

Water and Power (ENVI 252)
Macalester College, SPRING 2016
Tues/Thurs 9:40-11:10am OLRI Room 170

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Office hours by appointment

“When the well is dry, we know the value of water”¹
- Benjamin Franklin

Course Description

Fresh water has become one of the most fiercely guarded local and global resources. Drawing from the fields of political science, geography, anthropology, history, geology and engineering, this course will take an interdisciplinary approach to studying water resources development. With a focus on large river basins, we will examine historical and emerging challenges to the equitable and sustainable use of transboundary waters. In addition to political borders, we will be concerned with ecological and social boundary crossings.

In the process of studying the dynamics of water development over the last hundred years, we will address a range of controversial topics including endangered species, energy production, indigenous rights, and cultural preservation. We will also discuss the potentialities and limitations of environmental impact assessments, public participation and government institutional reform.

The first part of the course will introduce students to analytical tools for evaluating the design of water projects and policy. The second part of the course will ask students to apply concepts from Part One toward assessing historical and contemporary case studies from the USA. Part Three will shift our attention to the international scene. We will examine inter-state/intra-state water conflicts and transnational social movements.



In the process of studying water, the main learning goals for this course are:

- **Gain interdisciplinary analytical tools for understanding the confluence of ecological, cultural, social and political perspectives**

- **Gain skills in writing, expert reading, visual representation, oral presentation and team work**

¹ Quoted in Roddick, A. 2004. *Troubled Waters*. White River Junction, VT: Chelsea Green Publishing. Page 9.

Student Evaluation

We will do lots of different kinds of writing, reading and presenting in this course. Our texts include research reports, journalistic news, and memoirs. We will learn to approach each of these differently, with attention to argument and evidence. We will also be viewing lots of films.

The writing assignments that correspond with our texts include in-class/low stakes/informal pieces, at-home short reflective writing, in-class collaborative writing for a group project, and formal research paper writing.

Students will be evaluated on the basis of 1) attendance and participation (20%); 2) submission of reading reflections and homework assignments (10 in all) by 9pm the night before class or when noted on the syllabus (20%); 3) a midterm quiz (15%); 4) two group projects (10% each); and 5) a final paper and poster project (25%).

See the Moodle site for more information on reading responses. The midterm quiz will assess student understanding of key water terms, institutions and ecological processes. We will have two small group projects that involve writing policy briefs. The final research project will involve preparing a “Biography of a River”. For this assignment, you will prepare a 10 page paper and a digital poster. The poster will be presented in class at the end of semester and will be peer evaluated. The final project grade breakdown is: River Proposal (10%), Draft (30%), Poster (30%), Final paper (30%).

You will also be expected to go to **one** “OUTSIDE” event this semester and provide a brief summary on Moodle. There are three such events on the syllabus.

I expect all of the assignments to be turned in on time. Reading responses will NOT be accepted late. I do not allow students to take the exam or submit papers at times other than those posted. This is because it is not fair to the students in the class who do the work/take the exam on time. Some reasons I WILL reschedule are: 1) You will be out of town on a Macalester-related event (sports, music, etc.), 2) You are genuinely ill, 3) You must leave town for a family emergency. If you are dealing with a long-term crisis or illness (either you or a family member), I encourage you to come and talk to me so I can better support your work in class and accommodate your needs.

If you submit an assignment late, you WILL be graded down one full step for each day past the deadline. For example, an assignment handed in one day late will begin with a B+; two days late a C+. Late reading reflections will not be accepted because it sets us both back in the course.

Academic Integrity: It is assumed that all members of the class will act with academic integrity and will not engage in behavior such as plagiarism, academic dishonesty, misrepresentation, or cheating. Please refer to the college’s policy on academic honesty. A first offense will cause you to get a failing grade on the assignment, and a second offense means you fail the class. If in doubt about what constitutes cheating or plagiarism, or if stress is causing you to consider this route, please speak to me.

I will assign a **final** term grade by taking the following percentages into account:

90-100% = A

80-89% = B

70-79% = C

60-69% = D

The top 2% of each category will typically receive a “+” (i.e., a score of 88-89% will receive a B+), and the lower 3% of each category will receive a “-” (92% is an A-).

I DO have high expectations of your work in this course. It is important to know up front that I think an A means OUTSTANDING in all ways – in terms of effort, engagement, comprehension, and skills.

Office hours/appointments

I am available to talk with you about the class material and assignment questions by appointment. You are welcome to stop by my office, but I can’t guarantee an ‘on the spot’ meeting. Calling in and emailing questions works as well. I do not necessarily answer phone calls or emails outside of the typical work day (M-F 9-5 pm), so please do not expect an immediate reply if you email me at 10 pm! I will also use Moodle as a tool for answering questions and disseminating information – please check this regularly.

Our preceptor for this class is **Kayla Walsh**. She can be reached at kwalsh@macalester.edu. She will hold office hours on Tues 12-1pm in the Campus Center.

