



TCS Bulletin
Volume 25 (3-4) 2003

Ecosystem Approach to Fisheries Management Moves Forward

Prepared by Dieter N. Busch

In July 2001, the National Oceanic and Atmospheric Administration (NOAA Fisheries) and the Atlantic States Marine Fisheries Commission (ASMFC) teamed-up for the purpose of preparing a guidance document to assist fisheries management to move towards the use of an ecosystem-based resource management approach. In order to be in compliance with the Federal Advisory Committee Act (1971), this activity was carried out under the Marine Fisheries Advisory Committee (MAFAC). The process relied on input from members of an interdisciplinary Technical Committee under the guidance of an interagency Ecosystem Approach Task Force, led by W.-Dieter N. Busch (ASMFC and NMFS contractor), Bonnie L. Brown (VA Commonwealth University), and Garry F. Mayer (NOAA Fisheries/HC). Initial input and guidance were obtained through a workshop; further guidance and comments on the five iterations of the draft document were received through emailed circulations and comment periods; draft materials were also presented at a special symposium at the annual meeting of the American Fisheries Society (2002) and seven other conferences/workshops.

The report, *Strategic Guidance for Implementing an Ecosystem-based Approach to Fisheries Management*, was completed and accepted by MAFAC in May 2003 for transmittal to the Secretary of Commerce. Copies of this report may be obtained from the MAFAC webpage or from www.EIAdvisoryServices.com. Selected topics from the *Strategic Guidance* are summarized below.

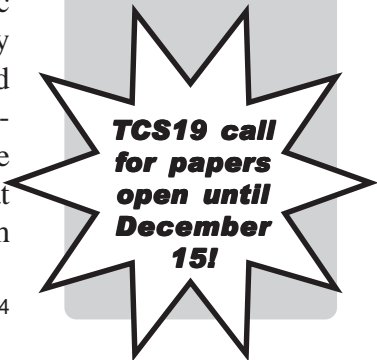
Policy Challenges

The development of the *Strategic Guidance* builds on the process started by the Interagency Ecosystem Management Task Force (1995) and the Ecosystem Principles Advisory Panel (1999). The ecosystem-based approach is a return to the holistic philosophy expressed in the Public Trust Doctrine and also in the resource husbandry promoted by the concept known as "Traditional Knowledge." The ecosystem-based approach reemphasizes these guiding principles; all who use or *take* the natural resources must also *take care of* them. However, since the responsibility to take care of the resources has been separated and assigned to various governmental agencies at the state and federal levels, the task of moving towards an ecosystem-based approach in fisheries management faces numerous obstacles.

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**TCS19 call
for papers
open until
December
15!**

Message From the President

As 2003 comes to a close, I would just like to take a moment to thank all of the folks who have worked to make *The Coastal Society* community a little brighter. Throughout the year, dozens of you have taken time out of your busy schedules to:

- help plan our next biennial meeting ([TCS19 in Newport, RI May 23-26, 2004](#));
- lend a helping hand to a student or young professional;
- enhance the coastal dialogue by submitting news and information to *TCS Bulletin*;
- introduce TCS to other groups working on coastal stewardship issues;
- establish new chapters; and,
- educate the public about important ocean and coastal matters.

Your commitment, time, energy and resources are the raw materials that allow TCS to fulfill its goals. On behalf of the Board of Directors, I would like to thank each and everyone of you and encourage your ongoing efforts.

I hope to see you in Newport in the Spring!

John Duff

US Considers Joining Law of the Sea Treaty, Canada Ratifies

Nine years after President Clinton submitted the Law of the Sea Treaty to the United States Senate for its consideration, the Senate Foreign relations Committee convened hearings to consider the merits of joining an agreement characterized by some as a “constitution for the oceans.” On October 14 and 21, Sen. Richard Lugar chaired the committee meetings to “begin work on the resolution of advice and consent” that is necessary for U.S. accession to the Treaty.¹ Speaking on behalf of the Bush Administration, Assistant Secretary of State John F. Turner, stated succinctly at the outset of his testimony that This Administration has concluded that there are important reasons for the “United States to become a party to this Convention and to do so now.”²

In November, the Government of Canada announced its ratification of the Treaty and in so doing, became the Convention’s 144th member. Canada’s Minister of Foreign Affairs Bill Graham noted that in ratifying the Treaty, “we are affirming our belief in the application of the rule of law to our oceans,” adding “UNCLOS ratification will provide a strong foundation for Canada to continue its collaborative and innovative approach to oceans issues.”

For US testimony before the Senate Foreign Relations Committee, visit
<http://foreign.senate.gov/hearings/2003/hr031021a.html> & <http://foreign.senate.gov/hearings/2003/hr031014a.html>

For the press release on Canada’s ratification, visit
http://webapps.dfait-maeci.gc.ca/minpub/Publication.asp?FileSpec=/Min_Pub_Docs/106595.html

¹ UN Convention on the Law of the Sea Hearing, senator Richard Lugar, Opening statement (October 14, 2003)
<http://foreign.senate.gov/testimony/2003/LugarStatement031014.pdf>

² Testimony of John F. Turner, Assistant Secretary, Bureau of Oceans and International Environmental and Scientific Affairs before the Senate Committee on Foreign Relations (October 21, 2003) <http://foreign.senate.gov/testimony/2003/TurnerTestimony031021.pdf>

From the Editor's Desk...

