Course Syllabus

Objectives:
• To recognize the birds of the Isles of Shoals by sight and sound
• To learn and appreciate the diversity of life-history strategies pursued by these birds
• To learn and practice a variety of field techniques used for studying birds including banding, census methods (point counts, transects, spot mapping), nest monitoring, and behavioral observations
• To keep an appropriately detailed field journal
• To develop and test ecological hypotheses through an independent project, to summarize and analyze data, and to present scientific information appropriately in both written and oral form.

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Assistant Instructor: Mary E. Everett
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Text:
One of the following field guides to North American or eastern North American birds:
Peterson’s Field Guide to Birds by Roger Tory Peterson (Eastern Region) or
The Sibley Guide to the Birds by David Allen Sibley

Optional (PDF available from instructor):
Handbook of Field Methods for Monitoring Landbirds, US Forest Service GTR-144, by CJ Ralph et al.

Grading:
Grades will be determined based on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tr>
<td>Field Journal</td>
<td>5%</td>
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<tr>
<td>Participation and Presentations</td>
<td>10%</td>
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<tr>
<td>Data Reports (2 @ 10)</td>
<td>20%</td>
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<tr>
<td>Social Media Engagement</td>
<td>5%</td>
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<tr>
<td>Independent Project</td>
<td>30%</td>
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<tr>
<td>Exam</td>
<td>30%</td>
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Active engagement in all aspects of the class is required.

Field Journal:
Participation will be measured by your active involvement and engagement in field and classroom activities and by how your participation is documented in your field journal. The journal should include detailed entries about your daily activities including (but not limited to…):
• Field activities performed and observed
• Interesting observations
• Weather conditions
• Any unusual events or conditions that may have influenced your observations or data collection
• A complete list of the birds observed on each day

The journal should be a reference that can be used to find areas that you visited, help you identify organisms, and remind you of the methods used to collect data.
The journal will be evaluated based on completeness. The journal should be legible and all the information pertaining to field work should be relatively easy to find. The goal of a field journal is to provide a complete documentation of your time in the field. You should be able to grab your journal a year from now and still be able to use it to generate the methods section for a report.

Data Reports
This course is designed for students to learn ornithological research methods by actually going into the field and gathering data. Students will be asked to summarize the results of two of these data gathering exercises. Think of these summaries as brief scientific papers. The reports should include a short introduction (what was the goal, objective, or hypothesis of the study), a methods section (when, where, and how were the data collected and analyzed), a complete results section (what did you find?), and a brief discussion/conclusion section (What may explain any unexpected results? What were some of the drawbacks or limitations of your study? How might you conduct the study differently for better results?). The results section should contain graphs, tables, and/or statistical analysis as appropriate. The instructor will be available for consultation to help choose appropriate statistics and to demonstrate how to perform specific tests. We will begin the course by writing a group report detailing the Appledore gull census that will serve as an example for the subsequent reports. Students will independently write two additional reports summarizing research that will likely focus on 1) a bird survey / point count exercise, and 2) the Appledore songbird census / spot mapping exercise for your assigned species.

Social Media
Each student is required to participate in social media engagement in some way throughout the course. The easiest ways to accomplish this include: 1. Posting about activities that we are doing in the course and/or cool and interesting facts that you are learning about on Twitter. Please use the course hashtag, #SMLbirds when using Twitter for the course. 2. Contributing to our course photo album by adding photo to this Google Drive file (https://goo.gl/vvfuEY). Name each photo that you upload with your last name followed by the number photo that you have uploaded (e.g. Covino1, Covino2, …). Participation in social media can be achieved by other means as well, just run your ideas by Dr. Covino first. Participation should occur throughout the course (not just in the last couple days).

Independent Project
Each student will complete an independent project on some aspect of avian biology that requires using field techniques learned in the course. Choose wisely—you will be spending much of the second week working on your project. These projects will be graded on creativity, complexity, and presentation of the project idea and results. Ideas should be discussed with the instructor to ensure that the project is of the appropriate scope and is feasible given the time constraints. A one-page project proposal including the hypothesis/goal of the project, the methods, and the anticipated results will be due at the end of the first week of the class. A project summary (same structure as the reports) is due on the last full day of the course. Each student will give an oral presentation (5-10 minutes) about their project in the ornithology symposium.

Exam
The exam will test your knowledge of 1) identification of local species, 2) aspects of the biology, ecology, and behavior of birds, and 3) the field techniques learned in class. The exam will begin with a walk around Appledore (i.e., What bird is that?) and will be followed by a written portion that will cover the relative advantages and disadvantages of various field techniques, aspects of the natural history of birds seen during the course, etc. Any topic covered during the course is fair game.
Tentative Schedule*

Off-island boat trips are listed in RED. Field time in BLUE. Field Technique Shifts in GREEN.

