

## Biology 3N: Views of our Changing Seas – Literature and Science (Working Syllabus for Spring 2017)

Instructor: William F. Gilly, Biology Department

Guest speaker: Susan Shillinglaw, English Dept., San Jose State Univ. and National Steinbeck Center

This seminar will examine issues concerning today's oceans through scientific, literary and historical lenses. We will focus on the Gulf of California, and our core text will be "The Log" portion of *Sea of Cortez: A Leisurely Journal of Travel and Research* (1940) by John Steinbeck and Ed Ricketts. This book is more than a travelogue or scientific report – it is a carefully structured treatise on the holistic thinking that is necessary to unravel complex problems, including ones that Steinbeck addressed in *The Grapes of Wrath* and other novels. Thus, we will work through The Log slowly and purposefully and supplement it with readings from historical and contemporary works as well as the poetry of Robinson Jeffers, a contemporary of Ricketts and Steinbeck who also lived on the Monterey Peninsula.

### **Before the course:**

Obtain a copy of *The Log from the Sea of Cortez* (1951), Penguin Twentieth-Century Classics edition. If everyone has the same edition, it will greatly facilitate in-class discussions. The volume you want is: <http://www.amazon.com/The-Log-Cortez-Penguin-Classics/dp/0140187448>.

### **For the first class please read:**

"About Ed Ricketts" Appendix, *The Log from the Sea of Cortez* (1951)

Carvajal et al. (2012) "Ecological Conservation in the Gulf of California," Chapter 11 in *The Gulf of California: Biodiversity and Conservation*, Brusca (ed.), p. 219-230. This will be posted on Canvas. It gives a good overview of the Gulf of California.

Also, may want to get a copy of *Selected Poems* by Robinson Jeffers (Vintage Books, Random House). The volume you want:

<http://www.walmart.com/ip/455482?wmlspartner=wlp&adid=2222222227010268806&wl0=&wl1=g&wl2=c&wl3=53110619208&wl4=&wl5=pla&wl6=49009083299&veh=sem>

### **During the course:**

Weekly readings are indicated below. Additional short pieces may be added. All materials, with the exception of *The Log from the Sea of Cortez* will be posted on Canvas. We will discuss this material as a group each week.

**Special Topics:** Weekly in-class presentations on contemporary and historical issues will be made by teams. Syllabus material is meant to be read by all seminar participants; topic teams should research additional materials to present an oral report and lead a discussion (30-45 min). A brief discussion of the assigned materials should be followed by the oral report – structure your report to stimulate discussion. We can change a suggested topic to one of your choosing if you are passionate about a particular subject.

**Group Topic:** We will work together in class to plan and prepare a presentation of your design that will be delivered at in a "Teaching/Learning Steinbeck" session at the 2017 Steinbeck Festival at the National Steinbeck Center in Salinas. The theme of the festival is "Migrations." <http://www.steinbeck.org/festival.html>

**Required Field Trip:** We will travel to Monterey on Friday afternoon, May 5 and go to sea on a whale-watching vessel on Saturday morning followed by a visit to Robinson Jeffers' Tor House in Carmel in the afternoon. On Sunday we'll attend the 2017 Steinbeck Festival at the National Steinbeck Center in Salinas, the theme of which is "Migrations." We will deliver a presentation of your design at the "Teaching/Learning Steinbeck" session and work on this together in class. If it is impossible for you to attend this field trip, an alternative field trip will be individually arranged

## **Weekly Schedule**

### **Week 1 (4/6) Ed Ricketts, John Steinbeck, Joseph Campbell and Robinson Jeffers -- Holistic Worldview**

Steinbeck, J (1948) Foreword to *Between Pacific Tides*, 2nd ed., p. v-vi.

Campbell, J (1949) *The Hero with a Thousand Faces*, Prologue, 3. "The Hero and the God," and Chapter 1, "Departure: 1. The Call to Adventure," p. 49-53.

Jeffers, R (1925) "Science" and (1948) Preface to *The Double-Axe and Other Poems*, p. vii-viii

**Group Topic:** *Steinbeck Festival project plan*

### **Week 2 (4/13) Preparation and Departure**

*The Log from the Sea of Cortez*: Introduction – Chapter 5.

Jeffers, R (1924) "Continent's End"

#### **Special Topic: Emergence**

Abbott, HP (2008) Narrative and Emergent Behavior. *Poetics Today* 29: 227-244

Mitchell, M (2009) *Complexity: A Guided Tour*, Chapters 1-2

Gordon, D (2016) Collective Wisdom of Ants. *Sci. Am.* 314: 44-47

**Group Topic:** *Steinbeck Festival project update*

### **Week 3 (4/20) Discovery**

*Log from the Sea of Cortez*: Chapters 6-9.

