



**Community Workshop Break Out 1 of 5  
Fresh Water Management (Quantity)  
Naples, Florida – June 10, 2005  
Rookery Bay National Estuarine Research Reserve**

**Participants:** Not recorded

**Facilitator:** Brie Kessler – NOAA Coastal Service Center

**Recorder:** Not recorded

**How do you define this issue with respect to the health of the Gulf of Mexico?**

- Amount of rain→ surface water run-off
- In this area, one big freshwater inflow issue relates to Lake Okeechobee inflow, which alters salinity in estuarine systems (seagrasses, etc.)
- Current management practices have degraded estuarine systems- timing and quantity (temporal and spatial distribution) of freshwater inflow
- Managed water control structures (dams) can be controlled
- Much of this issue stems from land use regulations, waste water re-use, i.e. retention ponds- lack of holding areas for extra freshwater in developed areas
- Estuaries are downstream, analogous to a coastal conveyor belt- impact on ecosystems can affect organisms, fisheries, nursery function of the estuary- everything is connected
- Pulses of water can affect sessile organisms because they can't move in the event of lack of oxygen (hypoxia)
- Conversion of traditional sheet flow to point-source trace water outflow affects retention time
- Other side of the issue- water can be held back when estuarine systems need fresh water, for example during the dry season

**Where do you go for information and assistance on this issue?**

- Army Corps of Engineers, South Florida Water Management District (80% of water monitoring data)
- Florida Gulf Coast University
- Fisherman – any information of problems
- County and City government
- Residents of the area
- News Media
- US Geological Survey- water quality and quantity stations (20% of water monitoring data)
- Internet- for better or worse
- Conferences and meetings
- Publications- newspaper, scientific papers, conference proceedings
- Programs- CERP- Comprehensive Everglades Restoration Plan

- Programs-Ecosystem restoration teams
- Grants
- Local property tax, storm water utilities- all counties
- Coastal Conservation Association (CCA) puts money behind research
- Rookery Bay
- Corkscrew Swamp Sanctuary - owned by Audubon
- Conservancy of Southwest Florida

**What constraints have kept you from helping to resolve this issue?**

- Politics
  - Some agencies are forced to carry out certain measures by higher powers
  - Development and growth in this area makes it hard to keep up with changing land use
  - Competing users for the same water (upstream, etc)
  - Coordination of stakeholders/resources and research is important to prevent overlap
- Heritage-whole state has been plumbed
- Able scientists understand problems but do not have the means to fix them
- Scientists tend to specialize and micromanage vs. macro-manage the issues
- Lost in translation- there is a communication barrier from science to implementation
- Maintaining quality of life presents certain inherent problems to the issue- ex. maintenance of service for flood protection
- Apathy of property owners, (6000 people move to Florida each week) results in a reactionary tactic versus a proactive stance. There is a lack of understanding of the concepts of freshwater inflow
- Population growth on infrastructure- concentrating population on the coast results in majority of environmental problems on the coast
- Expectation vs. reality for residents of Florida

**What role should the public play in helping to resolve this issue?**

- Staying informed – realizing this is an issue
- Keep the public on the radar in terms of decision- making with regards to environmental issues such as freshwater inflow
- Participating in dialogue with decision-makers and other stakeholders, more consensus seekers vs. ‘my way’ attitude, finger pointing, anger, etc.
- Keep an open dialogue with county, state, local officials
  - Funding- giving dollars to quality organizations that are working to solve problems
  - Allow support taxes, additional taxes to fund scientific research
  - Volunteering- ex. community based restoration projects, gives people a stake in the work that is being done

**What role should the government play at the local, state, and /or federal level in helping to resolve this issue?**

- Be receptive and provide funds
- Listen to all stakeholder groups
- Thoughtful ethical decision making

- Sustainable decision making- think of future generations
- Streamline project implementation process- remove road blocks for permits, etc.
- Land acquisition for water retention use
- Locally, the counties need to think in terms of regions, get counties to work together because they often have different agendas and different protocols on the issue
- Change the Land Development Code for better water retention
- At all levels- development and land use changes need to be tied to freshwater inflow and storm water runoff (presently it is not)
- Planning must be worked out with freshwater issues in mind
- State (of Florida) has to be a better steward



**Community Workshop Break Out 2 of 5**  
**Gulf Water quality (nonpoint source pollution, storm water)**  
**Naples, Florida – June 10, 2005**  
**Rookery Bay National Estuarine Research Reserve**

**Participants:** Not recorded completely, Vicki McGee – Rookery Bay, Frank Muller-Karger – University of South Florida, Al Katz – citizen, Sara Jewel – Collier County Marine Industries, Carolyn Cochran – University of Florida Cooperative Extension, Jennifer Hacker – The Conservancy of Southwest Florida

