Watershed Education using Bivalves (WEB)

Tina Miller-Way
Discovery Hall Programs
Dauphin Island Sea Lab

A BWET '*Exemplary' Program*

- Involves teacher training and student activities
- 3 year program
  - Yr 1 - training workshop, MWEE development, student activities
  - Yr 2 - training workshop, MWEE refinement, MWEE student activities
  - Yr 3 - MWEE student activities, concluding workshop
- Middle school level (AL curriculum, standards)
  - 18 teachers @ 9 schools
  - ~500 students per year

Program objectives

- Content knowledge - PD
- Student field/lab activities
  - water quality across the watershed, bivalve biology (choice), Alabama heritage - history, ecology
- Technology skill development

MWEE focus

- Field activities
  - One near school, one at Sea Lab
- Lab activities
  - Animal-based

Project Partners

- WEB Advisory Team
  - Dr. Ken Heck, Dauphin Island Sea Lab
  - Dr. Bill Walton & Mr. Scott Rikard, Auburn University Marine Extension & Research Center
  - Dr. Bill Deutsch, Alabama Water Watch
  - Dr. Paul Johnson, Alabama Aquatic Biodiversity Center
  - Mr. David Ruple, Grand Bay National Estuarine Research Reserve
  - Dr. LaDon Swann, Mississippi-Alabama Sea Grant Consortium

Other project elements

- Recruitment
  - Key element - Mobile area and ‘up-the watershed’
  - Mobile County Public School System, Environmental Studies Center
- Evaluation
  - Dr. Howard Walters, Ashland University (OH)
  - Pre/post; attitudinal, rest - ?

Timeline

NEWS RELEASE
ALABAMA DEPARTMENT OF PUBLIC HEALTH
RSA Tower 201 Monroe Street, Suite 914 Montgomery, AL 36104
Phone 334-206-5300 Fax 334-206-5534
www.adph.org

Alabama agencies expand precautionary advisories in Fort Morgan, Gulf Shores and Orange Beach

FOR IMMEDIATE RELEASE

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DCNR
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Scott Hughes
ADEM
(334) 271-7955

The Alabama Department of Public Health and the Alabama Department of Conservation and Natural Resources, in consultation with the Alabama Department of Environmental Management, have expanded advisories due to the increased presence of oil in coastal areas.

In addition to the oil previously identified at Dauphin Island, oil has now been identified at Fort Morgan and Gulf Shores. Further spread of oil toward Orange Beach is likely. Because of the presence of visible oil and the likely wider impact of oil eastward, the Alabama Department of Public Health advises individuals not to swim in Alabama gulf waters or in bay waters immediately adjacent to Fort Morgan.

Dr. Donald Williamson, state health officer, said, "These are precautionary measures to protect the public's health. We will continue to monitor the situation and reassess the need for further advisories if the situation changes."

The Department of Conservation and Natural Resources, as a precautionary step, is closing the following Alabama waters to fishing at 6 p.m., June 4, 2010: All waters in the Gulf of Mexico including Pelican Bay and the waters of Mobile Bay east of the Mobile Ship Channel and south of a line from Mobile Ship Channel Marker Number 22 to Little Point Clear on the north side of Fort Morgan Peninsula. Maps of the state and federal waters closed to fishing can be found at outdooralabama.com.

Signs will be posted at the affected beaches. Residents should take the following additional precautions.

Protective Measures
· Avoid direct skin contact with the oil.
· If you get oil or tar balls on your skin, wash with soap and water.

Suspension of plans

- Decision to cancel workshop for summer
- Consultation with teachers
  - Fall workshop?
  - Some teachers had to withdraw
  - Decision to push back plans
  - Request for NCE

Accomplishments to date… (outputs)

- Conte
  - Wa

obile Bay

Content

- Water qu
  - AWW
  - AWW
  - Activit
    (mymo
  - Studen

Hydrographic Information (Updated every 30 minutes)

Water Temperature	69.5 ° F	(20.9 ° C)
Water Level	0.84 ft	(0.3 m)
Salinity	7.1 PSU	
Dissolved Oxygen Percent	115.9 %	
Dissolved Oxygen mg/L	9.9 mg/L	

Dissolved Oxygen (DO)	Rep #1: 6.4 ppm
Specific Gravity / Salinity	S. G. _____ Salinity
% Oxygen Saturation	6.5 Avg DO
Total Alkalinity	4 # drops x 5 =
Total Hardness	5 # drops x 10 =
Turbidity	2 # 0.5 mL x 5 (50m _____ # 0.5 mL x 10 (25
Secchi Depth	0.91 met
Other Chemistry Tests	

