

UST 653/753 ECOLOGICAL LANDSCAPE PLANNING AND MANAGEMENT

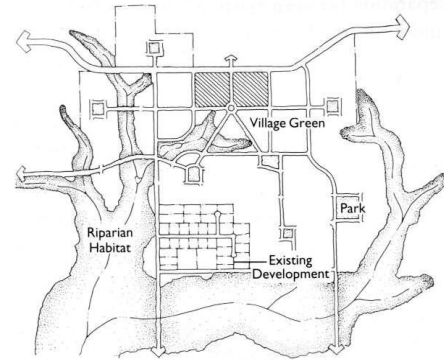
Spring 2024, Tuesday, 6:00-9:50 pm, UR 241 (Sweet Seminar)

Instructor: Dr. Wendy Kellogg, Professor

Office Hours: By appointment on zoom

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COURSE PURPOSE

This course focuses on planning and management concepts and techniques to protect and restore ecological systems as these support human settlements. The course explores value systems, law, science and public planning processes and management techniques as these shape the human-generated landscapes and natural resource systems. The course emphasizes regional and landscape scale. Topics covered include land-use change and ecological impacts, watershed management, Great Lakes coastal ecosystems, regional open space and habitat preservation, climate change, and natural resource preservation/utilization. The course provides an opportunity to apply techniques such as suitability analysis, resilience assessment, GIS mapping, risk assessment, environmental impact assessment or other technique through an individual or group project.

COURSE FORMAT

The course is a seminar, meaning the professor's role is to facilitate student learning and skill building in collaboration with students. The course includes lectures, guest speaker presentations, and an off campus tour. Students will be responsible for organizing some discussion of course readings. Individual written assignments on ethics and a planning application are required. Each student will also work individually on a research paper exploring a topic of his or her choice. The course will use a blackboard site for email communication, access to reading materials, and assignment submission.

LEARNING OUTCOMES FOR UST 653

By the end of this course, students will:

- Understand the history and foundational concepts shaping landscape planning and management
- Understand core principles of ecology and complexity that guide planning and management decision making;
- Be able to apply the use of regional scale in defining problems and developing collaborative responses;
- Apply techniques by landscape practitioners to assist in planning and decision making; and
- Gain knowledge about current and innovative landscape planning and management practices and trends

COURSE POLICIES

ACADEMIC ACCESS

Educational access is the provision of classroom accommodations, auxiliary aids and services to ensure equal educational opportunities for all students regardless of their disability. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Disability Services at (216)687-2015. The Office is located in Rhodes West 210. You can also contact this office via

zoom (<https://zoom.us/j/7568177894?pwd=301705>) password 301705. Accommodations need to be requested in advance and will not be granted retroactively. Please let me know within the first two weeks of class if you have a memo from that office for me so I can respond.

HEALTH AND SAFETY

COVID, RSV etc. Given the effectiveness and widespread availability of vaccines and boosters, and based on the latest guidelines from the Centers for Disease Control and Prevention (CDC), masks are optional on campus. We recognize and appreciate that some members of the community will choose to continue wearing a mask. Free masks are available at the information desk in the Student Center. Please remember that vaccination plus booster shots offer the absolute best protection against serious illness, hospitalization and death from COVID-19. We continue to provide vaccinations and boosters for students, faculty and staff at CSU Health and Wellness Services by appointment at the Center for Innovation in Medical Professions, Suite 205 (2112 Euclid Avenue). For other area locations offering free vaccines and booster shots, visit gettheshot.coronavirus.ohio.gov. People who have symptoms of respiratory or gastrointestinal infections, such as cough, fever, sore throat, vomiting, or diarrhea, should stay home. Testing is recommended for people with symptoms of COVID-19 as soon as possible after symptoms begin. Please notify me if you have tested positive for COVID. If you experience severe symptoms from COVID, please contact the CARE Team at magnusacts@csuohio.edu for additional support.

Mental Health If you are experiencing mental health challenges, do not hesitate to reach out to the university [Counseling Center](#) at 216-687-2267.

