



Mobile Bay National Estuary Program

Project Implementation Committee August 2, 2012

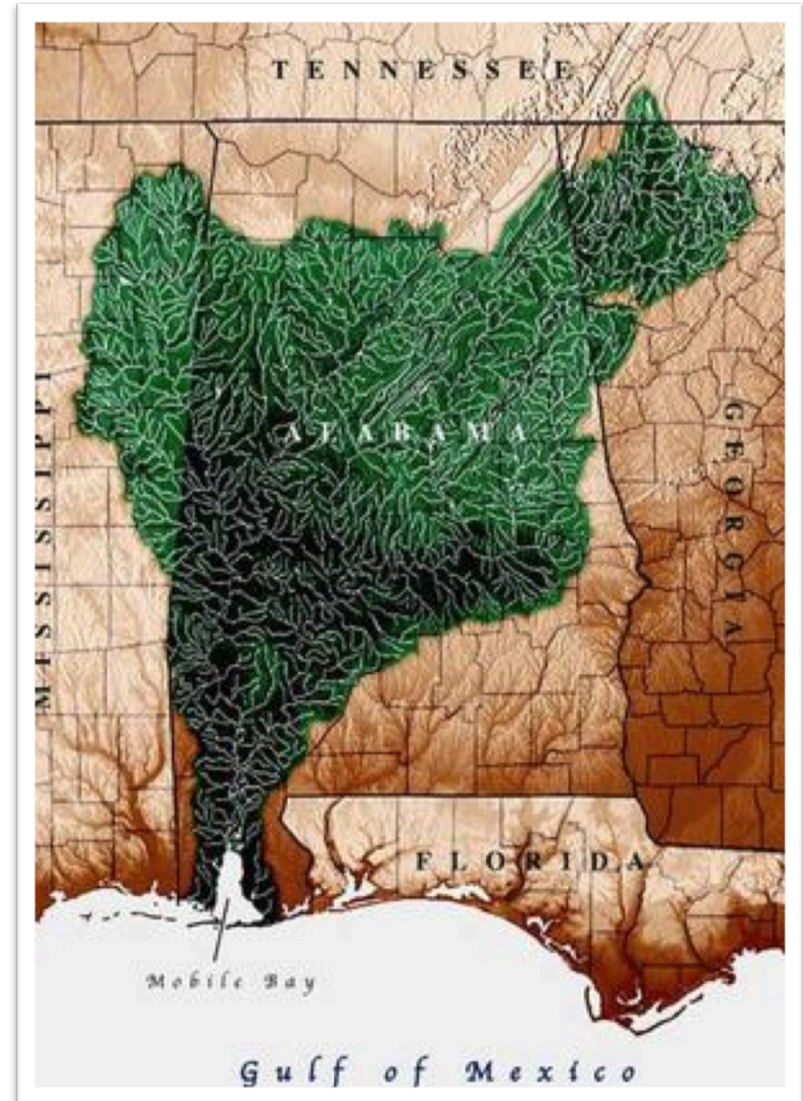
“Develop criteria to identify priority activities for ecosystem restoration and protection.”





• What is the CCMP?

- It's the **Comprehensive Conservation Management Plan** of course!
- It “serves as a blueprint for maintaining and improving the waters of the Mobile Bay estuary”
- Developed through the efforts of a broad constituency of stakeholders





- **What is the purpose of this portion of the meeting?**

- Begin to think about how to score, select, prioritize, and or choose the restoration and protection activities that do the following:
 - a. Are focused within Mobile and Baldwin Counties, within Mobile Bay/Portersville Bay/Mississippi Sound, and up to 3 miles into the GOM
 - b. Are shovel-in-the-ground projects
 - c. Directly impact Water Quality, Living Resources and Habitat Management (CCMP).

- **What are we NOT doing today?**

- We are NOT prioritizing any projects
- We are NOT developing criteria today
- We are NOT subtracting any projects from “the list”
- We are NOT focusing on policy/
outreach/education/access
- We are NOT focusing on the DHOS







All Hail *"The List"*

Projects for Consideration

Project	Watershed	Source	Restoration Classification
Acquisition; working waterfront purchase of undeveloped and developed properties for public access	State-wide	CRC	Acquisition
Bon Secour Land Acquisition (12 acres of coastal wetlands and uplands directly adjacent to Bon Secour River)	Bon Secour River	MBNEP Reg IV List	Acquisition
Acquisition of 25 acres of stopover, migratory bird habitat on Dauphin Island (Steiner Block, Tupelo Gum and General Gorgas Swamps)	Dauphin Island	MBNEP Reg IV List; NOAA NRDA List	Acquisition
Coastal Land Acquisition in Baldwin County	Baldwin County	Baykeeper NRDA/ Restore Act List; NOAA NRDA List	Acquisition
Coastal Land Acquisition in Mobile County	Mobile County	Baykeeper NRDA/ Restore Act List; NOAA NRDA List	Acquisition
Gallops Creek 1,600-Acre Tract Acquisition	Mobile County	NOAA NRDA List	Acquisition
Coastal Watershed Property Acquisition in Mobile County	Mobile County	NOAA NRDA List	Acquisition
Property Acquisitions for Protecting the Big Creek Lake/Converse Reservoir	Big Creek-Hamilton Creek	NOAA NRDA List	Acquisition



