surfers in our study area.



© Herman Mantis

Surfers are more vulnerable to water pollution

- ❖ Surfers frequent the beaches more often and spend longer periods of time in the water than the average beach goer
- ❖ Surfers surf year round and experience the season
- ❖ Surfers are more apt to ingest water or get cuts and scrapes which can result in water borne illnesses
- ❖ Surfers surf after storm events when waves are the best but water quality is the poorest

Who surfs in ME & NH?

Gender

- Male 80%
- Female 20%

Residence

- MA 22%
- ME 40%
- NH 20%
- QC 10%
- Other 8%

Education

- HS 10%
- Some college 19%
- Associates/technical 4%
- Bachelors 45%
- Graduate 22%

Envir. or surf group member

- Member 74%
- Not a member 26%

Age

- Mean, (median), (min-max)
- 33.6, (31), [18-69]

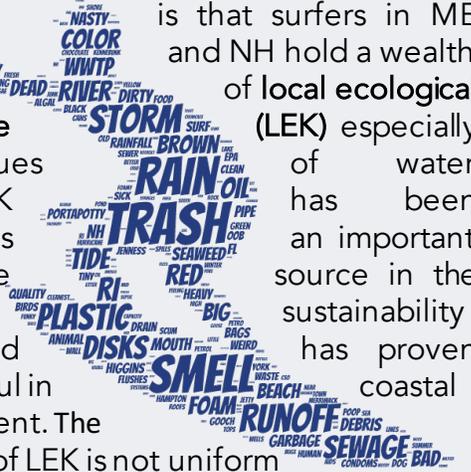
Surf experience (years)

- Mean, (median), (min-max)
- 11.4, (9), [0-52]



What did we learn from surfers in ME & NH?

We conducted 20 in-depth interviews with key informants in the surfing community. Using a grounded theory approach and latent content analysis we found the main theme which emerged from our research is that surfers in ME and NH hold a wealth of local ecological knowledge (LEK) especially around issues of water quality. LEK has been heralded as an important source in the realm of sustainability science and to be useful in coastal management. The presence of LEK is not uniform across the surfing population. Some surfers are more likely to have LEK than others. We tested for some of these predictor variables in an effort to understand factors that contribute to the presence of LEK in the surfing community.



THE VALUE OF LOCAL ECOLOGICAL KNOWLEDGE (LEK)

LEK adds saliency, legitimacy, and trustworthiness to sustainability science research. This is accomplished through harnessing the knowledge of local groups and communities who have an intimate knowledge of the local ecological place.



LEK in ME & NH surfers

LEK was not uniform across our sample of surfers. We found a significant association between the presence of LEK and certain surfer attributes.

Surfers more likely to have LEK if they are

- Members of an environmental or surf group
- Have surfed during or after a storm event
- Have surfed during a posted water quality advisory
- Attributing sickness to surfing
- Have greater experience surfing (measured in years)

ME & NH surfers think constructively about issues of water quality and risk

Surfers care about the water they surf in

- 71% believe water quality is a risk
- 47% say water quality would impact their decision to surf

Surfers also participate in behaviors that puts them more at risk for issues associated with water quality

- 78% have surfed during/after storm events
- 37% have surfed during a posted water quality advisory
- 29% have attributed sickness to surfing

Surfers overwhelmingly (97%) want to know about water quality at their local surf spot and described the best methods for this information to reach the surfing community.

Knowledge sharing method	Percentage (%)
Online	55.0
Posted at beach	18.4
Social media, text, app	11.8
Surf shop	8.6
News outlet or local government	3.5
Surfrider Foundation	2.0
Other	0.7

Policy implications

To the best of our knowledge this is the first research of its kind on surfers in the Gulf of Maine. Our findings yield important insights into this population that is especially vulnerable to issues of water pollution.

We show that

- ❖ Surfers can provide valuable insight and LEK to scientists, researchers, and policy makers
- ❖ Surfers care about the quality of water they surf in and should have equal access to water quality information
- ❖ Surfers participate in risky surf behaviors (almost 40% knowingly surfed in an advisory) which has implications for the way water quality risks are communicated to all beachgoers
- ❖ Surfers are an important beach stakeholder group to consider when making coastal management decisions

Broadly, surf research helps us better understand social and ecological components of an important coastal system

This project is the result of a fruitful collaboration with the NEST Safe Beaches and Shellfish Project. For a full report, please contact Sophia Scott at sophiaquilliam@gmail.com or Dr. Shannon Rogers at shrogers@plymouth.edu.

Funding was provided by Plymouth State University College of Graduate Studies, Center for the Environment & NH EPSCoR. Support for the NH EPSCoR Program is provided by the National Science Foundation's Research Infrastructure Improvement Award #1330641

