Cynthia Button

Scripps Institution of Oceanography
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EDUCATION

2002-9/2008 (projected) PhD candidate - Oceanography, Scripps Institution of Oceanography, UC San Diego
228 Quarter Hours
GPA: 3.6 out of 4.0

2000 B.S. Zoology, University of Washington
224 Quarter Hours
GPA: 3.3 out of 4.0

1994 High School Diploma, Roosevelt High School, Seattle, Washington

DOCTORAL DISSERTATION

Low-density population dynamics of benthic broadcast-spawning marine gastropods
2002-2008 (projected completion)

RELEVANT GRADUATE-LEVEL COURSEWORK

- Fisheries Oceanography
- Quantitative Ecology
- Ecological Modeling
- Computer Intensive Statistics
- Experimental Design in Marine Ecology
- Descriptive Statistics for Ecology using R

RELEVANT UNDERGRADUATE-LEVEL COURSEWORK

* = courses required independent research-based projects

- Special Problems in Zoology 1999, 2000*
- Marine Invertebrate Zoology*
- Marine Botany*
- Biology of Fishes
- Introductory Oceanography
- Marine Conservation
- Field Ornithology*
- Principles of Ecology
- Comparative Animal Behavior
- Introductory Plant Biology
- Introductory Probability and Statistics*
- Introductory Cellular and Molecular Biology
- Introductory Genetics
- Excel and Web Developing
- Introductory & Intermediate Photography
- Physical Geography
- Maps and GIS

Special Problems in Zoology – 1999, 2000
Life History Stages of Syllid Polychaetes

- Documented the diversity of pelagic reproductive stages of benthic syllid polychaetes
- Observed the transitional stages between reproductive and non-reproductive stages for the purpose of identification.
- Reared larvae and recorded developmental stages as written descriptions with corresponding photographs

- Presented the results at a national conference in January 2002.

Independent Fieldwork 1996
Polluted Waters Project – Puget SoundKeeper's Alliance

- Identify potential sources of pollution on local creeks and rivers that had been designated by the Department of Ecology as polluted.
- Create a map of the watershed and an accompanying report outlining troubled and healthy stretches of the waterway.
- Interact with local governmental agencies, non-profit organizations, and citizens to compile knowledge of the waterways and to increase awareness.
- Recruit college interns and guide them through the data collection and reporting process
- Hiked the riparian zones to verify existing knowledge.
- Contributed two maps to the larger project: Longfellow Creek, Seattle, Washington and Joe's Creek, Federal Way, Washington. These maps and reports are available at the Puget SoundKeeper's Alliance office in Seattle, Washington.
- Coordinated the efforts of five additional interns

WORK EXPERIENCE

Doctoral Candidate – Marine Biology
Supervisor: Paul K. Dayton
Scripps Institution of Oceanography
La Jolla, CA 92093
9/2002 - 8/2008 (projected completion)
DUTIES

- Develop a large-scale research plan and present the plan to a committee for approval
- Write grant applications, including multi-year budgets, to acquire funds for the research plan
- Provide regular progress reports on data assembly and analysis
- Present the results as written reports and verbal presentations at local, regional, and international conferences
- Submit written reports for publication in peer-reviewed journals.

ACCOMPLISHMENTS

- Presented research results at 7 venues in the last 5 years.
- Communicated controversial findings to professional scientists, fishermen, policymakers, and local shell enthusiasts.
- Developed and maintained working relationships with scientists at the California Department of Fish and Game (CDFG), the Southwest Fisheries Science Center, and the Channel Islands National Park as well as with urchin fishermen in both San Diego and Santa Barbara.
- Acted as the team leader on subtidal surveys involving biologists from CDFG and the UC Davis scientific diving class.
- Trained and mentored multiple volunteers to help with research both indoors and outdoors.

- Conducted multi-week out-of-town field surveys.

RELATED SKILLS
- Strong foundation in biology, ecology, and oceanography
- Familiar with population survey methods, including both spatial and demographic data collection techniques
- Population modeling
- Computer intensive statistics

Research Technician
Supervisor: Dr. Megan Dethier
Friday Harbor Laboratories, University of Washington
Friday Harbor, WA
6/2000 -6/2002
DUTIES
- Assist on multiple projects ranging from intertidal to subtidal ecological surveys, which included an ongoing collaboratory survey with the Washington State Department of Natural Resources (DNR).
- Assist in both field and lab experiments
- Act as computer support for the principal investigator

ACCOMPLISHMENTS
- Developed a project website, explaining the scope of the study and providing data from the study sites
- Created a map of the study sites for publication, and images for a presentation given at a regional conference.
- Created an illustrated guide to aid in the identification of juvenile clams of Puget Sound that is still used by DNR today in the collaborative survey.