All Hail *"The List" con't (2 of 12)*

Acquisition to Enhance Grand Bay National Wildlife Refuge	West Fowl River	NOAA NRDA List	Acquisition
Laguna Cove , Little Lagoon- A Resource Protection Project	Little Lagoon	NOAA NRDA List	Acquisition
Titi Swamp Wetland Purchase and Preserve	Mobile Bay	NOAA NRDA List	Acquisition
Meadows Addition- A Resource Protection Project	Mobile Bay	NOAA NRDA List	Acquisition
Wolf Bay Wetland Nature Preserve A Coastal Resource Recovery Land Acquisition Project	Wolf Bay	NOAA NRDA List	Acquisition
Andrew Benton Tract- Protection and Restoration of Coastal Alabama - A Coastal Resource Recovery Land Acquisition Project	Mobile Bay	NOAA NRDA List	Acquisition
Swift Tract Addition- A Resource Protection Project	Mobile Bay	NOAA NRDA List	Acquisition
Land Expansion for Foley's Graham Creek Nature Preserve	Wolf Bay, Graham Creek	NOAA NRDA List	Acquisition
City of Spanish Fort Land Acquisition Project	Baldwin	NOAA NRDA List	Acquisition
Dauphin Island Eco-Tourism and Environment Education Area	Dauphin Island	NOAA NRDA List	Acquisition (but NOT restoration)



All Hail *"The List" con't (3 of 12)*

Bon Secour Shoreline Protection	Skunk Bayou, Bon Secour River, Oyster Bay	ARBOR Phase I	Beaches
Back Bay Shoreline Protection in Gulf Shores and Orange Beach	Hammock Creek	ARBOR Phase I	Beaches
Restoration in Gulf Shores and Orange Beach Shoreline	Hammock Creek	ARBOR Phase I	Beaches
Sand island Beach Restoration	Pelican Bayou	ARBOR Phase I	Beaches
Barrier Island Restoration		ARBOR Phase III	Beaches
Restoration of Gulf State park	Hammock Creek	ARBOR Phase III	Beaches
Town of Dauphin Island Beach and Barrier Restoration Project	Dauphin Island	Baykeeper NRDA/ Restore Act List; NOAA NRDA List	Beaches
Fill Borrow Pits on North Side of Dauphin Island	Dauphin Island	NOAA NRDA List	Beaches
Restore Dauphin Island East End Beaches	Dauphin Island	NOAA NRDA List	Beaches
Town of Perdido Beach Shoreline Restoration Project	Perdido Bay	NOAA NRDA List	Beaches
Gulf Shores/Orange Beach/Gulf State Park Beach Restoration	Baldwin	NOAA NRDA List	Beaches
Orange Beach/Gulf State Park/Gulf Shores Beach Restoration	Baldwin	NOAA NRDA List	Beaches
Gulf Highlands/Gulf Shores AL Public Beach	Baldwin	NOAA NRDA List	Beaches
Invasive Species Management	State-wide	State Management Plan for Aquatic Nuisance Species in Alabama	Fisheries
Marine Finfish restoration through stocking	State-wide	CRC	Fisheries



All Hail *"The List"* con't (4 of 12)

Restoration, enhancement, cultivation, relaying and harvest management of current oyster reefs	State-wide	CRC	Fisheries
Development of Off-Bottom Oyster aquaculture	State-wide	CRC	Fisheries
Sustaining Alabama's Working Waterfront through Oyster Aquaculture	Primarily Mobile County	NOAA NRDA List	Fisheries
Oyster Reef Rebuilding in Grand Bay	West Fowl River	Baykeeper NRDA/ Restore Act List	Fisheries
Oyster Reef Rebuilding in Portersville Bay outside the mouth of West Fowl River	West Fowl River	Baykeeper NRDA/ Restore Act List	Fisheries
Mon Louis Island Habitat Creation/ Shoreline Stabilization	Deer River	MBNEP Reg IV List	Fisheries
Lower Alabama River Diadromous Fish Passage	Multiple Counties, AL	NOAA NRDA List	Fisheries
Oyster Reef Reestablishment in Portersville Bay and Mobile Bay	Mobile County	NOAA NRDA List	Fisheries
Building a Better Gulf Floor - Reef and Habitat Construction	Baldwin County	NOAA NRDA List	Fisheries
Northern Gulf of Mexico Super Project-enhance habitats and augment wildstocks through an aquaculture base project	Baldwin	NOAA NRDA List	Fisheries
Increasing Research Capacity in the Weeks Bay National Estuarine Research Reserve	Mobile Bay	NOAA NRDA List	Fisheries
Nearshore and Snorkeling Reef Project	Baldwin	NOAA NRDA List	Fisheries
Pilot Town Acquisition and Finfish and Shellfish Habitat Restoration	Mobile Bay	NOAA NRDA List	Fisheries/Acquisition



