

SUBMERGED AQUATIC HABITAT RESTORATION IN ESTUARIES: ISSUES, OPTIONS & PRIORITIES



Workshops
March 11–13, 2003

Mote Marine Laboratory
Sarasota, FL

Tuesday, March 11

SEAGRASS RESTORATION:
Success, Failure, and the Costs of Both

Wednesday & Thursday, March 12–13

SUBMERGED AQUATIC HABITAT RESTORATION

Wednesday, March 12

Seagrass Habitat Restoration Strategies
Seagrass Monitoring and Goal Setting
Regulatory and Mitigation Issues for Submerged Aquatic Habitats
Dredged Material Placement and Boat Dredging Impacts

Thursday, March 13

Tidal Rivers and Tributaries
Integrated Habitat Restoration
Hard Substrate Restoration

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and to all participants
for a successful and informative workshop!



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**Submerged Aquatic Restoration Workshop
March 11-13, 2003**

Workshop Summary and Identified Priorities

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Approximately 260 scientists, resource managers and regulators attended the Seagrass and Submerged Habitat Restoration Workshop, jointly convened by the four Florida National Estuary Programs and held at Mote Marine Laboratory in Sarasota, FL on March 11-13, 2003. Presentations from more than 70 scientists, engineers and resource managers experienced in the restoration of estuarine and coastal seagrass, hard bottom and tidal creek habitats, impacts from dredging and prop scars, and artificial reefs were included in the three-day workshop. The agenda and a list of participants are included with this summary, and the enclosed 2-CD set includes electronic presentations from the workshop.

Workshop participants represented a wide variety of interests and entities, as shown here (percentage of the total number of registered participants):

Academic/laboratories	12%
Local governments	12%
State agencies	29%
Federal agencies	15%
Private sector	23%
NGOs	23%

Workshop objectives were to: 1). exchange information, data and experiences of successes and failures in the restoration of submerged aquatic habitats; and 2). identify and prioritize issues and critical gaps in our understanding of the science and implementation of submerged aquatic habitat restoration techniques. Brief summaries of the ranked issues and critical gaps are included here, for the seagrass session and for the other submerged habitat session.

**SEAGRASS RESTORATION:
Implementation and Management Issues**

Several overall messages emerged from the presentations and discussions during the seagrass session, including the following:

1. Adequate site location is critical for successful seagrass planting. If seagrasses are absent from an area, it is crucial to determine why they are not currently there before planting.

2. Seagrass planting in Florida can be a viable restoration option for small-scale restoration or mitigation (such as in prop scars or following damage from groundings), given care and appropriate site location.

3. Most effective large-scale seagrass restoration in Florida (such as needed to reach long-term seagrass management and restoration goals for estuaries) has been accomplished through methods other than planting, such as water quality improvements or wave energy reductions.

In addition to presentations and posters, participants were asked to identify and prioritize critical gaps in current understanding of seagrass restoration, and in the implementation of seagrass restoration techniques. Top-ranked issues identified by the participants fell into three categories (implementation issues, regulatory issues, and research needs). A full list of issues and the number of "votes" each received is shown in Table 1. The top-ranked issues identified in each of these categories included the following:

Implementation Issues

- Standardized monitoring methods
- Coordination of water quality and SAV restoration efforts
- Effective methods for seagrass planting in disturbed high energy zones
- Long-term monitoring of restored areas and control sites
- Natural recovery vs. planting- what are the differences, benefits, issues of each?
- Cost-effective ways to generate transplants without using donor beds

Regulatory Issues

- Long-term monitoring to determine biotic community restoration, not just seagrass survival
- Consistent standards for success criteria
- Mitigation ratios: how much is enough?

Research/Data Needs

- Determine if natural recruitment is more efficient than planting to restore seagrass systems
- On-line access to seagrass restoration/transplant projects in gray, older literature, permitting and monitoring reports
- Seasonal tracking of natural beds
- Identify critical water quality levels for seagrass recolonization and sustainable populations

Clearly, monitoring the effectiveness of seagrass restoration and planting is considered a top priority, as well as determining the relative efficiency of planting versus other restoration methods such as water quality improvement and natural recruitment.

RESTORATION OF OTHER SUBMERGED HABITATS:

Implementation and Management Issues

Participants in the non-seagrass Submerged Habitat session were also asked to identify and prioritize critical gaps in our current understanding of submerged habitat restoration, and in the

implementation of restoration techniques. As for the seagrass session, top-ranked issues identified by the participants fell into three categories (implementation issues, regulatory issues, and research needs). A full list of issues and the number of "votes" each received for the non-seagrass session is shown in Table 2. The top-ranked issues identified in each of these categories included the following:

Implementation Issues

- Develop criteria/guidelines for non-SAV submerged habitat restoration
- Statewide streamlined, consistent signage for seagrass protection

Regulatory Issues

- Mitigation and restoration plans should be signed by a biologist as well as an engineer.
- Army Corps- issue a General Permit for restoration projects
- DEP- Issue a Notice General Permit for restoration projects
- Standardized monitoring guidelines for permitted projects

Research/Data Needs

- Do artificial reefs really replace the function and value of estuarine/nearshore natural hardbottom communities?
- Long-term monitoring of restoration, including relevant reference sites and sufficient funding
- Food web impacts of introducing artificial hard bottom substrates (i.e., reef balls or other materials) into areas that historically do not have hard substrates
- Value of preserving unvegetated habitats, vs. planting seagrass in all unvegetated photic zones.

Table 1. Identified Issues and Rankings from participants in the Seagrass Restoration Session. Workshop participants were asked to identify issues during the workshop. Participants then "voted" on priority issues (each participant received ten votes) from the collated list. Total number of votes received for each issue is indicated in brackets.