Meal Schedule: Breakfast 0730; Lunch 1230; Dinner 1800
Sunday: Brunch 10:00; Dinner 1700

<table>
<thead>
<tr>
<th>Date</th>
<th>Early Morning</th>
<th>Morning</th>
<th>Afternoon</th>
<th>Evening</th>
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<tbody>
<tr>
<td>Friday, May 25</td>
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<td><strong>1:45 PM: Arrive at SML dock. 2:45 PM: depart Portsmouth for SML.</strong> Safety intro, course intro. Intro to Appledore walk. Settle in.</td>
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<td>Saturday, May 26</td>
<td>Observe at banding station. Why study birds?; Songbird ID &amp; ageing and sexing workshop; Select focal species for presentations. Migration lecture; Observe at banding station/Birding. Communication lecture; Song list Intro to the islands tour @ 1845; Daily bird list; Work on presentations.</td>
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<td>Sunday, May 27</td>
<td>Observe at banding station Morning bird walk Signals for Survival movie; Gull reproduction lecture (M.E.), Gull nest measurements; Intro to gull observations; Work on species presentations Focal species presentations (students); Select technologies for presentations; Data management intro. Daily bird list; Life of Birds episode; Read research paper(s)</td>
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<td>Brunch 1000;</td>
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<td>Dinner 1700</td>
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<td>Monday, May 28</td>
<td>Assist at banding station Gull observations Gull census preview (M.E.); The Great Appledore Gull Census 2017! Write gull census report (as a group); Gull observations Point count/ transect readings; Daily bird list; Life of Birds episode</td>
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<td>Tuesday, May 29</td>
<td>Assist at banding station Gull observations Intro to the Great Auk (M.E.); Smuttynose trip preview (M.E.), develop lab report question; Preliminary data collection (on Appledore); Gull nest checks Smuttynose Island data collection (lab report) &amp; searching for banded gulls; 1330 d. Appledore, 1630 d. Smuttynose; Discuss data &amp; data analysis Daily bird list; Seabird restoration lecture (Liz Craig); Seabird restoration readings;</td>
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<td>Wednesday, May 30</td>
<td>Assist at banding station Gull observations Intro to survey methods (transects &amp; point counts), develop lab report question; Star Is point count 0845d Appledore 1130d Star Discuss survey results &amp; data analysis; Transect surveys Gull nest checks Daily bird list; Life of Birds episode; Read research paper(s)</td>
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<td>Thursday, May 31</td>
<td>Transect surveys Gull observations (Assist at banding station) Seabird restoration on White Island; 1300 d. Appledore, 1130 d. White Technology presentations (students); Technology lecture; Transect surveys Gull nest checks First lab report (gull study) due; Daily bird list; Work on project proposals</td>
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**Field Ornithology**  
**Shoals Marine Lab**  
**Friday, June 1**  
**Transect surveys**  
**Gull nest checks**  
(Attend at banding station)

**Target netting Yellow Warblers**  
**Spot mapping methods**

**Data entry catchup**  
**Work on project proposals**  
**Transect surveys**

**Saturday, June 2**  
**Transect surveys**  
**Spot mapping**  
**Assist at banding station**

**Gull observations**  
**Check swallow boxes**  
**Discuss independent projects**

**Gull lecture (TBD: Julie Ellis)**  
**Gull nest checks**  
**Transect surveys**  
**Discuss transect data & analyses**

**Sunday, June 3**  
**Brunch 1000; Dinner 1700**

**Transect surveys**  
**Spot mapping**  
**Assist at banding station**

**Eider crèche observations**  
**Eider reproductive biology**  
**Discussion**  
**Independent projects**

**Intro to Barn Swallows; Swallow banding / Independent projects; Gull nest checks**

**Monday, June 4**  
**Assist at banding station**  
**Spot mapping**

**Possible trip to Lunging Island – cormorants & gull resighting: 0930 d. Appledore, 1130 d. Lunging**

**Data entry catchup; Independent projects; Gull nest checks**

**Tuesday, June 5**  
**Assist at banding station**  
**Spot mapping**

**Introduction to seabirds (M.E.); Data entry catchup; Spot mapping Independent projects**

**Split class: Swallow banding / Independent projects; Spot mapping write-up Gull nest checks**

**Wednesday, June 6**  
**Study time**

**Seabird Cruise & Whale Watch (1000 d. Appledore)**

**Seabird Cruise & Whale Watch (1500 a Appledore)**  
**Gull nest checks**

**Practice Symposium**  
**Daily bird list**

**Thursday, June 7**  
**Study time**

**Field Journal Due; Exam (field & classroom); Gull band numbers due**

**Prepare for presentations; Course evaluation Independent project reports due.**

**Field Ornithology Symposium - presentation of independent projects**

**Friday, June 8**  
**Course Bird List – Broad Cove @ sunrise**

**Depart :-(**

* Please be prepared to be flexible. We may change the schedule depending upon the weather, availability of boats, the whims of the instructor, etc.