Jeffers (1932) "The Place for No Story"

Beebe, W (1938) *Zaca Venture*, Chapter 2, "With the Gray Friars"

#### **Special Topic: Exploration and exploitation**

Wagner, HR (1929) *Spanish Voyages to the Northwest Coast of America in the Sixteenth Century*, p. 1-14

Clavigero, FJ (1786) *The History of [Lower] California* by Don Francisco Javier Clavigero, S.J., translated and edited by SE Lake and AA Gray, Stanford Univ. Press, Book 1, Ch. 17-19, p. 84-95 and Book 2, Ch. 1-3.

del Barco, M (1770) *The Natural History of Baja California*, Ch. 10: "About Testaceans, p. 248-275

**Group Topic:** *Steinbeck Festival project update*

### **Week 4 (4/27) Searching, Finding and Warp**

*Log from the Sea of Cortez*: Chapters 10-13

Jeffers, R (1948) *Advice to Pilgrims*

Bar, M (2009) The Proactive Brain: memory for predictions. *Phil Trans Roy Soc B* 364:1235-1243

#### **Special Topic: Marine Protected Areas**

Roberts, C (2007), *Unnatural History of the Sea*: Chapter 25

Harden, G (1968), Tragedy of the Commons, *Science* 162:1243-1248

Ostrom et al. (1999) Revisiting the Commons: Local Lessons, Global Challenges, *Science* 284:278-282

Aburto-Oropeza et al (2011) Large recovery of fish biomass in a no-take marine reserve. *PLoS One* 6: e23601

**Group Topic:** *Steinbeck Festival project update*

### **Week 5 (5/4) Nonteleological Thinking**

*Log from the Sea of Cortez*, Chapter 14

**Group Topic: Presentation for Steinbeck Festival**

**FIELD TRIP (5/5-7).** Whale-watching , Robinson Jeffers Torr House, and National Steinbeck Center

**Week 6 (5/11) Exuberance**

*Log from the Sea of Cortez:* Chapters 15-19

Jeffers, R (1951) "The Beauty of Things," (1928) "Tor House"

Beebe, W (1938) *Zaca Venture*, Chapter 5, "The Magic Banks"

**Special Topic: Sea of Cortez: Aquarium of the World**

Cannon, R (1966) *The Sea of Cortez*, "The Story of the Sea of Cortez" (p.8-17) and "Life and Movement of the Sea" (p.35-61).

Kira, G (1999) *The Unforgettable Sea of Cortez. Baja California's Golden Age 1947-1977. The Life and Writings of Ray Cannon*, "'Intelligent' Golden Grouper" (p. 93-195) and "Legends of the Vagabundos" p. 196-203

Grey, Z (1925) *Tales of Fishing in Virgin Seas*, Chapters 19-20

**Week 7 (5/18) Changing Tides**

*Log from the Sea of Cortez:* Chapters 20-25

Jeffers, R (1951) "Animals," (1947) "Orca"

**Special Topic: Shifting baselines**

Roberts, C. (2007) *Unnatural History of the Sea:* Chapter 18

Sáenz-Arroyo et al. (2006) The value of evidence about past abundance: marine fauna of the Gulf of California through the eyes of 16<sup>th</sup> to 19<sup>th</sup> century travelers. *Fish and Fisheries* 7:128-146.

Sagarin et al. (2008) Remembering the Gulf: changes to marine communities of the Sea of Cortez since the Steinbeck and Ricketts expedition of 1940. *Front Ecol Environ* 6: doi:10.1890/070067

Miranda GC (2012) A Fishing day, in *Memorias de un pescador. En el Golfo de California* (translated by S. Mahieux)

**Week 8 (5/25) Beginning of the End**

*Log from the Sea of Cortez:* Chapters 26-27

Jeffers, R (1937) "The Purse-Seine," (1922) Salmon Fishing

**Special Topic: Trawling and More**

Roberts, C (2007), *Unnatural History of the Sea:* Chapters 10-11

Cisneros-Mata (2012) The importance of fisheries in the Gulf of California and Ecosystem-based sustainable co-management for conservation, Chapter in *The Gulf of California: Biodiversity and Conservation*, Brusca (ed.), p. 119-134

**Week 9 (6/1) Closing the Circle**

*Log from the Sea of Cortez:* Chapters 28-29

Jeffers, R (1925) "Boats in a Fog", (1948) "The Eye," (1963) Birds and Fishes

**Special Topic: Climate Connections**

Welch, C (2015 ) Oceans Are Losing Oxygen—and Becoming More Hostile to Life. National Geographic, In Focus: <http://news.nationalgeographic.com/2015/03/150313-oceans-marine-life-climate-change-acidification-oxygen-fish/>

Velarde et al. (2015) Warm oceanographic anomalies and fishing pressure drive seabird nesting north. *Sci. Adv.* 2015 1: doi: 10.1126/sciadv.1400210

Welch, C (2016) The Blob that Cooked the Pacific. *National Geographic*, September 2016: <http://www.nationalgeographic.com/magazine/2016/09/warm-water-pacific-coast-algae-nino/>

CIRCulator Editorial Staff (2015). CIRC (2015) Causes and Consequences of the Pacific Warm "Blob"