RELIGIOUS ACCOMMODATION

Requests for religious accommodations should be made at the beginning of the semester (within the first two weeks). The request should be made using the [Class Absence Authorization Form](#) on the Faculty Senate Webpage and the University Compliance webpage, and must include dates, reasons, and duration of absence.

ATTENDANCE

Students are expected to attend all class sessions. Please let the professor know if you will miss class. Please do not come to class if you feel ill. Students may be excused from class for religious accommodation or to attend a university-authorized activity for which the student is a significantly engaged. For these two types of excuses, students should complete a [Class Absence Authorization Form](#).

ARTIFICIAL INTELLIGENCE

The use of artificial intelligence (AI) tools and applications (including, but not limited to, ChatGPT, DALL-E, and others) for course assignments and assessments does not support the learning objectives of this course and is prohibited. Using them in any way for this course is a violation of the course's expectations and will be addressed through CSU's [academic misconduct policy](#), as similar to use of unauthorized materials or fabricated data in any academic exercise.

GRADING POLICIES AND ASSIGNMENTS

Some of the requirements for grading result from university catalog rights and other regulations:

- A grade of **Incomplete** will only be given when a student cannot complete course requirements because of a serious illness or crisis (as judged by the instructor), either of the student's or in his or

her immediate family. Incompletes are given when a student has completed most of the assignments for the class and has a problem finishing the required work and has notified the instructor that there is a problem. Please remember that “incomplete” grades will turn into “F” if work is not eventually completed.

- Your writing assignments must be **IN YOUR OWN WORDS**. Plagiarism and cheating of any kind will not be tolerated. The CSU Student Handbook describes plagiarism as “stealing and/or using the ideas or writings of another in a paper or report and claiming them as your own. This includes but is not limited to the use, by paraphrase or direct quotation, of the work of another person without full and clear acknowledgment.” *Using your own work completed for another class, without proper citation, is also considered plagiarism.* Minor infractions comprise those instances of cheating, plagiarism, and/or tampering that affect the grade of an individual class assignment or project of lesser (<25% of grade) importance. Any student found cheating or presenting someone else's work without proper citations will receive an “F” on that assignment. Multiple instances of minor infractions within a course or across courses constitute a major infraction. Major infractions comprise those instances of cheating, plagiarism, and/or tampering which affect the overall course grade, such as a major/ comprehensive exam, term paper or project, final grade evaluation, or academic standing and status. Major infractions automatically result in an entry on the student's permanent record that the student has engaged in academic misconduct. Repeated plagiarism or plagiarism on an individual assignment worth more than 25% of the course grade may result in an “F” for the course. A grade of “F” resulting from plagiarism will be awarded 0 points toward the final grade. (Consult the University's policies on these infractions for further details.) If you are unsure about citation rules, please consult a citation guide and/or talk with the professor. I also suggest that you use Turnitin, available through the CSU Library, to check your work prior to submission to the professor. I will be using this service on your final papers.

I also have some basic requirements:

- Written communication is critical to professional practice. All assignments should be typed. Grades for written work will be made on the basis of logical argument, organization, correct use of English, timeliness, and fulfillment of assignment requirements. **An assignment will be not be accepted more than three days past its due date unless permission by the instructor is given prior to when the assignment is due.** I will take of one point for each day an assignment is late. However never just fail to hand something in. Talk to me about it!
- The class sessions may consist of lectures by the instructor, student-led discussions, guest presentations, student presentations, case study presentations, and class exercises. Active participation (demonstrating clearly that you have done the readings) in class discussion is **required**. Attendance is expected at all sessions. All students are responsible for completing all weekly readings, any assignments given, and for participating meaningfully in classroom discussion. By this I don't mean simply sharing your opinion, but using your time in class to shed light on the readings, integrate themes, introduce new ideas, etc.
- I grade on a 100 point/percent system. Here is how I assign final grades on a percentage basis:

A 93-100%	B 83-86%	C- 70-72%
A- 90-92%	B- 80-82%	D < 70%
B+ 87-89%	C 73-79%	F < 60%

COURSE ASSIGNMENTS AND GRADING

UST 653 Assignments	Points
Exercise #1 Essay on ethics (due February 6 by 6 PM)	10
Exercise #2: Site Visit to Project Location and Report (due March 26 by 6 PM)	15
Exercise #3: Inventory and Layer Cake for Project Location and Report (due April 16 by 6 PM)	15
Project Paper	
4a. Part 1: Planning project report: background/history and preliminary references (due FEBRUARY 27 by 6 PM)	10
4b. Final project paper (due May 14 by midnight)	25
5. Presentation of individual project to class (April 30 in class)	15
6. Preparation and participation in class discussion/attendance	5
7. Key points discussion leadership (1)	5
Total Points	100

SPRING 2022 ACADEMIC CALENDAR

Martin Luther King University Holiday	January 15, 2024
First Weekday Class	January 16, 2024
Last Day to drop with full refund	January 19, 2024
Last Day to Add	January 21, 2024
Last Day to Drop	January 26, 2024
President's Day University Holiday	February 19, 2024
Spring Recess	March 11-17, 2024
Last Day to Withdraw from Course	March 29, 2024
Last Day of Classes	May 3, 2024
Final Exam Week	May 4-10, 2024

COURSE MATERIALS

Reading materials for the course are either through the Ohio Link Electronic Book Center, posted on the course Blackboard site, or through other electronic sites. There are no books to purchase for this class. The following book, available for free on the Ohio Link Electronic Book Center, will be used as text for the course:

Nsubisi, F. Ed. The Ecological Design and Planning Reader, 2014.
<https://ebooks.ohiolink.edu/content/604cf853-9dd0-45f8-9880-cac522c924fb>

A second Ohio Link e-book might be of interest for its technical depth in terms of landscape ecology: With, K. Essentials of Landscape Ecology, 2019.
<https://ebooks.ohiolink.edu/content/d6246fb0-bf24-4643-9b6c-3e8257ed242d>

Other additional readings are listed on the syllabus and available on the course BB site.

COURSE SCHEDULE AND READING LIST

Generally, I suggest you read the assignments below in the order they are presented in the syllabus if you can.

MODULE 1: ETHICS, HISTORY, AND LAND: CONCEPTUAL FRAMEWORKS and PROCESSES

January 16 *Introduction and Course Overview: Ecological/Environmental Landscape Planning History and Concepts*

Readings:

Ndubisi, Introduction (to the whole book), in Nsubisi, *Ecological Design and Planning Reader*, p. 1-6

Steiner, Young & Zube, Ecological Planning: Retrospect and Prospect, in Nsubisi, *Ecological Design and Planning Reader*, p. 72-88

MacKaye, Regional Planning and Ecology, in Nsubisi, *Ecological Design and Planning Reader*, p. 66-70

Forman, Foundations, in Nsubisi, *Ecological Design and Planning Reader*, p. 217-233

January 23 *Human Perceptions: Ethics and Law for Land, Landscapes and Ecosystems*

Beatley, Ethical Duties to the Environment, in Nsubisi, *Ecological Design and Planning Reader*, p.131-147

Caldwell, The Ecosystem as Criterion for Land Policy (BB)

Shrader-Frechette, Four Land Ethics: An Overview (BB)

Berman, Lake Erie Bill of Rights (BB)

Leopold, The Land Ethic, in Nsubisi, *Ecological Design and Planning Reader*, p. 108-121

January 30 *Planning Process: Values, Vision and Goals through Public Participation and Stakeholder Engagement*

Palazzo and Steiner, Processes, in Nsubisi, *Ecological Design and Planning Reader*, p. 380-388.

Randolph, Collaborative Environmental Management and Public Participation (BB)

Koonz, Collaboration for Sustainability (BB)

MODULE 2 KNOWLEDGE CREATION FOR PLANNING AND MANAGEMENT

February 6 *New Contexts and Paradigms for Understanding*

Exercise #1 Ethics essay due by 6 pm submitted on BB

Complexity and Resilience

Complexity Lab, <https://www.youtube.com/watch?v=i-ladOjo1QA>

Wu and Wu, Ecological Resilience as a Foundation for Urban Design and Sustainability, in Nsubisi, *Ecological Design and Planning Reader*, p.541-553

Sherrfius and Thomas, How is Resilience Related to Sustainability.....