All Hail *"The List" con't (5 of 12)*

Develop Comprehensive Watershed Management Plans following nine elements of EPA as first step in identifying restoration needs by watershed.	Mobile County: Meekers, Seabury, Lower Chasaw Creek, Gunnison, Dog River, Three Mile Creek, Fowl River, West Fowl River, Grand Bay Swamp, Bayou LaBatre River, Delchamps Bay Baldwin County: Upper Bay Minette, Lower Bay Minette, Fly Creek, Bon Secour, Yancy Branch, Little Lagoon, Sandy Creek, Graham Bayou, Mifflin Creek, Negro Creek, Hammock Creek	MBNEP Reg IV List	Planning
Implementation of measures prescribed in WMPs to restore water quality.	See above.	MBNEP Reg IV List	Implementation
Alabama Coastal (Longleaf Pine) Forest Restoration (with private property owners)	Escatawpa, Perdido, and Mobile-Tensaw River Basins	NOAA NRDA List	Upland Restoration
Coastal Alabama Habitat Restoration - Mobile Bay Bird Islands	Mobile Bay	NOAA NRDA List	Upland Restoration
Island Wildlife Habitat Enhancement	Perdido Bay	NOAA NRDA List	Upland Restoration
Magnolia Springs Habitat Restoration	Mobile Bay	NOAA NRDA List	Upland Restoration
Montlimar Creek, Eslava Creek, Boltons Branch Repair/Maintenance	Mobile	NOAA NRDA List	Upland Restoration
Restoration of the Former Ziebach WWTF Property Near Mobile Bay	Mobile	NOAA NRDA List	Upland Restoration
Headwaters Coastal Forest Protection - Baldwin County, AL & Escambia/ Santa Rosa Counties, FL	Baldwin	NOAA NRDA List	Upland Restoration/ Acquisition
Carlisle Area Drainage Repair/ Upgrade additional phases	Three Mile Creek	NOAA NRDA List	Upland Restoration/ Water Quality
Eco Restoration/Dredging of Dog River and Tributaries	Dog River	NOAA NRDA List	Upland Restoration/ Water Quality



All Hail *"The List" con't (6 of 12)*

Regional Detention Ponds		CRC	Water Quality
Repair D'Olive Creek and its tributaries affected by active head-cutting and channel incision and downstream wetlands	D'Olive & Tiawasee Creeks and Joe's Branch Watersheds	CRC MBNEP Reg IV List Baykeeper NRDA/ Restore Act List	Water Quality
Repair Tiawasee Creek and its tributaries affected by active head-cutting and channel incision and downstream wetlands	D'Olive & Tiawasee Creeks and Joe's Branch Watersheds	CRC MBNEP Reg IV List Baykeeper NRDA/ Restore Act List	Water Quality
Repair Joe's Branch and its tributaries affected by active head-cutting and channel incision and downstream wetlands	D'Olive & Tiawasee Creeks and Joe's Branch Watersheds	CRC MBNEP Reg IV List Baykeeper NRDA/ Restore Act List	Water Quality
Restoration Of Lake Forest Lake	D'Olive & Tiawasee Creeks and Joe's Branch Watersheds	CRC MBNEP Reg IV List Baykeeper NRDA/ Restore Act List	Water Quality
Stormwater infrastructure retrofits in the D'Olive Watershed	D'Olive & Tiawasee Creeks and Joe's Branch Watersheds	CRC MBNEP Reg IV List Baykeeper NRDA/ Restore Act List	Water Quality
Constructed wetlands for the Big Creek Lake/ Converse Lake drinking water reservoir	Big Creek-Hamilton Creek	CRC	Water Quality
Sediment Reduction; Stream Restoration; Sediment traps; regional retention and detention	Baldwin and Mobile counties	CRC	Water Quality
Daphne Water Reclamation Facility Improvements	Tensaw R-Apalachee R (D'Olive)/ Yancy Branch	CRC	Water Quality
Gulf Shores Water Reclamation Facility Improvements	Hammock Creek	CRC	Water Quality



All Hail *"The List"* con't (7 of 12)

Fairhope Wastewater Treatment Facility Improvements	Fly Creek/Lower Fish River	CRC	Water Quality
Alabama Gulf Coast regional sewer supply district regional wastewater treatment facility and transmission lines	South Mobile County	CRC	Water Quality
Renovation of Mobile, Alabama's Antiquated Storm Water Treatment Infrastructure	City of Mobile	NOAA NRDA List	Water Quality
Sanitary sewer collection system improvements		CRC	Water Quality
Saraland Wastewater Treatment Facility Improvements	Bayou Sara	CRC	Water Quality
Pathogen Reduction; Septic System Maintenance Fund- Create incentive program for residents with septic systems to upgrade/maintain systems		CRC	Water Quality
Sanitary Sewer Improvement (e.g. Bayou La Batre's seafood)		ARBOR Phase III	Water Quality
Renovation of Mobile's Stormwater Management System	Mobile, AL	Baykeeper NRDA/Restore Act List	Water Quality
Eight Mile Creek Restoration	Eight Mile Creek	MBNEP Reg IV List	Water Quality
Alabama Port and Heron Bay Sewer Improvements	South Mobile County	NOAA NRDA List	Water Quality
City of Chickasaw Wetland Restoration and Water Quality Improvement Project	Lower Chasaw Creek	NOAA NRDA List	Water Quality
Spring Creek Drainage Repair/Upgrade additional phases	Upper Dog River	NOAA NRDA List	Water Quality



