SINCE 1976 THE FRIENDS OF DYKE MARSH SUMMER 2013



The Friends of Dyke Marsh

FODM Quarterly Meeting

Wednesday, September 11, at 7:30 p.m., Huntley Meadows Park, 3701 Lockheed Blvd., Alexandria, VA 22306. Phone 703-768-2525. Free to all.

Calendar of Events

August 24, 10 a.m. - 12, Plant Walk w/ Dr. Elizabeth Wells. October 19, 10 a.m., Fall Colors Walk, Haul Road, see p.7. 2013 Membership Meetings September 11 (see page 1) and November 13 (see page 7).

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Whooping Cranes

Recovering From the Brink of Extinction?

FODMers will be treated to a fascinating program and a cautious story of recovery on September 11 at their quarterly meeting, when Ken Lavish from the Patuxent Wildlife Research Center will describe the Patuxent Research Refuge's Whooping Crane project that is reestablishing migrating flocks of Whooping Cranes. Patuxent scientists are working with a consortium called the Whooping Crane Eastern Partnership. hatching the birds from around 40 eggs a year in Maryland, the team takes them to Wisconsin where the cranes train to fly for their 1.300-mile migration behind an ultra-light aircraft. The aircraft leads them on their first fall migration to Florida. Ken helps raise chicks at Patuxent.

Whooping Cranes are North America's tallest bird, a species that was nearly wiped out when, in 1941, there were only around 22. In 1967, the Whooping Crane was listed as endangered. Through resto-



North America's tallest bird, the Whooping Crane, is recovering through restoration efforts. Photo by Laura Erickson.

ration efforts, the number in the wild is now estimated at around 400.

The meeting will be at 7:30 p.m. at the Huntley Meadows Park Visitor Center and is cosponsored by the Audubon Society of Northern Virginia and the Northern Virginia Bird Club.

Restoration of Dyke Marsh - Good News

The restoration of Dyke Marsh is moving forward on two fronts. (In previous issues, we have reported that dredging between 1940 and 1972 removed 54 percent of the 1937 marsh and that Dyke Marsh is eroding six to eight feet or 1.5 to two acres a year on average, as documented by the U.S. Geological Survey in 2010.)

Restoration Plan

National Park Service officials say that the restoration plan, in the form of an environmental impact statement (EIS), will be released this year and will include NPS's "preferred option." At a May meeting, NPS described four options, from "no action" to "full restoration."

NPS will hold a public meeting and a

comment period on the next phase of the plan, before deciding on a final preferred alternative.

Funding for Restoration

NPS has reached an agreement with the Federal Aviation Administration (FAA) and Metropolitan Washington Airports Authority under which the FAA will provide \$2.5 million to NPS for construction of a breakwater, phase one of the restoration. The breakwater will replicate the historic promontory in the southern end of the marsh that protected Dyke Marsh but was mined away. The agreement requires NPS to execute a contract by December 31, 2015 and complete construction by December 31, 2016.

RESTORATION, (Continued on page 2)

New Board Member - Jessica Strother

FODM's newest member of the Board of Directors is Jessica Strother, who retired in March after 29 years as an urban forester with Fairfax County's Urban Forest Management Division. Jessie spent much of that time in the Mount Vernon District working with developers on rezoning applications, reviewing site plans and conducting



oversight on new development projects to protect and conserve trees and forest canopy. In July, the Fairfax County Board of Supervisors honored her service with a resolution and plaque.

She co-authored the county's 20-Year Tree Action Plan and was involved with developing a number of county environmental policies. Prior to her work as an urban forester, she was an interpretive park naturalist in various locations throughout the Washington region and for South Dakota.

Jessie is originally from Arlington, Virginia. She has a B.S. degree in natural resources and recreation resource management from West Virginia University, Division of Forestry. Jessie began bird-watching in the 1960s and tagged along on the Virginia Society of Ornithology and Jack Abbott's bird walks at Dyke Marsh during that time. On the Board, she will coordinate quarterly member programs. Jessie shares her favorite quote: "The work goes on, the cause endures, the hope still lives and the dream shall never die. – The late Senator Edward M. Kennedy, 1980.