Ecosystem services

US Global Change Research Program, Fourth National Climate Assessment, Chapter 7 (Ecosystems, Ecosystem Services and Biodiversity) (BB) or <https://nca2018.globalchange.gov/>
Karrasch et al, Land-use Elements and Attributed Ecosystem Services (BB) (focus on the results in Figure 3)

Climate Change and Landscapes

US Global Change Research Program, Fourth National Climate Assessment, Chapter 5 (Land Cover & Land-Use Change) (BB) or <https://nca2018.globalchange.gov/>

February 13 Landscape Form and Processes: Understanding the Geology/Soils/Water/Vegetation Systems Interactions Over Time

Marsh, Chapter 4 Topography, Slopes and Land Use Planning (BB)

Marsh, Chapter 3 Soils and Drainage (BB)

Marsh, Chapter 18 Vegetation and Land Use (BB)

Marsh, Chapter 14, The Riparian Landscape: Streams, Channel Forms and Valley Floors (BB)

February 20 Creating Knowledge for Planning and Management: Inventory of Resources, Analysis and Synthesis (Part 1)

Kellogg, Inventory ppt (BB)

Steiner, Ch. 3 Inventory and Analysis of the Biophysical Environment (BB) **(SCAN)**

Vibrant NEO: Final Report; pp. 12-30 (BB)

Samanta, Ch. 5, Characterization and Analysis of the Social-Ecological System, pp. 110-113; 116-137 in *Policy is What We Make of It* (BB)

February 27 Creating Knowledge for Planning and Management: Inventory of Resources, Analysis and Synthesis (Part 2)

Land Mosaics

- Kellogg Landscape Patterns ppt (BB)

Suitability analysis

- McHarg, Processes as Values (Staten Island study) (BB) (mostly images)
- Hopkins, Methods for Generating Land suitability Maps, in Nsubisi, *Ecological Design and Planning Reader*, p. 348-366.
- Berkel et al, Spatial Analysis of Land Suitability, Hot-Tub Cabins and Forest Tourism (BB)

Hazard/vulnerability assessment

- Randolph, Natural Hazard Mitigation (BB)
- Walker and Westley, Perspectives on Resilience to Disasters Across Sectors and Cultures (BB)

SES resilience assessment

- Resilience Alliance, Resilience Assessment Framework (BB)

- Samanta, Ch. 5, Characterization and Analysis of the Social-Ecological System, pp. 138-175. (BB)

Part 1 Planning Project Report due by 6 PM

MODULE 3 PLANNING AND MANAGEMENT TECHNIQUES

March 5 *Implementation Techniques: Public and Private*

Date and Kellogg, Planning for Sustainable Land Use in Ohio (BB)

Arendt, Chapter 3, Comprehensive Plan Update, in *Growing Greener* (BB)

Arendt, Chapter 4, Conservation Zoning Techniques, in *Growing Greener* (BB)

Perlman & Milder, Ch. 10 (BB)

Chadbourne & Chadbourne, Land Management Tools (BB)(review to understand variety)

Forman, Basic Principles for Molding Land Mosaics, in Nsubisi, *Ecological Design and Planning Reader*, p.299-316.

March 12 Spring break: no class

March 19 *Restoration, Management, and Adaptive Learning*

Rohr et al, Ecology and Economy of Restoration (BB)

Perlman, Ch. 9 Restoration and Management (BB)

Chagrin River Watershed Partners Restoration Projects, web site: <https://crwp.org/projects/#foogallery-175/f:Restoration> Link also on BB

Samanta and Kellogg, Swimming Together (BB)

March 26 *Restoration and Management in the Urban Landscape*

Field trip details to be announced

Exercise #2 Site Visit to Project Location and Report due by 6 PM

MODULE 4 APPLICATIONS by SCALE

April 2 *Site Scale Planning*

Lynch and Hack, The Art of Site Planning, in Nsubisi, *Ecological Design and Planning Reader*, p.368-378.