**Facilitator:** Tabitha Whalen Stadler, Rookery Bay NERR

**Recorder:** Jorge Agobian, Florida Gulf Coast University Graduate Student

**How do you define this issue with respect to the health of the Gulf of Mexico?**

- Are we locked into all of our bays in terms of water quality as to what is out on the Gulf? In other words, can we improve what's out beyond the Bay?
- People live in these areas
- Where are we looking at water quality (monitoring)?
- Where is the source of water degradation/pollution coming from?
- Nutrients are a concern (among other things) but not the only one
- Where do we check water quality in respect to the source of the pollution/degradation?
- Historical References for the “natural conditions” for the body of water
- Dilution plays a big part in water quality
- Also need to know the type of pollution (nutrients, toxic substances)
- What are the total maximum loads acceptable? What are the current loadings?
- Need to know the fate of the pollutants – this is where science comes in
- Just because what's present in Naples Bay is not yet a problem out in the Gulf doesn't mean it's OK to dump that into the Gulf
- Water quality depends on what you're looking for (i.e., pollutants, nutrients) – some of these not only occur naturally, but are vital to the well-being of the ecosystem (ex: Rookery Bay Estuary)
- Hypoxia is another example – not a pollutant per se, but definitely a water quality factor
- Naples Bay has a dissolved oxygen problems due to storm water
- Freshwater is not necessarily considered a pollutant, but it can affect water quality
- Dissolved oxygen, turbidity, etc. also affect the organisms present and should be considered
- Heavy metals, persistent organic compounds, coliform bacteria, pathogens, amount of light/irradiance are also important
- Fate of a pollutant can be short- or long-term (i.e., pesticides)
- Parts of definition:
  1. Where: Naples Bay, Ten Thousand Islands – the location
  2. When: Timing by season & longevity of pollution introduction into the water

3. How: Understanding how these things are affecting water quality – science to management; interaction of the “when” with the environment/pollutant is critical
4. Who: There is a human dimension to this problem – water quality means a lot of different things to different people (i.e., drinking water, having enough water for living/recreation, flooding); there needs to be a balance when it comes to “drawing a line” between the preservation of resources for future generations and the needs of the present generations  
 So-called “real world” perspectives on water quality: “Can you swim in the water? Would you eat the fish caught in that water?”  
 Defining the issue: Fishable/Swimmable?  
 The “fishable/swimmable” definition is very ethnocentric; a fishable/swimmable body of water may still have poor quality
5. Projecting targets & getting them implemented via regulations, laws, etc.

**Where do you go for information and assistance (e.g. technical, financial, etc.) on this issue?**

- State regulations & their definitions; water quality criteria are, for the most part, defined. Some parameters are not fully developed.
- Still, when we have a crisis (i.e., red tide) we know about it
- Information on nutrient & metal level thresholds is not readily available
- Media (television, radio, newspapers)
- Websites
- Florida Department of Environmental Protection
- Environmental Protection Agency
- Florida Fish and Wildlife Commission
- Gulf in Peril articles
- Conservancy’s Gulf of Mexico report – Estuaries Report Card – scientific information boiled down to a simple synopsis of what’s going on in each place; community resource which will be available in November for average citizen.
- South Florida Water Management District or DEP websites for raw data
- Citizens groups
- Observing systems – snapshots then 10 years later; most of the information needs to be known in “real time” – something along the lines of a weather service for water quality; example: Charlotte Harbor’s red tide monitoring – reports immediately to Mote Marine Lab; NOAA also has a red tide website link which updates every 6 hours
- Why can’t the TV weatherman take a minute of his/her allotted time to report on water quality data? Comes back to not having enough real-time data.

**What constraints have kept you from helping to resolve this issue?**

- Funding (taxpayer & private)
- Money and/or priorities
- Getting the public to understand the problem
- Fear factor
- Limited scientific data (no nutrient standard)
- Need continuous real-time monitoring/reporting
- Paralysis between people & government – people have given up on government actually representing their local interests, so they give government no feedback

**What role should the public play in helping to resolve this issue?**

- Better understanding
- Engage government – hold government responsible for communication
- People must begin caring about water quality as key to Gulf health
- Waterside developers, restaurants, marinas, business owners, etc. need to act as stewards of their watershed
- More stringent parameters for waterside development through a vocal community

**What role should the government play at the local, state, and/or federal level in helping to resolve this issue?**

- Make developers responsible for quality – i.e., make waterside developers put in better filtration devices
- Implementation, enforcement and monitoring
- Support research



**Community Workshop Break Out 3 of 5  
Lifelong Education (K through Gray)  
Naples, Florida – June 10, 2005  
Rookery Bay National Estuarine Research Reserve**