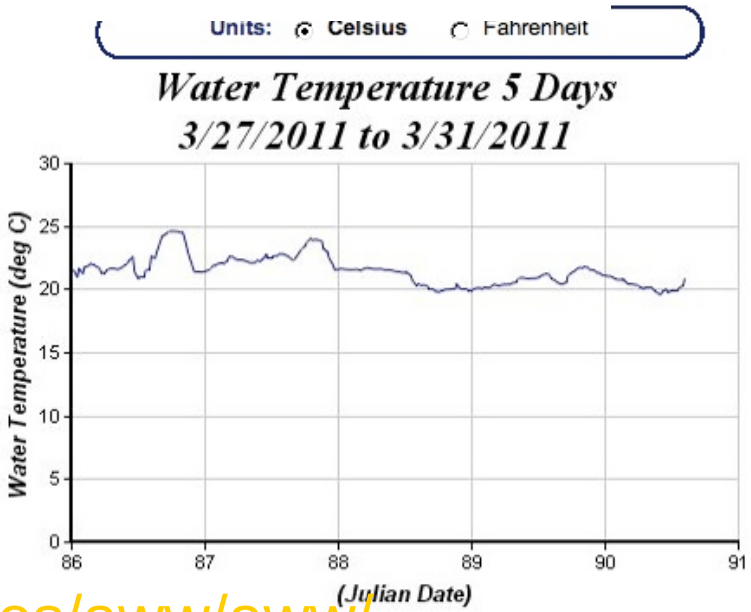
Comments: Note evidence of rainfall, runoff within previo
smell, unusual color, cows or other animals in creek, etc.

I hereby declare that at the time of this water sampling my
freshness of each reagent used for these tests.
Signature:

Alabama Water Watch

Alaba
250
Auburn Uni

Units: Celsius Fahrenheit



http://www.aces.edu/dept/fisheries/aww/aww/

http://www.mymobilebay.com/

Content

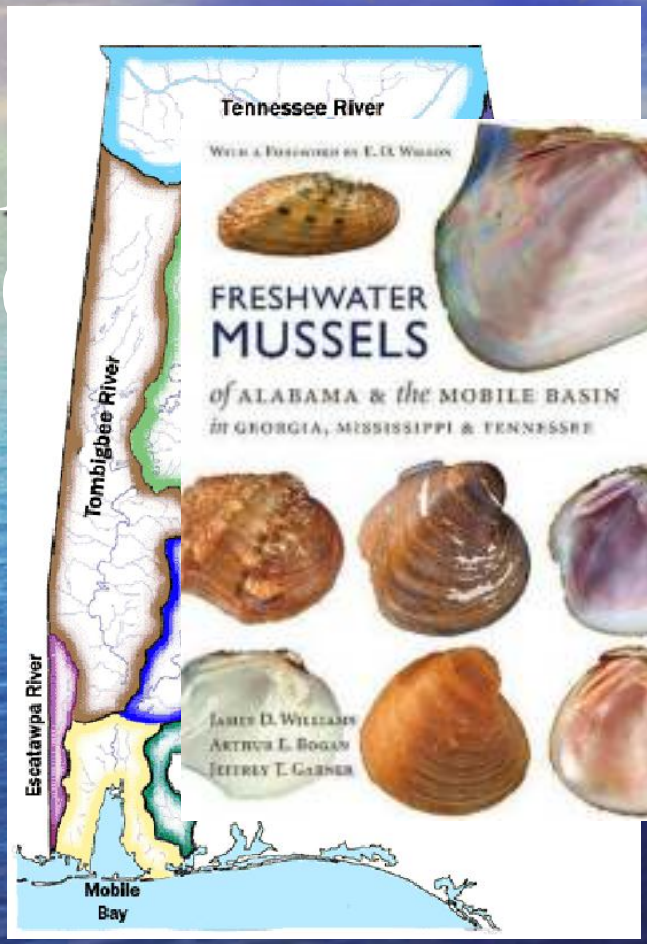
y - new for DHP (choice)

ngia, mercenaria,

ecosystem services - water

- Activity - laboratory - Tale
  filtration/clearance, acidifica
  Watch data

Content (con.)



http://www.outdooralabama.com/research-mgmt/aquatic.cfm

Content (con.)

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g Habitat and Enhancing Fisheries

Dauphin Island Sea Lab, Alabama

Current Research

Scientists at the Dauphin Island Sea Lab, in a project funded by the National Oceanic and Atmospheric Administration and managed by The Nature Conservancy, are investigating artificial oyster reef designs for use as living shorelines. Experiments will determine which designs are the most effective at reasing shoreline erosion, attracting crabs, shrimp, l fish and stabilizing sediments for seagrass and marsh growth. These living shorelines are located acent to Bay Front Park along the Dauphin Island seway and along the eastern shore of Coffee nd, a short boat ride from Bayou La Batre.