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City of Fairhope- Public Beach's Water Quality Treatment	Mobile Bay	NOAA NRDA List	Water Quality
Fairhope Beach Shoreline Enhancement & Water Quality Project	Mobile Bay	NOAA NRDA List	Water Quality
Rehabilitation of Sanitary Sewer Mains - Foley, Alabama	Wolf Bay, Bon Secour	NOAA NRDA List	Water Quality
Perdido Watershed Water Quality Improvement	Mobile Bay	NOAA NRDA List	Water Quality
Drainage Improvements in the Southern Drain Watershed	Mobile Bay	NOAA NRDA List	Water Quality
Bandalong Litter Traps in the Dog River Watershed of Mobile, Alabama	Dog River	NOAA NRDA List	Water Quality
Stormwater Media Campaign	Baldwin and Mobile counties	NOAA NRDA List	Water Quality Ancillary
100/1000 Restore Coastal AL - Point Aux Pines project	South Mobile County	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL - City of Fairhope Pier	Fly Creek	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL - Coffee Island	Mississippi Sound	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Swift Track	Bon Secour Bay		Wetlands
100/1000 Restore Coastal AL- Marsh Island	Mississippi Sound	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Arlington Cove - Brookley Center	Garrows Bend	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Point Clear	Fly Creek	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands



All Hail *"The List" con't (9 of 12)*

100/1000 Restore Coastal AL- Pelican Point	Hammock Creek	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Fort Morgan Road (private living shoreline)	Little Lagoon	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL - Long Island Grand Bay	West Fowl River	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Big Island Grand Bay	West Fowl River	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Barton Island Peninsula Grand Bay	West Fowl River	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Little Bay Island	Mississippi Sound	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- West Marsh Island	Mississippi Sound	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- East Marsh Island	Mississippi Sound	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- South Swift Tract	Bon Secour Bay	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Bon Secour NWR	Little Lagoon	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Private Living Shorelines (Peninsula)		CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Fort Morgan	Little Lagoon	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal AL- Little Dauphin Island	Dauphin Island	CRC; Baykeeper NOAA NRDA List; NOAA NRDA List	Wetlands



All Hail *"The List"* con't (10 of 12)

Brookley Field Emergent Tidal Marsh Structures	Garrows Bend/Upper Mobile Bay	ARBOR Phase I	Wetlands
Restoration of Historic Benthic and SAV Beds Adjacent to Brookley	Garrows Bend/Upper Mobile Bay	ARBOR Phase III	Wetlands
Coastal Alabama Habitat Restoration Brookley Marsh Island Project, Mobile, Alabama	Garrows Bend/Upper Mobile Bay	NOAA NRDA List	Wetlands
Coastal Alabama Habitat Restoration - Bayou Heron, Dauphin Island, Alabama	Mississippi Sound	NOAA NRDA List	Wetlands
Coastal Alabama Habitat Restoration - Arlington Cove Project, Mobile, Alabama	Garrows Bend	NOAA NRDA List	Wetlands
Coastal Alabama Habitat Restoration - Portersville Bay Islands	Portersville Bay	NOAA NRDA List	Wetlands
Coastal Alabama Islands Habitat Restoration and Protection	Baldwin and Mobile counties	CRC	Wetlands
Wetland Breakwater Construction in Mobile Bay Using Dredged Material	Upper, Middle, and Lower Mobile Bay	ARBOR Phase I	Wetlands
Large Restoration of Impaired Freshwater/Saltwater Hydrologic Connections (Causeway)	Upper Mobile Bay/Tensaw R-Apalachee R	ARBOR Phase III; Baykeeper NRDA/Restore Act List; NOAA NRDA List	Wetlands
Critical Habitat Protection through acquisition, conservation easements	State-wide	CRC	Wetlands
Acquisition; Area-wide Wetland mitigation Bank, Water Body Bank Conservation Program	State-wide	CRC	Wetlands



All Hail *"The List"* con't (11 of 12)

Hog Bayou Restoration and Protection in Prichard, AL	Eight Mile Creek/Lower Chasaw Creek	CRC	Wetlands
Diamondback Terrapin Habitat Restoration	Grand Bay Swamp/Delchamps Bayou	CRC	Wetlands
Grand Bay Shoreline Protection and Restoration	West Fowl River	CRC	Wetlands
Restoration of Three Mile Creek	Three Mile Creek	CRC, MBNEP Reg IV List, Baykeeper NRDA/Restore Act List	Wetlands
Sweetwater Branch/Chickasaw Creek Watershed Stream Restoration	Lower Chasaw Creek	CRC	Wetlands
Mobile Bay Hard Bottom Restoration for Immediate Habitat Improvement for Juvenile and Adult Finfish		ARBOR Phase I	Wetlands
Dauphin Island Causeway Restoration	Delchamps Bayou	CRC; MBNEP Reg IV List; Baykeeper NRDA/Restore Act List; NOAA NRDA List	Wetlands
100/1000 Restore Coastal Alabama Oyster Reef, Marsh, and SAV Restoration Initiative	Baldwin and Mobile counties	CRC, Baykeeper NRDA/Restore Act List	Wetlands
Fowl River Shore and Island Restoration	Fowl River	Baykeeper NRDA/Restore Act List	Wetlands
Fowl River Wetlands Protection (750 acres of wetlands and river front property).	Fowl River	MBNEP Reg IV List	Wetlands
Dauphin Island Causeway: Cedar Point Master Plan Implementation (Restoration and Enhancement Project)	Delchamps Bayou	MBNEP Reg IV List; NOAA NRDA List	Wetlands