Welcome to another issue of TCS BULLETIN. For those of you wondering why this issue seems a little bit bigger and a little bit late, let me explain. You last heard from us in the late summer months as we distributed the Preliminary Announcement for TCS19. The Board of Directors graciously considered the time and expense related to that important matter, and authorized the production and distribution of a slightly larger combined issue, Volume 25 (3-4), to bring our 2003 work to a close.

In this issue, the BULLETIN continues its presentation of technology issues and begins to integrate those issues into the *Measure for Measure* theme that **The Coastal Society** will highlight in 2004. Technological development allows for new and innovative means to assess our ocean and coastal environments in an effort to become better stewards of those areas and their resources. In his article on *Ecosystem Management* (page 1), Dieter Busch highlights the importance of collecting a wide range of data to work towards better management of complex marine areas. And while the brief note on *Law of the Sea Treaty* (page 2) does not specifically mention technology or the importance of measuring systems, those of you familiar with the treaty are well aware of the host of delineation and assessment provisions that constitute a foundation for jurisdiction and governance matters.

Rebecca Cooper's reflections on her internship with NOAA, *Habitat Policy Internship* (page 10), also emphasizes the need for young professionals to understand evolving technology to allow them to gauge natural environments to assess impacts and establish sound protection and mitigation efforts. As always, we have news related to TCS activities around the country as well as information on conferences, jobs, grants, and fellowships. The *Chapter Updates* (page 14) remind us of the energy and commitment of our up-and-coming coastal leaders. And the *TCS19 Call for Papers* (pages 12-13) reminds us to move quickly to submit our poster and paper ideas for the next TCS Biennial Conference.

John Duff

Corrections / Editorial Policy

TCS BULLETIN publishes articles which may represent varying perspectives on coastal issues. The views expressed in TCS BULLETIN are those of the authors and may not represent the policy of TCS or the BULLETIN. TCS BULLETIN welcomes comments as well as information about errors that warrant correction. Contact: jduff@usm.maine.edu and indicate "comment/correction: Vol. __, Issue __" in the subject line.

Wanted: Articles, Notices, BRIGHT IDEAS

As The Coastal Society reflects upon 25 years of service to coastal communities, we would like to hear from those of you who have been involved with the organization over the years.

In the coming months and issues, TCS BULLETIN will publish articles about the work of the organization and its membership (because in truth, the organization is its membership).

If you have an article that illustrates the role that TCS members have played in coastal governance, please send it along. We are also interested in articles about contemporary coastal matters. Information about upcoming conferences as well as education and training opportunity notices are always welcome. Finally, TCS BULLETIN would like to highlight innovative approaches to coastal and ocean resource stewardship. If you are involved in, or know about, a truly "bright idea" that promises to improve coastal resource management efforts, let us know.

Remember, sound governance of our ocean and coastal resources wasn't just the concept behind the formation of The Coastal Society, it is a principle of historic importance.

*He has plundered our Seas,
he has ravaged our coasts...
he has destroyed the lives of our people.
Declaration of Independence, 1776*

Submissions can be made to: jduff@usm.maine.edu or coastalsoc@aol.com.

The TCS BULLETIN is published by The Coastal Society to provide information about coastal issues and events. The Coastal Society is an organization of private sector, academic, and government professionals and students dedicated to actively addressing emerging coastal issues by fostering dialogue, forging partnerships, and promoting communication and education.

Contributions to the BULLETIN are encouraged. Inquiries about the BULLETIN of the Society should be addressed to:

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Some perceive that use of an ecosystem-based approach to fisheries management requires such a great deal of new information and may change management direction by 180° that it can not be advanced at this time. NOAA Fisheries' Fisheries Management Councils (FMC) acknowledged that more data and directions are needed, and expressed concern that the estimated cost of implementing ecosystem-based management would be high if the activity was mandated to be accomplished quickly and comprehensively. However, a more pragmatic view was also expressed by some of the FMCs that moving towards the use of an ecosystem-based approach "is a process and can be started regardless of the level of information on hand."

Key Concepts

Specific activities that are part of the main structure for moving towards use of an ecosystem-based approach include:

1. Identification of the Geographic area to be managed, its boundaries, and mapped inventory of its major characteristics (as available).

Delineating Geographic Area(s) of the Ecosystem

Most management units are identified by political boundaries. However, to delineate ecosystem boundaries, it will be important to identify the geographic ranges/areas using ecological metrics. Political boundaries usually do not match ecological boundaries, leaving the management and assessment of a system disjointed. This problem is compounded because jurisdictions and mandates operate at different temporal and spatial scales (e.g., local, state, and federal management systems). Ecosystem-based initiatives may need to include significant focus on the current condition, restoration (if needed), and sustainability of ecological parameters within the geographic area of responsibility. This would be in addition to the more common focus on sustainability of individual fish populations.

Delineating ecosystems or subsystems at various user defined scales requires a hierarchical approach. It is reasonable to start with the Large Marine Ecosystem classification and step the area down as necessary using metrics such as:

- Natural physical boundaries such as those of an estuary.
- Range of key species and the physical conditions that limit this range.
- Political boundaries of responsible jurisdictions.

