

Holistic Biology 2008: Week 1

Syllabus and Schedule as of 4/11/08

Su	Mon	APRIL	Tues	Wed	Thurs	Fri	Sa
			<p>1</p> <p>0930 Introduction and overview (CB,WG,JW)</p> <p>1030 Objects and Artifacts: creative writing</p> <p>1300 History of zoology and Hopkins (D. Epel)</p> <p>1500 Safety training and library orientation</p> <p>1715 Dinner on point</p>	<p>2 (0.06'; 1458)</p> <p>0900 Artists, writers and place: Dana and overview (SS)</p> <p>1030 Local intertidal ecology and fauna (CB)</p> <p>1200 Lunch: "Objects and Artifacts" –readings</p> <p>1400 Field Work HMS intertidal -- species identification, zonation</p>	<p>3</p> <p>0900 Assembling the Monterey Peninsula (JW)</p> <p>1030 <i>Two Years Before the Mast</i> 2 (SS)</p> <p>1300 Field trip: Carmel Mission, Pt. Lobos, Whaling Museum</p>	<p>4</p> <p>0900 Multicultural California (JW)</p> <p>1030 History of holism in ecology (CB)</p> <p>1200 Conservation Biology seminar/lunch</p> <p>1430 FREE</p>	<p>5</p>

Readings

For 4/1: PM: **Kellogg, 1899**. The Hopkins Seaside Laboratory (on CD)

For 4/2: AM: Dana, *Two Years Before the Mast*, Ch. 1-10

Ricketts et al. (1985) Introduction, in *Between Pacific Tides*, 5th edition (p1-14).

For 4/3: AM: *Storied Land: Community and Memory in Monterey*, Walton. (Ch. 1-2: p1-57).

Dana, *Two Years Before the Mast*, Ch. 11-21

For 4/4: AM: *Storied Land* (Ch.3: p58-106)

Ecocentrism and the Anthropocentric Detour, Sessions (in Sessions, *Deep Ecology for the 21st Century*).

Deep Ecology: a new paradigm, Capra (in Sessions, *Deep Ecology for the 21st Century*).

Writing

Objects and Artifacts – Due Wed, April 2, 1200.

Holistic Biology 2008: Week 2

	Mon APRIL	Tues	Wed	Thurs	Fri	
6	7 (-0.73'; 0613) 0900 Invertebrate zoology – selected taxa (CB) 1030 Introduction to Steinbeck and Ricketts (SS) 1200 FREE 1930 (at Belden) Literary Ecology –Conclude Dana and <i>Cannery Row</i> 1 (SS)	8 (-0.95'; 0706) 0830 Ecology of Ricketts (WG/J. Pearse, UCSC) 0930 Hewatt transect and Abbott-Hand exposure gradient background (CB/JP) 1100 Transects –discussion of methods and analysis (CB/JP/WG) 1300 History of Monterey fishing and canning industries (JW) 1430 Literary Ecology – <i>Cannery Row</i> 2 (SS) 1600 Field Trip: Ricketts Lab	9 (-0.98'; 0805) 0730 Field Work Abbott-Hand series transects 1300 Literature of the sea and shore -- Robinson Jeffers (SS) 1430 Big Sur and Jeffers Country (JW)	10 (-0.87'; 0909) 0845 Field Work Hewatt transect –lower intertidal (or Abbott-Hand 2?) 1300 Literature of the sea and shore -- Robinson Jeffers 2 (SS) 1430 Free time for transect data analysis and report preparation	11 (-0.70';1019) 0830 Field trip: Exposed outer coast –Soberanes Pt (or Great Tide Pool?) 1200 Conservation Biology seminar/lunch 1500 Field Trip: Tor-House, Jeffers	12

Readings – BOLDFACE are pdfs posted on CourseWork (Week 2)

For 4/07: AM: Abbott (2003) Unnarratable knowledge: The difficulty of understanding evolution by natural selection, in *Narrative Theory and the Cognitive Sciences*, Herman (ed) p143-162 (*optional*)

Grobstein (2005) Revisiting Science in Culture: Science as story telling and story revising. *J. Res. Practice* 1(1) (*optional*)

PM: Dana, *Two Years Before the Mast*, Concluding chapter and Appendix (optional -- Chapters 22-36)

“About Ed Ricketts” – Appendix to Penguin, *The Log from the Sea of Cortez*
Steinbeck, *Cannery Row*, Ch 1-8.