All Hail *"The List" con't (12 of 12)*

Eco Restoration/Dredging of Langan Park Lake (Municipal Park)	Three Mile Creek	NOAA NRDA List	Wetlands
Wolf Creek Restoration - streambed, wetlands and uplands through stormwater management improvements	Foley	MBNEP Reg IV List	Wetlands
Salt Creek Marsh Restoration	Dauphin Island	NOAA NRDA List	Wetlands
Cat Island Restoration	Mississippi Sound	NOAA NRDA List	Wetlands
Dauphin Island Parkway, Bayfront Park, and Heron Bay Cut-Off Shoreline and Habitat Restoration and Public Access Enhancements	Lower Mobile Bay	NOAA NRDA List	Wetlands
Shell Belt Road and Coden Belt Road Shoreline Restoration and Preservation	Mobile County	NOAA NRDA List	Wetlands
City of Fairhope- Fly Creek Restoration	Fly Creek	NOAA NRDA List	Wetlands
Shoreline Restoration on Ft. Morgan Peninsula and Pine Public Access Boat Ramp	Baldwin	NOAA NRDA List	Wetlands
Restoration of Tidal Flow to Meadows Tract-hydrological restoration of wetland property project	Mobile Bay	NOAA NRDA List	Wetlands
Seagrass Restoration and WQ Management in Old River Estuary	Florida Panhandle	NOAA NRDA List	Wetlands
Seagrass Restoration and WQ Management in Cotton Bayou	Perdido Bay	NOAA NRDA List	Wetlands
BayWinds Living Shoreline	Mobile Bay	NOAA NRDA List	Wetlands
Shoreline Restoration near Skunk Bayou- Mobile Bay - Eastern Shore	Mobile Bay	NOAA NRDA List	Wetlands
Robinson Island Restoration Project	Perdido Bay	NOAA NRDA List	Wetlands
Robinson Island Restoration	Lower Perdido	NOAA NRDA List	Wetlands
Acquisition of Wetlands for Habitat enhancement and public access for the City of Satsuma	Mobile River	NOAA NRDA List	Wetlands/Acquisition
Shoreline Restoration on Ft. Morgan Peninsula - Pine Public Access Boat Ramp	Mobile Bay	NOAA NRDA List	Wetlands/Ancillary

PHEW!





Something to Add to the List?

- Please send all relevant project information to Tom Herder at therder@mobilebaynep.com after the meeting!



- **What is the purpose of this portion of the meeting?**

- Begin to think about how to score, select, prioritize, and or choose the restoration and protection activities that do the following:
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- **What are we NOT doing today?**

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- Why is prioritizing restoration and protection activities for the CCMP important?
 - CCMP is the comprehensive plan that outlines ecosystem-based management of our estuary
 - Planning components are and should remain objective
 - Provides a **UNIFIED** direction for restoration/conservation efforts



- What are ways of prioritizing methods that are out there?

- Build on the SAC Priority Habitat Stressors work
- Decision matrix created for AL Coastal Recovery Commission
- NRDA Criteria – as it relates to defined stressors
- A.R.B.O.R. (Alabama coastal Recovery & Beneficial use, Operation, and Response Plan)
- Charlotte Harbor NEP Oyster Restoration Scoring Model
- Build off the Habitats Tool
- NFWF/BLM Evaluation
- Other? Contact Tom Herder!



• Remember the way the SAC rated Priority Habitat Stressors?

<ul style="list-style-type: none"> • Priority Habitat • Beaches and Dunes • Freshwater Wetlands • Intertidal Marsh and Flats • Longleaf Pine • Maritime Forest • Oyster Reefs • Pine Savannas • Riparian Buffers • Streams and Rivers • SAV • Subtidal 	Ecosystem Services	Chemical contamination	Dredging/filling	Fire suppression	Fragmentation	Invasive/exotic species	Land-use change	Nutrient enrichment	Pathogens	Sedimentation	Sea Level Rise	Climate Variability	Freshwater Discharge	Resource Extraction
	Biodiversity													
	Carbon Sequestration													
	Fisheries habitat													
	Flood control													
	Groundwater replenishment													
	Nesting habitat for birds and turtles													
	Oyster production													
	Primary production													
	Sediment and nutrient retention and export													
	Storm buffer/hazard protection													
	Water quality enhancement													
	Wildlife habitat													



- Coastal Recovery Commission prioritization questions and topics:

Ecosystem Criteria

- Connectivity
- Historic Loss
- Improvement of Ecosystem Function
- Size and Scope

Implementation

- Self-maintaining?
- Level of engineering?
- Overarching Issues?