Implementation Issues

- [49] Standardized monitoring methods
- [46] Coordination of water quality and SAV restoration efforts
- [45] Effective methods for seagrass planting in disturbed high energy zones
- [44] Long-term monitoring of restored areas and control sites
- [39] Natural recovery vs. planting- what are the differences, benefits, issues of each?
- [38] Cost-effective ways to generate transplants without using donor beds
- [27] Cost-effective ways to control stormwater as prevention
- [14] Effective control of bioturbation
- [13] Plant material sources
- [12] Determine conditions under which it works to harvest seeds and broadcast directly
- [12] Enhanced local site selection criteria
- [11] Offshore bar restoration as a seagrass restoration technique
- [10] Improved low cost restoration methods
- [10] Cost per acre to replace seagrass - total costs, not just construction
- [10] Determination of best methodology for grass planting
- [8] Site selection criteria
- [7] Successful and economic mapping methods
- [6] Funding for implementation
- [4] Site selection: classification of zones by potential impact or climate change
- [2] Evaluation of prop scar planting methodologies
- [1] R&D costs are high for new planting methods
- [1] Cost effective methods for seagrass planting- comparison

Regulatory Issues

- [50] Long-term monitoring to determine full biotic community restoration, not just seagrass survival
- [44] Consistent standards for success criteria
- [34] Mitigation ratios: how much is enough?
- [26] Enforce protections of newly restored areas
- [26] Quantify secondary impacts to seagrass as a result of dredging impacts
- [27] Interagency coordination in permitting
- [20] How to determine when functional losses have been replaced
- [18] Defined and standardized regulatory success criteria
- [16] Rule-making, enforcement increased in aquatic preserves
- [10] How does the scientific method (controls, etc) fit into the regulatory structure of permitting

- [10] How to assess temporal lag in success criteria
- [9] Evaluate passive recovery as an acceptable strategy for regulatory requirements
- [4] Effects of Minimum Flows and Levels on SAV extent

Tampa Bay

- [11] Impacts of Piney Point discharge on seagrasses in Bishop Harbor and Lower Tampa Bay
- [7] Develop hypotheses relating loss of seagrass in Tampa Bay to water quality changes during El Nino; test with existing data throughout Tampa Bay
- [6] Use site-suitability index approach to select transplant sites in Tampa Bay
- [2] Develop limiting criteria for successful restoration applicable to Tampa Bay

Research/Data Needs

- [42] Decision matrix or model to determine if natural recruitment is more efficient than planting to restore seagrass systems
- [40] On-line access to seagrass restoration/transplant projects in gray, older literature, permitting and monitoring reports
- [36] Seasonal tracking of natural beds
- [35] Identify critical water quality levels for seagrass recolonization and sustainable populations
- [33] Effect of epiphytes on seagrass restoration
- [32] Role and interference of macroalgae in seagrass systems
- [29] Physical changes: impacts on seagrass expansion- berms, bars breakwaters
- [23] Identify sediment characteristics critical for seagrass recruitment
- [19] More research on *Syringodium* and *Halophila* spp.
- [18] Biology of sexual/asexual reproduction and colonization
- [17] Habitat value of edge (importance of heterogeneity)
- [17] Does "compressed succession" actually occur in restoration sites?
- [16] Economic value of seagrass habitat
- [12] Funds available for restoration- how to find funds for baseline distribution
- [12] Effect of "anthropogenic" -derived wave energy
- [13] Seed ecology issues
- [13] Genetic information for recovering beds- clones or not?
- [11] Improved forecasting of seagrass population ecology
- [11] Resilience of restored sites to natural disturbance
- [10] Economic valuation system that properly considers and values seagrasses
- [8] "Micro" (patch-size) dynamics, sedimentation, and nutrient availability
- [7] Seagrass species/restoration- success evaluation
- [7] Identify differences between inshore and offshore water quality
- [5] Better, cheaper propagation methods
- [5] Evaluation of lag time between planting and growth of transplants
- [5] Comparable techniques comparisons, at same sites and times
- [5] Understanding the natural variability and natural recruitment processes

- [4] Limiting factors to seagrass restoration success
 - [4] Lack of flowering and seed production in *Halodule* in Florida
 - [3] Species shifts as water quality improves and coverage increases
 - [2] Offsetting effects of SAV recruitment in light of wetland loss
 - [2] Historical distribution data
 - [2] Third-party review of all attempts at seagrass restoration
 - [2] Water quality levels affecting different species
 - [2] Potential for lab growth of seeds of species not typically sexually reproductive (i.e., *Thalassia*)
 - [1] Recovery time when injured by fuel/oil pollution
 - [1] Impact of over-abundance of grasses
 - [1] Document reproductive effects in distribution
 - [1] Optical model development
-

Table 2. Identified Issues and Rankings from participants in the non-seagrass submerged habitat restoration session. Workshop participants were asked to identify issues during the workshop. Participants then “voted” on priority issues (each participant received five votes) from the collated list. Total number of votes received for each issue is indicated in brackets.

Implementation and Management Issues

- [11] Develop criteria/guidelines for non-SAV submerged habitat restoration
- [8] Mitigation and restoration plans should be signed by a biologist as well as an engineer
- [8] Statewide streamlined, consistent signage for seagrass protection
- [6] Reef ball placement along seawalls in residential canals
- [6] Tidal creek and drainage restoration
- [2] Shading effects on artificial reefs at bridges and docks
- [2] Emphasize the ecological value of non-SAV submerged habitat to resource managers/regulators/general public
- [1] Improve communication and involvement between the monitoring and the decision-makers
- [1] Applying NOAA’s community-based restoration funds to restoration of shell bottom areas, with guidance from an overall priority area plan
- [1] Resource over-utilization in hardbottom areas

Regulatory Issues

- [15] Army Corps- issue a General Permit for restoration projects
- [13] DEP- Issue a Notice General Permit for restoration projects
- [8] Standardized monitoring guidelines for permitted projects
- [7] Enforcement and improvement of existing regulations
- [7] Ability to provide water quality/hydrologic restoration vs. seagrass transplanting
- [3] Incorporate the value of non-SAV bottom habitat as EFH in permit review and mitigation planning
- [2] Use of HEA, MBRT, WVA, WRAP and EWWRAP to evaluate “time lag” by regulatory agencies instead of blanket ratios not based on scientific information.
- [2] Better tools to evaluate when to permit habitat replacement (e.g., replacing shallow water with a wetland island).
- [2] Mitigation success monitoring should be supported by earmarked funds (from client) with reports submitted to agency without prior client review
- [2] Agency permit writers required to provide comments to the file for all mitigation reports
- [1] Habitat trade-offs for mitigation requirements
- [0] Mitigation success criteria for habitat types other than seagrass (reef, mangrove, non-vegetated areas, etc).
- [0] Regulatory requirements for on-site mitigation when much better projects exist off-site.
- [0] Is removal of fine muck deposits enhancement?