**Participants:** Not recorded  
**Facilitator:** Ginger Hinchcliff  
**Recorder:** Liza DeLizo

**How do you define this issue with respect to the health of the Gulf of Mexico?**

- Knowledge - People don't know the gulf is in trouble! This is alarming – they need to be informed in order to be concerned
- Emphasis on other issues, not on the gulf itself
- What resources already exist that can be tapped into?
- Identify most effective programs
- Sustain the demonstrated effective programs
- Fund existing programs and “new and innovative” programs
- Relevance - We need to show relevance of Gulf to individual lives
- Support field-based, experiential education

**Where do you go for information and assistance on this issue?**

- Parents/Grandparents – kids use parents as resources
- Adult education/Elder hostel/Florida master naturalist
- Internet
- Virginia Institute of Marine Science Bridge
- The Centers for Ocean Sciences Education Excellence (COSEES)
- Jason
- Local Agencies
- Big Names– Natural Geographic, Discovery
- Local Channels
- Professional Associations
- Library
- National Public Radio
- Media – both local and national e.g. Naples Daily News
- However, who do you trust? Misinformation and misunderstanding can cause problems. For instance, Gulf in Peril series had mistakes in the science. Good for information, but not for teaching issues. Many people take it as ‘if it is written, it is true’. As an educator, you should be going to a source that has quality control, or to primary source.

**What constraints have kept you from helping to resolve this issue?**

- Lack of coordination
- Lack of public support
- Lack of public outcry (Apathy) – needs to be quite high before something happens
- Cultural Constraints, Overshadowed by basic needs being met e.g. Maslow's hierarchy of need - Individuals are more worried about food, don't care about the Gulf
- Inadequate teacher prep to understand - inadequate time within the school day to teach science
- Teachers are forced to teach subjects that do not focus on local issues (due to state mandated constraints)
- Language constraints
- Adult education is not profitable – Seniors won't pay enough tuition to pay a university's bills. Does not include ecotourism for wealthier, more educated adults. Adult education is too limited and needs wider access- perhaps online long distance learning for adults with time constraints
- Teaching to the test/no child left behind
- Lack of opportunities for experimental education

**What role should the public play in helping to resolve this issue?**

- TOURISM TAX – link to education about Gulf
- SUPPORT EDUCATION Get involved with schools – public needs to support and advocate education as a priority

**What role should the government play at the local, state, and /or federal level in helping to resolve this issue?**

- Local/State/Federal teacher training with focus on environmental sciences
- Identify effective programs and provide access to these problems, specific to environmental ed/science. It is difficult to get teachers go for training



**Community Workshop Break Out 4 of 5  
Habitat Loss/Degradation  
Naples, Florida – June 10, 2005  
Rookery Bay National Estuarine Research Reserve**

**How do you define this issue with respect to the health of the Gulf of Mexico?**

- Habitat degradation
- Loss of species diversity
- Actual (direct/physical) and functional loss to system
- Scale of loss (critical value of the habitat) lose sinks and turn into sources of pollution
- Failures to mitigate
- Correlates to population growth
- Lack of understanding about what we have to lose in the gulf
- Lack of understanding ecosystem services that healthy systems provide
- Understand how to allocate resources for nature
- Dovetails with water quality and quantity

**Where do you go for information and assistance on this issue?**

- Water management district
- Agencies such as US Geological Services and Fish and Wildlife Commission
- Data gap for most marine (open ocean) environments
- Florida Keys National Marine Sanctuary/Rookery Bay National Estuarine Research Reserve
- National estuarine reserves
- Agencies and NGOs (The Nature Conservancy, Fl Department of Environmental Protection, Fish and Wildlife Commission) Plans for assessment will bring good info
- Local non governmental organizations who bring issues up to larger state and government, State chapter of Audubon, Conservancy of Southwest Florida, Watershed Council of Southwest Florida
- County government (land use info)
- Marine trade association
- National park services, Department of Interior

**What constraints have kept you from helping to resolve this issue?**

- Data issues - state of the art GIS systems-unaware of gaps, constantly changing, Continuous new data and information to update
- Lack of enforcement/action when a citizen reports a cause of habitat loss
- Lack of political will, lack of planning, lack of funding, lack of clarity of job duties (overlap between entities)
- Agencies have no official capacity to enforce
- Special interests driving mixed messages