2. Set goals with reference to the larger environment, including ecosystem parameters or environmental conditions (e.g., water quality) that limit fishery management options. The Guidance also includes the identification of specific elements/indicators and their application to describing the Goals and Objectives of the desired future conditions/settings of the specific geographic area to be managed.

Public support and understanding will be improved when management decisions connected to achieving desired resources goals and objectives, are clear, and based on quality information, and require management accountability. Accountability requires specific goals and quantifiable objectives. Such accountability is coming into use for terrestrial natural resource management but is not yet common in aquatic resource management. Therefore, the *Strategic Guidance* suggests the following:

- Use an open and public process, guided by historic resource structure and limitations, to develop general goals and specific objectives that describe the "desired future condition" of the ecosystem and its major component parts.
- Identify and define tolerance limits for the evolving or functional ecosystem within an acceptable range of fluctuations similar to the natural historic fluctuations.
- Develop a process for evolving policy, direction, and resource objectives as well as an institutional process for implementation strategies, integrating inputs, and evaluating outcomes.

The process of determining the goals and objectives (future desired conditions) of an ecosystem-approach to marine fisheries management requires the use of measurable characteristics related to structure, composition or functioning of the ecological system.¹ Because ecosystems are dynamic and can be unpredictable, a precautionary approach must be implemented to accommodate natural variability, our incomplete understanding of ecosystem structure and function, and other uncertainties encountered in setting ecosystem reference points, and in assessing the direct and indirect effects of anthropogenic stressors, including fishing, on natural ecosystems.² Once selected, the effectiveness of these indicator characteristics in identifying, describing, and conserving ecosystems and their natural resources must be reviewed with respect to uncertainties and unpredictability of responses to management actions. The following criteria should be considered:

- Indicators for robust and resilient single species, multi-species, and/or the more holistic ecologically functioning eco-reach.
- Descriptors or metrics that are easily understood (e.g., desired age depth, size range, geographic distribution, and abundance for species).
- Needed/required habitat areas of particular concern to support important life history functions.

Characteristics of desirable Ecosystem Indicators include:

- Be reasonably simple to compute and understand,
- Have an intuitively reasonable interpretation,
- Be discussed in a comprehensive way (statistically, mathematically and/or ecologically),
- Have some appropriate foundation in terms of an ecological theory, statistics or mathematics, and
- Be applicable to marine ecosystems, including the open oceans, the EEZ and continental shelf, and the near-shore and its watersheds.

3. Institute proactive interagency communication and coordination with other resource regulatory agencies; become familiar with their available descriptive data for the specific eco-reach, and share future planning.

Successful implementation of ecosystem-based approaches will require unprecedented changes in approach and communication. An ecosystem approach is, by design, interdisciplinary and should benefit from the coordination and cooperation of numerous agencies at all levels of government.³ The good news is that many agencies already are collecting and processing information that would provide major building blocks for implementing the ecosystem approach. However, most marine resource agencies or departments within these agencies, still focus mostly on their direct responsibilities. For example, in a recent U.S. state survey of fish and wildlife agencies, only 64 percent cooperated with their state's environmental agency.⁴ An exception is the biannual "National Coastal Condition Report⁵ which is a start in interagency cooperation dealing with marine resources; the addition of a few more trends in physical habitat and biological resources would make it even more applicable.

- Focus on interactions among constituents, understanding of the problem, team building, and trust.
- Put emphasis on "coordination and cooperation" as opposed to "control."
- Access and incorporate local and regional expertise (regionalize).

Recommendations

- Evaluate a limited number of current Fishery Management Plans with regard to ecosystem issues (delineate boundaries; set natural resource goals; establish indicators for measuring ecosystem effects; compile social and economic data; establish interagency cooperation)

Continued on page 8

*University of Massachusetts Boston
Environmental, Coastal and Ocean Sciences
(ECOS) Department
Opening for Tenure Track Assistant Professor
Fall 2004*

The **Environmental, Coastal and Ocean Sciences (ECOS)** department (<http://www.es.umb.edu>) invites applicants for one tenure-track Assistant Professor position. Applications are sought in one of two areas: (i) Environmental Risk Management/Communication, or (ii) Marine Resources Policy.

Environmental Risk Management/Communication: Applicants are expected to have expertise in public health and ecological risk protocols, risk management strategies, and a strong interest in the marine environment. The applicant should also have expertise in graphic display and information management techniques, risk and uncertainty, and, integrated environmental assessment.

Marine Resources Policy: Applicants are expected to have expertise in marine resource themes and one or more social science/public policy methodological approaches. Research themes could include, but are not limited to: coastal resource management and conservation, resource economics, integrated coastal management, comparative policy analysis and/or modeling of complex social/environmental dynamics. Preference will be given to candidates with strong quantitative skills and experience/interest in linking coastal environmental and socio-economic systems.

Applicants must have a fundamental commitment to join a multidisciplinary faculty that emphasizes linkages between the social and natural sciences. Preference will be given to candidates with a sincere commitment to interdisciplinary research, who are willing to both initiate and participate in team-based research projects, and whose research complements research by other UMB faculty. Experience in working in such an environments will be viewed positively. Applicants must have a well-conceived research and teaching program, capable of supporting graduate research through external funding. Teaching responsibilities include supervising graduate students and offering graduate courses; a desire to contribute to undergraduate teaching would also be viewed positively. A Ph.D. in a related discipline is considered a qualification for either position. Send a cover letter that includes statements of interests and goals in research and teaching, c.v., and three letters of reference to: University of Massachusetts Boston, Office of Human Resources, Search 530A, 100 Morrissey Blvd., Boston, MA 02125-3393. Application review will begin mid January 2004 and continue until position is filled. An Affirmative Action, Equal Opportunity, Title IX employer.

