Communicating Science to the Public – Live From Boone Lake!

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THE UNIVERSITY OF RHODE ISLAND

The Course

Basics

- 4-cr, Honors Tutorial in Writing
- Met twice a week for 75 min. in Spring 2013
- Team taught:
  Jose Amador – Natural Resources Science
  Libby Miles – Writing and Rhetoric
- Demographics:
  11 students: 3 FR, 5 SO, 1 JR, 2 SR; 9 SCI/2 NON-SCI; 7 Female/4 Male

The Course

- Students learned the science first, followed by communication; communication and science were essential parts of both phases.
- Focused on identifying water quality problems in Boone Lake and educating community residents about the source and solutions to those problems.

The Science Phase of HPR 326

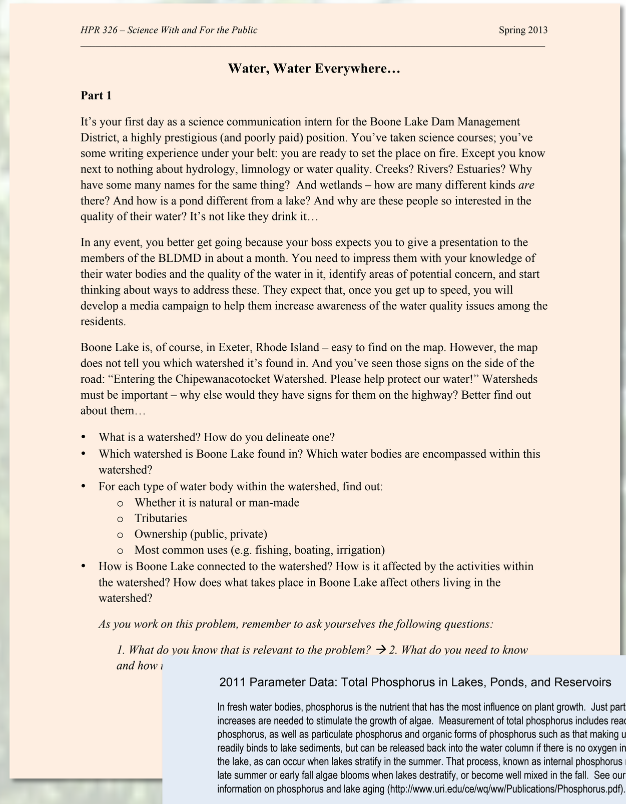
- First 6 weeks of the course were dedicated to getting students up to speed on the science of water quality.
- Audience lacked sufficient background to analyze and interpret the water quality data from Boone Lake. We employed a Problem-Based Learning (PBL) approach to bring them up to speed.
- The problem that served as scaffolding for students to learn the course content is entitled "Water, Water Everywhere…" had 8 parts, delivered sequentially.
- Students worked in permanent groups of 3 - 4 to develop solutions to each part of the problem.
- Problem required that they learn basic concepts of hydrology, limnology and water quality, and use this knowledge to analyze 25 years of water quality data collected by volunteers as part of URI's Watershed Watch program.
- Groups split off to address different issues arising from the data.