Research/Data Needs

- [14] Do artificial reefs really replace the function and value of estuarine/nearshore natural hardbottom communities?
- [12] Long-term monitoring of restoration, including relevant reference sites and sufficient funding
- [12] Food web impacts of introducing artificial hard bottom substrates (i.e., reef balls or other materials) into areas that historically do not have hard substrates
- [12] Value of preserving unvegetated habitats, vs. planting seagrass in all unvegetated photic zones
- [9] Determination of minimum freshwater flows from watersheds to estuaries
- [8] Artificial reef success at stormwater outfall structures- turbidity issues, benefits to water quality
- [8] Water quality benefits of introducing filter-feeders (oysters, clams, tunicates, mussels, filter-feeding worms)
- [7] Characterize "value" of different hard bottom substrates and other non-SAV communities based on quality and function
- [6] Cumulative impacts of beach renourishment projects on nearshore hardbottom vs. natural forces which cover and uncover nearshore hard bottom.
- [6] Costs and benefits of fish and shellfish aquaculture to nearby habitats- to know whether to avoid aquaculture in locating restoration or to locate near aquaculture
- [6] Cumulative impacts of beach renourishment projects on nearshore hardbottom vs. natural forces which cover and uncover nearshore hard bottom.
- [6] Effects of restoration on adjacent natural habitats and visa versa.
- [5] Costs and benefits of co-locating different types of habitat restoration (i.e., SAV and oyster restoration)
- [5] Value of restoration in oligohaline habitats
- [4] Documented values of unvegetated soft bottoms in Florida
- [4] Which bare substrates are most important to preserve?
- [3] Habitat and fishing values of algae (macrophytic) including seasonal patterns and succession
- [3] Long-term studies to evaluate global climate change
- [3] Identification of optimal conditions for creating areas of high diversity invertebrate habitats or habitats for filter-feeders.
- [3] Location of oyster bars in Florida (past and present)
- [2] Are artificial reefs spreading Asian green mussels?
- [2] Larval recruitment to subtidal habitats
- [1] Importance of macroalgae as habitat
- [0] Reproduction and settlement of frame-building coral species.

DAILY AGENDA

Tuesday, March 11, 2003 THE SEAGRASS RESTORATION WORKSHOP: SUCCESS, FAILURE AND THE COST OF BOTH Chair: Robin Lewis, Lewis Environmental Services, Inc.		
First Author (Affiliation)	Title	Time
Robin Lewis (LES)	Introduction to Workshop	8:00
Mark Fonseca (NOAA)	Reality Check	8:15
Bob Orth (VIMS)	Perspectives on 25 years of eelgrass restoration in Chesapeake Bay, USA OR Man vs. Machine vs. Mother Nature: Just Who is Doing It Better?	8:30
Robin Lewis (LES)	Evaluation of Seagrass Restoration Techniques and Associated Costs at Port Manatee, Tampa Bay, FL	9:00
Gary Montin (EAC)	A Shallow Water Technique for the Successful Relocation and/or Transplantation of Large Areas of Shoalgrass (<i>Halodule wrightii</i>)	9:30
Paul Carlson (FMRI)	Dynamics of Volunteer Shoal Grass Patches in Old Tampa Bay: Implications for Baywide Seagrass Restoration Efforts	9:50
BREAK		10:10
Sean Meehan (NOAA)	High Speed, Low Drag: an expedited damage assessment and restoration process (the Mini-312) for seagrasses in the Florida Keys National Marine Sanctuary	10:30
Kim Barry (NOAA)	Estimating Restoration Costs for Small Seagrass Groundings in the Florida Keys National Marine Sanctuary	10:50
Peter Bergstrom (NOAA CBO)	Species selection, success, and costs of multi-year, multi-species SAV planting in Shallow Creek, Patapsco River, MD	11:10
Fred Short (Univ of NH)	Site Selection to Increase Eelgrass Restoration Success	11:30
BOX LUNCH on site		12:00
Jake Stowers (Pinellas County DEM)	Seagrass Scarring in Tampa Bay: Impact Analysis and Management Options	1:00
Paul Bologna (Fairleigh Dickinson Univ.)	Assessing the Success and Costs of Eelgrass Restoration in New Jersey	1:20
Walt Avery (COT Bay Study Group)	Experimental <i>Halodule wrightii</i> and <i>Syringodium</i> <i>filiforme</i> Transplanting in Hillsborough Bay, FL	1:40
Paul Erftemeijer (WL Delft Hydraulics)	Eelgrass Restoration in the Dutch Waddensea: A Review of Successes, Failures and Costs	2:00
Bell, Susan (USF)	Seagrass Restoration Success at Lassing Park: A Long- Term Perspective	2:20
Ryan Davis (Exponent, Inc)	Costs and success of large scale eelgrass plantings in New England	2:40
BREAK		3:00
Holly Greening (TBEP)	Facilitated Discussion: Seagrass Restoration Research and Implementation Priorities for Tampa Bay	3:30

DAILY AGENDA

POSTERS		ALL DAY
Penny Hall	Comparison of Mechanical and Manual Seagrass Planting Techniques at Three Sites in Tampa Bay	poster
Michael Meads	Significance of Planting Unit Size and an Active Rhizome Meristem on Rhizome Elongation and Short Shoot Additions in <i>Thalassia testudinum</i> Plantings	poster
G.S. Gandy, A.B. Hodgson	Application of Close Range Vertical Aerial Photography to Estuarine Seagrass Mapping	poster
Ray Kurz	Use of Hand-held Computers and GPS for Mapping Wetlands and Submerged Aquatic Vegetation	poster
Adam Gelber	Emergency Restoration of Significant Seagrass Injuries: A Case Study from North Sound, Grand Cayman, BWI	poster
Alek Modjeski	SAV Aerial Hyperspectral Imaging and Groundtruthing Survey: Use of Hyperspectral Imaging in Delineating SAV in High-energy Estuarine Environments	poster
Amanda Weinkauff	Ft. Desoto Tidal Exchange Restoration: Measuring the Secondary Effects of Habitat Conversion. A Pre-restoration seagrass assessment	poster
Bob Stankelis	A Cautionary Tale of SAV Restoration: Eelgrass in the Patuxent Estuary	poster
Tammy Summers	Long-Term Seagrass Monitoring in St. Joe's Bay, Apalachicola Bay and Alligator Harbor	poster
Thomas Parham	Success and Costs of Student Based Submerged Aquatic Vegetation (SAV) Restoration in Maryland	poster
Dean Dobberfuhr	SAV and Light in the Lower St. Johns River, Florida	poster
Bob Virnstein	Setting Seagrass Depth Targets Based on Historical Distribution	poster
Bill Sargent	Seagrass Conservation Information System: Online Access to the Research and Management Community	poster
Paul Carlson	Seagrass Patch Measurements Using Real-Time Kinetic (RTK) GPS	poster
M. Tagliareni	The Florida Keys Seagrass Outreach Partnership	poster
B. Baca, G. Stone, A. Sanchez-Gomez, I. Gibson	Cultivation Studies of the <i>Halophila</i> seagrasses <i>H. johnsonii</i> and <i>H. decipiens</i>	poster

