

FISH 450 B Au 19: Salmonid Behavior And Life History

[Jump to Today](#)

 [Edit](#)

Salmonid Life History and Behavior

Fall 2019

Professor: Dr. Thomas Quinn - tquinn@uw.edu (<mailto:tquinn@uw.edu>)

| <u>Date</u> | <u>Day</u> | <u>Topic</u> |
|-------------|------------|---|
| S-25 | Weds | Introduction, goals and course schedule; photos of N. A. salmonids |
| S-27 | Fri | General life history & distribution of <i>Oncorhynchus</i> , <i>Salmo</i> and <i>Salvelinus</i> |
| S-30 | Mon | Life histories and identification, continued |
| O-02 | Weds | Life histories compared with other N. A. fishes |
| O-04 | Fri | Global patterns of anadromy and catadromy; Speciation, glaciation |
| O-07 | Mon | Open ocean migration and orientation |
| O-09 | Weds | Migration in coastal and estuarine waters |
| O-11 | Fri | Upriver migrations, energetics |
| O-14 | Mon | Homing - evidence and patterns |
| O-16 | Weds | Homing - mechanisms |
| O-18 | Fri | Selection of spawning site and female reproductive behavior |
| O-21 | Mon | Reproductive success of males |
| O-23 | Weds | Ecology of adult salmon: predators, scavengers and nutrient cycling |
| O-25 | Fri | Mid-Term Exam |
| O-28 | Mon | Incubation rate and mortality of embryos |
| O-30 | Weds | Emergence and initial fry movements |
| N-01 | Fri | Lake ecology of sockeye fry, and trout and char |
| | Fri | Proposal objectives due |
| N-04 | Mon | Salmonids in streams Part I |

- N-06 Weds Salmonids in streams, Part II
- N-08 Fri Seaward migration: timing, orientation
- N-11 Mon *Veterans Day – no class*
- N-13 Weds Smolt transformation & physiology
- N-15 Fri Estuarine residence and migration
- Fri **Draft proposals due**
- N-18 Mon Early marine migration and distribution
- Mon **Proposal edits due**
- N-20 Weds Marine mortality
- Weds **Proposal drafts and edits returned**
- N-22 Fri Feeding and growth at sea
- N-25 Mon Age and size at maturity
- N-27 Weds Population structure and local adaptation
- N-29 Fri *Thanksgiving – no class*
- D-02 Mon Successes and failures of transplants
- D-04 Weds Effects of forestry on salmonids
- Weds **Final proposals due**
- D-06 Fri Wild salmon, hatcheries, and the future of salmon in a changing world
- D-09 Mon **Take-home final exam due**

Salmonid Behavior and Life History

OBJECTIVES: The specific objective of the class is to acquaint students with the life cycles of Pacific salmonids, with emphasis on the anadromous species. The broader objective is to give students an opportunity to think critically about a well-studied group of fishes, seeking lessons that pertain to general themes in ecology and behavior. The life cycles of salmon are studied from behavioral and ecological perspectives, and are first placed in the context of general patterns of fish life histories. We then follow the homeward migration of adults from the ocean through coastal waters and up rivers to the stream where they were spawned years earlier. We discuss spawning site selection, reproductive behavior, and the survival during the incubation period. We then consider the behavior and ecology of juvenile salmon in streams, lakes, and during their migration out to the ocean. We consider factors affecting marine survival, growth and the age at maturation. Finally, we address selected topics that are both pertinent to salmon management and






serve to integrate the life cycle: the evolution of local adaptations, interactions between land-use practices and salmonids, and the interactions between wild and hatchery-produced salmonids. The course gives students experience in the conception, design, and writing a proposal to do scientific research - an invaluable professional skill and a challenging assignment.





REQUIREMENTS:

Students are expected to attend lecture 3 days a week: MWF 10:30-11:20 am. These lectures and additional readings will be the basis for a mid-term and final exam (counting 15% and 30%) for this course. The mid-term exam will be held during regular class time (check the course schedule for date); the final will be a take-home exam, due during finals week.

In addition to the exams, students enrolled in the 3-credit FISH 450 will submit draft and final versions of an original **research proposal** to investigate some aspect of the life history, ecology, or behavior of some salmon or trout species. The quality of these proposals is expected to reflect thoughtful development of research ideas and methods, and writing experience. The proposal should be no less than about 15 double spaced pages, with about 10 or more references to the primary published literature (i.e., journal articles or book chapters), and a budget. Two copies of a draft version are to be submitted (check the course schedule for date). One copy will be edited by the instructor and the other will be edited by a student in the class. The author will have the benefit of both sets of comments in preparing the final version, which will be submitted with the drafts. The draft will constitute 15% of the basis for the grade, the final version will be 30%, and the remaining 10% part of the grade will be based on the editorial comments provided to the other student.

Course Summary:

| Date | Details | |
|------------------|--|----------------|
| Fri Oct 25, 2019 |  Mid-term Exam (https://canvas.uw.edu/courses/1320574/assignments/4815832) | due by 11:20am |
| Fri Nov 1, 2019 |  Proposal Objectives (https://canvas.uw.edu/courses/1320574/assignments/4815827) | due by 10pm |
| Fri Nov 15, 2019 |  Proposal Draft (https://canvas.uw.edu/courses/1320574/assignments/4815825) | due by 10pm |
| Wed Nov 20, 2019 |  Proposal Draft Peer-edit (https://canvas.uw.edu/courses/1320574/assignments/4815826) | due by 10pm |
| Wed Dec 4, 2019 |  Final Proposal (https://canvas.uw.edu/courses/1320574/assignments/4815824) | due by 10pm |

| Date | Details |
|-----------------|--|
| Mon Dec 9, 2019 |  Final Exam (https://canvas.uw.edu/courses/1320574/assignments/4815831) due by 10pm |
| |  (5-Credit Section) Group Oral Presentation (https://canvas.uw.edu/courses/1320574/assignments/4815828) |
| |  (5-Credit Section) Research Paper Draft (https://canvas.uw.edu/courses/1320574/assignments/4815829) |
| |  (5-Credit Section) Research Paper Final (https://canvas.uw.edu/courses/1320574/assignments/4815830) |