For 4/08: AM: **Ricketts (1945)** Outer shores transcript (on CD)

Ricketts & Calvin (1948) Rocky Shores: Middle Intertidal, in *Between Pacific Tides* 2nd edition, p29-40 (*optional*)

Ricketts et al. (1985) Rocky Shores: Middle Intertidal, in *Between Pacific Tides*, 5th edition (p51-70)

Steinbeck (1948) Preface, in *Between Pacific Tides* 2nd edition, p. v-vi

Barry et al. (1995) Climate-related, long-term faunal changes in a California rocky intertidal community (on CD)

Hand et al. (1947) Distribution of cirripeds and gastropods on plain vertical rock surfaces in the upper intertidal and splash zones (on CD)

PM: *Storied Land* (Ch.5: p173-233)

Cannery Row, complete.

For 4/09: PM: **Walton (2008)**. *Storied evidence: a case study of poetry and history* (on CD)

For 4/10: PM: **Sagarin et al. (1999)** p465-475. Climate-related change in an intertidal community over short and long times scales (on CD)

Jeffers, selected poetry

Writing

Tidepool Metaphor – Due Friday, 11 April

Holistic Biology 2008: Week 3

Su	Mon APRIL	Tues	Wed	Thurs	Fri	Sa
13	<p>14 (-0.2'; 1328) 0900 Oceanography -- Pacific Ocean and Monterey Bay (L. Zeidberg, NOAA)</p> <p>1100 Literature of the sea and shore – Rachel Carson 1 (SS)</p> <p>1300 Field trip: Elkhorn Slough – history and agricultural runoff issues (M. Silberstein, Elkhorn Slough Foundation)</p>	<p>15 0800 Plankton Lab -- Zooplankton, scattering layers and OML (WG,CB)</p> <p>1100 Oceanography and climate cycles: ENSO, PDO (F. Chavez, MBARI)</p> <p>1200 Conservation Biology seminar/lunch</p> <p>1430 Monterey Bay as environmental lab (JW)</p> <p>1800 Intertidal transect presentations with seafood snacks</p>	<p>16 0900 Ecological history of Monterey Bay (S. Palumbi, HMS)</p> <p>1030 Ecology and pantheism (CB)</p> <p>1130 Book Group Lunch: Rapprochement? <i>The Creation</i>, Wilson</p> <p>1300 Field Trip: Mesopelagic ecology and MBARI tour (B. Robison, MBARI)</p>	<p>17 0900 Small pelagic fishes and fisheries (R. Parrish, NOAA)</p> <p>1030 Global climate change (G. Somero, HMS)</p> <p>1300 Mesopelagic climate change – Pacific hypoxia (S. Bograd, NOAA)</p> <p>1430 Diversity of predatory fishes (S. Jorgensen, HMS)</p> <p>1900 Hoopedoodle at Casa Gilly and Rachel Carson 2 (SS)</p>	<p>18 0900 Squid invasions and sustainable fisheries (J. Field, NOAA)</p> <p>1030 Lab –Squid</p> <p>1430 Cetaceans as top predators (R. Brownell*, NOAA)</p> <p>1600 Fate of the vaquita: A discussion with R. Brownell</p>	19

Readings – BOLDFACE are pdfs posted on CourseWork (Week 3)

- For 4/14: AM: Nybakken (2005) Introduction to the marine environment, in *Marine Biology: An ecological approach* (6th ed) p1-39
Yoder et al. (1994) A line in the sea (on CD; *optional*)
Carson, selections from *Silent Spring* and *Under the Sea Wind*
PM: **Changes in a California Estuary: A Profile of Elkhorn Slough** (selections from Chapters 1, 6, 12)
- For 4/15: AM: “Introduction” (p1-12) and “The puzzle of vertical migration” (p199-205) in Hardy, *The Open Sea*
Nybakken (2005) Plankton and plankton communities, in *Marine Biology: An ecological approach* (6th ed) p42-72
Chavez et al (2003) From anchovies to sardines and back: multidecadal change in the Pacific Ocean (on CD)
PM: *Storied Land* (Ch.6: p234-276)
- For 4/16: AM: **White (1967)** Historical Roots of our Ecological Crisis (on CD; *optional*)
E.O. Wilson, selections from *The Creation*: Chapters 1-4, 8-10, 17
Evangelical Climate Initiative statements
PM: Selections from Beebe, *Half Mile Down*
Robison (2004) Deep Pelagic Biology. *J. Exp. Mar. Biol. Ecol.* 300: 253-272
Robison (1995) Light in the ocean’s midwaters. *Sci. Am.* July
- For 4/17: AM: **Parrish (2001) A Monterey sardine story, Monterey Marine Historical Series**
Sagarin (2007) Climate change, in Denny, M.D. and Gaines, S.D (eds), *Encyclopedia of Tidepools and Rocky Shores*, p137-140.
Somero (2007) Heat stress, in Denny, M.D. and Gaines, S.D (eds), *Encyclopedia of Tidepools and Rocky Shores*, p266-270.