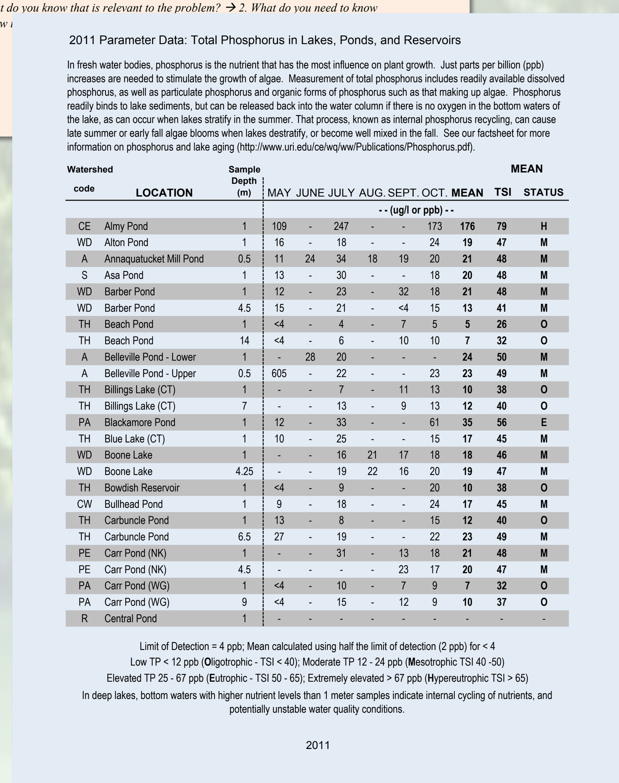
The Communication Phase of HPR 326

- Students presented the results of their research on water quality problems to the residents of Boone Lake in a public meeting.
- Transition to communication phase on Weeks 7 & 8 involved asking students to consider: (i) choices made based on assumptions about their audience, (ii) what they learned from their audience, especially during the Q&A, and (iii) what they would do differently, knowing what they now knew about their audience.
- We asked students to identify what they perceived as the community's wishes for a public information campaign.
- Students surveyed residents to gauge their comfort level and capacity with various forms of technology and social media.
- Two weeks were devoted to deciding on the type of public information campaign, pre-production issues such as story-boarding, scouting, and filming.
- Last three weeks of the semester were devoted to post-production matters of editing and polishing.
- Students unveiled their public information campaigns – which included a series of short films, informational brochures and billboards – to the residents of Boone Lake at a public meeting at the end of the semester.
- After hearing from residents at the public meeting, students had a final opportunity to revise their materials.

Why Teach this Class?

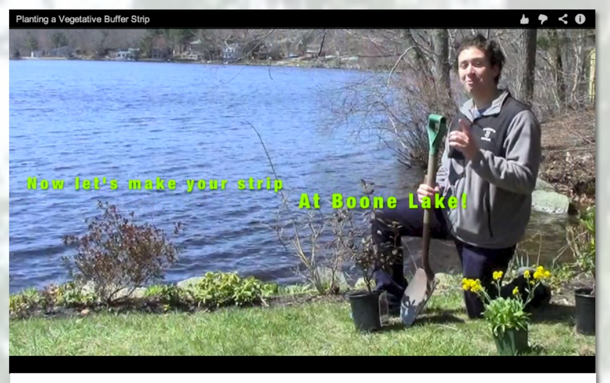
- Need for scientists to communicate clearly and effectively with the public, and for communications professionals to understand science.
- Consensus among faculty, administrators and students regarding the desirability of interdisciplinary courses in undergraduate science and communications curricula.
- Students can suffer from "disciplinary egocentrism," failing to understand the need to examine a problem from a different perspective.
- Desire for more engaging, collaborative experiential learning courses in the sciences and humanities on the part of faculty, students and university administrators.
- Focus on applying scientific and communication skills to solve real-world problems in the real world.
- Opportunity for faculty to explore interdisciplinary connections by putting them into action in the classroom.





Short Films

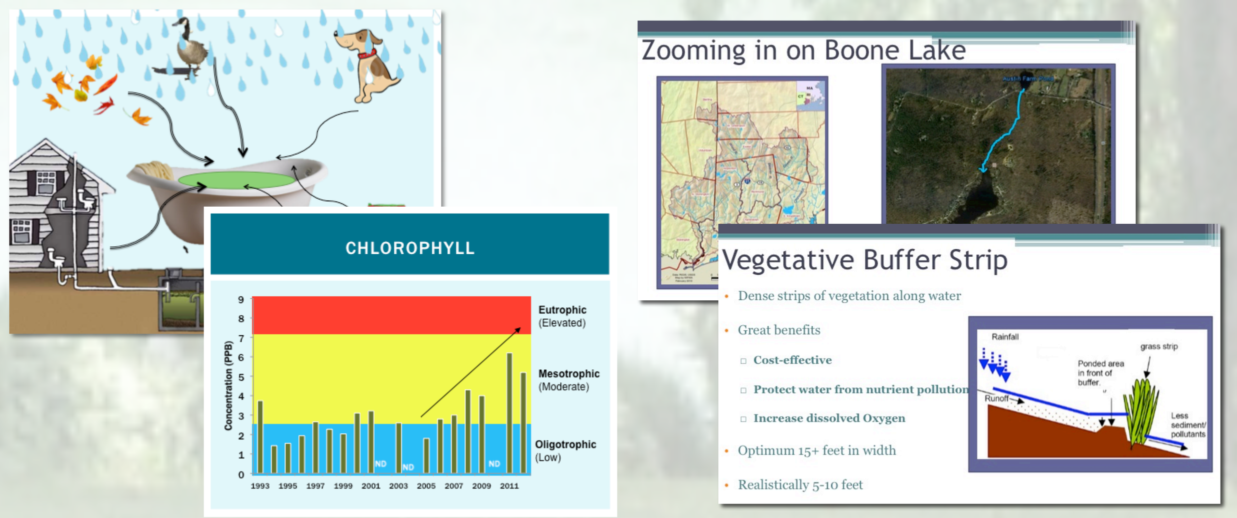
Boone's Angels: Milfoil Invasion explains why and how to remove variable milfoil from boats to prevent the spread of this invasive freshwater plant in Boone Lake. (3:00 min)



