Isabel Inflicts Power on Jug Bay

by Dave Linthicum, volunteer

Observing nature is interesting. It’s why many of us flock to Jug Bay. It follows that observing an extreme display of nature is even more interesting. September 18 and 19, when Hurricane Isabel hit, certainly gave us just such an opportunity. One might wonder:

- How did the marsh creatures respond to the water level increasing at a rate of one foot per hour for seven straight hours?
- Were any plant species permanently impacted by submersion for close to 24 hours?
- Will we see fluctuations in populations of certain species damaged by strong current and waves?

These topics would take considerable study to even begin to draw conclusions. Instead, I hope to at least offer a few observations.

On Thursday, September 18th at 3 p.m., the winds of Tropical Storm Isabel knocked power out at Jug Bay (and not long thereafter to the entire area) while its center was 250 miles away, just moving from water to land in east-central North Carolina. This hurricane was so large that it spread simultaneous rain from South Carolina to Long Island. It was this size, and Isabel’s track a bit west of our area, that put the Chesapeake in the dreaded northeast quadrant of a hurricane’s counterclockwise winds. The track to the west is the one that coastal residents here fear the most. This position, and the low atmospheric pressure, created the highest storm surge for our area in more than a century.

By midnight, the red shed near the River Farm house had become an island. Though a lull between “bands” of the storm briefly brought less wind and rain, breakers coming off Jug Bay were smashing in the large garage door on the shed and picking up paddles, ladders and picnic tables, depositing them well to the north, mostly in the woods. Measurements would record about a five-foot tidal surge above normal high tide at the Observation Blind.

With the shed looking like the Annapolis city dock but with rolling breakers, I unwisely decided to attempt to venture down the Pindell Point Trail to the long footbridge near Pindell Point. I never did see any of the bridge, as tidewater had easily inundated it, but I did notice a rapid surge in wind. This was the strongest local band of Isabel. Shortly after midnight, this band registered the region’s highest sustained winds (55 mph) and gusts (78 mph) 35 miles to the southwest. I had expected the Pindell Point trees to all be swaying in unified fashion in one direction. Instead, they bent and twisted in every direction simultaneously with amazing flexibility and the proverbial “freight train” noise.

By 3 a.m., Tropical Storm Isabel’s eerie green cloud lightning had dissipated. Not more than a trace of a distant glow of any man-made lights could be seen. Friday early morning was about as dark as it can get at Jug Bay.

Over 70 homes in Anne Arundel and northern Calvert counties were destroyed overnight (including the 1993 to 2000 home of Peggy Brosnan and myself on the North Beach boardwalk.) Human homes were

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Dear Friends,

When there is good news to report, it’s always easy to know how to begin the President’s Letter. The proposal to build an equestrian rink on the Glendenning Preserve has been effectively withdrawn, and Anne Arundel County is moving ahead to designate the Glendenning Preserve as part of the Chesapeake Bay National Estuarine Research Reserve. The Sanctuary has been a CBNERR site since 1990.

There were probably a number of reasons for this happy turn of events, and only some were related to the actions of FOJB’s Board. I would like to think the Board offered a well-considered position in opposition to the equestrian proposal and communicated its opposition in a reasonable way. But there were other factors at work, too. One is that under past president Doug Kuzniak, FOJB established a reputation as a supportive partner in the County’s efforts to acquire the Preserve, and as a well-intentioned and helpful organization. Serendipity played a part, too. Plans for another nearby equestrian site were announced while deliberations were underway. Lastly, members of County government—from Department of Recreation and Parks staff to County Executive Janet Owens—were sensitive and responsive to the views of their constituents, including FOJB, in the South County area.

I want especially to thank Tom Haines, Chief of the Natural and Cultural Resources Division of the Department of Recreation and Parks. Tom clearly recognized the issues involved and was very helpful in keeping the Board and Sanctuary staff abreast of events as they developed.

A management plan is being drafted that will guide the future direction and administration of the expanded CBNERR site, including the Sanctuary and Preserve. FOJB and the staff will host a public meeting at the Visitor’s Center to solicit public input on the plan. It is important for FOJB members to become informed about the plan and to voice their opinion when the opportunity arises. The Board will keep FOJB members advised of developments in this area.