*University of Washington Faculty Position
School of Aquatic & Fishery Sciences, and
Director of the Western Regional Aquaculture
Center*

The School of Aquatic and Fishery Sciences (SAFS) at the University of Washington (UW) and Western Regional Aquaculture Center (WRAC) invites applications for a tenured associate or full professor position in organismal biology with application to aquaculture and fisheries. The successful applicant will share responsibilities as a faculty member in the SAFS (50%) and Director of WRAC (50%) who will articulate and infuse significant direction and vitality to the aquaculture science programs of SAFS and WRAC. SAFS-UW is a leading institution integrating graduate and undergraduate education with active research programs in both marine and freshwater environments and has abundant on-campus and off-site laboratory and field facilities. We seek to add depth to our existing organismal biology faculty who specialize in endocrinology, disease, genetics and ecology. As a professor, the successful candidate will maintain an active extramurally funded research program, advise graduate students and teach an undergraduate course.

WRAC is a USDA program that funds aquaculture related research in the Western USA. As Director of WRAC, the appointee will coordinate a granting program supporting aquaculture and ecological sciences relevant to aquaculture in the western U.S. The WRAC Director will provide leadership at the Regional and National level and act as liaison to the aquaculture and academic communities. Applicants should have a Ph.D. in the biological sciences, with a focus on organismal biology, and a proven track record in research, teaching and administration. Salary for this position is commensurate with experience. Applicants should send a letter of intent; curriculum vitae; statements of research, teaching philosophy and vision for WRAC; and names and contact information of four references to: Director, School of Aquatic and Fishery Sciences, University of Washington, Box 355020, Seattle, WA 98195-5020 USA. email: meredith@u.washington.edu. We encourage interested applicants to visit our websites (<http://www.fish.washington.edu> and <http://www.fish.washington.edu/wrac>). Review of applications begins on January 2, 2004, and will continue until the position is filled. The University of Washington is building a culturally diverse faculty and strongly encourages applications from female and minority candidates. The University is an Equal Opportunity/ Affirmative Action Employer.

Bulletin Board

Water for a Sustainable and Secure Future:

A National Conference on Science, Policy and the Environment
January 29-30, 2004
Washington, D.C.

Contact: Peter D. Saundry , Exec. Dir., National Council for Science and the Environment,
1707 H Street N.W., Suite 200, Washington, DC 20006-3918

Phone: 202-530-5810 **Fax:** 202-628-4311

E-mail: info@NCSEonline.org

URL: <http://www.ncseonline.org/NCSEconference/2004conference/>

ICZM: FACT OR FICTION?

April 21-22, 2004

University of Plymouth, Plymouth, Devon, UK.

The Conference entitled “Integrated Coastal Zone Management: Fact or Fiction?” is being held in part to respond to the European Commission’s claim that there is “the lack of organisation within the coastal science community”. The Conference aims to investigate some of the issues relating to ICZM from both the marine and terrestrial standpoints. Discussions will include climate change, conflict of use, coastal stability, local planning and coastal policy.

URL: http://www.science.plym.ac.uk/pass/PASS_ICZM.htm



May 23-26, 2004, Newport, RI

URL: <http://www.thecoastalsociety.org/conference/tcs19/index.html>

CZ Canada 2004, All Within One Ocean, Main Conference

June 27– 30, 2004

St. John's, NFLD

URL: <http://www.czca-azcc.org/English.htm>

International Conference on Coastal Conservation and Management (ICCCM2005)

April 17-20, 2005

Vilamoura, Algarve, PORTUGAL

URL: <http://icccm2005.tripod.com>

and recommended management tools. The outcomes would include improved understanding of the more common ecosystem issues that are adequately included while also identifying those challenges that are not being addressed.

- Prepare a guidance document that describes Ecosystem Indicators and their recommended use and potential limitations through participation in the 2004 SCOR/IOC activities.
- Assist in the preparation of “desired” natural resources goals, based on historic conditions and abundance and modifies by current irreversible and reversible constraints. A limited number of successful examples of proactive development of common resource Goals and Objectives, for select ecosystems or ecoreaches (estuaries) could greatly advance the implementation of an ecosystem-based approach to resource management.
- Assist in the preparation of one or more Fishery Ecosystem Plans (a comprehensive outline for preparation of an FEP is included in the *Strategic Guidance*). The FEP may be prepared at different scales such as on a broad scale for an LME or with more specific data for smaller geographic areas. The development of these FEPs should encourage the collection of all relevant information (biological, physical, and socioeconomic), processed through a logical sequence of analyses, leading to solid options.
- Assist/encourage the standardization of data collection and reporting for habitat inventories (Geographic Information System inventories and mapping of physical and chemical conditions and trends). GIS inventories are planned or underway for some offshore areas by NOAA Fisheries, NOS, and USGS. GIS mapping of coastal watersheds has been underway by USFWS.
- Regional interagency workshops may be needed to bring the various federal and state partners together in order to increase cooperation (to use the same “sheet of music”). In order for the *Strategic Guidance* to be as ecosystem-based as possible, it included informa-

tion, assessment, and/or management topics that are the responsibilities of agencies other than NMFS. The ecosystem-based approach acknowledges the need for partnerships; interagency workshops can/should be used to bring them together. New efforts (data compilation and management, new field collections) can/should be identified and prioritized at these workshops for/by each cooperating agency.