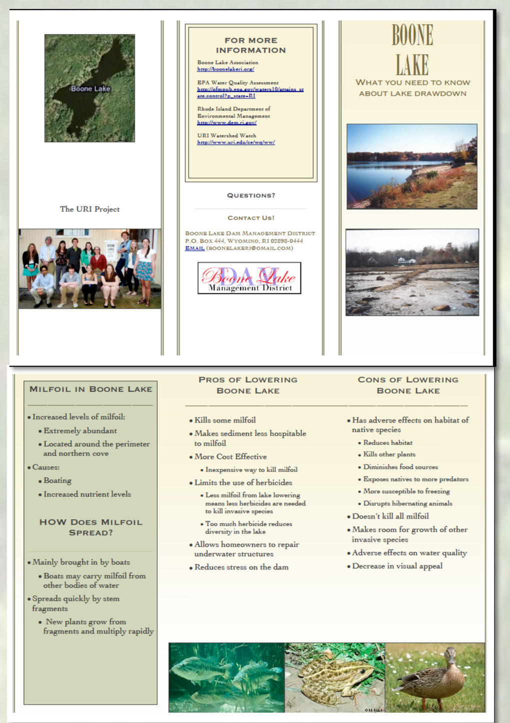
Planting a Vegetative Buffer Strip explains why and how to plant a vegetative buffer strip to protect water quality in Boone Lake. (4:04 min)

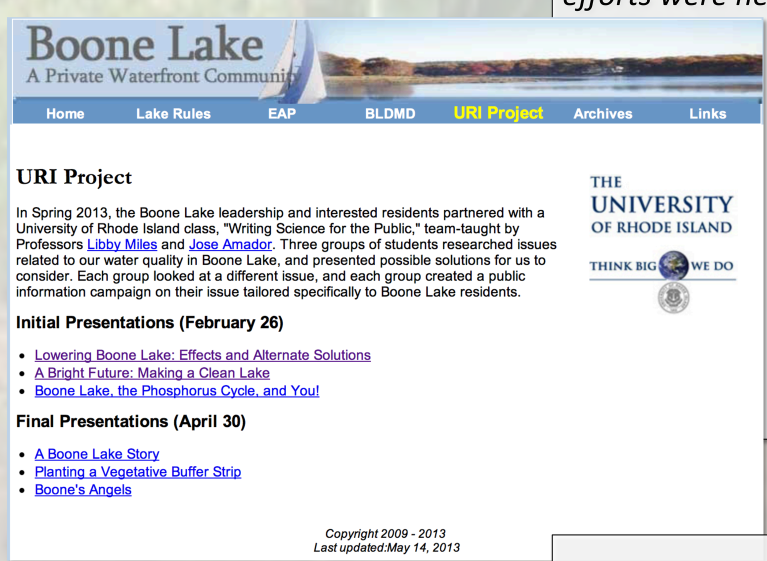
A Boone Lake Story portrays a conversation between a Boone Lake resident and a mythical limnological creature about the past, present and possible dire future of the lake. The focus is on the phosphorus (P) cycle, how human activities alter it, and what residents can do to avert the consequences of elevated P levels in their lake. (6:40 min)