Monitoring

- Is there a plan?
- Have goals/standards been established?
- Long-term maintenance required?
- Historic Loss
- Improvement of Ecosystem Function
- Size and Scope



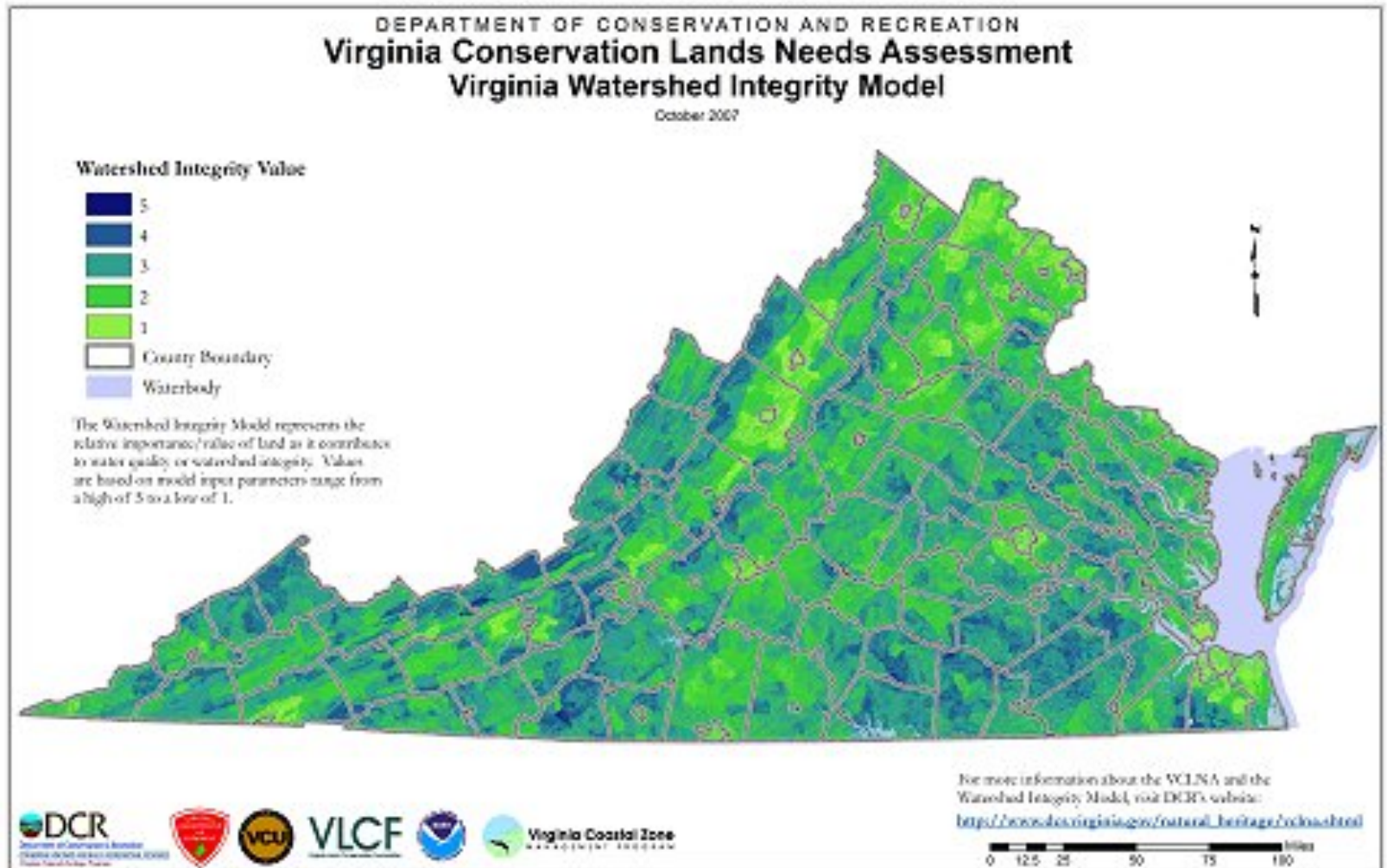
NRDA Injury Assessment Categories

- Deepwater Benthic Communities
- Water Column and Invertebrates
- Marine Fish
- Marine Mammals
- Sea Turtles
- Nearshore Sediment and Associated Resources
- Oysters
- Submerged Aquatic Vegetation
- Shallow Water Coral Reefs
- Shorelines
- Birds
- Terrestrial Species
- Human Use





- Healthy Watersheds Modeling effort

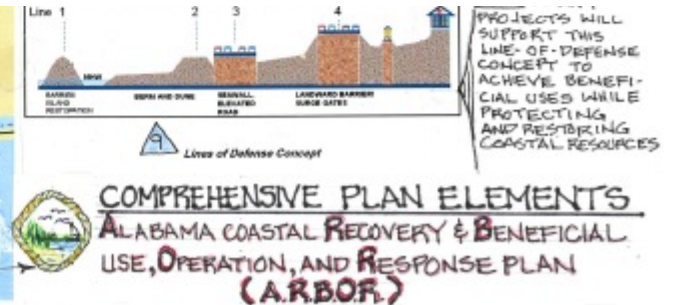




A.R.B.O.R. (Alabama coastal Recovery & Beneficial use, Operation, and Response Plan)



“The Corps emphasizes that this is a working concept and that all project would be screened for acceptability, effectiveness, environmental impact and other factors before being proposed for construction.”