Mesh bags are filled with loose oyster shells and stacked on top of one another to provide a naturally appearing oyster habitat.

Reefblk™ systems are triangular, steel rebar cages filled with oyster shell. The empty spaces absorb wave energy and oyster shells provide an ideal surface for baby oysters to settle.

Reef Ball™ units are concrete domes, made with strategically placed holes to slow waves as they pass and provide habitat for many species of fish and invertebrates, including oysters.

Benefits of Living Shorelines

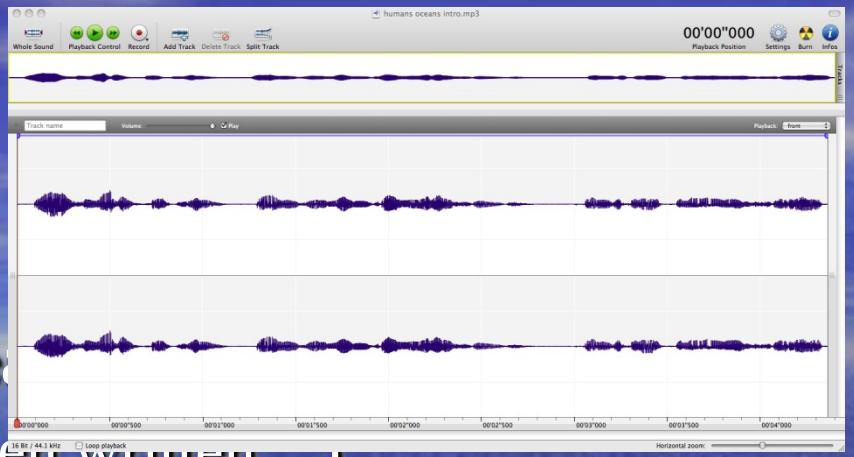
- Improve water quality and clarity
- Trap and filter pollutants from runoff
- Reduce erosion by absorbing wave energy
- Increase area of critical coastal habitats
- Provide habitat for commercially and recreationally important species of crab, shrimp and fish
- Maintain a natural transition between land and water

This display is part of a restoration effort entitled "Coastal Alabama Economic Recovery and Ecological Restoration Project: Creating jobs to protect shorelines, restore oyster reefs and enhance fisheries production." It has been made possible through generous grant support and donations from many partners, including:

J & W Marine Enterprises, Inc.
Coastal Environments, Inc.
Reef Innovations, Inc.

The Nature Conservancy
Protecting nature. Preserving life.

Unique (?) twist



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when written…)
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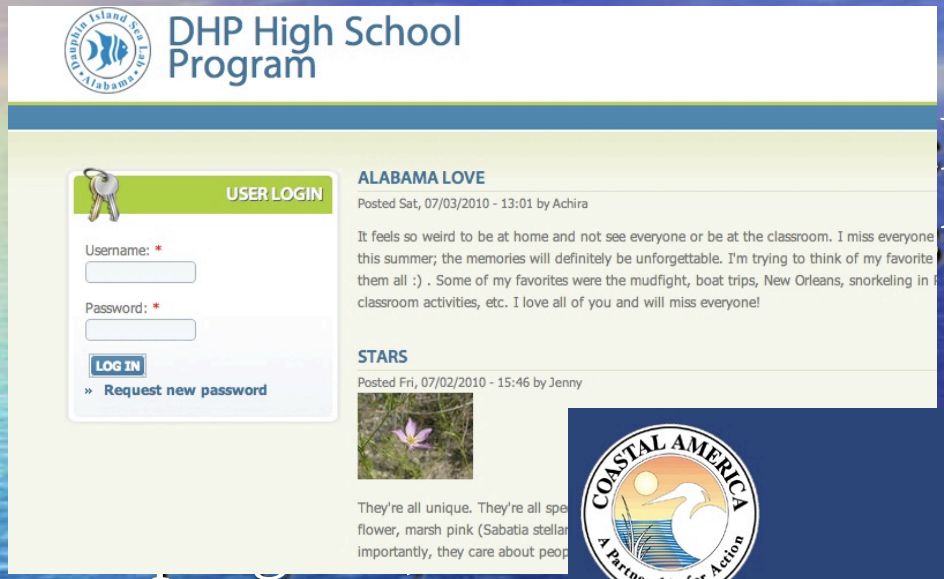
audio & video files)

- Included training in worksh using audacity
- Upload files, post on specif
- Not require IT support / $$

Plan now - new capabilities

Plan now - rethink…



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workspaces programs

- Found that st
- Moderation c
systems prob