DAILY AGENDA

Wednesday, March 12, 2003 SUBMERGED AQUATIC HABITAT RESTORATION IN ESTUARIES		
8:00	Coffee and Poster Set-up	
8:45	Welcome and Workshop Objectives – MML, NEP reps SESSION 1: SEAGRASS HABITAT RESTORATION STRATEGIES Chair: Holly Greening, Tampa Bay Estuary Program	
8:50	Poirrier, Michael (Univ of New Orleans)	Lessons learned from 10 years of SAV monitoring and restoration in Lake Pontchartrain, LA
9:10	Anderson, Jim (Seagrass Recovery, Inc)	The GIGAUNIT Transplant System (GUTS): a New Salvage Technique for Seagrasses
9:30	Cuba, Thomas R. (Delta Seven, Inc.)	Third Party Independent Evaluation of Large Unit Planting Methods for Seagrasses
9:50	Tomasko, Dave (SWFWMD)	Status and Trends (1950-2002) in Seagrass Coverage in Southwest Florida: Separating the Effects of Human Versus Meteorological Impacts on Changes in Distribution and Abundance
10:15	BREAK and poster viewing	
10:45	SESSION 2: SEAGRASS MONITORING AND GOAL SETTING Chair: Tony Janicki, Janicki Environmental, Inc.	
10:50	Wade, David (Janicki Environmental, Inc)	Setting seagrass targets for Tampa Bay
11:10	Ott, Judy (Charlotte Harbor Aquatic Preserve)	Establishing Baseline Seagrass Health Using Fixed Transects in Charlotte Harbor, FL
11:30	Wilbur, Anthony (Mass. Coastal Zone Management)	Developing a Monitoring Plan to Evaluate Seagrass Quality in Massachusetts
11:50	Morris, Lori (SJRWMD)	You Can't Fool Mother Nature- Natural Variability Must be Considered in any Restoration Project
12:10	Mark Fonseca (NOAA)	Summary and Overview of the Seagrass Restoration Workshop
12:40	LUNCH (box lunch on site)	
1:30	SESSION 3: REGULATORY AND MITIGATION ISSUES FOR SUBMERGED AQUATIC HABITATS Rhonda Evans, US EPA Region 4 Panel Discussion Addressing Submerged Aquatic Habitat Mitigation Issues Lucy Blair, Fla. Dept. of Environmental Protection Karen Gruenhagen, Southwest Florida Water Mgt. District Mindy Hogan, US Army Corps of Engineers Gary Popotnik, US Fish & Wildlife Service Jim Beever, Fla. Fish & Wildlife Conservation Commission	
3:00	BREAK with poster viewing	

DAILY AGENDA

3:30	SESSION 4: DREDGED MATERIAL PLACEMENT AND BOAT DREDGING IMPACTS Tracy Leeser, U.S. Army Corps of Engineers	
3:40	Leeser, Tracy (US ACOE)	Planning, Design, Construction and Monitoring Considerations for Habitat Rehabilitation using Dredged Material
4:00	Milano, Gary (DERM)	Pilot Project to Restore Dredged Areas in North Biscayne Bay
4:20	McNeese, Patricia (consultant, Florida Keys Environmental Restoration Fund)	Topographic Restoration of Boat Grounding Damage at Lignumvitae Submerged Land Management Area
4:40	Precht, Bill (PBSJ)	Persistence and Enlargement of Boat-Grounding Scars on Thalassia-Dominated Seagrass Beds in South Florida: Implications for Restoration

Thursday, March 13, 2003 SESSION 5: TIDAL RIVERS AND TRIBUTARIES Chair: Brad Robbins, Mote Marine Lab		
8:00	Coffee and Welcome Back	
8:30	Robbins, Brad (MML)	Balancing Resource Needs: A Natural Restoration Thwarted
8:50	Estevez, Ernie (MML)	The Geographic Signature of Tidal Rivers in Southwest Florida as Ecological Guiding Views for Restoring the Caloosahatchee River
9:10	Ceilley, D.W. (The Conservancy of South Florida)	Tape Grass (<i>Vallisneria americana</i>) Restoration Feasibility Study
9:30	French, Bruce (Gannett Fleming, Inc)	Application of the Subsurface Inlet for Improvement of Estuarine Water Quality
9:50	Adams, Aaron (Mote Marine Lab)	Evaluating the Effects of Restoration of Subtropical Oligohaline Marshes on Abundance and Habitat Use by Juvenile Snook, and Associated Fish Communities
10:10	Volety, Aswani (FL Gulf Coast Univ)	Adaptive Resource Management and Oyster-Reef Restoration in the Caloosahatchee Estuary, FL
Poster	Tolley, Greg (FL Gulf Coast Univ)	Influence of Freshwater Inflow and Water Management on Oyster-Reef Residents: Implications for Habitat Restoration
10:30	BREAK with poster viewing	
11:00	SESSION 6: INTEGRATED HABITAT RESTORATION Thomas R. Cuba, Delta Seven, Inc.	
11:00	Valentine, John (Dauphin Island Sea Lab)	Habitat Reconstruction in the Nation's Coastal Ecosystems: If You Build it Will They Come?

11:20	Sauers, Steve (Steven Sauers Environmental Management)	Sarasota Bay System Assessment of Critical Fishery Habitats
11:40	Varazo, Sava (FDEP)	Project GreenShores, Pensacola Bay, FL
12:00	Leverone, Jay (Mote Marine Lab)	Bay Scallop Restoration Strategies for Sarasota Bay
12:20	Cuba, Tom (Delta Seven, Inc.)	Ecological Restoration at the Landscape Level
12:45	BOX LUNCH on site	
SESSION 7: HARD SUBSTRATE RESTORATION: ISSUES AND TECHNIQUES Chair: Ray Kurz, PBS&J		
1:30	Lindberg, Bill (UF)	Artificial Reef Applications and Factors to Consider for Restoration Projects
1:50	Serviss, Gary (Vanasse Hangen Brustlin, Inc)	Artificial Reef Assessment in Sarasota Bay, FL
2:10	Klassen, Christine (Tampa BayWatch)	Creation of Oyster Habitat Through the Community Oyster Reef Enhancement (CORE) Program in the Tampa Bay Estuary
2:30	Stevely, John (FL Seagrant College Program)	A Historical Perspective for Determining Changes in the Distribution of Oyster Habitats in Southwest Florida Using Archived Maps and Charts of Federal Agencies
2:50	Deis, Don (PBSJ)	The Results of Monitoring Hard Corals Restored and a Constructed Artificial Reef Following the Installation of Telecommunication Cables off Hollywood, FL
3:10	Clark, Peter (Tampa BayWatch)	Seawall Oyster Reef Construction in Urbanized Areas
Poster	Scotto, Liberta (UF)	St. Lucie Oyster Study: Water Quality, Oyster Health, Reproductive Potential and Recruitment
Poster	Ash, Tom (EPCHC)	Time Lapse Videography: A Preliminary Look at the First Three Years of an Artificial Reef's Life in Tampa Bay, Florida
3:30- 4:30	DISCUSSION OF PRIORITY ISSUES	