RESTORATION, (Continued from page 1)

A restored promontory can buffer against storms and flooding, encourage accretion and deposition of sediment and restore ecosystem services that benefit the Potomac River, the Chesapeake Bay and the community. Replicating the promontory can enhance the next phases of restoration by stabilizing this part of the eroding shoreline, say NPS officials.

The FAA funds represent compensatory mitigation for impacts of a runway extension, an airport landing safety area, required to meet FAA safety standards. National Airport officials determined that there are no options for mitigating impacts at the airport.

NPS sought public comments on the funding proposal and received 80 comments, thanks to the enthusiasm of many FODMers and friends. Among those who sent supportive comments were Congressmen Jim Moran and Gerry Connolly; Sharon Bulova, Chair, Fairfax County Board of Supervisors; William Euille, Mayor of Alexandria; the Northern Virginia Conservation Trust; the National Parks and Conservation Association; the Nature Conservancy (Virginia); the Potomac Conservancy; the Audubon Society of Northern Virginia; the Audubon Naturalist Society; the Mount Vernon Council of Citizen Associations and the Virginia Conservation Network.

In supporting restoration, FODM has presented an online petition signed by over 1,000 people and paper petitions with over 600 signatures to NPS Director Jonathan Jarvis, U.S. Senator Tim Kaine (D-VA) and Congressman Jim Moran (D-VA-8). Visit us on Facebook.com to sign.

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Visit our website at www.fodm.org or on Facebook.com for more information about us, our programs and how you can join the FODM.

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The Marsh Wren is a quarterly publication of the Friends of Dyke Marsh, Inc., a nonprofit 501(c) (3) organization. Letters and submissions to *The Marsh Wren* are welcome. Send them to the editorial address above. Board members too, can receive mail at this address. Special thanks to Duncan Hobart for managing our website (www.fodm.org), and to Paula Sullivan and Ed Eder for their photography contributions to *The Marsh Wren* and website.

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President's Message

Glenda C. Booth, President, Friends of Dyke Marsh

We've had lots of good news recently: FAA will provide \$2.5 million to jump start Dyke Marsh's restoration, the restora-

tion plan is jelling (see page 1) and Washington Post science writer Patterson Clark had two articles featuring Dyke Marsh -- July 2 on the marsh's precarious status and restoration and August 13 on the wetland's dragonflies and damselflies.

We have a Facebook page where over 1,000 people have signed a petition supporting restoration. Seen something interesting in Dyke Marsh? Be sure to post your comments and pictures.

FODMers salute Frank McKenna, a long-time board member, who has moved to Oregon. Frank gave many hours to Dyke Marsh and the Friends, having served as

president and provided legal and other guidance over the years. We thank you, Frank, and wish you well.

Other events: another successful raptor demonstration on Earth Day with over 300 visitors; a frog and bat walk in the western part of Dyke Marsh, led by FODMer Deborah Hammer; tabling at Alexandria's Earth Day, NOVA Outside and Gum Springs Community Day; and our annual breeding bird survey. Twenty enthusiasts studied arthropods with Dr. Edd Barrows, Georgetown University, on

July 27 and Dr. Elizabeth Wells, retired botanist from George Washington University, plans to lead a plant walk on August 24. Amy O'Donnell designed a beautiful flyer for us describing the value of the marsh, threats and the need for restoration. Belle Haven Marina has signed a fouryear contract with NPS, according to manager George Stevens. Our Sunday bird walks and weed whacking continue. Thank you all wonderful volunteers.

The larger environment: On June 25, President Barack Obama, as part of his climate change initiative, pledged to "identify new approaches to protect and restore our forests, as well as other critical landscapes including grasslands and wetlands" Let's hope Dyke Marsh restoration is on his list. Federal agencies, led by the Environmental Protection Agency, are preparing a new Chesapeake Bay agreement. The current draft includes a wetlands restoration increase of 30,000 acres, hopefully another boost for Dyke Marsh's rejuvenation.

