

ENVIRONMENTAL STUDIES 446

Sustainable Fisheries

Instructor: Dr. John Volpe, School of Environmental Studies

Building, Room: CLE C115

Time: Tuesday 2:30-4:20pm | Friday 2:30-3:30pm (Expect overtime activities some Fridays)

Office: University House 4 Room 201

Email: jpv@uvic.ca

Office Hours: anytime - by appointment

Student learning objectives are;

- basic understanding of fish biology and fish community ecology
- paradigms in fisheries conservation
- appreciation of synergistic and antagonistic ecological, economic and sociopolitical dynamics in fisheries and aquaculture
- develop capacity for critical evaluation of seafood products and “sustainability”

Course Structure

This course is a mix of lecture and “field work”. Students will be expected to spend significant time outside of the class period in pursuit of course objectives.

You are responsible for reading and understanding all assigned readings prior to each class session. The number of readings is intentionally modest – this in order to focus on comprehension not volume. All are considered fundamental to satisfying teaching objectives of this class and equally important, are essential to a positive experience in this class. Confirm readings on the course Moodle page one week prior to lecture.

NOTE: Numerous class periods will be spent off campus doing various activities. These combined will incur an additional ~\$50 per student

Evaluation

Victoria Restaurant Audit	30 (3x10)
Audit Presentation	5
Sustainability Profile / Precis	20
Quizzes	20
Know your fish (Sept 30) 5%	
Midterm Exam (Nov 8)	25
	100%

As a class you will build a sustainable seafood web tool for consumers in Victoria. The tool will consist of two main parts.

- i) Victoria Restaurant Seafood Audit
- ii) A Species Sustainability Profile

Victoria Restaurant Seafood Audit - Overview (materials to follow)

A major hurdle to marine resource conservation is the lack of locally relevant, accurate information. Consumer literacy regarding food sustainability issues tends to be focused almost exclusively on terrestrial food production systems. Literacy of seafood conservation issues tends to be very limited and difficult to apply at a local level. This typically reflects poorly articulated information which, itself is difficult to find. This class project seeks to rectify this, at least for consumers in Victoria.

As a class you will execute a sustainability audit of popular Victoria area restaurants. Each restaurant must meet a set of criteria:

- it is “popular” as evidenced by high quality and/or popularity metrics on TripAdvisor, Zomato (UbanSpoon), and/or Yelp.
- there are at least three (preferably more) unique seafood species listed on the regular menu
- it is located in the downtown-UVic corridor

Each student will select three independent restaurants to audit from the list (see GoogleDoc). In rare circumstances an establishment may no longer be operating or have changed its menu. Please confirm your three chosen establishments meet the criteria above.

You will visit each restaurant to i) photograph the menu to document items, prices etc. and ii) ascertain the knowledge level of staff iii) judge the voracity of conservation claims (it is common (how common we will see) for menu items not to match conservation claims (certification, organic or sustainable)).

Part of your audit will be to assess staff knowledge. You will ask four questions:

- i) Is *seafood x* farmed or wild
- ii) What country is *seafood x* from
- iii) (picking a likely wild caught item) How was *seafood x* caught?
- iv) (picking a likely farmed item) How was *seafood x* farmed?

Make sure you record the answers!

Questions we will explore with these data include (but are not confined to):

- What is the overall performance of Victoria’s restaurants?
- Is there a significant relationship between price and sustainability?
- Are certain sectors (sushi, casual, upscale) more sustainable than others?
- How honest are restaurants with their sustainability claims?
- What seafood dishes / species are most popular?

Fishery / Production Profile - Overview (materials to follow)

“sustainable” means... What makes a product “sustainable”? Why is blue fin tuna considered less “sustainable” than anchovies? Are there contexts when anchovies may be considered less sustainable than tuna? Does sustainability reflect only biological / life history characteristics of a species or include other variables? With little research the (often cryptic) complexities embedded within sustainability debates become significant.

Consider what “sustainable” means... What makes a product “sustainable”? Why is blue fin tuna considered less “sustainable” than anchovies? Are there contexts when anchovies may be considered less sustainable than tuna? Does sustainability reflect only biological / life history characteristics of a species or include other variables? With little research the (often cryptic) complexities embedded within sustainability debates become significant.

