

Water Field Course
Managing Transboundary Water Resources
May 17 – June 13, 2015
Course Instructor: Jon Erickson

Managing transboundary water resources is one of the major challenges of designing sustainable economic systems in the Anthropocene. The Lake Champlain Basin – shared between two countries, two US states, and dozens of local municipalities – is emblematic of water management issues worldwide where current institutions, politics, and economic forces are mismatched with ecological capacity and multiple social goals. This problem-based course will focus on the legacy of nutrient pollution from industrial agricultural practices, inadequate stormwater management, and aging wastewater infrastructure. Resulting eutrophication of major lake segments has led to increasing algal blooms with interrelated ecological and economic impacts.

The 2015 summer field course is the first of three, annual, interdisciplinary, collaborative, problem-based trainings developed as part of the Economics for the Anthropocene (E4A) partnership. By bridging the academic, advocacy, and policy/management communities in the context of persistent water pollution challenges in the Lake Champlain Basin, the partnership will:

1. Engage a cohort of graduate students and community scholars in transdisciplinary approaches of ecological economics.
2. Seed collaborative research projects to be conducted by graduate students at McGill, York, and Vermont in partnership with regional advocacy and management communities.
3. Analyze institutional failures and propose transdisciplinary solutions to transboundary water management.
4. Synthesize and extend policy principles to the larger St. Lawrence and Great Lakes Region and beyond.
5. Contribute to broader partnership goals of grounding social sciences and humanities in contemporary science.

The class will develop over a 4-week period, with the following elements:

Week 1 (5/17-5/23)

- Problem definition ... getting up to speed on the causes and consequences of nutrient pollution and eutrophication, with specific emphasis on phosphorus pollution, the U.S. Clean Water Act (and the Total Maximum Daily Load regulations), and the Lake Champlain Basin.
- Familiarity with stakeholder groups and positions in the Lake Champlain Basin, with focus on positions related to new TMDL being negotiated between the State of Vermont and the U.S. Environmental Protection Agency.
- Initial brainstorming on topic areas for collaborative, synthesis papers.
- Three online discussion posts to complete, due 5/20, 5/23, and 5/26. Stay tuned for first assignment based on the film Bloom (<http://bloomthemovie.org/>).

Week 2 (5/24-5/30)

- Discussion with state and federal agencies, non-profits, research community, and community stakeholders on the science, policy, and management dimensions of the Lake Champlain TMDL.
- Scoping of synthesis papers, with goal of developing 3 work groups centered on writing 3 synthesis papers.
- See, feel, experience Lake Champlain and basin communities.

Week 3 (5/31-6/6)

- Monday through Thursday will be spent working in teams, pooling resources, and drafting papers. Let the synthesis begin!
- Synthesis frameworks, tools, and examples discussed during lunch-time talks.
- Group presentations at annual E4A partnership meeting on Friday.

Week 4 (6/7-6/13)

- Complete papers through online collaboration.
- Identification of publication and presentation outlets.
- Papers due 6/13. Sent for extended peer review.