Arendt, Ch. 5, Steps Involved in Designing Conservation Subdivisions, in *Conservation Design for Subdivisions* (BB)

April 9 *Neighborhood/Community Planning for Ecological Infrastructure and Services*

Bunster-Ossa, Building, Dwelling, Greening (BB)

Johnson, et al. A Case Study in Ecological Planning: The Woodlands, Texas, in Nsubisi, *Ecological Design and Planning Reader*, p. 436-449.

City of Cleveland Tree Plan 2015, pp. ii-vi; 1-25; maps on pages and 50 and 54(BB)

April 16 Regional Planning: conservation areas, parks, biodiversity, and metropolitan land use change

Vibrant NEO Final Report, pp. 32-49; 94-104(BB)

McHarg, Open Space from Natural Processes, in Nsubisi, *Ecological Design and Planning Reader*, p. 181-190.

Perlman & Milder, Ch. 7 Conservation Planning (BB)

Petersen et al, Incorporating Social and Ecological Adaptive Capacity into Vulnerability Assessments and Management Decisions for Biodiversity Conservation (BB)

Exercise #3 Inventory and Layer Cake due by 6 PM

April 23 Watershed and Coastal Areas: Planning, Management and Adaptation

Ohio Coastal Management Program, Lake Erie Erosion (link also on BB)

<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/coastal-management/ohio-coastal-mgmt-program/le-coastal-erosion>

- Coastal Erosion Methods (under Additional Downloads on the link at right)
- Nature Based Shoreline Options: Introduction and first case study (under External Resources)

Norton et al, Using Simple Decision-Centered Scenario-based Planning to Improve Local Coastal Management (BB)

Chagrin River Watershed Partners, Watershed Action Plan, pp. 1-7; scan 8-14; 18- 22 on flow and flood plains; 147-149 and Table 35 (scan columns of project type, sources and action items) (BB)

Flood Factor, Chagrin River flooding risk https://floodfactor.com/neighborhood/chagrin-river-ohio/40447_fsid#environmental_changes

Chagrin River Watershed Partners, Balanced Growth Plan, pp. 3-5; 11-19; 78-87 (BB)

Berry, and Bendor, Integrating Sea Level Rise into Development Suitability Analysis (BB)

April 30 Student Presentations of Project Papers

Please submit your power point through the blackboard site prior to class

May 14 Final Project Report Due to Professor

Please submit your final papers through the blackboard site

ASSIGNMENTS

EXERCISE #1: ETHICS OF LANDSCAPE/LAND USE (Due February 5)

(10 POINTS)

Write a 3 page (typed and double spaced) statement. Your essay will be graded on the extent to which it incorporates several readings and discussion, its organization, and conformance to acceptable standards of grammar.

Extent of Moral Community and Control of Landscape

Based on class discussion, presentations and readings, a planner should justify the moral community to which believe ethical consideration is due when he or she makes professional choices about actions that may affect the environment. Three parameters about the moral community are relevant:

1. Biological—to what extent do your ethical obligations apply to other organisms and/or levels of biological organization, including humans and our communities?
2. Spatial/geographic—to what extent do your ethical obligations extend in scale—community, state, nation, planet?
3. Temporal—how far into the future do your ethical obligations extend?

Oakwood Country Club

Discuss the ethical issues that arise from the proposal to develop the Oakwood Country Club by developer Mitch Schneider (who also developed Legacy Village). Find information about the project on the course blackboard web site under “Oakwood Country Club” folder. Address each of the following dimensions of the moral community above. Then identify which of the four ethics described by Schrader-Frchette are relevant to this case and apply them in terms of what the different stakeholders would advocate in terms of control of land.

EXERCISE #2 SITE VISIT TO PROJECT LOCATION

Due March 26 by 6 PM. 15 Points. This assignment will be refined and included in the final paper.

