FRSHWTR 781
WATER LAW FOR SCIENTISTS AND POLICY MAKERS

Center for Water Policy, School of Freshwater Sciences and Water Institute
University of Wisconsin-Milwaukee
Syllabus for Fall 2017

Instructors:  Gary Ballesteros, JD
             Peter McAvoy, JD
             Jodi Habush Sinykin, JD

Course:       FRSHWTR 781 Water Law for Scientists and Policy Makers
Office hours: By appointment
Phones:       (414) 382-8480 (Ballesteros); (414) 426-0084 (McAvoy); (414) 507-0004 (Habush Sinykin)
Emails:       gwballesteros@ra.rockwell.com; mcavoy@uwm.edu; hslaw@bizwi.rr.com.

Class meeting times and locations: Wednesday 10:00 AM – 12:40 PM, Room GLRF 3093

Course Description
Water is the planet’s “blue gold.” It is a resource that is scarce yet ubiquitous and, of course, essential to life. As such, a complex mixture of legal principles determine key water management decisions, such as how to allocate a shared resource to competing users, and how to protect limited supplies from pollution and environmental degradation. In this course we will consider critical issues of both water quantity and water quality through examination of three (3) state and federal laws: (i) The Clean Water Act; (ii) The Great Lakes Compact; and (iii) Wisconsin’s Groundwater Protection Act. For each legal framework, our objective will be to evaluate the role of science and policy in the development and implementation of the law.

The course is formatted to provide five (5) classes each on general principles of water law and the Clean Water Act; The Great Lakes Compact; and Wisconsin’s Groundwater Protection Act. Students will be challenged by important case law, real world examples and practical simulations, aimed to shed light on the ongoing tug-of-war between science and policy, public and private rights, the Precautionary Principle and considerations of costs, feasibility and Climate Change.

Course Objectives
The course will emphasize critical thinking and the development of intellectual skills. At the end of the course, students will be able to:
1. Understand how water is regulated in specific circumstances;
2. Understand the benefits and flaws of the various major water laws; and
3. Predict how water can be regulated to address evolving issues of the 21st century.
Required Readings *(See Course Schedule below)*

Course Requirements and Grade Apportionment
This course is team taught by three Adjunct Professors, who will each teach and evaluate three separate portions of the class. As such, each section will be weighted as 33.3% of your total grade; and within each section, the grade will be judged as follows:

1) Written assignments and in-class presentations - 85%
2) Class participation - 15%

Workload
This is a 3 credit-hour course. As such, students are expected to devote 8 to 9 hours per week to this course over a full semester. This time commitment will include:
- In-class time, (2.5 hours per week)
- Reading assignments (see below)
- Completion of take-home exam and writing assignments
- Preparation and delivery of class presentations
- Class participation

Course Policies
**Attendance:** With the exception of extreme emergencies, which require official documentation, class attendance is compulsory. Each missed class will result in a 10% decrease to the student’s total grade. If an absence is anticipated or in the case of an extreme event, then contact the instructor for that section of the course as soon as possible to discuss the problem. Assignments and material for this course will be made accessible through an online interface or with handouts. This material is meant to help the student prepare for class, but it does not replace the material presented in class.

**Late return of a take home exam or writing assignment** will be downgraded by 5% for each day past the due date.

**Missed Class Presentations:** If a class presentation is missed and is unable to be rescheduled with the instructor's approval it will result in lost points for that presentation.

University Policies

Syllabus Links
1. Students with disabilities. Notice to these students should appear prominently in the syllabus so that special accommodations are provided in a timely manner. [http://www4.uwm.edu/sac/SACltr.pdf](http://www4.uwm.edu/sac/SACltr.pdf)
2. Religious observances. Accommodations for absences due to religious observance should be noted. [http://www4.uwm.edu/secu/docs/other/S1.5.htm](http://www4.uwm.edu/secu/docs/other/S1.5.htm)
3. Students called to active military duty. Accommodations for absences due to call-up of reserves to active military duty should be noted. Students: [http://www4.uwm.edu/current_students/military_call_up.cfm](http://www4.uwm.edu/current_students/military_call_up.cfm)
   Employees: [http://www4.uwm.edu/secu/docs/other/S40.htm](http://www4.uwm.edu/secu/docs/other/S40.htm)
4. Incompletes. A notation of "incomplete" may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantiated cause beyond the student’s control, has been unable to take or complete the final examination or to complete some limited amount of term work. [http://www4.uwm.edu/secu/docs/other/S31.pdf]

