



BAYWATCH

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CITIZENS FOR THE PROTECTION OF WAQUOIT BAY CPWB

ANNUAL MEETING

CPWB's Annual Meeting – Friday, June 25th

Waquoit Bay National Estuary Research Reserve, Boat House

Time: 5:30 PM

Speaker: Sean Fisher, Archivist, MA Department of Conservation and Recreation

Sean has recently assisted the staff with WBNERR's collection containing records, documents and other materials of historical interest. Come hear about WBNERR's history and spend time with other members.

Seaside Garden Tour

Letter to CPWB members from Toni Grady

The Citizens for the Protection of Waquoit Bay is sponsoring a tour of area seaside gardens which demonstrate ecological sound gardening techniques for our precious coastal and Cape homes. The tour will feature seven enchanting Falmouth properties which best show how these techniques are accomplished. This event will be a fund raiser for the benefit of educational programs at the Waquoit Bay National Estuarine Research Reserve.

The date for the *Seaside Garden Tour* is Wednesday, August 4th, 2010. Garden Tours will start at 10 A.M. and end at 3:00 P.M. Refreshments will be served on the Bluff at the Reserve from 2 to 4 P.M. Tours of the WBNERR garden and grounds, gardening tips, soil testing if you bring a sample, literature are events available to attendees. There will be music enjoyment by Dr. David Diamond, a tenor sharing a selection of songs from a program entitled "*From Broadway to the Met*".

Tickets are reasonably priced at \$20. They will be available starting June 15th at the following sites:

Moonakis Café, Rt 28, Waquoit

The Tea Shoppe at Mashpee Commons

PuraVita Spa, Rt. 28, E. Falmouth

Roche Brothers, Mashpee

M.R. Soares Flower Gardens, Sandwich Road, East Falmouth

Waquoit Bay National Estuary Research Reserve, Visitor Center

Volunteers to support this event are needed for August 4th, please call Toni Grady at 508-548-9457 or toniatcape@aol.com. Thank you to CPWB members who have already worked to select the gardens, design literature and tickets. We look forward to a pleasant day and successful event to benefit WBNERR!

WBNERR Comments on Gulf of Mexico Oil Spill

by Nicole Dewberry, WBNERR Seasonal Shorebird Manager

Beyond Petroleum (BP) has been developing its reputation as an environmentally conscience company seeking alternative energy sources. Twenty one years after the Exxon Valdez spill, which remains in everyone's memory, the ongoing leak from a BP operated well has become the greatest accidental release of oil in the world. The oil is still flowing at a largely unknown rate.

This leak which began with a fire and subsequent explosion on April 20th resulted in eleven missing workers which are presumed dead. "I think many of us tend to forget that is what concerned the coast guard and first responders in the first week or so after the explosion and loss of the rig," recalls Chris Weidman, "none of the reports seemed to indicate any more than a minor oil leak at first – and then it was kind of a slow awakening to the fact that this is an... environmental catastrophe."

What Will Happen to the Environment?

Unlike past spills from oil barges where the exact capacity is known, the amount of oil that may spew from this leak is uncertain. The Valdez spill released almost 11 million gallons of oil and has left more than 250,000 animals, fish, and birds dead. The herring still haven't returned. In the Gulf of Mexico, the National Oceanic and Atmospheric Administration (NOAA) estimates a conservative 5,000 barrels (210,000 gallons) per day are leaking out while BP suggests as many as 60,000 barrels (2,520,000 gallons) of oil enter the waters every day. It is difficult to predict the effects of the BP leak based on the Valdez spill due to differences in habitat, type of oil, water temperature, and other factors. A troubling possible link between the two events is the effect the oil will have on fish and fisheries. People in the area affected by the Valdez spill so many years ago must still begin their commercial fishing season two months late. It is predicted that about 20,000 gallons of oil remain off of Alaska's coast.

