

## **Beaches Conference 2017: Concurrent Session 2, Room 2**

### **Swim, Surf, Steward: Engaging Beachgoers to Inform Ecosystem Management**

Notes by Caitlin Peterson, NH Sea Grant/UNH Cooperative Extension

#### **Pre-contact fish weirs in Cape Porpoise?**

**Tim Spahr, Cape Porpoise Archaeological Partnership**

##### *How are precontact artefacts studied?*

- Artifacts are measured by depth – their exact location is called “provenance”
- Researchers have developed a timeline of various precontact periods that occurred in Maine
- Archaeological *features* (e.g., fish weirs) are defined as larger features that cannot be removed from the landscape, as opposed to artefacts that could be removed

##### *Fish weir remains*

- Google Earth image shows fish weir remains in Wells harbor
- The name “Stage Island” likely comes from cod fishing (it was used as a “staging area” for fish by Europeans in 1500s)
- Newly discovered potential remains of a fish weir in Cape Porpoise are almost identical in size to those in Wells Harbor
- Seaweed on rocks may be evidence that the rocks were placed there by humans (and therefore they lie a little higher off the ground and are not as scarified as natural rocks)
- Weirs can be different sizes/shapes to match their function
  - o Salmon weirs could be very big, extending up to a mile out from shore
  - o Sardine weirs were smaller and more corral-like

##### *2016 archaeological survey to investigate Cape Porpoise weir*

- There’s concern about archaeological evidence being washed away/eroded, so there is some urgency about this research

##### *Questions and answers*

- Question: Could European weirs indicate locations where there may be precontact weir remains?
  - o Answer: Yes – weirs were typically built in areas where the fish tended to go, so it’s not unlikely that they’d be built in the same place over time

## **Beachgoers of Maine: Who are they and what do they think about water quality?**

**Charles Colgan, Center for the Blue Economy, Monterey Institute of International Studies and Professor Emeritus, Muskie School of Public Service, University of Southern Maine, and Ross Anthony, University of Maine**

### *Results of a mail study sent to Maine beachgoers*

- Patterns in beachgoers perceptions of water quality
  - o NH residents inflate estimates of water quality in both ME/NH
  - o Misperceptions about what causes changes in water quality
- Over 30% of individuals surveyed had a 50% risk perception of getting sick in water under advisory
- Gender and self-reported risk aversion were the only significant variables that appeared to influence individuals' risk perception

### *Results of an in-person intercept survey on Portland and York Beaches*

- Interviewers approached beachgoers with an iPad and requested participation; less than 2% refused
- Water quality information posted on the beach was slightly more likely to be checked at more urban beaches, though in total only about 25% check this info
- No real relationships found to predict who does or does not check the water quality levels
- Many people reported either leaving the beach or not going in the water during water quality advisories (90%), in spite of the fact that many people did not perceive water quality advisories to carry a risk; perhaps they were falsely reporting their response based upon the answer they thought interviewers wanted to hear.
- A high percentage of people reported interest in signing up for delivery of internet-based beach information (43% for residents, 30% for visitors) – may be an effective strategy
- Contact strategies should differ between beaches, as visitors stay in different types of locations

### *Questions and answers*

- Question: What do water quality advisories say?
  - o Example photos are on one of first slides – “not suitable for wading or swimming” is the main text, followed by additional in-depth information

## Surfing the wave of sustainability science

Sophia Scott and Shannon Rogers, Plymouth State University

### *Results of surfer interview research*

- Surfers are more vulnerable to water pollution than average beachgoers, for a variety of reasons: they go to the beach more often; they are completely immersed in the water; they are more likely to ingest water or get cuts and scrapes; they tend to surf when water quality is the poorest (storms bring waves and also decrease water quality)
- 90.4% success rate with interviews. Focused on 12 beaches from Seabrook to Scarborough
- Surveys could only be conducted on those 18 or older, so age range is potentially skewed – researchers observed several kids surfing and also observed surf camps for kids
- 42% of surfers have noticed something in the water that affected their perception of its quality
- Only 2 of survey subjects mentioned water quality as a risk before being prompted with the question “do you consider water pollution to be a risk?”
- Surf forecasting websites were reported as most desirable source of water quality information
- The researchers published a one-page information sheet to distribute to stakeholders

### *Questions and answers*

- Question: Is the low percentage of people who check for water quality advisories due to the fact that water quality is typically fairly good?
  - o Answer: Maybe, but there are other reasons – for example, one prominent beach has many access points but information is only posted in one location. Many beaches do not have very obvious postings.
- Question: Did this research look into stand-up paddleboarders?
  - o Yes, but they weren't part of this survey – they don't have as much water contact.
  - o Less than 3% of respondents to surveys in the “Beachgoers of Maine” talk were paddleboarders (Ross from “Beachgoers of Maine” talk)
- Discussion: It would be good to be able to concretely tie sickness to water quality in users' minds.
  - o Surfers often say they know they will get sick, but it's worth it (Sophia)
  - o A study in CA did follow-up surveys after surfing to gather epidemiological data about response to exposure (Ross from “Beachgoers of Maine” talk)
- Question: How sick do users typically get? Do they have to see a doctor?
  - o Most are just casually sick for a short amount of time; some do see a doctor.