- Through pilot projects, assist and encourage the FMCs, the states, and coastal commissions’ in the preparation of goals and objectives. The resource management agencies and the public will need assistance in setting the future desired goals and quantifiable objectives, by ecoregion. The objectives will need to be in life history metrics for key species, and/or by trophic guilds, and the important habitats needed to support these populations/communities. 🐟

¹ Boehlert, G.W. 1996. Biodiversity and the Sustainability of Marine Fisheries. *Oceanography* Vol 9, No. 1 pp 28-35.

² Caddy, J. and H. Regier. 2002. Policies for Sustainable and Responsible Fisheries. In: M.K. Tolba (ed.), Vol. 4 Responding to global environmental change, pp. 343-351. In: T. Munn (Ed. In Chief) *Encyclopedia of Global Environmental Change*. John Wiley & Sons, Ltd. Chichester

³ Schrope, M. 2002. Troubled Waters. *Nature* 418:718-720.

⁴ Fisher, W.L. and J.P. Burroughs. 2003. Stream Fisheries Management in the United States: A Survey of State Agency Programs. *Fisheries* 28(2)10-18.

⁵ EPA. 2001. National Coastal Condition Report (Office of Research and Development/Office of Water, Washington, DC. 204p.

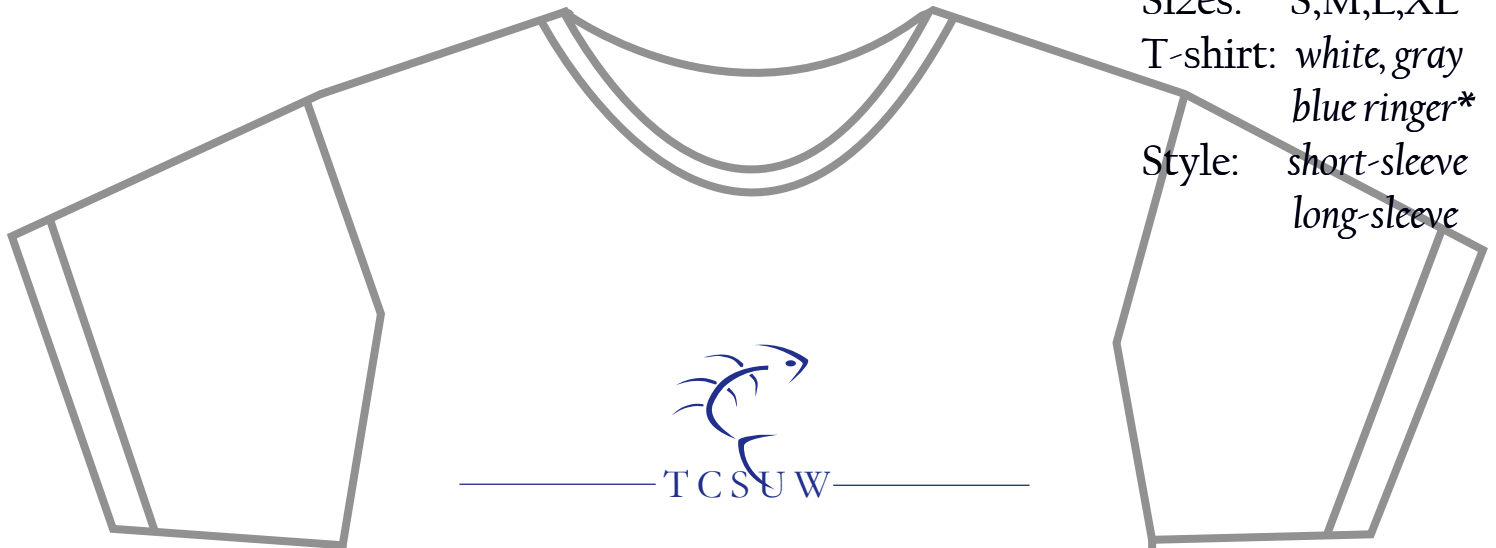


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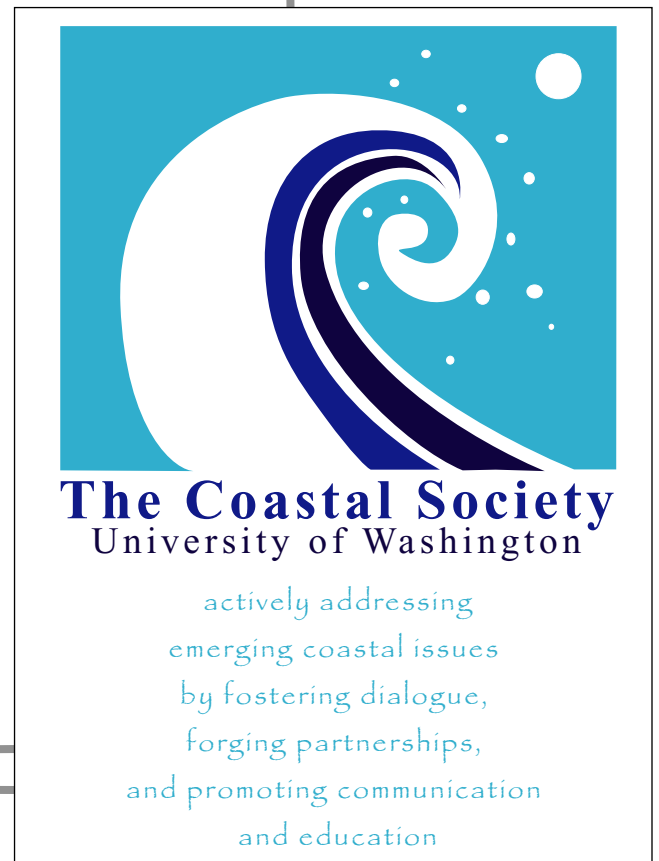


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TCSUW National Liaison
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brandon4@u.washington.edu



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*For details, see <http://students.washington.edu/tcsuw/T-shirt-front-FINAL.jpg>

Habitat Policy Internship Supplements Scientific Training (A first hand account)

by Rebecca Cooper

To satisfy the internship requirement of the Ph.D. Program in Coastal Resources Management at East Carolina University, I worked as a fishery biologist for four months in the National Oceanic and Atmospheric Administration/National Marine Fisheries Service's Office of Habitat Conservation in Silver Spring, Maryland. Besides helping to meet a requirement of my program, my internship in the Habitat Protection Division provided a paid internship opportunity that was professionally rewarding and highly educational.

One of my primary tasks was serving on and providing technical leadership to the National Wetlands Mitigation Action Plan's interagency workgroup. This group was convened in response to the National Academy of Science/National Research Council's 2001 report entitled "Compensating for Wetland Losses Under the Clean Water Act." The interagency group includes personnel from the Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Department of Agriculture, U.S. Department of the Interior's Fish and Wildlife Service, U.S. Department of Transportation's Federal Highway Administration, and NOAA. The group developed the National Wetlands Mitigation Action Plan (MAP), released in December 2002. The MAP addresses the recommendations of the NRC panel and includes several tasks to clarify mitigation guidance, integrate compensatory mitigation into a watershed context, improve compensatory mitigation accountability, clarify performance standards, and improve data collection and availability.

NOAA is serving as the lead agency on the development of guidance on the use of on-site vs. off-site and in-kind vs. out-of-kind compensatory miti-

