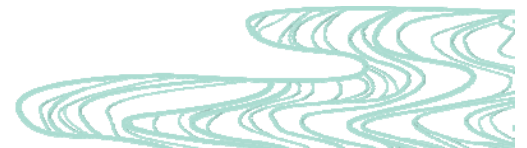


# **Assessing the Role of Scientific Information in Sanctuary Management**

Lauren E. Garske  
University of California, Davis

*ONMS • Fall 2010*

**PhD candidate** field biologist SCUBA diver  
*interdisciplinary scientist* **Marine Ecologist** naturalist  
**Galapagos seaweed expert** nearshore oceanographer  
collaborator coastal resident *UCSC Banana Slug*  
green thumb *environmental chemist* **traveler**  
**volunteer** independent contractor educator  
lab manager *concerned citizen* research coordinator  
evolving social scientist UCD Aggie water athlete  
**islander** science interpreter **2009 Foster Scholar**



An aerial photograph of a coastal town, likely Davis, California, situated on a peninsula. The town is densely packed with buildings and greenery. In the foreground, a long pier extends into the dark blue water of the bay. The background shows rolling hills and mountains under a cloudy sky.

**University of California, Davis  
Graduate Group in Ecology  
Department of Environmental Science & Policy**

**... and Bodega Marine Laboratory**

**... and fieldwork in the Monterey Bay!**



An aerial photograph of a coastal town and harbor. The town is densely packed with buildings and greenery, situated on a hillside overlooking the water. A large pier extends into the harbor. The sky is overcast with grey clouds. The text is overlaid on the image in various colors and sizes.

# DISSERTATION: 'Zones of Impact'

## HUMAN COMPONENT

small-scale river runoff

environmental chemistry

kelp forest ecology

nearshore oceanography

*photo courtesy of MBNMS*

An aerial photograph of a coastal town, likely Victoria, British Columbia, Canada. The town is densely packed with buildings and greenery, situated on a peninsula. A large pier extends from the town into the harbor. The water is a deep blue-grey color, and the sky is filled with large, white clouds. The overall scene is a mix of urban development and natural coastal features.

# DISSERTATION: 'Zones of Impact'

## *DISSERTATION COMMITTEE:*

*Dr. John Largier – Coastal Oceanographer*

*Dr. Peter Green – Environmental Chemist*

*Dr. Mark Lubell – Political Scientist*

*photo courtesy of MBNMS*






Dr. Foster was a former Director of NOS & NMSP.


- supports graduate students in marine science, particularly women & minorities
  - tuition & stipend
  - research collaboration





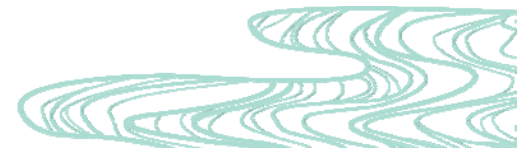
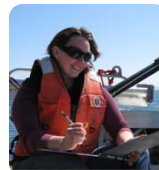
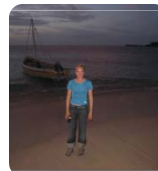
# Dr. Nancy Foster Scholarship Program

"I will never forget I didn't do it alone—  
it was a combination of hard work, luck  
and a helping hand along the way."



Dr. Nancy Foster Home

About the Scholarship How to Apply This Year's Scholars



# What I am doing here?

ONMS Collaboration

...and part of my dissertation research!

“SCIENCE MATTERS TO SOCIETY“

...but it has to be relevant

...and it has to be accessible

...and it is only one facet of consideration





# How do scientists share their knowledge?

*Ecological Applications*, 13(1) Supplement, 2003, pp. S170-S184  
© 2003 by the Ecological Society of America

**APPLYING ECOLOGICAL CRITERIA TO MARINE RESERVE DESIGN:  
A CASE STUDY FROM THE CALIFORNIA CHANNEL ISLANDS**

SATIE AIRAMÉ,<sup>1</sup> JENIFER E. DUGAN,<sup>2</sup> KEVIN D. LAFFERTY,<sup>3</sup> HEATHER LESLIE,<sup>4</sup>  
DEBORAH A. MCARDLE,<sup>5</sup> AND ROBERT R. WARNER<sup>6</sup>

Global Change Biology (2009), doi: 10.1111/j.1365-2486.2009.02117.x

**El Niño, grazers and fisheries interact to greatly elevate  
extinction risk for Galapagos marine species**

GRAHAM J. EDGAR<sup>\*\*†‡</sup>, STUART A. BANKS<sup>\*</sup>, MARGARITA BRANDT<sup>\*</sup>, RODRIGO H.  
BUSTAMANTE<sup>§</sup>, ANGEL CHIRIBOGA<sup>\*</sup>, SYLVIA A. EARLE<sup>¶</sup>, LAUREN E. GARSKE<sup>||</sup>,  
PETER W. GLYNN<sup>||</sup>, JAMES GROVE<sup>††</sup>, SCOTT HENDERSON<sup>‡‡</sup>, CLEVE P. HICKMAN<sup>§§</sup>,  
MARGARITA MORA<sup>\*|||</sup> and GERALD M. WELLINGTON<sup>\*\*\*</sup>