Submerged Aquatic Habitat Restoration in Estuaries

Workshop Attendees

March 11-13, 2003

<i>LAST</i>	<i>FIRST</i>	<i>AGENCY1</i>	<i>ADDRESS2</i>	<i>ADDRESS1</i>	<i>CITY</i>	<i>STAT</i>	<i>ZIP</i>	<i>PHONE</i>	<i>EMAIL</i>
Allstock	Stephen	Anne Arundel College	101 College Parkway		Arnold	MD	21012	410 777 22	smallstock@aacc.edu
Alderman	Jim	Delaware Center for Inlan	467 Highway 1		Lewes	DE	19958	302 645 73	restore@vdel.edu
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Anastaslou	Christoph	SWFWMD-SWIM	7601 U.S. Highway 301		Tampa	FL	33637	813 985 74	chris.anastaslou@swfw
Anderson	James	Seagrass Recovery, Inc.	P.O. Box 1414		Ruskin	FL	33570	813 641 67	halodule@aol.com
Avery	Walt	City of Tampa Bay Study	2700 Maritime Blvd.		Tampa	FL	33605	813 247 34	walt.avery@cl.tampa.fl.u
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Bortone	Steve	Sanibel-Captiva Conserv	900 A Tarpon Bay Rd.	Marine Lab	Sanibel	FL	33908	239 395 31	sbortone@seef.org
Bourque	Amanda	Biscayne National Park	1712 S. Palmway		Lake Worth	FL	33460	561 582 28	seecatz@yahoo.com

<i>LAST</i>	<i>FIRST</i>	<i>AGENCY1</i>	<i>ADDRESS2</i>	<i>ADDRESS1</i>	<i>CITY</i>	<i>STAT</i>	<i>ZIP</i>	<i>PHONE</i>	<i>EMAIL</i>
Braem	Sally	DEP Parks & Recreation	1843 S. Tamiami Trail		Osprey	FL	34229	941 486 20	sally.braem@dep.state.f
Brandenburg	Mark	Miller Legg & Associate	1300 Corporate Center		Wellington	FL	33414	561 798 99	mbrandenburg@millerle
Brown	Rob	Manatee County EMD	P.O. Box 1000		Bradenton	FL	34206	941 742 59	robert.brown@co.manat
Brown	David	FDEP	3804 Coconut Palm Dr.		Tampa	FL	33619	813 744 61	brian.brown@dep.state.f
Calloway	Charles	Calloway Marine Techn	1550 Latham Rd., Ste. 4		West Palm Bch	FL	33409	561 471 17	cmarinet@gate.net
Campbell	Todd	Biological Research Ass	433 Harrison Ave.		Panama City	FL	32401	850 769 20	tcampbell@biologicalres
Campbell	Dean	St. John's River WMD	P.O. Box 1429		Palatka	FL	32178-1	386 329 43	dcampbell@sjrwmd.com
Carlson	Paul	FWC/FMRI	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 896 86	paul.carlson@fwc.state.f
Cassani	John	Lee County Hyacinth Co	P.O. Box 60005		Ft. Myers	FL	33906	239 694 58	jcassani@comcast.net
Chappell	Scott	NC Div. Marine Fisherie	1601 Mail Service Cente		Raleigh	NC	27699-1	919 715 13	scott@chappell@ncmail
Clark	Peter	Tampa BayWatch	3000 Pinellas Bayway S		Tierra Verde	FL	33715	727 867 81	pclark@tampabaywatch.
Conant	Chad	Goldasich & Associates	P.O. Box 811988		Boca Raton	FL	33481	561 883 95	chad@jgoldasich.com
Conklin	Andrew	BKI, Inc., Consulting Ec	325 5th Ave., Ste. 204		Indialantic	FL	32903	321 951 79	andyconklin@cfl.rr.com
Conmy	Barbara	SFWMD	3301 Gun Club Rd. (MS		West Palm Bch	FL	33406	561 682 69	bconmy@sfwmd.gov
Cooper	Suzanne	TBRPC - ABM	9455 Koger Blvd.		St. Petersburg	FL	33702	727 570 51	suzanne@tbrpc.org
Corbett	Catherin	Charlotte Harbor NEP	4980 Bayline Dr.		N. Ft. Myers	FL	33917	239 995 17	ccorbett@swfrc.org
Courtney	Frank	FWC/FMRI Stock Enhan	14495 Harlee Rd.		Pt. Manatee	FL	34221	941 723 45	frank.courtney@fwc.stat
Craig	Leslie	NOAA Restoration Cent	9721 Executive Center	Koger Bldg., Ste. 11	St. Petersburg	FL	33702	727 570 53	leslie.craig@noaa.gov
Cuba	Thomas	Delta Seven, Inc.	P.O. Box 3241		St. Petersburg	FL	33731	727 823 24	tom.cuba@delta-seven.
Davis	Ryan	Exponent, Inc.	4 Computer Drive W., St		Albany	NY	12205	518 435 75	rdavis@exponent.com
Day	Robert	St. John's River WMD	525 Community College		Palm Bay	FL	32909	321 948 49	rday@sjrwmd.com