- Filtered or selective info that gets to the public
- Media – misquoting/misinformation
- Agency turnover and projects
- Agencies lacking sense of sharing & partnership
- Lack of cumulative impact assessments
- Lack of public interest in fighting the loss - lack of public education and overwhelmed by ambiguity
- Unheralded successes – problem for public awareness/interest
- Need for easily understood measurement of progress of goals and implemented plans
- Failure to implement existing laws and regulations
- Retaliation/lack of cooperation from local government (councils and commissions)
- Cost of land - how to spend the small amt of resources we have
- Difficulty prioritizing land purchases, how to use the small amount of funding that exists
- Shifting baselines - accepting what we have today b/c we don't understand what was around 50 years ago
- Need measure to show decline
- Cost of doing business – undervaluing of environmental resources
- Need to attach economic values to ecological services
- Population growth
- Misguided priorities - easier to restore degraded wetland than to create new one, but degraded areas are slated for development /easier to get permit
- Agencies are not communicating-need better organizing of info and better ability to find info
- Control given back to local governments (growth management drives growth development)
- Insufficient stakeholder/public involvement

**What role should the public play in helping to resolve this issue?**

- Everywhere and at all levels
- Public needs to recognize that the government decisions are a reflection of their action/apathy
- Can't sugar coat the issue to the public, they need to understand their role in causing/addressing and fixing these problems
- Overselling clean and pristine FL to the public, snowbirds and vacationers not taking responsibility for their impacts
- Public needs to think about the habitat and the natural resources they use – map based program where people could identify the locations in the marine environment they use/what areas are important to them
- Public involvement/volunteering in restoration

**What role should the government play at the local, state, and /or federal level in helping to resolve this issue?**

- Top down (funding), bottom up process (stakeholding from locals)
- Visionary umbrella/plan
- Inform legislators
- State involvement in growth management; adopt a “bay”, etc.
- Reduce redundancy in roles/actions



**Community Workshop Break Out 5 of 5  
Population Growth and Development  
Naples, Florida – June 10, 2005  
Rookery Bay National Estuarine Research Reserve**

**Participants:** Dick Eckenrod-Tampa Bay Estuary Program, Jon Iglehart-Florida DEP, Scott Hopkins-Cedar Bay Marina, Brenda Brooks-Solveson-FGCU, Cheryl Metzger-DEP Rookery Bay, Vince Caetero-City of Marco Island

**Facilitator:** Erica Seiden-NOAA

**Recorder:** Julie Van Horn-FGCU

**How do you define this issue with respect to the health of the Gulf of Mexico?**

- Balancing demands of growth and people vs. environmental demands
- Growth is inevitable, must prioritize what needs to be saved and what we can afford to lose
- All problems link back to population growth

**Where do you go for information and assistance on this issue?**

- Government agencies (county, city, regional planning council, state)
- EPA “smart growth” website
- Low impact development website LEED
- Center for watershed development website
- Army corps EIS plan for development (preservation regions, development regions identification)
- Conservancy
- Land Trust Alliance
- Conservation 20/20 in Lee county, Collier Conservation=county level land acquisition plans
- Chambers of Commerce
- Fish and Wildlife Conservation Commission
- Dept of Agricultural and Consumer Services
- USDA

**What constraints have kept you from helping to resolve this issue?**

- Political will (policies follow community demands), issues range from small to large (Babcock Ranch, Caribbean Gardens Zoo)
- Market Forces
- Quality of life issues
- Commissioners approve development as long as quality of life is good
- No connection between developers and environmental community (green developers could be the medium linking the two)

- Lack of communication in general
- Many larger development companies have already started making the effort, because controversy is bad for all (turning controversy into success by consulting with environmental groups)
- “Rural stewardship” questionable
- Tourism economy=development economy
- Urban development boundaries-what do they mean? They result in pressure to build eventually

**What role should the public play in helping to resolve this issue?**

- Seasonal vs. resident
- Define “public” are we preaching to the choir with community meetings, etc. Need to add a fun element to get others involved that wouldn’t ordinarily participate because they are the ones to really implement the solutions
- Get “neutral party” information-know your audience
- Environmental groups should be getting the public involved instead of other way around
- Education is important, provide information combined with emotional involvement
- Community meetings do play an informative role and draw out people that will be impacted
- Individual commitments are important-need to let their elected officials know who will then make policies
- Need to get public to trust elected officials to take their information and enact change
- Difficult to get people to care about large issues like the Gulf versus more local issues (e.g. Piney Point)
- People need to feel empowered, that they can make a difference by little things they do
- People will act if they feel threatened or will be impacted economically
- Local issues are a good starting point, expand these methods to encompass a larger set of issues

**What role should the government play at the local, state, and /or federal level in helping to resolve this issue?**

- Use existing programs to inform citizens
- Economic valuation of natural resources
- Support and solicit research and data collection within budget
- Mandate creation and enforcement of urban development boundaries
- High density development puts pressure on small areas (pollution)
- Lock up what land you can because otherwise it will eventually be developed
- Identify most sensitive areas and most valuable areas and protect them
- Control urban sprawl
- Concept of “smart growth”
- Encourage higher density growth, which is better from a land use perspective
- Encourage “green building” high rises