August 2000

*Ecological Applications*, 10(4), 2000, pp. 1047-1056  
© by the Ecological Society of America

**MANAGING THE LAND-WATER INTERFACE** 1047

**EFFECT OF HUMAN DEVELOPMENT ON BACTERIOLOGICAL  
WATER QUALITY IN COASTAL WATERSHEDS**

MICHAEL A. MALLIN,<sup>1</sup> KATHLEEN E. WILLIAMS,<sup>1</sup> E. CARTIER ESHAM,<sup>2</sup> AND R. PATRICK LOWE<sup>3</sup>

Environment and Development Economics 13: 1-20 © 2008 Cambridge University Press  
doi:10.1017/S1355770X07004019 Printed in the United Kingdom

**Key issues for attention from ecological  
economists<sup>1</sup>**

PAUL R. EHRLICH

Available online at www.sciencedirect.com  
**ScienceDirect**  
Desalination 220 (2008) 1-15  
www.elsevier.com/locate/desal

**DESALINATION**

Environmental impact and impact assessment  
of seawater desalination

Sabine Lattemann, Thomas Höpner

Often disconnected from the management and policy processes

# THIS ecologist delves into social science to answer questions about science...

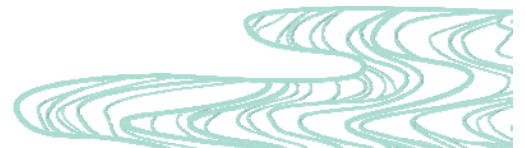
*How does scientific information (SI) play a role in management & policy decisions?*

- Initial focus on coastal water quality networks
- Since extended to ONMS & advisory councils (all 14 sites!)



# Research Goals

1. Evaluate the flow of SI through advisory councils as well as its valuation and use where recommendations are made to sanctuary managers
2. Assess how sanctuary managers value and use council recommendations along with their own understanding of the SI
3. Identify conditions under which SI can facilitate collaboration and improve the effectiveness of sanctuary management





# Why does it matter?

## LOCALLY

- Improve the overall understanding & effectiveness of sanctuary management
  - across multiple spatial scales &/or characteristics
  - advisory council-NMS feedback loops
- Potential to highlight advisory councils & ONMS as a model system for incorporating stakeholders and science



# Why does it matter?

## GENERALLY

- Inform current lack of academic understanding about the role of SI in resource management decisions
  - tool facilitating collaborative action
  - extent to which it is useful/valuable
- Offer perspective to scientists seeking to improve their communication of relevant findings to appropriate audiences



# The Details

## Stage 1: Observational Visits

- West Coast Region (5 sites)

## Stage 2: Introductory Visits & Interviews

- introduce self & research
- exploratory interviews w/ advisory council members and NMS staff (n ~ 10)

## Stage 3: Online Survey

- all council members, relevant NMS staff, and relevant working groups





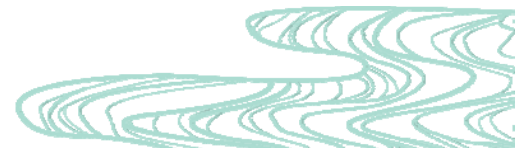
# My 'Sanctuaries Tour'

1. Olympic Coast
2. Thunder Bay
3. Gulf of Farallones
4. Stellwagen Bank
5. Monitor
6. Fagatele Bay
7. Flower Garden Banks
8. Cordell Bank
9. Channel Islands
10. Monterey Bay
11. Florida Keys
12. Hawaiian Islands Humpback Whale
13. Gray's Reef
14. Papahānaumokuākea Monument



# My 'Sanctuaries Tour'

1. Olympic Coast
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14. Papahānaumokuākea Monument



# What ACs & ONMS get out of it...

## INITIALLY

- my gratitude!!!
- an opportunity to share your individual perspective

## PRODUCTS

- preliminary results @ 2011 SAC Summit
- official report to ONMS & SACs
- publication as a chapter of my dissertation
- publication in academic journal(s)





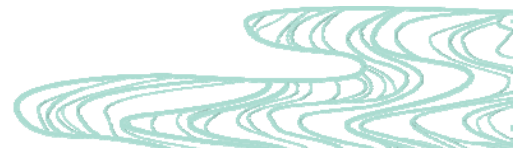
# How you can help...

## Stage 2: Interviews (Sept 2010 – Jan 2011)

- standardized – across all sites
- selected – by site & perspectives
- offered – ANY staff or council member who is interested

## Stage 3: Online Survey (March 2011)

- ALL council members, including alternates
- key NMS staff (local, regional & national)
- key working groups



# Confidentiality & Time

Interviews & survey responses are considered, saved and reported on anonymously.

Questions can always be skipped or discussed off-record by your choice.

- Interview: 30-60 minutes
- Survey: 30 minutes



# QUESTIONS?

LAUREN E. GARSKE

[legarske@ucdavis.edu](mailto:legarske@ucdavis.edu)

(707) 537-5640