A.R.B.O.R.

(Alabama coastal Recovery & Beneficial use, Operation, and Response Plan)

Goals:

1. Prevention of, recovery from and restoration following oil spills
2. Hurricane and storm damage reduction
3. Preservation of fish and wildlife
4. Reduction of saltwater intrusion
5. Prevention of shoreline erosion
6. Restoration of human use losses
7. Protection of other water-related resources

Line of Defense:

1. Barrier Islands
2. Mainland dunes and artificial berms
3. Coastal habitats(emergent tidal marshes, wet pine savannah, submerged aquatic vegetation, etc...
4. Seawalls, elevated roads
5. Landward barriers, surge gates

Implementation of Comprehensive Plan:

1. Phase I Projects (within 6 months)
2. Phase II Projects (1 to 2 months)
3. Phase III Projects (3 years or later)
4. Other Projects (education, research, etc...)

Screening and Formulation Process:

1. Is the project at a priority site?
2. Was the problem the project addresses caused or exacerbated by the oil spill? And does the project meet one of the seven goals listed above?
3. Is the project cost effective?
4. Can the project be engineered and designed within a given time frame and can the required environmental permits and clearances be obtained?
5. Can the project be ready to start within 6 – 12 months?
6. Do benefits outweigh cost?
7. Is it technically feasible (actually solving the problem)
8. Would this project be classified as immediate, intermediate or long term?
9. Small or large scale? Are the damages it addresses minimal or severe?



Charlotte Harbor Florida Oyster Restoration Scoring Model

SW FL Oyster Working Group Meeting 2 - May 9, 2012						
CHNEP Oyster Restoration Plan GIS Model Components						
0=avoid; 1=optimal; >0 and <1 = suboptimal but not avoid						
Component	Factor	Metric	Source	Reference	Model Scoring	
Avoidances	Seagrass	Seagrass Persistence (1999, 2004, 2006, 2008, 2010)	SWFWMD, SFWMD		SAV Present 5 yrs = 0; SAV Present 1-4 years = 0.5; SAV Absent = 1	Patchy & Continuous = present, Discontinuous = absent - Dan will evaluate overlapping the two GIS layers
	Aquaculture Lease Areas	Footprint of lease areas	FDACS	FDACS	Present = 0; Absent = 1	
	Boat Channels	Established boat channels	WCIND_channels & ?	Wall et al 2005, Grizzle et al 2002, S. Boutelle	Present = 0 (150ft wide); Buffer = 0.2 (75 feet); Absent = 1	Create 2 buffers along channel center lines using the WCIND GIS File: 1) 75' along both sides as an estimate of channel width = 0 in the GIS model & 2) an additional 75' along each side of the estimated channel as a buffer zone = 0.2 in the GIS model
Biological	Depth	Depth at MLW		Volety - intertidal, Kennedy et al 1996 - intertidal where salinity is high, Crosby et al 1991	land exposed at MLW & 0-3feet =1; 3-6ft = 0.5; >6 ft = 0; spoil areas = 0; dredged channel = 0; inland water =0	If data is in feet - land exposed at MLW & 0-3feet =1; 3-6ft = 0.5; >6 ft = 0
	Salinity (Chronic)	Ave. Annual Salinity (10 yr)	Water Atlas	Barnes et al 2007 (15-26) Volety (8-35; 14-28 opt.) Kennedy et al 1996	> 28 = 0.5; 14-28 psu = 1; 10-13.9=0.7; 5-9.9 psu = 0.5; <5 psu = 0	Requested GIS data from Water Atlas
	Dissolved Oxygen (Chronic)	Ave. Annual DO (10 yr)	Water Atlas	Volety (>3)	>3 mg/l = 1; <3 mg/l = 0.2	Requested GIS data from Water Atlas
		Current Oyster Reef Locations	Presence	Avineon 1999		Presence Absence
Further Considerations - post model <i>(take into consideration when evaluating sites in the field)</i>	Shellfish Harvesting Area Classifications			Breitburg et al 2000, Brumbaugh et al 2006		
	Historic Oyster Habitat		CHNEP 1950s benthic habitat mapping	Power et al 2010 (accuracy), Woodburn 1965, Gross and Smyth 1946, Smeltz 1898		Oysters = 6540
	Managed Areas		FNAI			Post-model evaluation
	Shoreline Type		CHNEP			Post-model evaluation
	Identified habitat migration shorelines	- Cape Haze, CH E Wall; Estero Bay Buffer - where public conservation lands have been acquired & will allow for habitat migration				Include as narrative only
	Sawfish Hotspots	1 kilometer buffer around known hotspots	FWC	Poulakis et al 2010, Poulakis et al 2011, Simpfendorfer et al 2003		Location data was estimated from Poulakis et al 2011 & pers. Comm. P. Stevens
	Aquaculture Lease Areas - Buffer/Access					Post-model evaluation



