

Assessing the Role of Scientific Information in Sanctuary Management

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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
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 long 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. In the background, there are mountains under a cloudy sky. The text 'DISSERTATION: 'Zones of Impact'' is overlaid in a large, bold, dark blue font at the top of the image.

DISSERTATION: 'Zones of Impact'

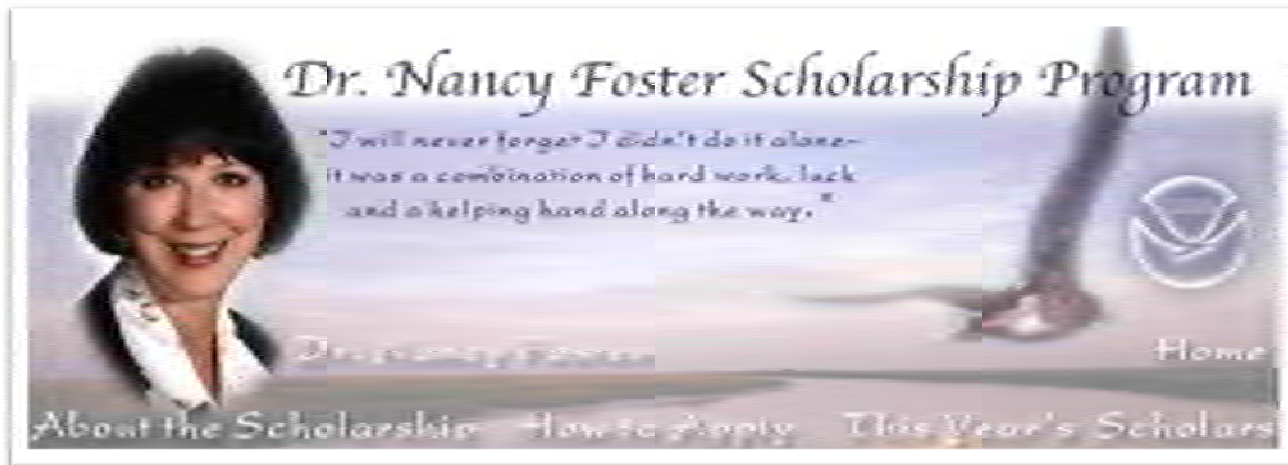
DISSERTATION COMMITTEE:

Dr. John Largier – Coastal Oceanographer

Dr. Peter Green – Environmental Chemist

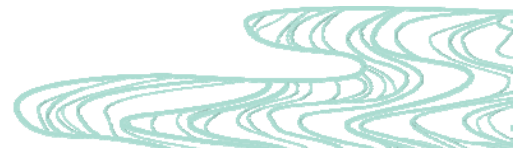
Dr. Mark Lubell – Political Scientist

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



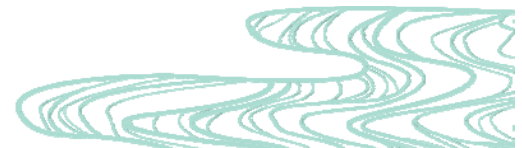
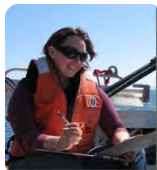
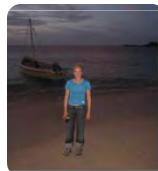
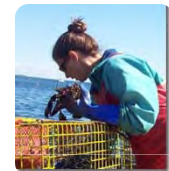
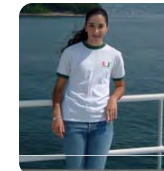
Dr. Nancy Foster Scholarship Program

*"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

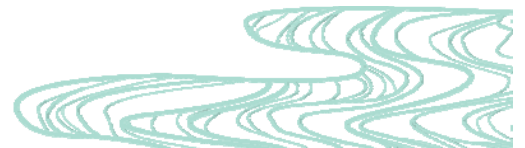
...and part of my dissertation research!