gation. The timing of my internship corresponded well with this task, as I was able to write the task roadmap and to draft the guidance. I was also able to help organize and lead a national workshop in which personnel from each agency developed criteria to be incorporated into the draft. From participating in this process, I became familiar with the various regulations and guidance dealing with compensatory mitigation, as well as section 404 of the Clean Water Act under which such mitigation is required. Because of my role I was asked to remain involved with this project through its completion in November, 2003, including a national, stakeholder workshop in July 2003 in Portland, Oregon.

Along the same lines as the Wetlands Interagency Workgroup tasks, I also attended a forum entitled "Reconciling and Applying Assessment and Monitoring Techniques for Wetlands and Related Ecosystems" organized by the Association of State Wetland Managers. As I read over the Agenda, I realized that the world of coastal management is not as intimidating as some students believe. In fact, several members of the MAP interagency workgroup were scheduled to give talks, as well as ECU's own Mark Brinson. It was the first of several meetings scheduled in 2003 and 2004 to enable federal and state agencies to discuss their current activities and to identify any shortfalls they feel need to be addressed. While assessment of aquatic ecosystems is one of those elusive concepts that sounds good on paper yet is incredibly difficult to achieve in actuality, it is absolutely necessary to continue hammering away at it. Without assessment, there is no comprehensive monitoring, and without monitoring, the idea of achieving "no net loss" of wetlands using com-

pensatory mitigation is likely to be unsuccessful.

My internship experience was certainly not limited to wetland policy. I was also involved with a Clean Water Act Section 404(q) elevation regarding the introduction of the Asian oyster into Virginia waters of the Chesapeake Bay and Atlantic Ocean. This was an interesting experience and involved a process I never knew existed before. Before I became actively involved in the project, I thought the 'elevation' everyone was talking about was the mean height above sea level! It turned out to be something entirely different. Section 404(q) provides an administrative mechanism by which agencies commenting on proposed permits in waters of the United States can ensure that their concerns are addressed as fully as 'practicable' by the Corps before a permit is rendered. As I mentioned, the particular permit we were elevating dealt with the introduction of the Asian Oyster to conduct aquaculture viability trials. Because several of the pertinent aspects of the biology of the species are simply not known and the entire process had been initiated prematurely (e.g. the state permit had not yet been finalized), NOAA Fisheries was joined by the FWS and EPA in a joint elevation. Once the agencies decided to elevate, it became clear how quickly politics can come into play, as several conference calls were immediately arranged to negotiate permit conditions that would alleviate agency concerns. After several days of long and intense discussions, the Corps agreed to amend the permit to the satisfaction of all elevating agencies. As a result, the first batch of triploid oysters was scheduled to be introduced this year, and several safeguards have been incorporated to minimize the potential for a reproducing population to become es-

tablished. In essence, this was an experience in an ‘un’-elevation, which probably afforded me the chance to learn more about the process than I would have with a straight forward elevation.