PM: **Oxygen-Hypoxia-FAQ and Oxygen and Climate (2007)**
Grantahm et al (2004) Upwelling-driven nearshore hypoxia
Chan et al (2008) Emergence of anoxia in the California Current large marine ecosystem
Klimley et al (2005) The home of bluewater fish. *Am Scientist* 93:42-49
Worm et al (2005) Global patterns of predator diversity in the open oceans. *Science* 309:1365-1369
Selections from Carson, to be decided
- For 4/18: AM: **Gilly (2005)** Spreading and stranding of Humboldt squid (on CD)
McEvoy (1996) Historical interdependence between ecology, production, and management in the California fisheries (on CD; *optional*)
Field & Francis (2006) Considering ecosystem-based fisheries management in the California current (on CD)
PM: **Springer et al. (2003)** Sequential megafaunal collapse in the North Pacific Ocean: an ongoing legacy of industrial whaling? (on CD)
DeMaster et al. (2006) The sequential megafaunal collapse hypothesis: Testing with existing data (on CD)
Jaramillo-Legorreta et al. (2007) Saving the vaquita: Immediate action, not more data (on CD)

Oral Presentations: Intertidal transects –Tues, 15 April

Holistic Biology 2008: Week 4

	Mon APRIL	Tues	Wed	Thurs	Fri	
20	<p>21</p> <p>0900 Sea of Cortez (E. Ezcurra, SDNHM) – not confirmed</p> <p>1030: <i>The Log from the Sea of Cortez</i> (Ch.1-8): Departure and Arrival (SS)</p> <p>1300 Agriculture and the history of the nitrogen cycle (B. Shillinglaw, Stanford)</p> <p>1430 Wheat, microbes and mesopelagic biology in the Sea of Cortez (M. Beman, USC)</p>	<p>22</p> <p>1900 Squid in the Sea of Cortez (WG)</p> <p>1030 Discussion: Class research activities in Baja</p> <p>1300 Holistic research and management of fisheries in the Gulf of California (R. Cudney, Packard Foundation)</p> <p>1500 Discussion: Folly, tragedy and connections, in the real world</p>	<p>23</p> <p>0900 Aquaculture adventures (P. Molyneaux)</p> <p>1030 Aquaculture (?? Stanford) – <i>not confirmed</i></p> <p>1200: Book Group Lunch: Sustainable Aquaculture? <i>Swimming in Circles</i>, with Paul Molyneaux</p> <p>1400 Discussion: Class research activities in Baja</p>	<p>24</p> <p>0900 <i>The Log from the Sea of Cortez</i> (Ch.9-14): Exploration and Transcendence (SS)</p> <p>1030 Reef fishes and fisheries of Baja (O. Aburto UCSD)</p> <p>1300 Fisheries and conservation in Baja (O. Aburto UCSD)</p> <p>1530 Environmental future and Center for Ocean Solutions (M. Caldwell, Stanford)</p>	<p>25</p> <p>0900 Field Trip – Monterey Maritime Museum (T. Thomas)</p> <p>1200 Conservation Biology seminar/lunch (B. Gold, Moore Foundation)</p>	26

Assigned Reading

For 4/21: AM: Ezcurra, to be decided

Steinbeck, *The Log From the Sea of Cortez* (Ch. 1-8)

PM: Shillinglaw, to be decided

For 4/22: AM Beman et al. (2005) Agricultural runoff fuels large phytoplankton blooms in vulnerable areas of the ocean (on CD)

Yaqui Valley material (handout)

Gilly (2007) Horizontal and vertical migrations of *Dosidicus gigas* in the Gulf of California revealed by electronic tagging (on CD)

Gilly and Markaida (2007) Perspectives on *Dosidicus gigas* in a changing world (on CD)

PM: Hardin (1968) The tragedy of the commons (on CD)

“The Place, the Region and the Commons”, G. Snyder, in Sessions, *Deep Ecology*

“Pursuit of Policy Contrary to Self-Interest”, in *March of Folly*- Tuchman (handout)

For 4/23: AM: to be decided

PM: Molyneaux, *Swimming in Circles*

For 4/24: AM: *The Log From the Sea of Cortez* (Ch. 9-14)

Aburto (2006) _A marine reserve network for the Gulf of California (on CD)