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Deis	Donald	PBS&J	7785 Baymeadows Way	Suite 202	Jacksonville	FL	32256	904 367 86	drdeis@pbsj.com
Deitch	Scott	Pinellas County DEM	300 S. Garden Ave.		Clearwater	FL	33756	727 464 44	sdeitch@co.pinellas.fl.u
Dixon	Kellie	Mote Marine Laboratory	1600 Thompson Parkwa		Sarasota	FL	34236	941 388 44	lkdixon@mote.org
Dobberfuhl	Dean	St. John's River WMD	P.O. Box 1429		Palatka	FL	32178	386 329 44	ddobberfuhl@sjrwmd.com
Dupes	Mike	U.S. ACOE	P.O. Box 4970		Jacksonville	FL	32232	904 232 16	michael.dupes@saj02.u
Eckenrod	Dick	TBEP	100 8th Ave. S.E.		Tampa	FL	33701	727 893 27	reckenrod@tbep.org
Estevez	Ernest	Mote Marine Laboratory	1600 Ken Thompson Pk		Sarasota	FL	34236	941 388 44	estevez@mote.org
Evans	Rhonda	U.S. EPA	61 Forsyth Street		Atlanta	GA	30303	404 562 93	evans.rhonda@epa.gov
Everett	Jennifer	NC Div. Water Quality/A	1601 Mail Service Cente		Raleigh	NC	27699-1	919 715 13	jennifer.everett@ncnauk
Fay	William	Calloway Marine Techn	1550 Latham Rd., Ste. 4		West Palm Bch	FL	33409	561 471 17	wavezone@earthlink.net
Ferenc	Keri	FWC/FMRI	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 896 86	keri.ferenc@fwc.state.fl.
Finch	Kelly	U.S. ACOE	101 N.W. 75th Street		Gainesville	FL	33607	352 332 69	kelly.c.finch@saj02.usa
Fitzhugh	Linda	Gulf Coast Community	5230 Hwy. 98		Panama City	FL	32401	850 769 15	dfitzhugh@gulfcoast.ed
Fonferek	William J	U.S. Army Corps of Engi	P.O. Box 4970		Jacksonville	FL	32244	904 232 28	fonferek@bellsouth.net
Fonseca	Mark	NOAA/National Ocean S	101 Pivers Island Rd.		Beaufort	NC	28516	252 728 87	mark.fonseca@noaa.go
Franze	Carol	Univ. of New Orleans - L	2000 Lakeshore Dr.	Dept. of Biological S	New Orleans	LA	70148	504 280 70	cfranze@uno.edu
French	Bruce	Gannett Fleming, Inc.	1300 Executive Ctr. Dr.,		Tallahassee	FL	32301	850 309 79	bfrench@gfnet.com
Fuhr	Katie	Charlotte Harbor Aquati	12301 Burnet Store Rd.		Punta Gorda	FL	33955	941 575 58	katie.fuhr@dep.state.fl.u
Gasch	Eric	U.S. Army Corps of Engi	1464 Holmes Dale Rd.,		Jacksonville	FL	32207	904 232 31	eric.k.gasch@saj02.usa
Gelber	Adam	PBS&J	2001 N.W. 107th Ave.		Miami	FL	33172	305 514 33	agelber@pbsj.com
Geselbracht	Laura	Nature Conservancy	2455 E. Sunrise Blvd., P		Ft. Lauderdale	FL	33304	954 564 61	lgeselbracht@tnc.org

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Gilbert	Steve	U.S. Fish and Wildlife S	1339 20th Street		Vero Beach	FL	32960	772 562 39	steve_gilbert@fws.gov
Goldasich	John	Goldasich & Associates	P.O. Box 811988		Boca Raton	FL	33481	561 883 95	jlg@jlgoldasich.com
Granger	Stephen	University of Rhode Isla	South Ferry Road		Narragansett	RI	02882	401 874 66	granger@gso.uri.edu
Grecsek	Chad	FDEP	400 North Congress Ave		West Palm Bch	FL	33401	561 681 67	chad.grecsek@dep.stat
Greenawalt	Jaime	Sanibel-Captiva Conser	900 A Tarpon Bay Rd.	Marine Lab	Sanibel	FL	33908	239 395 46	jgreenawalt@seef.org
Greening	Holly	TBEP	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 893 27	hgreening@tbep.org
Gruenhagen	Karen	SWFWMD	2379 Broad St.		Brooksville	FL	34604	352 796 72	karen.gruenhagen@swf
Hall	Penny	FWC - FMRI	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 896 86	penny.hall@fwc.state.fl
Hall	Lauren	St. John's River WMD	525 Community College		Palm Bay	FL	32909	321 409 21	lhall@sjrwmd.com
Hammond	Mark	SWFWMD	7601 U.S. Highway 301		Tampa	FL	33637-6	813 985 74	mark.hammond@swfw
Hartman	Michael	Jacksonville University	2800 University Blvd. N.		Jacksonville	FL	32211-3	904 273 64	mhartma@ju.edu
Heidelbaugh	Shelly	St. John's River WMD	525 Community College		Palm Bay	FL	32909	321 409 21	sheidelbaugh@sjrwmd.c
Henningsen	Brandt	SWFWMD	7601 U.S. Highway 301		Tampa	FL	33637	813 985 74	brandt.henningsen@swf
Hobson	Patricia	Biological Research As	22 Sarasota Center Blvd		Sarasota	FL	34240	941 378 06	thobson@biologicalrese
Hodgson	Ann	Birkitt Environmental Se	110 S. Edison Ave.		Tampa	FL	33606	813 259 10	ahodgson@birtkitt.com
Hogan	Mindy	U.S. Army Corps of Engi	P.O. Box 19247		Tampa	FL	33686	813 840 29	melinda.g.hogan@saj02
Hopkins	Todd	U.S. Fish & Wildlife Serv	1339 20th St.		Vero Beach	FL	32960-3	772 562 39	todd_hopkins@fws.gov
Hosler	Ron	TBEP	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 893 27	ron@tbep.org
Hubertz	Jon	Charlotte Marine Resear	2733 Deborah Dr.		Punta Gorda	FL	33950	941 505 40	hubertz@earthlink.net
Hughes	Lesley	Broward Co. Planning &	218 810 1st Ave.		Fort Lauderdal	FL	33301	954 519 14	lehughes@broward.org
Isiminger	George	Manatee County Port Au	300 Regal Cruise Way,		Palmetto	FL	34221	941 722 66	gisiminger@portmanate