I also became familiar with artificial reef policy through writing up comments on behalf of the Office of Habitat Conservation on a draft version of the Artificial Reef Policy of NOAA/National Ocean Service’s National Marine Sanctuary Program. My comments were fairly extensive, even though I was not very familiar with the issues involved before I began reading the document. This led into working with an interagency natural science committee, moderated by Tom Bigford, on rigs-to-reefs issues. The committee met in San Diego in early April to get the ball rolling, and I was able to participate via telephone. During the meeting, participants addressed two main topics: 1) ensuring that the committee includes sufficient diversity with regard to representation (e.g. both the Gulf and Pacific coasts); and 2) identifying the key natural science questions that need to be addressed. There was somewhat of an urgency with respect to the guidance that this group developed, as most of the 23 oil rigs in Federal waters offshore California are expected to reach the end of their producing lifespan within the next few years. Just as with the Asian oyster introduction, this is one of those arenas where politics become heavily involved, even if it is the *natural* science committee.

The Habitat Protection Division’s current largest area of activity is probably in the essential fish habitat (EFH) arena. The EFH regulations in the Magnuson-Stevens Fishery Conservation and Management Act require NOAA Fisheries to identify

EFH for federally managed species of fish. Once EFH is identified, federal agencies must consult with NOAA Fisheries on any action they are planning to take that could adversely impact EFH. Each region approached this task differently, ranging from identifying specific habitat types for specific species to sweeping designations of habitat identified for multiple species. This led to a lot of confusion and misunderstanding, as well as several lawsuits against NOAA Fisheries. Currently, almost retroactively, Environmental Impact Statements (EIS’s) are being written for the designation of EFH for selected Fishery Management Councils. As the draft EIS’s for the essential fish habitat amendments began rolling in from several regions, I was recruited to help review the Gulf of Mexico’s. Reviewing this document not only helped me become more familiar with EFH regulations, but also exposed me first hand to the NEPA process.

Finally, I was also involved in several other projects and issues, though my role was small. First, was a Coastal Zone Management Federal Consistency Appeal brought about by Islander East. They proposed to run a pipeline from Connecticut to Long Island, but Connecticut found their proposal to be inconsistent with their coastal management program. As with the 404(q) elevation mentioned above, these consistency determinations are primarily dealt with at the regional level, where personnel are in charge of developing comments on behalf of the agency. My role at the headquarters level was to ensure that comments are received and approved by the appropriate persons. Second, I did some minor revisions and compiled figures and photographs for a public document entitled “An Introduction and User’s

Guide to Wetland Restoration, Creation, and Enhancement.” Third, I coordinated with field personnel in Beaufort, North Carolina, during NOAA Ocean Service’s Office of Coastal Resource Management’s review of North Carolina’s coastal management program. Finally, I began a bibliography of references dealing with submerged aquatic vegetation along the California, Oregon, Washington, and Alaskan coasts.

I found the internship to be an incredibly valuable opportunity in terms of familiarizing myself with the application of the various laws and regulations pertaining to aquatic resource management. I felt well prepared for the tasks in which I participated. I also had the opportunity to work with a great group of individuals who took the time and had the patience to get me on board and up to speed on different projects and topics. All in all, I enjoyed my time in DC and hope that other ECU CRM students will follow in my footsteps. 🐡

TCS19 Call for Papers & Posters - New Deadline: Dec. 15, 2003

Measure for Measure: How Do We Gauge Coastal Stewardship?

- *How do we measure coastal resources and their functions?*
- *How do we gauge human impacts relative to “natural” systems?*
- *How should our assessments be used to anticipate, fashion, and govern our coastal futures?*

Please join us in Newport, Rhode Island in May 2004, to examine and discuss these challenging questions. The Coastal Society's 19th biennial conference (TCS19) will focus on how coastal managers, resource users, law and policy makers, educators and students, and other coastal community members measure and assess coastal resources, functions and human impacts.

The Coastal Society invites papers, posters and panel session proposals for TCS 19. To complement the overarching **Measure for Measure** conference theme, TCS members and other coastal constituents have identified four specific themes to organize the conference:

- **Coastal Governance**
- **Coastal Land Use**
- **Water Quality**
- **Habitat & Ecosystem-Based Management**

We invite papers, posters and panel session proposals on the social and biophysical dimensions of these themes. We encourage authors to focus on the selection, collection, analysis and use of relevant information to inform and support coastal resource management. We ask that each paper, poster or panel proposal highlight methods for measuring and assessing coastal communities and resources.

TCS19 will examine how current and emerging tools for assessing and understanding the coastal environment are uniquely perceived and utilized by scientists, educators, businesses, resource managers, politicians, policy-makers, and the media.

For each abstract, poster or panel proposal, we ask you to consider the following questions:

- *What did you measure/assess?*
- *Why?*
- *How did you measure/define the variables or factors of interest?*

Preference will be given to contributions linked addressing these questions in the context of the four themes. However, proposals for special panels or programs will be considered and are encouraged.