An area studied closer to home may provide a better long term example of what to expect for the future of the Gulf Coast. In 1969 a barge, *Florida*, spilled 189,000 gallons of oil off of Cape Cod. This is a fraction of what is leaking out of the Gulf each day, and the effects are still seen in Sippewissett Marsh. Wetlands such as those in Louisiana and beyond are among the richest of biomes. They filter pollutants, thereby improving the water quality. In the 41 years since the spill off of Cape Cod little has changed. Initially bacteria degraded the easily digestible compounds, but the oil remains largely intact. Researchers at Woods Hole Oceanographic Institution (WHOI) found several areas where the oil remains in greater amounts not far beneath the sand. The levels of toxic polycyclic aromatic hydrocarbons (PAHs) suggest that wildlife would still feel impacts. Further studies in the areas where the greatest amount of oil remains show the current effects on fiddler crabs. The crabs typically burrow straight down. In these areas of larger amounts of oil, the crabs burrow down into the sand, stop at the oil layer, turn, burrow horizontally, and then move back towards the surface. In these areas there are fewer fiddler crabs and they move slower than those in other areas of the marsh. These abnormal burrows mean that the crabs cannot hide as well from predators. Also the typical straight burrows create deep holes which provide oxygen to the roots of salt marsh grasses - roots which provide strength and stability for the marsh.

Birds are becoming the featured class amongst the many organisms affected by the oil as they suffer the effects of it before others. Shorebirds lay eggs on the beaches or in the marsh grasses which suffocate when covered in oil. Oiled feathers cannot repel water and regulate body temperature, and even in a warm climate some oil covered birds may die of hypothermia. Birds attempt to remove oil from their feathers with their bills, and they may die from ingesting it. Trucks and helicopters are dumping sand on beaches where birds nest to prevent oil from entering the marshes.

The oil may also directly affect the birds currently on Cape Cod. Likely a fraction of the piping plover chicks on South Cape Beach and Washburn Island will survive the coyotes, crows, and several other local predators. In August and September the remaining fledged chicks and their parents will migrate to portions of the Gulf Coast and Islands to seek their wintering grounds which are currently at the heart of the leak.

How Will This Be Cleaned Up?

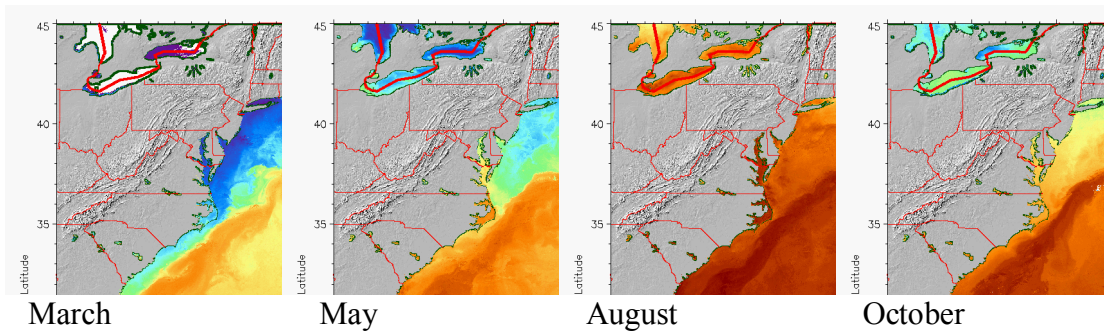
None of the known methods successfully used to stop oil leaks have ever been tried at a 5,000 foot deep oil rig such as this one. A completed relief well is the most promising solution. Controlled burns are being used to get rid of some of the surface oil. Other large areas of surface oil are being contained or kept away from vital areas by booms. Two types of chemical dispersers are being used to break up the oil in an attempt to mitigate its environmental impact: Corexit 9500 and Corexit 9527A. Under the proper conditions, these dispersants break a large amount of oil into more numerous small droplets down into the water column. This reduces the amount of oil at the surface making conditions less lethal for birds, but perhaps more lethal for fish and especially for fish larvae. Tests have never been conducted to assess the safety of these chemicals for humans. A formula: same amount of less concentrated oil + chemical dispersants with untested effects = a mystery.