Accommodations

I am committed to providing assistance to help you be successful in this course. Reasonable accommodations are available for students with documented disabilities. Please meet with the Assistant Dean of Students, Robin Hart Ruthenbeck, who coordinates services for students with disabilities. It is important to meet with her at the beginning of the semester to ensure that your accommodations are approved and in place to begin the semester successfully. She can be reached by email at rhartrut@macalester.edu. Additional information regarding the accommodations process for students with disabilities can be found at:

www.macalester.edu/studentaffairs/disabilityservices/

Readings/Assignments: <http://moodle.macalester.edu> is where you will find readings, assignments, helpful weblinks and announcements. Check it frequently!

All readings are available through the Moodle page. I reserve the right to add/change the reading assignments during the course.

Summary of Topics and Readings (Subject to Change)

** Denotes when a reading reflection or homework assignment is due*

Part I: Keywords and Processes on Water Politics & Management

Thurs Jan 21: Course Introduction and discussion of short story “The Tamarisk Hunter”

***Tues Jan 26: The Social Construction of Hydrology, Scarcity and Drought**

- J. Linton. 2008. “Is the Hydrologic Cycle Sustainable? A Historical–Geographical Critique of a Modern Concept,” *Annals of the Association of American Geographers*, 98(3): 630–649.

- F. Rijsberman. 2004. “Water Scarcity: Fact or Fiction” Colombo: IWMI. Pp 1-14.

***Thurs Jan 28: Watershed Democracy or Hydraulic Civilizations**

- D. Worster. 1985. "The Flow of Power through History" in *Rivers of Empire*. NY: Oxford Univ Press. Pp. 19-60.
- D. Worster. 2006. "Watershed Democracy: Recovering the Lost Vision of John Wesley Powell" in M. Leybourne and A. Gaynor (eds) *Water: Histories, Cultures, Ecologies*. Crawley: UWA Press. Pp 3-14.

Tues Feb 2: Food-Energy-Water Nexus (in class exercise – please bring laptops)

- A. Y. Hoekstra and A. K. Chapagain. 2006. "Water footprints of nations: Water use by people as a function of their consumption pattern," *Water Resources Management* 21: 35-48.
- J. Barnes. 2013. "Water, water everywhere but not a drop to drink: the false promise of virtual water," *Critique of Anthropology* 33(4) 371–389.

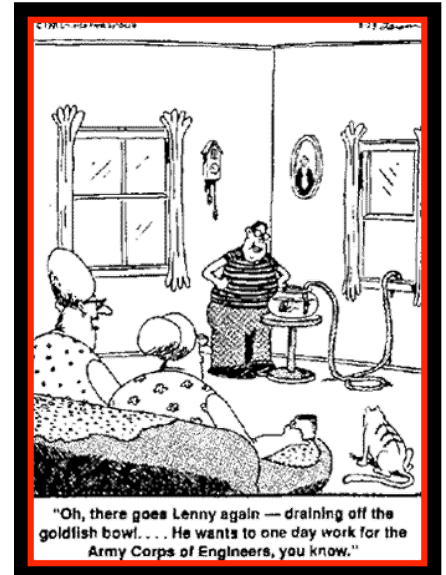
Thurs Feb 4: No class – Roopali away (get started on Tuesday’s reading)

+OUTSIDE EVENT:

Monday Feb 8: Film screening of "Daughter of the Lake" 7-9pm with the filmmaker Ernesto Cabellos

Tues Feb 9: Water impoundments and diversions with Prof. Kelly MacGregor

- S. Postel and B. Richter. 2003. "Chapter 1: Where Have All the Rivers Gone?" and "Chapter 2: How Much Water Does a River Need?" in *Rivers of Life*. Washington, DC: Island Press. Pp. 3-41; 42-78.
- J. L. Wescoat, and G. F. White. 2003. "Chapter 4: Natural Waters", "Chapter 8: River Channels and Floodplains" and "Chapter 9: Impounded Rivers and Reservoirs" in *Water for Life: Water Management and Environmental Policy*. Cambridge: Cambridge Univ. Press. Pp 47-64; 139-159; 160-185.



***Thurs Feb 11: Urban Water Supply and Sanitation – Fieldtrip to Wastewater Plant**

Post fieldtrip homework assignment

Tues Feb 16: Water laws, agencies and commissions

- T. Cech. 2005. "Chapter 8: Water Allocation Law" and "Chapter 9 "Federal Water Agencies" in *Principles of Water Resources*. Hoboken, NJ: John Wiley & Sons. Pp. 211-281.
- Quiz review in class

Thurs Feb 18: In Class Quiz on Keywords, Processes and Institutions

+OUTSIDE EVENT:

Thurs Feb 18 12-1pm EnviroThursday with Kate Bauman, Institute on the Environment. Her talk is about global water.

Part II: The American Case – Politics and Environmental History

*** Tues Feb 23: The Colorado River, the American West and Manifest Destiny**

- M. Reisner. 1986. "Chapter Four: An American Nile (I)" and "Chapter Eight: An American Nile (II)" in *Cadillac Desert*. NY: Penguin Books. Pp 120-144; 286-303.