5. Discriminatory conduct (such as sexual harassment). Discriminatory conduct will not be tolerated by the University. It poisons the work and learning environment of the University and threatens the careers, educational experience, and well-being of students, faculty, and staff. [http://www4.uwm.edu/secu/docs/other/S47.pdf]

6. Academic misconduct. Cheating on exams or plagiarism are violations of the academic honor code and carry severe sanctions, including failing a course or even suspension or dismissal from the University. [http://www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm]

7. Complaint procedures. Students may direct complaints to the head of the academic unit or department in which the complaint occurs. If the complaint allegedly violates a specific university policy, it may be directed to the head of the department or academic unit in which the complaint occurred or to the appropriate university office responsible for enforcing the policy. [http://www4.uwm.edu/secu/docs/other/S49.7.htm]

8. Grade appeal procedures. A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow the established procedures adopted by the department, college, or school in which the course resides or in the case of graduate students, the Graduate School. These procedures are available in writing from the respective department chairperson or the Academic Dean of the College/School. [http://www4.uwm.edu/secu/docs/other/S28.htm]

9. Other The final exam requirement, the final exam date requirement, etc. [http://www4.uwm.edu/secu/docs/other/S22.htm]

10. Selected Academic and Administrative Policy 24.5, Firearms and Dangerous Weapons Policy.

Course Schedule

Part 1: GENERAL WATER LAW AND THE FEDERAL CLEAN WATER ACT (BALLESTROS)

Sept. 6  
Course Overview, General Introduction to US Legal Structures, Water Law and, the origins and themes of environmental protection.

Specific Topics addressed:
- US Legal structure: how are laws made, categorized, and implemented?
- What is Environmental Law
- What is Water Law?

Readings due:
- Introduction to US Legal Structures (Ballesteros summaries)
- Hardin, “The Tragedy of the Commons” 168 Science 1243 (1968) (selected excerpts)
Sept. 13  
**Eastern U.S. Water Law & Riparian Rights v. Western U.S. Water Law & the Prior Appropriation Rule:**

**Specific Topics addressed:**
- **Riparian Rights:** Introduction & overview; general policy; its origins; the “reasonable use” doctrine.
- **The Prior Appropriation Rule:** Introduction & overview; general policy; its origins and attributes; distinctions from riparian rights.

**Readings Due:**
- The case of *Harris v. Brooks*, 225 Ark. 436, 283 S.W.2d 129 (Ark. 1955), plus notes from Cases and Materials on Water Law, 7th Ed. (Gould, Grant and Webster) pages 246–255.

Sept. 20  
**The Clean Water Act: Introduction, Overview and the “Beating Heart of the CWA”: The NPDES Permit**

**Specific Topics addressed:**
- General Policy, origins and nature of the Clean Water Act.
- **Statutory Goals of the CWA:** “Thou shalt not…”
- Two types of regulatory controls:
  - Water-Quality Standards
  - Effluent Limitations/Technology Based Standards
- Vocabulary and Definitions
  - Point Sources v. Non-Point Sources
  - Navigable Waters
- The NPDES Program
- The policy of “technology forcing”

**Readings due:**


Select provisions of the Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. Sec. 1251 et seq. Read sections 101(a) (1)-(3) and 402(a)(1)-(3).

Sample NPDES Permit and Discharge Monitoring Report
Summary of CWA technology standards

The Clean Water Act: EPA Enforcement and Citizen Enforcement of Violations via Citizens Suits

Specific Topics addressed:
- General Enforcement of the CWA
- Citizens Suits
- The Gwaltney problem
- Indirect Discharges/PreTreatment Standards
- Sewage Overflows and Citizens Suits

Readings due:


Friends of Milwaukee’s Rivers and Lake Michigan Federation v. MMSD, 556 F. 3d 603 (7th Cir. 2009 (known as “FMR 2”).