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Janicki	Anthony	Janicki Environmental, I	1155 Eden Isle Drive N.		ST. Petersburg	FL	33704	727 895 77	janickienv@aol.com
Jeansonne	James	NOAA - Damange Asse	9721 Executive Ctr. Dr.		St. Petersburg	FL	33702	727 570 53	jim.jeansonne@noaa.go
Jeansonne	Michelle	BCI @ SJRWMD	4049 Reid St., Hwy. 100		Palatka	FL	32177	386 329 43	mjeansonne@sjrwmd.co
Jesien	Roman	Maryland Coastal Bays	9609 Stephen Decatur		Berlin	MD	21811	410 213 22	science@mdcoastalbay
Johansson	Roger	City of Tampa Bay Stud	2700 Maritime Blvd.		Tampa	FL	33605	813 247 34	roger.johansson@ci.tam
Johnson	Ann	Marine Resources Coun	2170 Paint Street		Rockledge	FL	32955	321 504 45	council@mrcirl.org
Jordan	Terri	U.S. Army Corps of Engi	4137 Hanging Moss Co		Jacksonville	FL	32257	904 232 18	terri.l.jordan@sag02.usa
Kenny	George	FDEP	2295 Victoria Ave., Ste.		Ft. Myers	FL	33902	239 332 69	george.kenny@dep.stat
Kersten	P.J.F.M.	Kath. Universiteit Nijme	Toernooiveld 1	Centrale Ontvangst	NL-6525 ED Ni			31 24 365 3	elly@dbf.kun.nl
Ketron	Alice	TBEP	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 893 27	alice.ketron@fwc.state.fl
Kirsch	Kevin	NOAA Damage Assess	P.O. Box 500368		Marathon	FL	33050	305 643 24	kevin.kirsch@noaa.gov
Kish	George	U.S. Geological Survey	10500 University Ctr. Dr.		Tampa	FL	33612	813 975 86	gkish@usgs.gov
Klassen	Christine	Tampa BayWatch	3000 Pinellas Bayway S		Tierra Verde	FL	33715	727 867 81	cklassen@tampabaywat
Kovach	Charles	FDEP	3804 Coconut Palm Driv		Tampa	FL	33619-1	813 744 61	charles.kovach@dep.st
Krawczyk	Julie	Broward Co. Dept. of Pl	218 S.W. 1st Ave.	& Evironmental Pr	Ft. Lauderdale	FL	33301	954 519 12	jkrawczyk@broward.org
Kurz	Ray	PBS&J	2803 Fruitville Rd., Ste.		Sarasota	FL	34237	941 954 40	rckurz@pbsj.com
Kyte	Michael	Sr. Marine Biologist, Gol	18300 NE Union Hill Rd.		Redmond	WA	98052	425 883 07	mkyte@golder.com
Langley	Stephen	EAS Engineering, Inc.	55 Almeria Ave.		Coral Gables	FL	33134	305 445 55	slangley@eas-eng.com
Lawrence	Deron	Biological Research Ass	1100 E. Park Ave.		Tallahassee	FL	32301	850 681 97	lawrence@biologicalres
Lawrence	Steve	U.S. Fish and Wildlife S	3745 Broadway, Ste. 30		Ft. Myers	FL	33901	941 939 98	slawrence@usgs.gov
Leasure	Pam	Pinellas County DEM	1800 Weedon Island Dr.		St. Petersburg	FL	33702	727 453 65	pleasure@co.pinellas.fl.

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Lesnett	Eric	Hillsborough County EP	1900 9th Avenue		Tampa	FL	33605	813 272 59	lesnett@epchc.org
Lessmann	Jeannine	Eckerd College & Marin	4200 54th Ave. S.		St. Petersburg	FL	33711	727 864 76	lessmajm@eckerd.edu
Leverone	Jay	Mote Marine Laboratory	1600 Ken Thompson Pk		Sarasota	FL	34236	941 388 44	jleveron@mote.org
Lewis	Roy	Lewis Environmental Se	P.O. Box 5430		Salt Springs	FL	32134	813 505 32	lesrri3@aol.com
Lewis	Paul	Hans Wilson & Associat	1938 Hill Ave.		Ft. Myers	FL	33901	239 334 68	paul@hanswilson.com
Lindland	Emily	Sanibel-Captiva Conser	900 A Tarpon Bay Rd.	Marine Lab	Sanibel	FL	33908	239 395 46	elindland@seef.org
MacKenzie	Stephani	FDEP - Estero Bay Aqu	700-1 Fisherman's Whar		Ft. Myers Bch.	FL	33931	239 463 32	stephanie.mackenzie@d
Madley	Kevin	FWC/FMRI	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 896 86	kevin.madley@fwc.state
Mauseth	Gary	Polaris Applied Science	12509 130th Lane N.E.		Kirkland	WA	98034	425 823 48	gmauseth@polarisappli
Mazzaccaro	Anthony	Univ. of Maryland Easte	Carver Hall - Backbone		Princess Anne	MD	21853	410 651 78	apmazzaccaro@mail.u
McCall	Robin	Gulfcoast Research Lab	703 E. Beach Dr.		Ocean Springs	MS	39566	228 872 42	robink.mccall@usm.edu
McFadden	Kris	FDEP	400 N. Congress Ave.,		West Palm Bch	FL	33401	561 681 66	kris.mcfadden@dep.stat
McNeese	Patricia	Charleston, SC	P.O. Box 80386		Charleston	SC	29416	843 769 23	pmcneese7@knology.n
Meehan	Sean	NOAA Damage Assess	P.O. Box 500368		Marathon	FL	33050	305 743 24	sean.meehan@noaa.go
Merello	Manuel	FWC/FMRI	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 896 86	manuel.merello@fwc.sta
Milano	Gary	DERM Natural Resourc	33 S.W. 2nd Ave.		Miami	FL	33130	305 372 68	milang@miamidade.gov
Miller	Kim	ANERR/FDEP	350 Carroll Street		Eastpoint	FL	32328	850 670 47	kimberly.miller@dep.sta
Montin	Gary	Environmental Affairs C	P.O. Box 337		Palmetto	FL	34220	941 772 03	gmontin@eac-inc.com
Moor	Susan	St. John's River WMD	525 Community College		Palm Bay	FL	32909	321 676 66	smoor@sjrwmd.com
Morris	Lori	St. John's River WMD	P.O. Box 1429		Palatka	FL	32178	386 329 45	lmorris@sjrwmd.com
Mulcahy	Robert	Marine Resources, Inc.	7897 S.W. Jack James		Stuart	FL	34997	772 221 21	bmulcahy@marine-reso