The George Washington Memorial Parkway has a new superintendent, Alex Romero, an experienced, career NPS employee (see page 5). Welcome, Alex! The Department of Interior's (DOI) new Secretary, Sally Jewell, has decried cuts in Interior programs. In July, she released a report showing that DOI activities contributed an estimated \$371 billion to the national economy, as the House of Representatives' Appropriations Committee was slashing national parks by 10 percent, even though national parks are facing a \$600 million operations shortfall and a \$11 billion deferred maintenance backlog.

The Monarch Challenge

As the world welcomes the new Prince George Alexander Louis. Prince of Cambridge, to the British monarchy. our monarch story is not so rosy.

If you don't read any further, the message is, plant milkweed.

Larry Brindza captivated FODMers on May 15 in describing his work with monarch butterflies. Opening with "The monarch butterfly is one of the most fantastic critters on the planet," he described the butterfly's stages of growth,

> habitat, migration patterns and his meticulous work to weigh, measure and Transvolcanic Mountain Range were the worst since records have been kept, according to Dr. Chip Taylor of Mon-The monarch populations declined al-

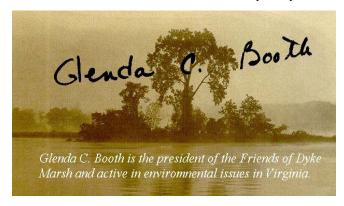
tag monarchs every fall as they migrate south. The numbers of overwintering monarchs this past winter in Mexico's arch Watch (http://monarchwatch.org). most 59 percent in the area occupied the previous winter and represents the smallest population recorded since the monarch colonies came to scientists'

attention in 1975. The decline is attributed to loss of milkweed plants, the monarch's host plant; development, herbicides, excessive mowing, deforestation of Mexico's oyamel fir forests and unusual weather."

Anyone can plant milkweed," Brindza said. "It's the best thing people can do." Monarch Watch's Taylor concurs. "To compensate for the continued loss of habitat we need to plant LOTS AND LOTS of milkweed," he wrote. "To assure a future for monarchs, conservation and restoration of milkweeds need to become a national priority."



A Scarlet and Blue Leafhopper at Dyke Marsh. Photo by Ed Eder.



The Dragonflies and Damselflies of Dyke Marsh Wildlife Preserve

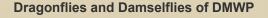
Scientists have identified 24 species of dragonflies and damselflies in the Dyke Marsh Wildlife Preserve.

Chris Hobson, with the Virginia Department of Conservation and Recreation, Division of Natural Heritage, conducted a four-day field survey, sponsored by FODM, by boat and on foot between May and September 2011. Dr. Edd Barrows, a Georgetown University entomologist, has identified four additional species.

The accompanying chart lists 16 species Hobson identified in 2011. On July 22, 2013, Hobson added four more species to the survey.

Any survey is a "snapshot" at a given time and place, not a comprehensive inventory. Total numbers seen on any day can vary tremendously, depending on the weather and time of year. Hobson saw more than 1,000 of one species in one day and hundreds of another in a short paddling trip, for example. His report notes that "there seems to be a core group of species that can be found consistently in and around the marsh" and that a number of other resident and migratory species could occur in the marsh.