Compare sections 309(a), (b), (c) and (d) of Clean Water Act; read sections 505(a) and (b) of Clean Water Act, 33 USC Sec. 1251 et seq.

The Clean Water Act: Regulation of Wetlands, Wrap-up

Specific Topics Addressed

- Wetlands Regulations and Section 404 of the CWA.
- The jurisdictional reach of “navigable waters” and the “Waters of the United States” issue
- The 404 Permit Program
- Final wrap-up, Q & A session for the Clean Water Act

Readings due:

EPA Summary on Wetlands
http://water.epa.gov/type/wetlands/
http://water.epa.gov/lawsregs/guidance/wetlands/definitions.cfm

Section 404(a) and (c) of the Clean Water Act, 33 USC Sec. 1251 et seq.
http://www.epw.senate.gov/water.pdf

Summary of the latest “Waters of the United States” rule, announced May 27, 2015 and published in the Federal Register June 29, 2015

Note: Take home exam to be distributed this class. The completed exam is due via email to gwballesteros@ra.rockwell.com by 11:59 p.m. on October 18, 2017.

PART 2: THE GREAT LAKES COMPACT (McAVOY)

Oct. 11  Introduction to the Great Lakes Compact:
Orientation to this section of the course. The role of science/influencing policy

I. Fundamental Concepts and Realities to Managing the Great Lakes
a. The Great Lakes Basin—the Natural Boundaries (Canada and the U.S.)
b. Waters of the Basin — Public Trust Doctrine
   a. Northwest Ordinance/ Wisconsin Constitution

Readings Due:
Skim - Michael Caine presentation on the Public Trust Doctrine

II. Risks to Unified Protection of Great Lakes
a. Historical Perspective

Readings Due:
Peter Annin’s The Great Lakes Water Wars —(selected chapters). Read Author’s Note, Prologue, Chapter 1 (pp. 3-21) and pages 196-210. Skim rest of chapters. (Copy of the book will be provided)

b. Failures of Unified Protection of Great Lakes
   -Diversions Real and Proposed
   - The Great Lakes Charter
   -Water Resources Development Act
- North America Free Trade Agreement (NAFTA), NOVA - U.S. Commerce Clause (The Lochhead Report, Annin pages 196-210)

III. Great Lakes – St. Lawrence River Basin Water Resources Compact (U.S. Interstate Compact)

Readings Due:

The Compact and Implementing Legislation:
Wisconsin Chapter 227

Comparison of Statutory Provisions – Diversion Application Review Criteria Grid

IV. I. Waukesha’s Diversion Application – The precedent it sets

Readings Due:

Summary of Waukesha’s Application, Volume 1
http://www.waukeshadiversion.org/media/1643/1_city_of_waukesha_application_summary.pdf

Oct. 18  

The Great Lakes Compact (cont.)

I. Major Differences Between Compact and Wisconsin’s Implementing Legislation (use of grid, link provided in Oct. 12th readings)

II. Areas of Controversy

Readings Due:

Comments submitted to the Conference of Great Lakes Governors and Premiers on Waukesha Diversion Proposal, March 14th 2016

Comments+on+Waukesha+diversion+proposal_Regonal+Body-Compact+Council.pdf

e.g. comments submitted by:

Great Lakes St. Lawrence Cities Initiative-- handout
GZA Geo Environmental, Inc. formal reports and update
III. Wisconsin’s Draft Declaration of Findings, submitted to Great Lakes Regional Body, April 7th 2016

IV. Council of Great Lakes Governors – Final Decision

Readings Due:


V. Great Lakes Cities Initiative Challenge

a. Hearing by the Council

b. Oral Arguments

c. Council of Great Lakes Governors’ Decision

Readings Due:


http://www.waukeshadiversion.org/media/1884/2-6-17-cities-initiative-reply.pdf


http://www.waukeshadiversion.org/media/1898/compact-council-opinion-on-glslci-request-for-hearing-5-4-17.pdf


(Handouts / Links to Waukesha’s current WPDES permit discharge to Fox River)

