This 4-unit course will focus on approaches to marine conservation with a specific focus on traditional strategies and ecological frameworks, including fisheries management and marine protected areas, but broadly covering a number of different approaches from species to ecosystems. The class will be interdisciplinary, with emphasis on science, policy, market-based initiatives and communications. The class will be lecture based and will include guest speakers invited to talk about their specific areas of expertise.

**Grading:** Letter grade only; 30 pts participation, 30 pts assignment, 40 pts final project

**Readings:** Weekly readings listed on TED

**Assignments:** 2 during the quarter

**Final paper:** due 3/16/15

**Week 1 1/5/15:** Introduction to approaches; fisheries management for food production and conservation; global fisheries and single species approaches; ecosystem-based management (Doukakis); discussion of final project (Aburto)

**REQUIRED READINGS:**
- 2014 FAO State of World Fisheries (skim this to gain understanding)
- Fisheries Economics Full Report
- Groundfish FMP (skim to understand components and complexity)

**RECOMMENDED READINGS:**

**Week 2 1/12/15:** By-catch overview; Using the ESA to protect vulnerable species affected by fisheries: the concept and management of take (Doukakis)
**REQUIRED READINGS:**
- 4d rule for green sturgeon.

**RECOMMENDED READINGS:**

**Week 3 1/19/14** NO CLASS – UCSD HOLIDAY

**Week 4 1/26/15:** Contrasting goals and strategies in single species management overlapping in time and space (Aburto). Focus on the Vaquita marina in the Upper Gulf of California (Aburto, Catalina López & Andrew F. Johnson)

**REQUIRED READINGS:**

**RECOMMENDED READINGS:**

**Week 5 2/2/15:** Fisheries management in practice: catch limits, area concessions (Aburto). Focus on demersal fisheries and trawling (Andrew F. Johnson).

**REQUIRED READINGS:**

RECOMMENDED READINGS:

Week 6 2/9/15: Market-based mechanisms: seafood choices programs and certification, including MSC. Focus on Gulf of California sardine (Doukakis & Aburto)

REQUIRED READINGS:
• MSC Fisheries Standards (skim this to familiarize yourself)
• Additional TBD and on TED

STUDY CASE:

Week 7: 2/16/15 NO CLASS – UCSD HOLIDAY

Week 8 2/23/15: Market-based mechanism: payment for ecosystem services and biodiversity value (Aburto)

REQUIRED READINGS:

RECOMMENDED READINGS:

Week 9 3/2/15: Eco-regions and hotspots: ways to prioritize marine conservation (Aburto)

REQUIRED READINGS:

RECOMMENDED READINGS:

Week 10 3/9/15: Network of Marine Protected Areas basics: design, function, effectiveness in practice (Aburto, guest lecture); Marine spatial planning (Mengerink)

REQUIRED READINGS:

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• Additional readings TBD and to be posted on TED

Assignments:

1) Due midnight 1/22/15: Fisheries and area management exercises (available 1/5/15)
2) Due midnight 2/9/15: In a two-page summary, present your idea for your final project. Include a written summary of the issue, preliminary references, potential dataset to be accessed and used. The project is to be done with a partner (3 per group maximum). Partnered work can relate to group work of other students. Please provide in your summary an indication of the division of labor among the students involved.

Final project: (due 3/16/15)

Take some of the concepts you learned about in class and analyze available data to explore a relevant question. You will ultimately write up your work as a story for dataMares http://datamares.ucsd.edu/ (it will only be published if passes the editors review, so will get a DOI – Digital Object Identifier), in the style of an open access short scientific story, linked up by data and analysis. Some examples can be found here:


The problem/case study that you choose can be on fisheries, marine resource wildlife trade, protected areas or another marine conservation problem of interest. It should have an interdisciplinary component in so much as you are looking at a marine conservation issue from biological and social parameters. You will create a visualization of your work using specific software that will be available to you. In addition to your short, succinct write-up, you will submit a maximum 5-page paper that includes all of the details behind your work so that we understand 1) the rationale behind your work; 2) supporting literature; 3) any data, graphs or tables that might not have made it into the summary version. This 5-page paper should have enough detail that we can recreate your work. Work with a partner or partners, but groups are limited to three per write-up. You can work with a larger group to explore different aspects of an issue in a certain geography or topic. You do not have to limit yourself to Mexico. Group work projects need to be divided into smaller projects that are accomplished by 2 to 3 people.

Some database you could consider can be found here http://datamares.ucsd.edu/eng/global-data/