During this course you will have opportunities to interact with numerous professionals from across the fisheries world – fisheries, producers, processors, and food professionals. Take advantage of these people to gain insight on the challenges and benefits of a particular product (wild caught or aquaculture).

You will produce a “product profile” that will be added to the Victoria Seafood Audit webpage. The profile must be of a product common in the Victoria market (imported or domestic; wild caught or farmed).

Production globally

Major production areas

Capture, Farmed or both

Capture gear / Farm system

Canadian production

Major Canadian production areas

Proportion exported : proportion consumed domestically

International production

Major production areas

Major consuming countries

Proportion imported to Canada

Seafood Watch, SeaChoice and Ocean Wise rankings

Fishery / Farm issues (itemized with explanation)

Market analogues (species marketed under same name, replacement species etc.)

Other common names in North American market

Nutrition profile

Chem / toxin / mercury issues

Confirm your choice of product with JPV prior to committing significant research effort.

*****ALWAYS KEEP A COPY OF ALL WRITTEN WORK SUBMITTED*****

Class schedule:

(subject to change)

Week 0 Friday Sept 9 - Introduction to course

Week 1 Sept 13 & 16

Tues: Definitions, Terms, Concepts and Intro to Fishing Gear

Fri: Introduction to Restaurant Seafood Assessment Project

Activities for before Tuesday lecture

View: Empty Oceans, Empty Nets

Read: FAO 2016 SOFIA (Pages 2-31)

Week 2 Sept 20 & 23

Tues: Global and BC Fish and Fisheries; Historical trends, today's realities

Fri: Your three restaurant choices due (Google Doc - no class)

Activities for before Tuesday lecture

View:

Read: Ch.2 Evidence of Ecosystem Effects of Fishing

Week 3 Sept 27 & 30

Tues: The basic issue: Seafood is not like other foods

Fri: Quiz - Seafood ID

Activities for before Tuesday lecture

View: Study common BC seafood species - Sea Choice and Seafood Watch

Read: Volpe 2009 The efficiency trap

Week 4 Oct 4 & 7

Tues: BC Rockfish, RCAs and Conservation (Lily Burke)

Fri: No class

Activities for before Tuesday lecture

View:

Read: Burke 2016 RCA Efficacy

Week 5 Oct 11 & 14

Tues: Salmon - the lecture

Fri: Salmon - the taste test

Activities for before Tuesday lecture

View: Commercial salmon fishing - Prince Rupert BC

Read: Healey 2009 Resilient Salmon, Resilient Fisheries for British Columbia

Optional Viewing: Salmon Confidential

Week 6 Oct 18 & 21

Tues: Aquaculture - From BC to global production

Fri: No class

Activities for before Tuesday lecture

View: Farming the Oceans

Read: Volpe et al 2013 GAPI

Week 7 Oct 25 & 28

Tues: First Nations Perspectives (Dr. Darcy Mathews)

Fri: Bycatch cooking class 3-5pm The London Chef, 953 Fort St

Activities for before Tuesday lecture

View: The London Chef

Learning to love bycatch

Read: Brown 2006 As It Was in the Past: A Return to the Use of Live-Capture Technology in the Aboriginal Riverine Fishery.

Lepofsky and Caldwell 2013 Indigenous marine resource management on the Northwest Coast of North America.

Week 8 Nov 1 & 4

Bottom-up vs. Top-down Seafood Sustainability

Tues: Labels, Standards and Regulations

Fri:

Activities for before Tuesday lecture

View:

Read: Jacquet et al 2009 Conserving wild fish in a sea of market-based efforts

Week 9 Nov 8 (Nov 9-11 Reading Break)

Tues: Midterm Exam

Fri: No Lecture

Week 10 Nov 15 & 18

Tues: Paradox of Technology in Fisheries and Aquaculture

Fri:

Activities for before Tuesday lecture

View:

Read: Scheffer et al 2005 Cascading effects of overfishing marine systems

Garcia et al 2012 Reconsidering the Consequences of Selective Fisheries

Week 11 Nov 22 & 25

Tues: Seafood Audit Presentations

Fri: No Lecture

Week 12 Nov 29 & Dec 2

Tues: Seafood Audit Presentations

Fri: No Lecture