

Course Syllabus FW 893 (Sec 603)
Conservation Planning (1 credit)

Instructor	Kim Scribner	
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E-mail	scribne3@msu.edu	
Office hours	M W 9 - 10 and by appointment	
Meeting times	TBA	
Required text	None	
Readings	Peer-review literature associated with each topical area Available in Rm 12 NR (12 sets)	
Grading	Group led discussions of papers	100%

Course objectives - To acquaint students with ecological and evolutionary theory pertaining to biodiversity and issues related to identification, assessment of risk, geographic scale, value and management. Issues will be developed related to conservation of biodiversity in general and to conservation of specific species or groups. Emphasis will be placed on comparative analyses of different geopolitical regions and socioeconomic backgrounds. Focus will be on biodiversity defined and managed as a spatial entity and in terms of single species population viability

Group led discussions – All class participants will be assigned to one of 3 groups. The groups should be mixed relative to student interests and background (i.e., not all people from a single lab or organismal association). Each group will take the lead and together with the instructor will act as facilitators in discussions of the assigned papers. The students together with the instructor will provide a brief overview to the subject area for the week that will draw upon the assigned readings and other readings they have researched. Some of the available literature in each subject area is listed in the literature review provided that is available in the instructor's office. The group will also select 1-2 additional papers for the class to read.

Schedule of Topics

Week 1 (week of August 27)

Topic: Organizational meeting and overview of seminar topics

Week 3 (September 10)

Topic: Why is biodiversity important? Presenter-Scribner

Week 4 (September 17)

no meeting

Week 5 (September 24)

Topic: How do we quantify Biodiversity? Presenters – Group 1

Week 6 (October 1)

Topic: Over what spatial scale should biodiversity be measured and conserved?
How generalizable are indicators/surrogates measured at one scale to diversity at other scales (up or down). Presenters – Group 2

Week 7 (October 8)

Topic: What criteria are used to define conservation priorities (what areas to prioritize)? Presenters – Group 3

Week 8 (October 15)

Topic: Economics of resource development and conservation of biodiversity
Co-host: Frank Lupi, Dept. Agr. Econ and F&W; Presenters – Group 1

Week 9 (October 22)

Topic: Sociological issues in conservation
Co-host: Angela Mertig, Dept of Sociology and F&W; Presenters – Group 2

Week 10 (week of October 29)

Topic: How to identify information GAP's
Co-host: Brian Maurer, Dept. F&W; Presenters – Group 3

Week 11 (November 5)

no meeting

Week 12 (November 12)

Topic: Estimation of times to extinction and susceptibility to extinction
Presenters – Group 1

Week 13 (November 19)

Topic: Role of “uncertainty” in conservation planning
Co-host: Mike Jones, Dept. F&W; Presenters – Group 2

Week 14 (November 26)

Topic: Population Viability Analysis

Week 15 (week of December 3)

Topic: Management for biological diversity/reserve design

Topical areas for discussion

1. Why is biodiversity important?
2. How do we quantify biodiversity?
3. Over what scales should biodiversity be measured and conserved?
4. What criteria used to define areas and how are these prioritized?
5. Socioeconomic issues
 - how society values drive conservation decisions (resource utilization and prioritization in general) (co-host Frank Lupi)
 - how historical and contemporary economic issues drive conservation decisions (co-host Angela Mertig)
6. What to measure -- use of surrogates, indicator species, etc?
7. How to identify missing information needs? (GAP analysis – co-host Brian Maurer)
8. How to identify threats (risk assessment)?
9. How to generalize findings to other areas?
10. How to we estimate times to extinction? What factors are important?
11. Bioinformatics and use of the internet
12. What is “Population Viability Analysis” an how useful is it?
13. How uncertainty plays into conservation planning? (co-host Mike Jones)
 - uncertainty in estimates of critical population demographic characteristics needed to parameterize population models
 - uncertainty over establishing cause and effect relationships
 - uncertainty over future funding and resources available to pursue conservation goals
 - uncertainty over consequences of lack of statistical power (what does it mean to make a type II error)
14. Where are areas of highest threat to loss of biodiversity and why
15. Conservation of biodiversity as a management goal
- 16/18. Why do some areas have higher biodiversity than others?
17. How can biodiversity be restored in anthropogenically modified environments?