

E442/E555 – Terrestrial Habitat Analysis
Fall - 2004

Friday, 8:00 a.m. – 12:00 p.m., SPEA dumpsters unless otherwise specified

Some labs will depart earlier than 8:00 a.m.

Instructor: Melissa Clark

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Class Website

www.spea.indiana.edu/mlaney/e442.htm

Required Texts & Readings

- 1) Kricher and Morrison. 1998. A Field Guide to Eastern Forests of North America (Peterson Field Guide Series), Houghton Mifflin Co.
- 2) Newcomb and Morrison. 1989. Newcomb's Wildflower Guide, Little Brown and Co.
- 3) Ambrose and Ambrose. 1995. A Handbook of Biological Investigation, 6th edition, Hunter Textbooks.
- 4) Reserves (R) in Main Library. *Some sources like maps and soil surveys will be in the SPEA library.
- 5) <http://www.spea.indiana.edu/mlaney/e442.htm>

Recommended Texts

- 1) Any good ecology or forest ecology textbook.
- 2) Habitat Suitability Indices - <http://www.nwrc.usgs.gov/wdb/pub/hsi/hsiindex.htm> .

Required Equipment

- 1) **Field notebook**. Please do not use a spiral-bound notebook.
- 2) Pencils for taking notes in the field (pens smear in the rain!).
- 3) Sturdy shoes. Hiking boots are ideal, but any rugged, comfortable shoe (other than a sandal) is acceptable.
- 4) Water and snacks.
- 5) Personal medical supplies, such as allergy medication.
- 6) **Field books**. Always bring your field guides to laboratory outings.

Recommended Equipment

- 1) Sunblock and insect repellent.
- 2) Rain gear.
- 3) Long pants. Wear shorts at your own risk.
- 4) Clipboard for notetaking
- 5) Binoculars and compass
- 6) Layers – we will be going out in potentially cold weather (hats, mittens, etc)

Course Description

Terrestrial Habitat Analysis is a hands-on field course that combines the disciplines of ecology, natural history, statistics, and environmental policy to understand the habitat requirements of a variety of terrestrial species. We will evaluate and measure various characteristics of the terrestrial environment and determine the suitability of these characteristics for a variety of terrestrial species.

Course Objectives

By the end of E442/E555, each of you should have experiential and theoretical understanding of the concept of *habitat* and what that means for a variety of terrestrial species. To this end, you will learn:

1. The natural history and field identification of a wide variety of plants and animals living in the many natural areas around Bloomington;
2. Ecological field techniques for assessing species populations, community distribution, and natural/human changes to the terrestrial ecosystem;
3. How to read the landscape to interpret the history and dynamics of an area; and
4. How to present your research findings in a scientific paper.

Policies

- ✓ Please attend all lectures and labs. Each class is worth 20 points toward your final grade. We only have six weeks to cover a large amount of material. If you need to miss a lecture or lab, please inform Melissa ahead of time. If you have to miss class unexpectedly, please contact Melissa as soon as possible. **Absences = lost points.** Excused absences lose 5 points for the day missed whereas unexcused absences lose the entire 20 points for the day missed.
- ✓ Please complete all reading assignments prior to class. Keeping up with the readings will ensure that you keep up with the fast pace of the lectures and labs.
- ✓ Please be on time. The vans will leave SPEA at 8:00 a.m. (SPEA time) or earlier (we will announce earlier times in lecture and via email). If you arrive to SPEA at 8:01 a.m. expect to miss the vans.
- ✓ Please work within site of at least one other student while we are in the field. We may all think of ourselves as competent outdoorspeople, but even the best of us occasionally encounter unexpected hazards. Play it safe and follow the ‘buddy system.’
- ✓ Topics and assignments will follow the class schedule as closely as possible; **however, this schedule is subject to change.** Topics and due dates will be adjusted appropriately when necessary.
- ✓ Reports must be typed, concise, organized and when necessary, appropriately supported with relevant literature (please see the bibliographic citation rules section). A poorly written report will not receive full credit. **Unexcused late assignments will not be accepted.** Excused late assignments will lose 5% of the total points of the assignment per day of lateness.
- ✓ Academic misconduct, as defined by Section IIIA of the Indiana University Code of Student Rights, Responsibilities and Conduct (‘the code’) will be handled as described by the code. Please see <http://campuslife.indiana.edu/Code/index.html> for an online copy of the code. **If it is determined that academic dishonesty has occurred, an “F” will be given for the course.**
- ✓ **Material from the internet is not allowed as a primary source.** It is not peer-reviewed; therefore, anyone can publish anything! While the internet can be a rich information source, such material is acceptable as a supplemental source only. Material from non-governmental sites must be approved by Melissa before use as a reference.

Grading

Final grades will be based on the point system below. Some of the homework assignments will be individual and one will be group. You will know ahead of time what to expect. ****Participation and preparation are important aspects of this class. Therefore, marginal grades will be determined by participation and preparedness. **Graduate students will be expected to explore course topics in greater depth and detail than undergraduate students. ****

Assignments	Date	Points
Quizzes (3)	Unannounced	90
Attendance (20 each day)	--	240
Final Project Proposal	Sept. 24	40
Butterfly Habitat Report	Oct. 1	100
Terrestrial Community Structure	Oct. 29	100
Extra Credit – Backyard/Urban Habitat	Nov. 5	40
Field Notebook Check #1	Oct. 29 or Nov. 1	20
Ground Nesting Birds (TBA) Report	Nov. 19	100
Saw-whet Owl Volunteering	TBA (Oct. 24 – Nov. 28)	40
Saw-whet Owl Report	Dec. 3	100
Final Project Report	Dec. 10	200
Final Project Presentation	Dec. 10	100
Field Notebook Check #2	Dec. 10	20
Total Points		1150

Class Schedule

Vans for labs leave *promptly* at 8:00 a.m. **unless otherwise specified**. Meet by the SPEA loading zone (the NE corner of the building by the dumpsters).