The purpose of this exercise is to visit your project location and get a sense of what the place is like. Prior to this visit, explore using Google Earth or other resources so you have a basic understanding of the area. You will generate a narrative about the site/area, including any landmarks, representative landscapes, and the sights and sounds in the area. See the Project Assignment for more detail. This narrative and supporting materials will be incorporated into your project report.

EXERCISE #3 INVENTORY AND LAYER CAKE FOR PROJECT LOCATION

Due April 16 15 points. This assignment will be refined and included in the final paper as the basis of your application or analytical/synthesis technique. See the project assignment for details.

PLANNING AND MANAGEMENT PROJECT REPORT

(35 points)

This assignment is a formal research-based attempt to gather and assess information bearing on a specific planning issue in a specific place. A planning “issue” is a particular problem or situation that has not been resolved or addressed adequately by planning practice. You may choose any planning issue that is of interest; however, the topic of your paper should be specific and should relate substantially to environmental or ecological aspects of the physical landscape or the built environment as it interacts with the physical

landscape. Your paper should focus on planning and management responses to the issue, i.e., ethical/legal basis, process considerations, techniques, tools, analysis methods, implementation concerns, etc.

You will need to identify early a place for application of your research. This could be a system of neighborhood parks; a regional or metropark system, a coastal area, a riparian area/stream, a wetland, a forest., etc. Check with the professor to make sure you have a place that will “work” for this assignment. Parts 1 through 3 for the paper will be researched to fit the type of space and scale that you choose. Exercises # 1, 2 and 3 will become parts of this paper.

The planning or management paper should contain the following components:

1. Issue definition, background and history

This section states the planning problem or issue at a depth to give the reader a good idea of its dimension and scope. The section describes the chronological history of the issue, the major actions (legislation, development of new planning techniques, etc.) that have responded to the problem. Generally the problem will relate to development, conservation, preservation or restoration.

2. Stakeholder analysis

A stakeholder is any group or organization that can affect or is affected by the outcome of a public policy issue. In this section construct an *issue set* showing various stakeholders that are typically involved in the planning issue. Identify the values or ethical position of the stakeholders and their interests that shape their position or concerns. Present a graphic that identifies the types of stakeholders as they relate to each other and to the issue.

3. Analysis of strategies and alternatives

In this section, you will present past or current practices that address the planning issue. Describe in detail the planning approaches, tools or techniques and implementation rules or standards that have been developed to respond to the planning issue and describe the outcomes of these previous actions. Analyze these results in terms of their success or failure in conception and/or implementation and **present innovative approaches that have been developed to improve planning, management practice.**

4. Application

For a neighborhood, a community, a coastal area, a riparian area/stream, a park system, regional habitat, etc. as relevant to the planning/management strategies in Section 3. Decide if this place is appropriate for a development proposal, restoration, conservation/preservation for this exercise. Exercises 2 and 3 will serve as the basis of parts a, b, and c below.

Imagine you are responsible for generating a final report on the site/area.

- a. Using google earth, government websites, GIS, etc. identify soils and topography, surface water and drainage, land cover/vegetation; identify edges, patches, corridors, etc. and characterize the landscape mosaic for the area. Identify any protected areas (public parks, conservation areas, scenic waters, etc). Identify the ecosystem services that are likely present in the area.

Identify basic demographic characteristics of the area (population, education, income, housing values).

- b. Conduct a site visit; take notes on land cover/vegetation, surface water, sound, animals, human presence, etc; The point of this is to “be there” in this Place.
- c. Identify land use and zoning at site/area and surrounding areas (similar or different?), and other local ordinances and state/federal laws and regulations that provide the institutional context for planning and management practices and strategies.
- d. Identify likely stakeholders (property owners, NPOs, government, etc.) and their interests. Discuss how you would engage them in developing planning/management approaches.
- e. Develop a concept map of the natural and human systems that shape this place, including major issues and drivers of change (climate change, land development, pollution, law, etc).
- f. Anticipate the outcome of collaboration/public engagement process: what goals would the stakeholders want for the area? For this goal, carry out a suitability analysis, resilience assessment, landscape mosaic assessment, restoration plan, ecosystem services valuation, or other analytical technique using information from class and section 3. This can be done using GIS, or with illustrations from other web or mapping sources.
- g. Provide screen shots or maps, diagrams, etc. to illustrate your work. These can be computer generated and/or drawn very neatly by hand on graph paper.
- h. Develop an implementation plan: discuss any changes in law, regulation, administrative process, collaborative efforts and distribution of resources (across agencies or communities) that would be needed to implement your planning/management practice. Assess the role of the major stakeholders in the implementation phase. Discuss its expected future consequences, including the distribution of the benefits and costs of the action, anticipate unintended consequences that might be generated, and the practical or political constraints that affect its feasibility.