RELATED SKILLS
- Experience with collection techniques in subtidal, intertidal, and pelagic zones.
- Familiarity with sandy, muddy, rocky, and salt marsh habitats and organisms
- Comfortable using keys to identify polychaetes, amphipods, crabs, and clams
- Proficient using dissecting, compound, and scanning electron microscopes
- Proficient with both Mac and PC systems and software
- Data analysis and graphing using MS Excel, Matlab, SigmaPlot
- Web Development
- Photo manipulation and analysis using Adobe Photoshop, PowerPoint, NIH Image, iMovie, and Quicktime

HONORS / AWARDS
- Wyer Fellowship 2007
- Halliday Field Research Grant 2007
- Hicks Fellowship 2007-2008
- Coastal Environmental Quality Initiative Graduate Fellowship 2006

- Western Society of Naturalists, Best Student Poster Award 2004
- Dr. Mia J. Tegner Fund Research Grant 2003, 2004
- Edna B. Sussman Internship Funding 2002-2005

ADDITIONAL LEADERSHIP ACTIVITIES

- Guest instructor – University of San Diego, 2008
- Guest instructor – University of California, San Diego, 2008
- Diving Safety Control Board Student Representative, Scripps Institution of Oceanography, 2003-2007
- Species ID Club Coordinator, Scripps Institution of Oceanography, 2005
- Teaching Assistant, University of California - San Diego, 2006
- Teaching Assistant, Friday Harbor Laboratories, 2001 & 2002
- Intern Coordinator - Polluted Waters Project, Puget Soundkeeper's Alliance, 1996-1997

RELEVANT PRESENTATIONS & PUBLICATIONS

(Catton) Button, C. (2007) Population biology of two broadcast-spawning gastropods. *San Diego Shell Club meeting.* January, 2007.

(Catton) Button, C. (2006) Current status of a pink abalone population near San Diego, CA. *California Sea Urchin Commission meeting.* December, 2006.

(Catton) Button, C. (2006) Current status of a pink abalone population near San Diego, CA. *Western Society of Naturalists conference.* November, 2006.

Catton, C. (2005) Temperature effects on the larval duration of the Wavy Turban Snail, *Megastraea undosa* (Wood, 1828) (Gastropoda: Turbinidae). *Society of Integrative and Comparative Biology conference.* January, 2005.

Catton, C., Haaker, P, and I. Taniguchi (2004) Is density an effective population evaluation criterion for aggregative species? A Case study of a pink abalone, *Haliotis corrugata,* population near San Diego, California. *Western Society of Naturalists conference.* November, 2004.

Catton, C. (2003) Exploited invertebrates from southern California kelp forests: Considerations for management and conservation. *Center for Marine Biodiversity and Conservation conference.* December, 2003.

Catton, C. and L. Krueger (1997) Longfellow Creek. From: *Polluted Waters Report*. Puget SoundKeeper Alliance. 1997

Catton, C. and K. Anthony (1997) Joe's Creek. From: *Polluted Waters Report.* Puget SoundKeeper Alliance. 1997.

MANUSCRIPTS (in preparation)

- Population- and aggregation-level characteristics of a pink abalone *Haliotis corrugata* population near San Diego, CA
- Modeling growth and survival rates for the pink abalone *Haliotis corrugata*
- Density-dependent egg production of red abalone *Haliotis rufescens*
- The use of distance methods to assess low-density abalone populations
- Reproductive ecology of the wavy top turban snail *Megastraea undosa*
- Population- and aggregation-level characteristics of a wavy top turban snail population near San Diego, CA

- Depth distribution of newly-settled wavy top turban snails in the Pt. Loma kelp forest

REFERENCES

Paul Dayton – Doctoral advisor
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University of California – San Diego
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James Leichter – Doctoral advisor
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Laura Rogers-Bennett – Doctoral committee member
California Dept. Fish and Game
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