NFWF and BLM created a Project Evaluation Rating Matrix through a panel of 46 conservation experts and through their own experience in the field. This partnership created this scoring matrix to score the partnership and funded projects from 1995 – 2002. **They conducted a wide variety of diverse projects over a long period of time.**

- Matrices included:
 - **Project Design Evaluation Matrix**
 - Priority
 - Scale
 - Linkage
 - **Implementation Evaluation Matrix**
 - Planning
 - Administration
 - Monitoring
 - Communication
 - **Outcome Evaluation Matrix**
 - Species and Habitat Improvement
 - Education
 - Capacity Building
 - Research and Monitoring



Design Evaluation Matrix					
Attribute	Metrics	Rating			
		Excellent	Good	Fair	Poor
Priority	Definition of conservation target	Project is clear and specific about conservation target	Project is clear and specific about conservation target	Project is clear and specific about conservation target	Project is unclear and not specific about conservation target
	Peer references and other proof of priority	Project addresses conservation priorities, as defined by scientific community	Project addresses conservation priorities, as defined by scientific community	Project could better address conservation priorities, as defined by scientific community	Project does not address conservation priorities, as defined by scientific community
Scale	Peer references and other proof of scientific basis	Project includes established science-based model of conservation biology of target, including MDA, MVP, and SFE	Project includes plausible science-based model of conservation biology of target, including MDA, MVP, and SFE	Project includes conservation biology model of target, but requires substantial additional scientific research	Project does not include conservation biology model of target
	Expected Δ in conservation target relative to MVP ¹ , MDA ² or SFE ³	Geographic scale of project, or regional strategy of which it is a part, exceeds minimum necessary to ensure species viability and/or support ecosystem structure and function, and extends over natural range of conservation target	Geographic scale of project, or regional strategy of which it is a part, exceeds minimum necessary to ensure species viability and/or ecosystem structure and function	Geographic scale of project, or regional strategy of which it is a part, meets minimum necessary to ensure species viability and/or ecosystem structure and function	Geographic scale of project, or regional strategy of which it is a part, does not meet minimum necessary to ensure species viability and/or ecosystem structure and function
Linkage	Quality of references and base of experience supporting conservation activities	Project activities based on established scientific model, proven to generate predictable conservation outcome	Project activities based on plausible scientific basis	Scientific basis of project activities could be improved	Project activities have no clear basis in science, and conservation outcome is not predictable



Implementation Evaluation Matrix					
Attribute	Metrics	Rating			
		Excellent	Good	Fair	Poor
Planning	Logical framework or similar statement of goals, objectives, and activities	Project has clear goals, objectives, and activities, organized into a logical framework, with corresponding work plan and budget	Project has clear goals, objectives, and activities, organized into a written statement, with corresponding work plan and budget	Project goals, objectives, and activities could be better defined and linked in logical manner	Project has no clear goals, objectives, and activities, or they are not linked in logical manner
	Work plan and budget, corresponding to logical framework	Work plan and budget is well organized and detailed, more than adequate to track project administration	Work plan and budget is well organized and detailed, and adequate to track project administration	Work plan and budget could be improved, but adequate to track project administration	Work plan and budget either absent or not adequate to track project administration
	Stakeholder map	Stakeholders are clearly identified, described, and engagement strategy developed and integrated into regional conservation strategy	Stakeholders are clearly identified, described, and engagement strategy developed	Stakeholders are clearly identified, described, but engagement strategy not developed	Stakeholders are not clearly identified
Administration	Progress reports and project completion documents, accounting, submitted to donor	Project is implemented on schedule and within budget	Project is implemented on schedule and within budget, with minor adjustments	Project is not implemented on schedule and within budget, but is eventually completed	Project is not completed
Monitoring	Baseline Data	Scientifically sound baseline data for conservation target acquired and accessible for analysis in M&E	Scientifically defensible proxies for conservation target acquired and accessible for analysis in M&E	Scientifically defensible proxies for conservation target acquired but not directly useable for analysis in M&E	No baseline data or proxies collected
	M&E Plan	Project has M&E plan	Project has M&E plan	Project performs some	Project performs no



Mississippi – Alabama Habitats Tool

So, Jeff, that means we're
done, right?



Habitat	Ecosystem Services Most Stressed	Top Stress Impacts
Freshwater Wetlands	Nesting for birds and turtles Biodiversity Wildlife, Fisheries	Land Use Change Fragmentation Dredging and Filling
Intertidal Marshes and Flats	Biodiversity Fisheries Wildlife Water Quality	Sediment Sea Level Rise Fragmentation
Streams and Rivers (Riparian Buffers)	Fish Biodiversity Water Quality Sediment	Freshwater discharge Land Use Change Sediments



What are the next steps towards developing a unified ecosystem restoration strategy/agenda?

The End