5. References

Full references of materials used in preparing the paper. Please use APA style (author, date: page number) format in the text citations and “Author name. Date. Title. Publishing info.” in the reference list. Footnotes should be used sparingly and for additional information, not for citations. Footnotes should be separated from the text by a line on the page.

6. Appendices (as needed)

Place any tables or other graphics you need to illustrate the planning issue background, the policy alternatives, and your recommendations in an appendix.

The assignment is to be completed in stages. Note that some of the project report will be developed as part of the exercises listed above, and then finalized in the report document.

Part 1. Background/history and preliminary references (10 points)

Draft identification and background of planning/management issue and selection/description of possible place for analysis due by February 27. Students should discuss the topic for the paper with the professor in advance. This assignment should be based on a review of several articles, books, etc. to get the overall framework of the paper in place. Hand in a 1-2 page introduction to the paper that lays out the background/history and key aspects of the issue/problem and a list of references (5 to 10). The references should include academic journals, think tank articles and more serious practitioner materials. Your references should include a mix of planning, landscape ecology and scientific/technical literature.

Part 2. Final draft (25 points)

The paper should be about 15 pages . Students will hand the paper in no later than May 14, 6:00 p.m. The paper should be typed, in planning report format (single spaced paragraphs with an additional space between paragraphs and with section titles) with 1" margins and 12 font. The paper should be submitted ELECTRONICALLY through the "assignment" folder on the class blackboard site. The paper should be in Word format, not a PDF. I will provide comments using track changes and upload the paper into that site again for you to retrieve.

Examples of topics:

Urban watershed planning and management

Urban streams land management practices/ Storm water

Environmental health issues and land use

Environmental health issues and greenspace

Green infrastructure

Access to recreational open space/ greenways

Use of indicators, ecological footprints, etc. in real planning processes

Urban sprawl and various state programs that shape planning practice

Measuring the value of ecosystem services and input to cost benefit analysis or other planning methods

Use of technology for tracking and analyzing land use/land cover change

Land use issues related to alternative energy production and distribution

Regional biodiversity planning

Coastal management and law regulating public access to beaches

Invasive species on land or in water

Economic development value of conservation of resources (pick a type of resource)

Conservation subdivisions or low impact subdivisions

Role of land trusts in land preservation

Planning for natural resource management (wildlife) in park systems

Role of nonprofit organizations in conservation planning and implementation

Adoption of ecological sustainability programs by local governments

Impact of climate change on landscape function and species of plants and animals

Impact of climate change on precipitation patterns and landscape management

KEY POINTS DISCUSSION LEADER

As part of your participation grade, each student will present key points for discussion in a class session. Students may choose which session (sign up sheet).

Purpose:

- to engage your colleagues interactively in class
- to raise important concepts, issues, questions, tensions for discussion; be deep here
- to relate class topic to other prior sessions

Assignment structure (and how you will be graded):

- present to the class *two key points* for discussion; these questions *should not* elicit a “yes” or “no” response but *should* ask students to respond based on content of readings and other scientific or technical or ethical concerns; not opinion alone.
- The purpose of the discussion is to draw connections (either conceptual or about practice) ACROSS the readings for class. There is a reason the readings are offered together! What is it?
- be ready to facilitate a discussion and keep it going (part of your grade that is important; you owe it to each other to be prepared and to participate)
- Inform the instructor by 6 PM on the Tuesday before your class session what these key points will be (topically, not the wording of your questions or your narrative)