The Extent

What all of this really means for people, wildlife, and habitat is largely unknown in this unprecedented situation. How much of the oil is removed through various cleanup methods will directly determine the long term effects. If the cleanup procedures in Alaska or Cape Cod are any indication of what we should expect with this leak, whatever is not removed now will likely remain in the Gulf of Mexico and beyond.

Oil has already entered the Gulf Stream. The Gulf Stream is a current in the ocean which moves from the gulf, around the tip of Florida, up the eastern shore, and out into the mid-Atlantic Ocean. As the summer progresses, the water in this stream becomes warmer and pushes farther and farther north at a faster and faster rate before it makes a turn into the Atlantic (see the northward progression of the darkest areas in the diagrams of sea surface temperature). Therefore, as the oil continues to leak and enter the currents, it will creep north toward New England before it goes into the mid-ocean. Along the way, warm cores will spin off the stream, carrying the oil into the coast (some cores are also apparent in the diagrams). Factors such as wind direction, the approaching storm season, and wave height will break this oil up all along the Gulf Stream, affecting the amount and time at which it progresses.

MaryKay Fox's thought sums this up well: "Now I really wish I had visited that area before as it will never be the same."



To Help

- If you are aware of a local oil spill, even a small one, notify the local harbor master and immediately call the National Response Center 1-800-424-8802. For more information go to <http://www.buzzardsbay.org/oilresp.htm>. For information about oil spills on land go to <http://www.mass.gov/dep/cleanup/dealin01.htm>
- The true cost of gas is not reflected at the gas pump. If it was, the price would be much higher and alternative energy sources with less environmental impact would become more competitive. The easiest way that you may help is perhaps most obvious: use less oil. If the demand for oil decreases, then the chances of future events like this one also decrease.
- National Estuarine Research Reserve Association (NERRA) is the friends group for the entire National Estuarine Research Reserve System (NERRS), and they are currently raising money to support habitat restoration and research for the five National Estuarine Research Reserves along the Gulf Coast: <http://www.crowdrise.com/gulfcoastresearchreserves/fundraiser/estuaries>

More Information

- To help wrap your mind around what a leak of 5,000 to 60,000 barrels per day looks like, check out a map of how the leak matches up with several areas in the United States, created by Google Maps engineer Paul Rademacher: <http://paulrademacher.com/oilspill/#>
- To learn more about how oil affects a salt marsh visit <http://www.washingtonpost.com/wp-dyn/content/graphic/2010/05/22/GR2010052203964.html>
- The National Oceanic and Atmospheric Administration (NOAA) provides frequent scientific updates on their website.
- Most of the information for this article is from various extended links on the main page of The Mass Audubon website: www.massaudubon.org
- How NERRS specifically is responding to the oil spill: <http://nerrs.noaa.gov/News.aspx?id=337>
- A look at how cleanup efforts during this leak relate to some in the past: http://www.youtube.com/watch?v=GHmhxpQEGPo&feature=player_embedded

Service Learning at the Reserve

By Nancy Church, Interpretive Services and Volunteer Coordinator

What better way to learn about Waquoit Bay and the surrounding natural areas than to work along-side Reserve staff as they conduct their education, stewardship and research duties. There are plenty of hand-on opportunities for people wanting to support the Reserve and gain experience and knowledge about the wildlife and ecology of the area. Even if you've lived here all your life there is still lots more to learn and discover.

Summer months are filled with activity as staff and volunteers monitor habitats, endangered species and water quality in the bay. If you don't mind getting your feet wet, you can participate in horseshoe crab surveys, collect and count fish and crabs in salt marsh creeks or use your boat to check nesting sites on Washburn Island. People with birding skills are needed to assist with monthly surveys of six different Reserve habitats. If walking is your thing you can exercise your mind and body at South Cape Beach this season, collecting data on piping plovers and endangered least terns, while sharing your newly acquired knowledge with beach visitors.