Dragonflies and damselflies are in the order Odonata. These insects have two pairs of wings and three pairs of legs, among other characteristics. Dragonflies typically spread their wings to their sides when they land and are typically larger and more robust. Damselflies are usually smaller and they typically hold their wings together over their abdomen. Their eyes are separated. To identify specific species, experts study their wings, wing patterns, colors, tail, thorax, abdomen, genitalia and other features, some under a microscope. Some have bright, lustrous hues and



16 Species Hobson Identified in 2011

Common Green Darner Orange Bluet **Big Bluet** Prince Baskettail Common Pondhawk Eastern Fortkail Fragile Forktail Slaty Skimmer Needham's Skimmer Great Blue Skimmer Wandering Glider Blue Dasher Eastern Amberwing Common Whitetail Russet-tipped Clubtail Black Saddlebags

Anax junius Enallagma signatum Enallagma durum Epitheca princeps Erythemis simplicicollis Ischnura verticalis Ischnura posita Libellula incesta Libellula needhami Libellula vibrans Pantala flavescens Pachydiplax longipennis Perithemis tenera Plathymis lydia Stylurus plagiatus Tramea lacerate

4 Species Added on July 22, 2013

Widow Skimmer Twelve-spot Skimmer Halloween Pennant River Cruiser Libellula luctuosa Libellula pulchella Celithemis eponina Macromia sp.



A Halloween Pennant (*Celithemis eponina*) displays its orange and black wings. Photo by Patterson Clark.

diaphanous wings. Behavior is another important factor in identification of Odonata.

Dragonflies and damselflies are found around rivers, wetlands, seeps, bogs, springs, streams, ponds and lakes because their larvae, known as nymphs, are aquatic. Adults can be from half an inch to five inches long. Some species migrate south and return to Virginia in the spring. In Virginia, 194 species of dragonflies and damselflies have been identified. The best time to see them is April to October.

Hobson has submitted a report to FODM and to the NPS. To download a copy of the report click on this link http://e2.ma/click/7fosd/zlfrg/rv5f2. Otherwise, for a hard copy of the 34 page report you can contact Glenda Booth at gbooth123@aol.com or 703-765-5233.

Virginia Will Elect State Leaders

Virginians this year will elect a governor, lieutenant governor and attorney general and all members of the House of Delegates. Campaigns are opportunities to educate candidates on conservation issues. You can learn state incumbent legislators' environmental voting records by reading the Virginia League of Conservation Voters' scorecard at http://valcv.org/. To find out who is running in your area, visit the State Board of Elections at www.sbe.virginia.gov.

Kudos for FODM President

FODM President Glenda Booth was appointed to the Advisory Council of the Virginia Institute of Marine Science (VIMS) of the College of William and Mary. The Council advises VIMS in its mission, mandated by Virginia law, to "maintain its position as the preeminent institution of coastal and estuarine research, education and advisory services." Glenda is also serving on the board of the Virginia Outdoor Writers Association.

New Virginia Atlas of Butterflies, etc.

Virginia has a new "Atlas of Rare Butterflies, Skippers, Moths, Dragonflies and Damselflies of Virginia." Check it out at www.vararespecies.org. It features information about 193 species that are rare to Virginia. Find out about physical descriptions, food, geographic range, the threats each species faces and more.

Profile of a National Park Service Official - Alex Romero

This is one of a series of profiles that FODM will publish introducing readers to some of the U. S. National Park Service officials with whom we work.

Born Alexcy Romero, Alex has marked his career path as an urban park manager working 22 years in New York City and the District of Columbia metropolitan area.

Alex started his career with the National Park Service at Gateway National Recreation Area in New York City in 1991 as the Public Health Sanitarian, responsible for oversight of parkwide environmental health issues and providing outreach on preventative measures and workshops on bloodborne pathogens, Lyme Disease, Hanta Virus, lead base testing, Eastern Equine Encephalitis and other related health issues, also working on food management issues. In 1997, Alex accepted a permanent position as the District Manager for the Breezy Point District, one of the most visited districts at Gateway, with millions of multi-cultural visitors and complex operations. Alex knew park operations and management was his calling.

In June 2003, Alex became the Assistant Superintendent at Prince William Forest Park in Northern Virginia. In January 2005, Alex accepted the position of Deputy Superintendent at National Capital Parks East in Washington D.C. While serving his term there, he was responsible for the second largest park in the National Capital Region, supervising over 175 employees, a 15 million dollar budget,

8,000 acres and over 24 million visitors. Alex accepted the Superintendent position at National Capital Parks-East in July 2010. During his tenure as superintendent he has realigned the park operation, focused on the Carter Woodson National Historic Site project among others, and worked with partners such as the Alice Ferguson Foundation.