Additional guidance for each theme is as follows:

Coastal Governance

What is “successful” governance? Who makes decisions about the manner in which coastal areas or resources are used? What cultural, social, economic and political factors influence governance and how? Can good governance models be transferred from one area (or resource) to another? TCS19 will examine international, national, regional and local governance issues. We welcome papers addressing governmental structures as well as participatory processes. Methods of identifying management goals and integrating those goals into suitable governance models are particularly welcome.

Coastal Land Use

How do we use the land in our coastal zones? What functions do coastal lands provide? Are we loving the coasts to death? Are current laws and policies adequate and/or effective? TCS19 will examine issues regarding the manner in which coastal lands may be managed and used. We invite contributions dealing with the socio-economic, biophysical, legal and political aspects of coastal land stewardship. Particularly welcome are contributions regarding information collection and assessment systems (including GIS) that inform myriad coastal land use debates. Also welcome are contributions dealing with water-dependent industries, private property use, public access and zoning.

Water Quality

How do we assess water quality? What factors influence differentiated water quality standards and how? TCS 19 will examine the manner in which biophysical information is collected, analyzed and used in water quality program design, implementation and evaluation. We encourage contributions dealing with nutrient control efforts, non-point source programs, contaminated sediments management, oil spill damage assessment and environmental restoration. Also welcome will be discussions on approaches to measuring political will, human values (exemplified through “acceptable” baselines), economic values, and other human dimensions of this theme. Finally, we seek examples of measurement innovations applied to management and regulatory issues that may drive future program development.

Habitat and Ecosystem-Based Management

What is an ecosystem? How do we define and manage ‘essential’ or ‘critical’ habitat? What approaches can be employed to monitor ecosystems and habitat areas? Can humans effectively manage large natural systems? What roles should marine protected areas (MPAs) play? TCS19 will examine the manner in which measurement and assessment methods influence habitat and ecosystem-based management. We are particularly interested in contributions dealing with ecosystem function evaluation. We are also interested in contributions regarding the identification of threatened systems (e.g. certain wetlands or coral reefs) and the methods and processes designed to protect them.

Abstract Submission

TCS prefers online submission of abstracts. For information on **submitting your abstract, poster outline, or panel session proposal go to:**

<http://www.thecoastalsociety.org/conference/tcs19/index.html>

For questions on abstract submission, contact the **Conference Program Chair:** Becky Ellis, School of Marine Affairs University of Washington, 3707 Brooklyn Ave., NE, Seattle, WA 98105, Ph: 206-355-3400, E-mail: rae2@u.washington.edu. Please contact the theme leaders listed below for more information on particular subjects.

University of Washington Chapter News

Melissa Andersen, President
Heather D'Agnes, Vice President
Heather Brandon, National Liaison

The TCS UW Chapter Kicks Off the School Year with New Members and Events!

The Coastal Society's University of Washington Chapter started the 2003-2004 school year by welcoming old and new members! Chapter President Melissa Andersen and Vice President Heather D'Agnes highlighted the benefits of becoming a TCSUW member to a group of approximately 20 new potential members, which included UW students from departments such as Marine Affairs, Program on the Environment, Civil Engineering, and Law.

On October 13th TCSUW co-sponsored ***Critical Examination of Environmental Management in Southeast Asia*** with the School of Marine Affairs, the Jackson School of International Studies, and the Department of Anthropology. Principal Investigators of the ***Integrated Coastal Management Sustainability Research Project*** highlighted key research and presented an interdisciplinary and comparative analysis of environmental management processes and their potential for sustainability.

On October 23d, TCSUW staffed a booth at UW's ***Environmental Opportunities Fair at the Program on the Environment***. TCSUW is making the 2003-2004 school year will be an exciting one! If you are in the Seattle area, please attend one of our events and meet our chapter members. For event calendar see <http://students.washington.edu/tcsuw/events-page.html>.

And don't forget ... you can help the TCSUW Chapter send students to TCS19. Check out the Chapter T-shirt offer on page 9!

Duke University Chapter News

The Duke TCS chapter has been very active this fall semester. In addition to the triathlon (below), we hosted an internship panel in November where second year students shared their summer experiences with the first years via teleconference. Currently, we are looking forward to planning a workshop in the Spring on applied communication skills.

Third Annual Neuse River Foundation Sprint Triathlon

By Christina Hodge, TCS Duke Student
Chapter Events Coordinator

The Duke University student TCS chapter and the Duke University Marine Lab sponsored the 3rd Annual Neuse River Foundation Sprint Triathlon on September 13, 2003. This year's event far exceeded our expectations with 93 athletes taking part in the race. A swiftly falling tide nearly canceled the swim portion, but the determined racers and our excellent volunteer safety staff fought the currents and completed the 150 yard swim. The sun broke through the clouds during the 8 mile bike and 5 k run. The post-race BBQ was a huge success with burgers, hot dogs, and tasty beverages.

This year's first place winners were Chris Oishi (men's), Alexis Kingham (women's), and the team of Sarah Budishak, Blair Cowain, and Bo Rainbow. Local businesses provided great prizes such as kayak rentals and complementary dinners to our winners.

We raised over \$1,000 to benefit the Neuse River Foundation, a local organization committed to improving water quality in the Neuse River Basin. Plans are already underway for next year's triathlon. 🍌

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