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Neff	Sherri	Sarasota Cty Public Wor	1001 Sarasota Center Bl		Sarasota	FL	34240	941 861 07	sneff@scgov.net
Niemczyk	Sharon	U.S. Army Corps of Engi	4400 PGA Blvd., Ste. 50		Palm Bch Gard	FL	33410	561 472 35	sharon.l.niemczyk@saj0
Oberlin	Leah	FDEP	400 N. Congress Ave.,		West Palm Bch	FL	33401	561 681 66	leah.oberlin@dep.state.f
Odley	Laura	Biological Research Ass	22 Sarasota Center Blvd		Sarasota	FL	34240	941 378 06	lodley@biologicalresear
Olsson	Lynne	Bussen-Mayer Eng. Gro	100 Parnell St.		Merritt Island	FL	32953	321 453 00	bmeg@bmeg.net
Orth	Robert	Virginia Institute of Mari	P.O. Box 1346		Gloucester Poi	VA	23062	804 684 73	jjorth@vims.edu
Ott	Judy	Charlotte Harbor Aquati	12301 Burnt Store Rd.		Punta Gorda	FL	33955	941 575 58	judith.ott@dep.state.fl.u
Parham	Tom	Maryland Dept. of Natur	580 Taylor Ave., D-2		Annapolis	MD	21401	410 260 86	tparham@dnr.state.md.
Phillips	Andrew	U.S. ACOE	2460 N. Courtney Pkwy.		Merritt Isl.	FL	32953	321 453 76	andrew.w.phillips@saj0
Pickerell	Chris	Cornell Cooperative Ext.	3690 Cedar Beach Rd.		Southold	NY	11971	631 852 86	cp26@cornell.edu
Pitts	Patrick	U.S. Fish & Wildlife Serv	1339 20th Street		Vero Beach	FL	32960	772 562 39	patrick_pitts@fws.gov
Poirrier	Michael	Univ. of New Orleans - L	2000 Lakeshore Dr.	Dept. of Biological S	New Orleans	LA	70148	504 280 70	mpoirrie@uno.edu
Popotnik	Gary	USFWS Coastal Ecosys	1339 20th Street		Vero Beach	FL	32960	772 562 39	gary_popotnik@fws.gov
Precht	William	PBS&J	2001 N.W. 107th Ave.		Miami	FL	33172	305 514 34	bprecht@pbsj.com
Pridgeon	Bryan	U.S. Fish & Wildlife Serv	9549 Koger Blvd., Ste. 1		St. Petersburg	FL	33702	727 570 53	bryan_pridgeon@fws.go
Rach	Timothy	FDEP - West Palm Bea	400 N. Congress Ave.,		West Palm Bch	FL	33401	561 681 66	timothy.rach@dep.state.
Raulerson	Gary	Sarasota Bay NEP	5333 N. Tamiami Trail		Sarasota	FL	34234	941 359 58	gary_raulerson@sarasot
Reel	Justin	Rummel Kleeper & Kahl,	81 Mosher St.		Baltimore	MD	21217	410 462 93	jreel@rkkengineers.com
Reiber	Michelle	St. Johns WMD	525 Community College		Palm Bay	FL	32909	321 676 66	mreiber@sjrwmd.com
Remley	Amy	SWFWMD-SWIM	7601 U.S. Highway 301		Tampa	FL	33637	813 985 74	brandt.henningsen@swf
Richardson	Wayne	ENSR International	150 Second Ave. N., St		St. Petersburg	FL	33701	727 898 95	w.richardson@ensr.com

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Ries	Thomas	Scheda Ecological Asso	4013 E. Fowler Ave.		Tampa	FL	33617	813 971 37	tries@scheda.com
Robbins	Brad	Mote Marine Laboratory	1600 Ken Thompson Pk		Sarasota	FL	34236	941 388 44	robbins@mote.org
Ryan	Thomas		8917 Manor Loop #204		Bradenton	FL	34202	941 907 26	luisaryan@yahoo.com
Sabia	Steve	FDEP	7825 Baymeadows Way		Jacksonville	FL	32256-7	904 807 33	stephen.sabia@dep.stat
Saindon	Darlene	FWC/FMRI	100 8th Ave. S.E.		St. Petersburg	FL	33701	727 896 86	darlene.saindon@fwc.st
Sandow	Betty	Albemarle-Pamlico NEP	1601 Mail Service Cente		Raleigh	NC	27699-1	919 715 13	betty.sandow@ncmail.n
Sauers	Steven	Environmental Manage	1647 Arlington St.		Sarasota	FL	34239	941 957 33	ssauers@aol.com
Sauers	Steven	Environmental Manage	1647 Arlington St.		Sarasota	FL	34239	941 957 33	ssauers@aol.com
Scotto	Liberta	U.S. Fish & Wildlife Serv	1389 20th St.		Vero Beach	FL	32960	772 562 39	liberta_scotto@fws.gov
Seiden	Erica		236 G Street N.E.		Washington	DC	20002	202 548 23-	erica.seiden@noaa.gov
Serviss	Gary	Vanasse Hangen Brustli	P.O. Box 9151		Watertown	MA	02471	941 722 66	gserviss@vvh.com
Shafer	Deborah	Engineer Research & D	3909 Halls Ferry Rd.		Vicksburg	MS	39180	601 634 36	shaferd@wes.army.mil
Shepherd	Jon	BKI, Inc., Consulting Ec	325 5th Ave., Ste. 204		Indialantic	FL	32903	321 951 79	jonshepherd@cfl.rr.com
Sinnema	Michael	Birdsall Engineering, Inc	611 Industrial Way West		Eatontown	NJ	07724	732 380 17	ms@birdsall.com
Smiley	Nathan	U.S. Geological Survey	600 4th Street S.		St. Petersburg	FL	33701	727 803 87	nsmiley@usgs.gov
Soderlund	Richard	Pinellas County DEM	631 Chestnut St.		Clearwater	FL	33756	727 464 33	rsoderlund@co.pinellas.
Stankells	Robert	Chesapeake Biological	P.O. Box 38		Solomons	MD	20688	410 326 72	stankeli@cbl.umces.edu
Steinmetz	Alicia	BCI - SJRWMD	P.O. Box 1429		Palatka	FL	32178	386 329 44	asteinmetz@sjrwmd.co
Stevely	John	UF Sea Grant Ext. Progr	1303 17th St. W.		Palmetto	FL	34221-5	941 722 45	jnstevely@ifas.ufl.edu
Stofan	Kevin	University of Florida	1608 N.W. 2nd Ave.		Gainesville	FL	32603	352 373 72	kastofan@hotmail.com
Stone	Gayle	Bermello Ajamil & Partn	2601 S. Bayshore Dr.		Miami	FL	33133	305 514 34	gstone@pbsj.com

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Stowers	Jake	Pinellas County DEM	315 Court Street		Clearwater	FL	33756	727 464 32	jstowers@co.pinellas.fl.
Sturm	Diana	Mobile Bay National Est	4172 Commanders Dr.		Mobile	AL	36615	251 431 64	dsturm@mobilebaynep.
Summers	Tammy	FDEP - Aquatic Preserv	350 Carroll Street		Eastpoint	FL	32328	850 670 47	tammy.summers@depst
Tarr	Brad	U.S. ACOE	53 N. Roscoe Blvd.		Ponte Vedra	FL	32082	904 232 35	bradley.a.tarr@usace.ar
Tomasko	David	SWFWMD	7601 U.S. Highway 301		Tampa	FL	33637	813 985 74	dave.tomasko@swfwmd
Tyler	Jeremy	FDEP	7825 Baymeadows Way		Jacksonville	FL	32256-7	904 807 33	jeremy.tyler@dep.state.f
Valentine	John	Dolphin Island Sea Lab	101 Bienville Blvd.		Dauphin Island	AL	36528	251 361 75	jvalentine@disl.org
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