Alex Romero became the new superintendent of the George Washington Memorial Parkway.

Just this past July Alex became the Superintendent at George Washington Memorial Parkway. "The workload is no different here than at National Capital Parks-East," he states, "the Parkway is beautiful with some of the most beautiful resources in an urban area." He is thrilled and honored to be working with such a talented staff, committed partners and the incredible resources GWMP offers. Alex looks forward to working with the Friends of Dyke Marsh and the staff to protect this majestic area for future generations to enjoy and the aquatic environment to thrive!

National Park System, 100 Years

The year 2016 will mark the 100th anniversary of the establishment of the national park system. Senators Mark Warner (D-VA) and Michael Enzi (R-WY) have introduced S. 1158, a bill to require the U.S. Treasury to mint commemorative anniversary coins. Rep. Erik Paulsen (R- MN) has introduced a companion House bill, H.R. 627, which has 304 cosponsors, including



northern Virginia Congressmen James Moran, Gerry Connolly and Frank Wolf.

NPS was established as a bureau within the Department of the Interior to administer the national parks and monuments of the United States. Since 1916, the NPS system has grown from 37 park units with six million acres of land to more than 395 units with 84 million acres of land and waters in nearly all states and territories.

Both bills authorize up to 100,000 \$5 gold coins, 500,000 silver dollars and 750,000 clad half dollars. Surcharges to be added to each coin are \$35 per gold coin, \$10 per silver dollar and \$5 per half dollar. Funds would go to the National Parks Foundation.

Cong. Dingell Reaches a Milestone

Congressman John Dingell (D-MI) authored the bill in 1959 that added the Dyke Marsh Wildlife Preserve to the National Park Service system. In June, he became the longest-serving member of Congress in history on his 20,997th day as a representative (57 yrs., five mos. and 26 days of service), past the record by the late Sen. Robert Byrd (D-WV).



Rep. John Dingell (right) with Rep. Jim Moran. Photo by Ned Stone.

FODM wrote: "We count you among our heroes because you are the "father of the Dyke Marsh Wildlife Preserve" in Fairfax County. As you know, it was your bill in 1959 that added Dyke Marsh to the U.S. National Park Service system and we are deeply grateful. We look forward to working with you many more years and again, send our congratulations for your many years of past and continued public service."

Congressman Dingell responded: "I am most pleased with what we see with Dyke Marsh, it is a treasure that I recall with great pride. Especially the work done by Henry Reuss, John Saylor and I. As you say, it will need protection against erosion and other natural threats. I am happy to be of help here. You have my best wishes." John

New National Wetland Plant List Issued

BY PAT SALAMONE

The types of plants that grow in an area play an important role in the government's determination of whether the habitat is a wetland—and thus is protected under laws applying to wetlands—or not. Vegetation is one of three factors used in making these determinations. (Also soil and hydrology.) The national wetland plant list (NWPL) is an essential tool in assessing the vegetation factor.

The first national wetland plant list was developed by the U.S. Fish and Wildlife Service (FWS) in 1988. Now, almost a quarter of a century later, the list has been updated, in an effort led by the U.S. Army Corps of Engineers in collaboration with the Fish and Wildlife Service, the Environmental Protection Agency, and the Natural Resources Conservation Service. The updated NWPL took effect on June 1, 2012. The list was updated again in July 2013.

The NWPL consists of a list of wetland plant species and their assigned indicator statuses. The indicator status reflects the likelihood that the species occurs in wetlands. The five indicator statuses are:

- Obligate (OBL). Almost always a hydrophyte, rarely occurring in uplands.
- Facultative wetland (FACW). Usually a hydrophyte but occasionally found in uplands.
- Facultative (FAC). Commonly occurs as either a hydrophyte or a non-hydrophyte.
- Facultative upland (FACU). Occasionally a hydrophyte but usually occurs in uplands.
- Upland (UPL). Rarely a hydrophyte, almost always occurring in uplands.