Date	Topic	Readings
9/3	<i>Introduction to class, habitat, and basic skills</i> SPEA 276 and IU grounds	--
9/10	<i>Butterfly Community Structure</i> Meet at SPEA loading zone ~ Friendship, DNR	<ul style="list-style-type: none"> ▪ Kricher ch. 1, 2 & 4 ▪ (R) Urban et al. ▪ (R) Scott ← great resource. Don't print the entire reading off. There are select sections to read and some FYI ▪ Ambrose Ch. 1-6 ← Browse. Will reference for Final Project Proposal
9/17	<i>Butterfly Community Structure (cont.)</i> Meet at SPEA loading zone ~ TBA	<ul style="list-style-type: none"> ▪ Kricher ch. 7 ▪ (R) Sharp et al. ▪ (R) Rausher ▪ (R) Capman et al.
9/24	<i>Report Writing, Review of other Exercise & Skills</i> SPEA 276 and IU grounds Final Project Proposal Due	<ul style="list-style-type: none"> ▪ Ambrose ch. 11
10/1	<i>Community Structure ~ Old Field</i> Meet at SPEA loading zone ~ Kent Farm or Beanblossom Res. Butterfly Report Due & Field Notebook Check #1	<ul style="list-style-type: none"> ▪ Kricher ch. 3 ▪ (R) Elton & Miller ▪ (R) Petty & Jackson
10/8	<i>Community Structure ~ Young Forest</i> Meet at SPEA loading zone ~ Morgan/Monroe State Forest	<ul style="list-style-type: none"> ▪ (R) Knight & Morris
10/15	<i>Community Structure ~ Old Forest</i> Meet at SPEA loading zone @ 7:30 ~ Spring Mill	--
10/22	<i>Ground Nesting Bird (TBA)</i> Meet at SPEA loading zone ~ Location TBA	<ul style="list-style-type: none"> ▪ Kricher ch. 8 ▪ (R) TBA
10/29	<i>Final project work day ~ on your own</i> Extra Credit Option Community Structure Report Due (Melissa's mailbox by 4:30pm)	--
11/5	<i>Ground Nesting Bird (TBA)</i> Meet at SPEA loading zone ~ Location TBA Extra Credit Report Due	<ul style="list-style-type: none"> ▪ (R) TBA
11/12	<i>Saw-whet Owl Habitat</i> Meet at SPEA loading zone ~ Deam Wilderness	<ul style="list-style-type: none"> ▪ (R) TBA
11/19	<i>Saw-whet Owl Habitat</i> Meet at SPEA loading zone ~ Deam Wilderness Ground Nesting Bird Report Due	<ul style="list-style-type: none"> ▪ (R) TBA
11/26	<i>No Class ~ Thanksgiving Break</i>	--
12/3	<i>Final project work day ~ on your own</i> Saw-whet Owl Report Due (Melissa's mailbox by 5:30pm)	--
12/10	<i>Final project presentations - SPEA 276</i> Final report due & Field Notebook check	--

Bibliographic and Citation Rules

1. Always cite everything that you quote directly or paraphrase.
2. Use in-text citations whenever you quote or paraphrase.
3. Do not use non-governmental internet sites as primary or sole sources. If you do use such an internet site, make sure you have another source such as a journal article or book as a primary source.

Frequently asked questions:

1. *If I paraphrase a whole page, how should I cite?*
First, it should not be necessary for you to paraphrase an entire page. If you do paraphrase a long paragraph, cite the author(s) in the beginning of the paragraph. For example: According to Clark (1998), in "Bibliographic and Citation Rules for SPEA E100," paraphrasing should be kept to a minimum...
2. *Should I include page numbers with my in-text citations?*
"Include page numbers only with direct quotes" (Clark, 1998, p. 1). Otherwise only include pages for journal articles in your bibliography.
3. *If I use in-text citations, why do I need to list them in the bibliography too?*
To give full credit to the authors you cited, you must list full references in your bibliography. This also gives me a chance to check your references if necessary.
4. *This article doesn't list an author, how should I cite it?*
Use the organization, the journal title or the publisher as the author.

The rest of the information in this handout was taken from Day, R.A. 1988. How to Write & Publish a Scientific Paper. Oryx Press.

In text citations (credit immediately following a quote or paraphrase) - You may use ONE three styles for in-text citation. Be consistent with your style – use one and only one style throughout your paper.

1. Name and year system – list the author(s) and the year of the publication. If the reference has 1-2 authors, list both. If the reference has three or more authors, list the first author, then et al., then year (Clark et al., 1998). List all authors in the references.
2. Alphabet-number system – alphabetize references and number in order (if your list is Clark, Johnson, Yancy, your citations are 1, 2 and 3, respectively). Refer to your reference in-text by number only. For example "Include page numbers only with direct quotes" (1).
3. Citation-order system – similar to alphabet, except you number in order of the citation's first appearance within your text. If I cited something Yancy said before Clark, Yancy is (1) and Clark is (2) for the duration of the paper.

Reference styles:

Books:

Day, R.A. 1988. How to write and publish a scientific paper. 3rd ed. Oryx Press, Phoenix, AZ.

Journal articles:

Huth, E.J. 1986. Guidelines on authorship of medical papers. *Annals of Internal Medicine*. 104(2):269-274. [for your information: 104 = volume number and (2) = issue number]

Web site:

Smith, J.A. 1998. Rules for manuscript preparation. Society of Environmental Toxicology and Chemistry. <http://www.setac.org/manuscript>. Last visited 9/8/98.