Those inclined towards customer service may prefer greeting visitors and providing information at Reserve headquarters or helping with special events like the Evenings on the Bluff, Summer Garden Tour or Watershed Block Party. Now that things are picking up for the season we can also use help answering phones, maintaining scientific equipment, monitoring wells and entering data into the computer.

Park Serve Day was held on April 24th at South Cape Beach and the Reserve's staff and volunteers joined with parks across the state working to spruce up and enhance natural areas. Volunteers helped to clean the beach and conduct trail work in preparation for the season and learned about rare shorebirds nesting nearby. This annual event engages people of all ages in a common goal. Everyone had a great time while working to make a difference.

Stewardship of our natural areas requires many helping hands all year round. If you enjoy working outdoors and want to join our trail steward team we would love to hear from you. Please contact Nancy Church to learn more about these and other opportunities at the Reserve. nancy.church@state.ma.us or 508-457-0495 ext.125

CPWB Sponsors Summer Science School

By Nancy Church, Interpretive Services and Volunteer Coordinator

Sessions are filling up fast for the CPWB sponsored Summer Science School which runs from July 5th to August 13th at the Waquoit Bay Reserve. This on-going program introduces children entering grades two through nine to the ecology of the bay and provides opportunities to learn about both the creatures and the habitats that are critical to their survival. Children meet with scientists, use scientific equipment, collect live specimens and design experiments as well as play games, create crafts and have a whole lot of fun. In Bayside Buddies and Estuary Adventurers sessions, younger children explore the bay and catch live animals to observe and learn about. Children in grades 5, 6 & 7 explore their creative side in the Eco-Kids Design Workshop and the Women in Science session is ideal for middle school aged girls wanting to learn more about science careers and experience field work, including camping out on Washburn Island. The program is a great way for children and grandchildren to gain a deeper appreciation for the bay and the roll we all play in its future. Call the reserve or check their website for information and registration 508-457-0495 , www.waquoitbayreserve.org

NEW teen week- Tidal Quest

Thanks to a NOAA grant, we are offering a new program for high school students the week of July 19th, Teens Investigating Diversity of Aquatic Life, or Tidal Quest. Teens will participate in a world-wide survey of sea life, travel by boat to collect samples around Washburn Island, monitor rare shorebirds and investigate water quality. Participants will also be invited to a Regional Summit at the New England Aquarium in the fall to share their results with teens from across New England. The fee is only \$100.00 and scholarships are available. Limit 10 students.

WBNERR Receives CZM Coastal Habitat Restoration Grant

In May WBNERR received a \$25,000 grant from Massachusetts CZM (Coastal Zone Management) to do a Restoration Master Plan for the six tributary streams into Waquoit Bay. All of these streams have been degraded to some degree by past and ongoing human impacts, including dams, cranberry bogs, erosion, and undersized culverts and bridges. These impacts limit passage of fish such as eels, herring, and sea run brook trout. Spawning and foraging habitat have also been affected. The goal of the project is to identify problem areas and come up with a prioritized set of plans aimed at restoring those areas. It is rare to have money for planning, the staff is excited to have this opportunity. The Reserve will hire a consultant to develop the plan, but will draw on the expertise and work already done by a number of partners, including MA Division of Marine Fisheries (DMF), MA Fish and Game, Trout Unlimited, the Mashpee Wampanoag tribe, town shellfish wardens, Conservation Agents, and affected landowners. Results of the project will offer a forum for coastal managers, who have ranked habitat management and restoration among their highest priorities for training. Classes will be created for teacher training at WBNERR. The materials from the trainings will be designed to be used in other areas. Funding is more readily available for construction of identified problems, having a plan and budget will assist with receiving approval.

Request for Dingy

The research team is in need of a dingy. Please if you have one that is not in use, in good shape and would like to donate the dingy to the Reserve please call 508-457-0495.

CPWB Donations

CPWB is most appreciative for the donations made by our members when paying their annual dues. This past spring we received a memorial donation honoring Miriam Chace Chapman, and last winter a check arrived in the mail for \$1,000 from an anonymous source. The funds received are used for the benefit of the Reserve.