A hydrophyte is a plant that grows either in water-logged soil or partly or wholly submerged in water.

According to the question-and-answer document accompanying the announcement, no major changes to wetland delineation boundaries are expected as a result of the update. The update did result in changes to the indicator status for 12% of the species on the 1988 list, but there was nearly an equal split between species that received "wetter" ratings and species that received "drier" ratings.



A plant species usually occurring in uplands is the Jewel-weed (*impatiens capensis*). Photo by Bob Veltkamp.



Wetland plants found in Dyke Marsh include Wild Rice (*zizania aquatica*). Photo by Bob Veltkamp.

The current list (along with historic lists and other information) can be found at http://rsgisias.crrel.usace.army.mil/NWPL/. Lists can be downloaded by state or by region. State lists may encompass multiple regions—for example, the list for Virginia has columns for both the Atlantic and Gulf Coastal Plain (AGCP) and Eastern Mountains and Piedmont (EMP) regions.

For Virginia, obligate wetland plants include many species found in Dyke Marsh, including pontederia cordata (pickerelweed), typha angustifolia (narrow-leaved cattail), hibiscus moscheutos (crimson-eyed or swamp rose mallow), and zizania aquatica (wild rice). Facultative wetland plants found in Dyke Marsh include cornus amomum (silky dogwood), impatiens capensis (jewelweed), sneezeweed (helenium autumnale), and lobelia cardinalis (cardinal flower).

For more information on wetlands, see the Fish and Wildlife Service's report to Congress on the status and trends of the nation's wetland resources, which can be found at http://www.fws.gov/wetlands/. Information about Virginia's wetlands can also be found at http://www.wetlandswatch.org/.



Crimson-eyed or swamp rose mallow (*hibiscus moscheutos*) blooms in Dyke Marsh. Photo by Bob Veltkamp.

Fourth Annual Fall Colors Walk



Please join us for a nature walk to enjoy the beautiful fall colors of the Dyke Marsh Wildlife Preserve on Saturday, October 19, from 10 a.m. to 12 noon. We'll meet at the entrance to the Haul Road. The walk will be led by FODM board member Pat Salamone.

Mystery Lovers Alert -- "CSI Plants" FODM Meeting November 13

Can plants help solve crimes? Steven B. Carroll, Director of Public Programs at the State Arboretum of Virginia and Blandy Experimental Farm, University of Virginia, will explore how plants have been used in investigations for hundreds of years to solve crimes through seeds, pollen or other plant material found at crime scenes or on suspects' clothing, plant toxin analysis, DNA sequencing and more. Mr. Carroll will describe famous cases and the use of plant-based evidence in cases ranging from kidnapping to murder. The American Horticultural Society is cosponsoring the program.

U.S. Park Police, Emergency Number: 202-610-7500

Welcome New FODM Members

Join us in welcoming our new Life Member Carolyn Muir. We also welcome our New Regular Members: Barbara Bacon, the Beck Family, Mark Bellis, Howard Bergman, Eunyong Chung, James Freeh, Adam Glass, Norma Hill, Roseanna Hillian, Mondy Katz, Dawn Keane, Jonathan Phinney, Anne Saloom, Jennifer Smith, Jessica Strother, Linda Taylor, Tamara Zakout and Paul Zeisset. And a special thanks to Stanley Martin, Jr. for his Renewal as a Life Member.

FODM Presents Picture to Sen. Tim Kaine

FODM presented pictures of the Dyke Marsh Wildlife Preserve to our federal elected officials, in appreciation of their support of our efforts and the preserve: Senators Mark Warner and Jim Webb and Congressmen Jim Moran, Gerry Connolly and John Dingell. On August 1,



Dorothy, Ned, Trudi and Glenda surround Sen. Kaine.