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

SATIE AIRAMÉ,¹ JENIFER E. DUGAN,² KEVIN D. LAFFERTY,³ HEATHER LESLIE,⁴
DEBORAH A. McARDLE,⁵ AND ROBERT R. WARNER⁶

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^{††}, STUART A. BANKS^{*}, MARGARITA BRANDT^{*}, RODRIGO H. BUSTAMANTE[§], ANGEL CHIRIBOGA^{*}, SYLVIA A. EARLE[¶], LAUREN E. GARSKE^{||}, PETER W. GLYNN^{||}, JAMES GROVE^{††}, SCOTT HENDERSON^{‡‡}, CLEVE P. HICKMAN^{§§}, JENNIFER K. JENSEN^{†††}, JENNIFER M. KIRBY^{†††}, JENNIFER M. MORA^{*}, ||| and GERALD M. WELLINGTON^{***}

August 2000

Ecological Applications, 10(4), 2000, pp. 1047-1056
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MANAGING THE LAND-WATER INTERFACE 1047

EFFECT OF HUMAN DEVELOPMENT ON BACTERIOLOGICAL WATER QUALITY IN COASTAL WATERSHEDS

MICHAEL A. MALLIN,¹ KATHLEEN E. WILLIAMS,¹ E. CARTER ESHAM,² AND R. PATRICK LOWE³

Environment and Development Economics 13: 1-20 © 2008 Cambridge University Press
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Key issues for attention from ecological economists¹

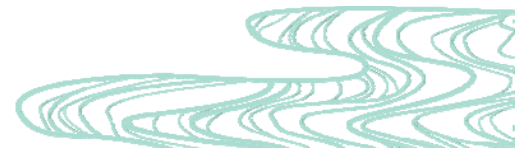
PAUL R. EHRLICH

Available online at www.sciencedirect.com
ScienceDirect
Desalination 226 (2008) 1-15
www.elsevier.com/locate/desalination

DESALINATION

Environmental impact and impact assessment of seawater desalination
Sabine Lattenmann, Thomas Höpner

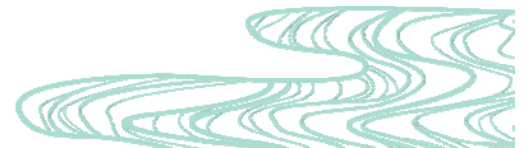
Often disconnected from the management and policy processes



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

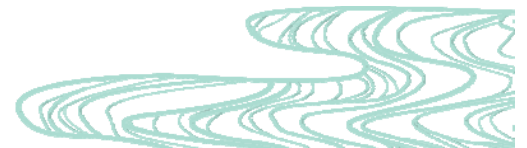
How does scientific information (SI) play a role in management & policy decisions?

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



Research Goals

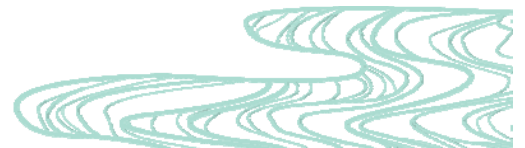
1. Evaluate the flow of SI through advisory councils as well as its valuation and use where recommendations are made to sanctuary managers
2. Assess how sanctuary managers value and use council recommendations along with their own understanding of the SI
3. Identify conditions under which SI can facilitate 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 Island Humpback Whale
13. Gray's Reef
14. Papahānaumokuākea Monument



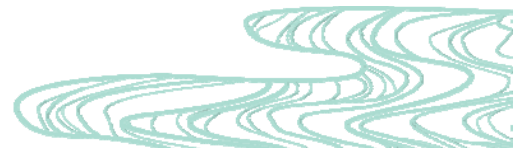
What ACs & ONMS get out of it...

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)



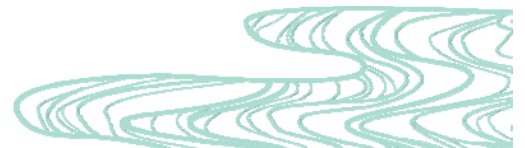
How you can help...

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

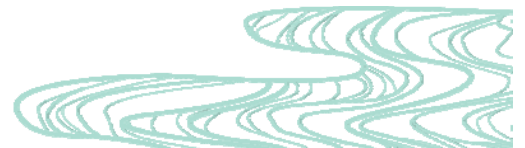


Confidentiality & Time

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?

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