- Recent update: T. Davis. 2015. [“Feds: Fix Colorado River Problems or We Will”](#) *Arizona Daily Star*.
- In class screening of scenes from *Cadillac Desert*
- *Introduce Great Lakes group project

***Thurs Feb 25: The Columbia Basin: Conservation, Development and Restoration**

- Watch film *DamNation* (available for streaming on Netflix and also on Media reserves)
- M. Richtel. 2016. [“To Save Its Salmon, California Calls In the Fish”](#) *NY Times*.

***Tues March 1: Water Privatization and Bottled Water Battles**

- F. H. Chapelle 2005. “Chapter 1: Water from the Market” and “Chapter 7: Paying Dues” in *Wellsprings: A Natural History of Bottled Spring Waters*. NJ: Rutgers Press. Pp. 3-18; 116-134.
- In class screening of scenes film *Tapped*

Thurs March 3: In class policy debate on Waukesha proposal with invited guest Dave Dempsey, Great Lakes Joint International Commission

Present your group’s position statement advising Gov Dayton about how to respond to the Waukesha proposal to divert water from Lake Michigan. This is the first test case of the Great Lakes Compact.

Tues March 8: What happened in Flint, Michigan? Deconstructing the Case

- M. Smith. 2016. [“Flint wants safe water”](#) *New York Times*.
- NPR documentary [“Not Safe to Drink”](#) (53 mins)

*** Thurs March 10: The Mississippi Delta – What’s next?**

- McPhee, J. 1989. “Atchafalaya” in *The Control of Nature*. New York: Farrar, Straus, Giroux. Pp. 3-94.

****SPRING BREAK****

Part III: International Experiences – Connecting the Local and Global

Tues March 22: Colonial Encounters and the Hydraulic Civilization: Focus on Egypt and the Nile

- T. Mitchell. 2002. “Chapter 1: Can the Mosquito Speak?” *Rule of Experts*. LA: UC Press. Pp. 19-53.
- G. Gebreluel. 2014. “Ethiopia’s Grand Renaissance Dam: Ending Africa’s Oldest Geopolitical Rivalry?,” *Washington Quarterly* 37:2 pp. 25–37.

*** Thurs March 24: Pro-Poor Water and the Privatization Debates**

- N. Laurie “Pro-Poor Water? Privatisation and Global Poverty” *Geoforum* Vol 38 (5): 753–755.
- A. von Schnitzler. 2008. “Citizenship Prepaid: Water, Calculability, and Techno-Politics in South Africa,” *Journal of Southern African Studies*, Vol 34 (4): 899-917.

~ River biography proposal due in class

***Tues March 29: Gender, Water and Sanitation – focus on South Asia**

Read in this order:

- K. O’Reilly. 2010. “Combining sanitation and women’s participation in water supply: an example from Rajasthan,” *Development in Practice*, Volume 20 (1): 45-56.
- D. Joshi. 2005. “Misunderstanding Gender and Water”, in A. Coles and T. Wallace (eds) *Gender, Water and Development*. NY: Berg Publishers. Pp. 135-153.

**Introduce Dead Sea group project*

Thurs March 31: Making More Water? Desalination and other solutions

- F. Pearce. 2004. "Chapter Fourteen: How to Catch the Rain" in *Keepers of the Spring*. Washington, DC: Island Press. Pp. 161-172.

- P. Dickie. 2007. "Making Water". WWF. Pp 1-45. SKIM this one.

**Introduce Red/Dead group project*

+OUTSIDE EVENT:

Monday April 4 5-8pm Clean Power Plan/Power Dialogue Kagin

Tues April 5: Charity and Water Infrastructure

- M. Chafkin. 2013. "[A Save-the-World Field Trip for Millionaire Tech Moguls](#)," *New York Times Magazine*. August 8. Pp. 1-13.

- Watch "Slingshot" available on Netflix

Also visit your assigned group: *The Water Project, People Water or H2O for Life*

***Thurs April 7: Toilet to Tap: Singapore case study with with guests Rachel Tan and Zexin Nai**

- C. Barnett. 2011. "On Songbirds and Sewage" in *Blue Revolution: Unmaking America's Water Crisis*. Boston: Beacon Press. Pp. 121-138.

- K. Irvine et al. 2015. "How High's the Water, Mama? A Reflection on Water Resource Education in Singapore," *HSSE Online* 4(2) 128-162.

Tues April 12: Red/Dead Project with guest Louisa Bradtmiller

Readings TBA

Thurs April 14: Student research presentations – Olivia Nelson, Allie Belyaev and Laura Humes

Tues April 19: Paper peer review in class

Paper draft due to peer group on Sunday (also upload on Moodle for Roopali)

Thurs April 21: Class with Kayla Walsh – Nicaragua-China Canal

Readings TBA

Tues April 25 and Thurs April 27: Poster session in class

Tues May 2: Water as a Human Right Discussion

- Pradhan, R. and R. Meinzen Dick. 2010. "Which Rights are Right? Water Rights, Culture and Underlying Values" in *Water Ethics: Foundational Readings for Students and Professionals*, ed. Peter G. Brown and Jeremy J. Schmidt. DC: Island Press. Pp. 39-58.

**** FINAL Papers and posters due on Friday May 6 by 5pm on Moodle**