FODMers Glenda Booth, Ned Stone, Trudi Hahn and Dorothy McManus met with Senator Tim Kaine and gave him a photograph of the marsh, taken by Ned Stone.

Sunday Morning Bird Walks

Bird walks are held every Sunday morning, all year. Meet at 8 a.m. in the south parking lot of the Belle Haven picnic area. Walks are led by experienced birders and all are welcome to join us.

FODM Membership - Dues and Contributions

Support the Friends of Dyke Marsh by becoming a member or renewing your membership. Benefits include the Friends' quarterly publication. The Marsh Wren: quarterly membership meetings with knowledgeable speakers; Sunday morning bird walks and notification of activities in and around the marsh. Most importantly, your membership lends your voice in support of the Dyke Marsh Wildlife Preserve. We encourage you to save paper (trees) and mailing costs by becoming a member or renewing your membership online at www.fodm.org. Just click on the "New Member" or "Renewal" button on our membership page to make your tax-deductible contribution by credit card or from your bank account securely through PayPal. If you prefer, you can send a check, payable to FODM, P.O. Box 7183, Alexandria, Virginia 22307. The annual dues are \$15.00 per household; \$250.00 for life membership for an individual. Renewal reminders will no longer be sent with The Marsh Wren. You will receive a separate notice by mail or by email when your renewal is due. Thank you for your continuing support of FODM.

DUES AMOUNT		\$
ADDITIONAL CONTRIB	UTION	\$
TOTAL AMOUNT ENCL	OSED	\$
NAMEADDRESS		
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TELEPHONE NUMBER		
EMAIL ADDRESS		

Please address any questions or comments about *The Marsh Wren* to Dorothy McManus and about membership to Bob Veltkamp. You may contact them by mail at FODM, P.O. Box 7183, Alexandria, Virginia 22307 -7183, by telephone or by email (see page 2).

The Last Jar of Bug Soup

BY ERIK OBERG, BIOLOGIST, GWMP

In 2008, Georgetown University entomologist Dr. Edd Barrows gave a presentation summarizing his 1998-1999 Dyke Marsh insect collection research. Although he had made progress documenting the amazing insect biodiversity in Dyke Marsh, he estimated that sorting the remaining material would take about 20 years. Thanks to a small army of citizen science volunteers, we are about to finish 14 years ahead of schedule.

Of the 270 jars Dr. Barrows collected, the jar pictured is the last to be sorted. Each jar contained, on average about 4,000 specimens preserved in alcohol. That's 1,080,000 critters! Although they represent only a tiny fraction of the invertebrate biomass in the marsh, this sample allowed researchers to document a

cross-section of life in the marsh. That was the easy part.

Over the last five years, 30 volunteers, including FOD-Mer Mary Jo Detweiler, donated thousands of hours using microscopes to sort this bug soup and identify each specimen to its taxonomic order, for example beetles (coleoptera), bees (hymenoptera) and so on.



The last jar sorted. Photo by Erik Oberg.

The next step will be to mount, label, and identify each insect to the species level. This will create a reference collection for the park and the Smithsonian National Museum of Natural History for further study. This project and the citizen scientists involved are furthering our understanding of the still mostly-unknown world of insect life all around us. If you would like to help document the insect biodiversity at Dyke Marsh, please contact GWMP Biologist Erik Oberg at erik_oberg@nps.gov, or 703- 289-2542. ■

Editor's Note - Dr. Edd Barrows has added the following remarks on the project:

Since 1998, about 50 Georgetown University students helped to sort 1998–1999 DMWP arthropod specimens as part of their research and as lab technicians. For exam-

ple, Kelly Differding worked in the GU Laboratory of Entomology and Biodiversity on DMWP specimens during her four years at GU as an undergraduate Biology major. This was valuable training for the students who were funded by FODM, GU, the National Park Service, and the Washington Biologists' Field Club.



The Friends of Dyke Marsh P.O. Box 7183 Alexandria, VA 22307-7183