PM: Caldwell, to be decided

Writing or Oral Presentation

To be decided

Holistic Biology 2008: Week 5

	Mon APRIL	Tues	Wed	Thurs MAY	Fri	
27	<p>28</p> <p>0900 Revisiting the Sea of Cortez -- SOCEEP 2004 and 2006 (WG/Nancy Burnett)</p> <p>1030 and Lunch: Back ground research reports on Isla Santa Catalina, Yaqui Valley, Agiabampo</p> <p>1400 Law, policy, science (B. Thompson, Stanford)</p> <p>Prep work afterward</p>	<p>29</p> <p>0900 <i>The Log from the Sea of Cortez</i> (Ch.15—29) (SS)</p> <p>1030 Discussion: Class research activities in Baja</p> <p>130: Loreto and Baja missions (SS)</p> <p>1430 Mexican art and music (TBA)</p> <p>Prep work afterward</p>	<p>30</p> <p>0900 Visual media and film (J. Burton-Carvajal, UCSC)</p> <p>1030 Film – <i>Forgotten Village</i></p> <p>1200 Lunch: Discussion of film and Ricketts’s “Antiscript”</p> <p>1400: Midterm exam</p> <p>Prep work/Packing</p> <p>2000: Truck depart</p>	<p>1</p> <p>0900 <i>The Pearl</i> (SS)</p> <p>1100: Film – <i>The Pearl</i></p> <p>1300 Lunch: Discussion of film</p> <p>1800: Truck arrive Sta Rosalia</p>	<p>2</p> <p>1500: Truck arrive La Paz</p>	3

Readings

For 4/28: AM: Sagarin et al., 2008 Remembering the Gulf: changes to the marine communities of the Sea of Cortez since the Steinbeck and Ricketts expedition of 1940 (on CD)
Thompson; to be decided

For 4/29: PM: *The Log From the Sea of Cortez* (Ch. 15-24)

Oral Presentations

Research on Mexico destinations – Monday, April 28

Holistic Biology, Spring 2008. Mexico Component -- May

Sun	MAY	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2	3
4	Travel to La Paz Overnight La Paz	5 CIBNOR classes Overnight La Paz	6 CICIMAR classes Overnight La Paz	7 (-37cm; 0542) 0600 Playa Calerita field work 1300 Board Don Jose 1600 Arrive Pt. Lobos, Espirtu Santu	8 (-29cm; 0637) 0600 Pt. Lobos transects 1000 – depart for Isla Cayo; snorkel at Los Isoltes enroute	9 (-33cm; 0739) 0600 Cayo transects 1300 Amortrajada mangroves in panga and lagoon on foot.	10 (-25cm; 0831) 0700 Isla San Francisco – boulder transect 1100 Depart for snorkeling stop. Swap personnel at San Evarista
11 (-16cm; 0928) 0600 Transit to Topolobampo, CTD transect enroute	12 (-6cm; 1029) Pelagic work off Topolobampo Day: CTD casts, phytoplankton tows Night: zooplankton tows, squid jigging and tagging.	13 (-4cm; 1128) Pelagic work: Topolobampo to Agiabampo	14 Pelagic work: Agiabampo to Yavaros	15 Transit to Puerto Escondido. CTD transect enroute Switch from Don Jose to Pez Sapo at Pto. Escondido	16 Transit to Isla Santa Catalina and make camp. OPEN Camp on Catalina	17 AM: Explore Catalina on land PM: Panga and snorkle exploration Night: Squid Camp on Catalina	
18 Subtidal fish survey (snorkel) Camp on Catalina	19 AM: Inspect rocky intertidal PM: Subtidal fish and invertebrate survey (snorkel) Camp on Catalina	20 (-34cm; 0503) 0600 Explore Catalina intertidal 0800 Transit to Puerto Escondido (if necessary) 1300 Transit to Santa Marta and make camp	21 (-37cm; 0534) 0600 Pta. San Francisco intertidal transects PM: OPEN Camp at Santa Marta	22 (-36cm; 0607) 0600 Pta. San Francisco intertidal transects PM: OPEN Camp San Marta	23 (-33cm; 0641) 0600 Pta. Marcial intertidal transects PM: OPEN Camp Santa Marta	24 (-28cm; 0717) 0600 Pta. Marcial intertidal transects. PM: Transit to Puerto Escondido Overnight on boat	
25 (-21cm; 0754) 0800: Vans to San Javier PM: Loreto mission Overnight Loreto	26 AM: Bus to Sta. Rosalia Overnight Sta Rosalia	27 0900 Ferry or plane to Guaymas Meet M. Morelli, San Carlos Overnight San Carlos or Guaymas	28 Yaqui Valley by van Overnight hotel	29 Yaqui Valley – Agiabampo by van Overnight Naopatia	30 Agiabampo by van Overnight Naopatia	31 Return to Guaymas or San Carlos , overnight there June 1: Free Return to CA 2 June	