Presentations to the Community

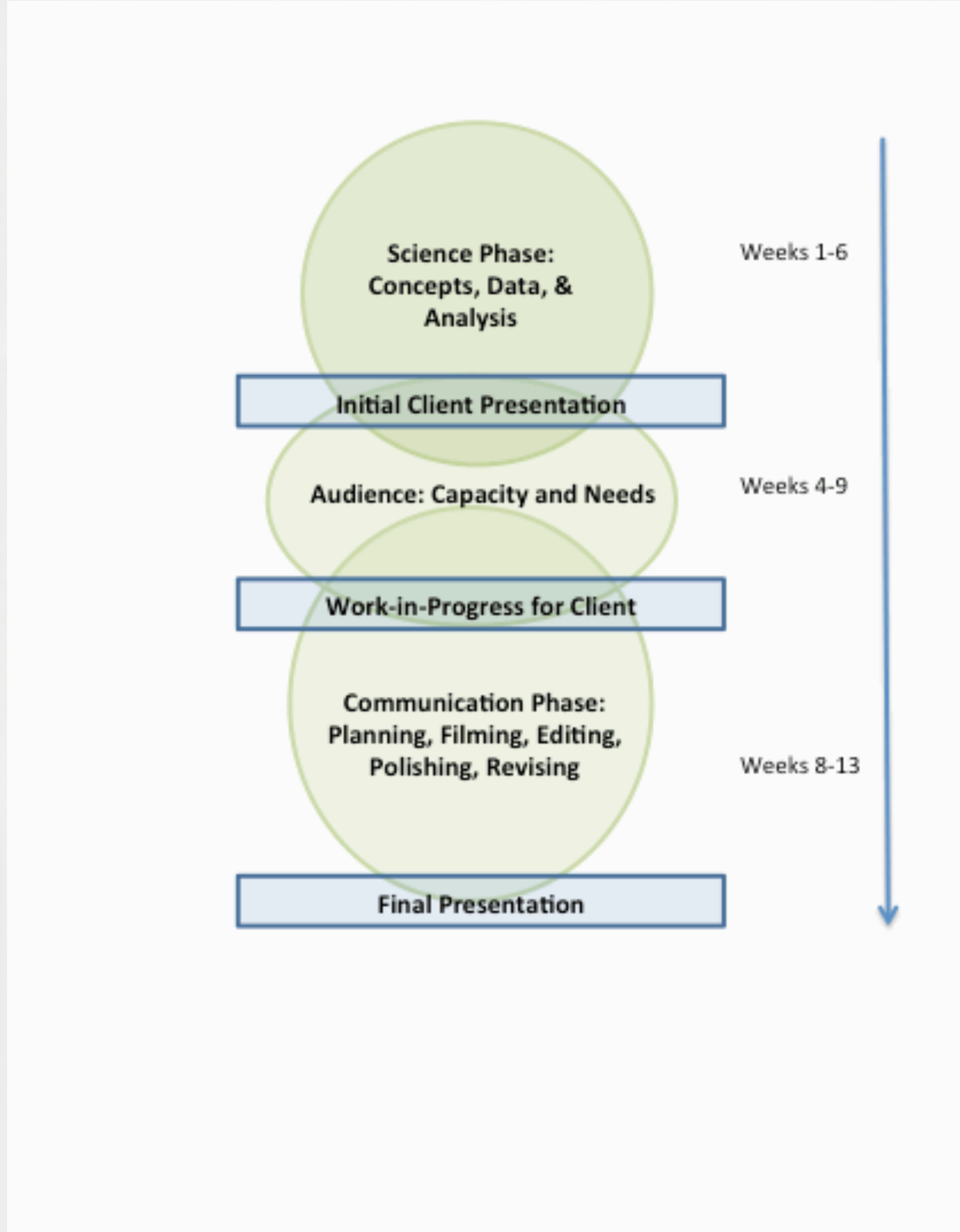


Brochures





Semester Timeline



Students and the Community: Making it Real

Working with a real neighborhood community helped change my overall understanding of science because I now view it as a call-to-action. **Taylor**

In a way, while our main goal is to help clarify the science of water quality for the residents, also act like mediators, while helping the residents find ways to resolve their differences (or at the very least, helping them learn to agree to disagree) about how best to solve the problems in the lake. **Stephen**

I wish we had taken more time to really talk to the residents. They thought of things we never did, and they knew so much about the lake that we couldn't get off any website or graph. Their insight could have influenced the things that we found to be the most important. **Madison**

Working with a real neighborhood community provided a context and motive to guide research. What started as a wide and vague range of information morphed into three discernible topics. We would have never achieved such a narrow focus without the input of the Boone Lake Community. Through their questions and feedback, we were able to take information and synthesize and understand it in a way that was relevant to Boone Lake. For example, our efforts were heavily focused on the presence of variable water milfoil. However, the neighborhood's largest concern was the effectiveness of lake lowering, regardless of whether it aided the milfoil problem. Therefore, we reexamined our data in order to change our understanding of the science behind the pros and cons of lake lowering. This process led to a presentation that intertwined the debated topic of lake lowering with the present and relevant milfoil overabundance. **Christina**

Acknowledgements

We are grateful to the following for their support of HPR 326: URI Honors Program, URI Watershed Watch, Department of Natural Resources Science, Department of Writing & Rhetoric, Boone Lake Dam Management District, Instructional Technology and Media Services, The HUB@LLRC in the Harrington School of Communication & Media.

Special thanks to Linda Green, Elizabeth Herron, and Roy Bergstrom