Oct 25th

Review of Waukesha’s WPDES Permit

Short Overview

Guest: Jimmy Para, Midwest Environmental Advocates
I. The Realities of Discharge to Root River

a. Current conditions/ Status of the River
b. Science / Characterization of the River
c. Potential Risks / benefits of new discharge
   Regulated
   Non regulated

Guest Panel:
Sandra Mclellan, Professor School of Freshwater Sciences
Cheryl Nenn, Milwaukee River Keeper
Julie Kinzelman Racine Health Department and Adjunct Professor at SFS

II. Environmental Justice Considerations

Guest: Ryan Holifield, Professor of Geology UWM

IV. Framing the issues and taking sides for class presentations on Nov. 1.

Nov. 1  Class Presentations
Discussion of: Writing Assignment Due November 16th

PART 3: GROUND WATER LAW (HABUSH SINYKIN)

Nov 8  Introduction to Groundwater Management Issues: Science vs. Policy, International and National Overview

Readings due:
Hydrogeology basics:
Groundwater/Surface Water Interaction:
http://pubs.usgs.gov/circ/circ1139/htdocs/natural_processes_of_ground.htm#wetlands
http://pubs.usgs.gov/circ/circ1139/

International Trends in Groundwater Regulation
*U.S. National Intelligence Council, Global Water Security:

National Trends:

**In-Class Assignment**: Power-point presentations focused upon national GW Case Studies: Conditions and Regulatory Challenges: Due Nov. 15th

**Nov. 15**

**In-class**: Student Presentations of Power-point on GW Analyses

**In class**: *Blue Gold: World Water Wars*

**Nov. 22**

No Class—Thanksgiving Break

**Nov. 29**

**Wisconsin Example: GW Regulation**


Wisconsin Act 310:

https://docs.legis.wisconsin.gov/2013/related/acts/310

Wisconsin Administrative Code NR 820:

http://docs.legis.wisconsin.gov/code/admin_code/nr/800/820.pdf

Wisconsin Groundwater Coordinating Council Report-2013


Lake Beulah decision:


Richfield Dairy (Adams County) Litigation: 2014 Ruling


Legislative “Fixes” of 2015:

2016 Judicial “Correction”—Kewaunee County’s Kinnard Farms
http://midwestadvocates.org/assets/resources/Kinnard%20Farms%20CAFO%20/Kinnard_DecisionandOrder_7-14-16.pdf

*WI AG Brad Schimel’s May 10, 2016 Opinion on Groundwater Regulation:
http://www.cleanwisconsin.org/dnr-quietly-adopts-ag-ag-schimel-opinion-on-high-capacity-wells/
http://www.wisdc.org/pr051116.php

Note: In-Class distribution of the Groundwater section’s written Testimony assignment due in class on December 13th

Dec. 6: WI Groundwater in the News: CAFO regulation and Groundwater Quality Issues

Guest lecturers:
Attorneys Tressie Kamp and Jimmy Parra, Midwest Environmental Advocates

Readings due:
Richfield Dairy challenge:
http://dnr.wi.gov/topic/AgBusiness/CAFO/RichfieldDairy.html

Maple Leaf Farms:  
https://scholar.google.com/scholar_case?case=13018123195375339418&q=maple+leaf+farms&hl=en&as_sdt=4,50

Kewaunee, WI Contamination:  

National EX: http://yosemite.epa.gov/r10/water.nsf/gwpu/lyakimagw

SKIM: Wisconsin Chapter NR 243 Animal Feeding Operations  

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Federal Overview:  
http://www.americanbar.org/newsletter/publications/gp_solo_magazine_home/gp_solo_magazine_index/sp97gr.html

Wisconsin Stat. Ch. 160—Wisconsin groundwater quality standards (Eyeball only)  
https://docs.legis.wisconsin.gov/statutes/statutes/160  

Dec. 13

**Groundwater Regulation...Or Not?**

Readings due:

“Inside the Koch Brothers’ Toxic Empire”—*Rolling Stones*  

“Koch Brothers Respond to Rolling Stones—And We Answer Back”  

End of Semester Course “Wrap Up” Discussion—all three sections