CALENDAR Notes:

Emerging Forest at South Cape Beach

6/22/2010 at 3:00 PM, South Cape Beach, DCR Parking Lot

Open to all, register at the website Waquoitbayreserve.org

CPWB Annual Meeting

6/25/2010 Sean Fisher, DCR Archivist

Tuesday Nights on the Bluff

7/13/2010 at 6:30 PM

Sea Songs & Stories, Jack Gillman

7/20/2010 at 6:30 PM

Comic Mime, Science in Motion with Robert Rivest

7/27/2010 at 6:30 PM

Favorite Nature Tales, Diane Edgecomb

Seaside Garden Tour

8/4/2010

Watershed Block Party

8/10/2010

Family activities, games and information to help protect our natural resources.

FUN Things to share with our members:

There is a new Nature Trail Guide at the Visitor Center, pick one up before your next walk on the trails.

Trivia: Can you answer the question where did the name Washburn come from to name Washburn Island? Come to the CPWB Annual Meeting on June 25th, at 5:30 PM in the WBNERR Boat House.

Websites to check-out:

Waquoitbayreserve.org check for WBNERR classes, calendar and research projects
WhatsAnEstuary.com
Estuaries.gov
www.wired.com/geekdad/2010/05/a-parents-guide-to-the-gulf-oil-spill/#ixzz0q59zJrXq

Tidepooling can be fun, remember to dress comfortably, use water shoes, lift rocks with care and put the rock back just as you found it. When you handle sea creatures be gentle, they need to be returned back to the same environment you found them. So step carefully you are in a sea creatures home, look carefully and have fun.

CPWB ANNUAL RAFFLE

Every summer CPWB holds a Raffle whose proceeds are used by the Waquoit Bay National Estuarine Research Reserve to fund educational Programs. The CPWB Steering Committee needs members to sell these tickets to friends and neighbors and for members to volunteer an hour or two at Mahoney's or Kenyon's Market where we sell tickets on the weekends as well as pass out information to make people aware of the Reserve and CPWB. Another way members can help is by donating prizes or soliciting them from local merchants. CPWB members have been most generous with donations for prizes. Here are just a few items you may win: a gift certificate from Eastman Sports, Mahoney's, Moonakis Café, M.R. Soares, Oysters Too; tickets to a Patriot's and Red Sox games are prizes.

Enclosed are two books of raffle tickets for the 2010 CPWB fundraiser. Some members have not been able to easily purchase tickets before the August Drawing. Therefore, we have sent everyone two books to purchase. Please fill out the top tickets, tear bottom part off, and return to CPWB P.O.Box 3021, Waquoit, Ma. 02536 with a check for \$5.00 per book. To volunteer for this project, please call Toni Grady at 508-548-9457. Win tickets to a Boston sports event, a computer, GPS system and more. Drawing will be held at the Block Party at the Reserve on August 10th.

Join us, Citizens for the Protection of Waquoit Bay welcomes your support through an annual membership contribution or donation.

MEMBERSHIP APPLICATION OR RENEWAL FORM FOR EXISTING MEMBERS

: (Please make checks payable to CPWB, P.O. Box 3021, Waquoit, MA 02536))

\$ 10.00 Membership \$ _____ Contribution

Names: _____

Address: _____

Phone: _____

Email Address _____

Summer Address: _____

Garden Tour and/or Raffle: _____

Other volunteer interest: _____

Our membership year runs from July 1st through June 30th. Please check to see if your membership is current.
Your \$10.00 membership fee supports educational programs. CPWB thanks the members who give additional contributions. We are committed to providing critical support through our membership base to support WBNERR.

BAYWATCH

CITIZENS FOR THE PROTECTION OF WAQUOIT BAY CPWB

CPWB is a non-profit organization concerned with the health of the area's waters. CPWB serves as the Friends Group for the Waquoit Bay National Estuarine Research Reserve, supporting their educational programs and seminars.

CPWB MEMBERS JUNE 2010 NEWSLETTER

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