I want to alert FOJB members about several other ways in which they can help the Board and Sanctuary. The first is providing your thoughts and ideas for improving participation at Sanctuary events: birding walks, canoe trips, and special events for children. Frankly, attendance is sometimes disappointing to the professional staff and volunteers who try very hard to make these events interesting and engaging. Chris Swardt and his staff are beginning to review this issue. The Board will offer its ideas, but I’m sure that Chris would like to hear from you, too.

Funding from the Rausch Foundation, which amounts to $6,000 each year, has paid for three summer interns to live and do research each of the past two summers. Funding is due to expire after a final group of interns joins us next summer. The Board believes the intern program has been very beneficial to the interns and to the Sanctuary. We want very much for the program to continue and will be seeking new or renewed funding to make this possible. If you have expertise or experience in obtaining grant funding and are willing to help, please contact any of the officers of the Board.

Finally, I had a wonderful experience several weeks ago. I was leading a canoe group back from a trip in the marsh when we saw a rough green snake along the Railroad Bed Trail, and then we spied another on the clump up the hill to the Visitors Center. For those of you who may not have seen this species before, they are a brilliant green, and these had bright yellow underbellies. They are small (about 2 feet long), docile, insect eaters, and incredibly beautiful.

With kindest regards,

Bill Steiner

Management Plan Meeting

The Public is Invited to a Meeting
January 27, 2004 at 7:00 p.m.
To provide comment and input on the Draft Management Plan for the entire 1250-acre Sanctuary.
destroyed, that is. We tend to forget about animal homes. At 3:30 a.m. on Friday, September 19, I saw one such home...an automobile tire with a muskrat nest built upon it being blown across the Railroad Bed Trail, which was then covered with waist-deep water. Cruising northward, the muskrat refused to “abandon ship.” Six hours later she was still there.

The hurricane’s track to the west...and the low atmospheric pressure created the highest storm surge for our area in more than a century.

Though at this hour the storm center was at its closest, 95 miles to the west, the lack of rain and 70 to 75 degree temperatures made for reasonably good kayaking conditions. Just before I spotted the tire-riding muskrat, an adult muskrat swam right toward me, and as I backpaddled and splashed it with water, it veered off only a foot from my flashlight. Perhaps muskrats had it tougher than most. An adult muskrat was found dead near the observation blind; four young nearby were rescued by Chris Swarth, who canoed down the entire Railroad Bed Friday afternoon.

Back at the River Farm Point shed, I tried to picture the quantity of water required to raise not just Jug Bay but the entire Chesapeake Bay five to eight vertical feet above normal high tide and sustain it for 15 hours. This amount of water inundated every acre of marsh—and much dry land—all around the Chesapeake. Isabel accomplished this without a full or new moon. A common misunderstanding about Isabel in the southern Anne Arundel area was that it coincided with astronomical high tide. The storm surge actually peaked at 5:30 a.m., Friday, just an hour or two before low tide. Had the storm coincided with the day’s highest astronomical tide instead, the storm surge would have been even higher.

Hurricane Hazel in October 1954 had 85 mile per hour winds here and the third highest tidewater levels of the past 100 years, its center on a track 60 miles west of us. The center of the August 1955 Hurricane Connie (followed just five days later by Hurricane Diane) literally came right up the Chesapeake, though both were only tropical storm strength when they neared us. Some will remember June 1972’s Tropical Storm Agnes, a mere category one hurricane when it came ashore on the Florida panhandle. Its remnants stalled out over the mid-Atlantic and produced record rains and river flooding, but there was no record storm surge. Before Isabel, the unnamed 1933 hurricane had held the record for greatest storm surge (6.4 feet at Annapolis) and high tidal water.

Buddy Sunderland, who lived at the River Farm at Jug Bay in 1933, remembered that storm as “the big one.” He and his dad took a boat over top of the barbed wire fences that extended over the now-wooded western section of the River Farm fields to harvest the bobbing watermelons.

On the morning after the “big one” of 2003, I kayaked surf into the beaver pond on lower Two Run Creek without even noticing their two dams. Later, as the waves and waters receded, I’m not sure whether I was more impressed more by the durability of the beavers’ engineering or that of the many volunteers who built some of the boardwalks at Jug Bay.

Though parts of the Swamp Blind and Otter Point boardwalks washed out, the Scrub-Scrubb, Observation Blind, and River Pier boardwalks all held their own, though the latter two had waves and water over their middle railings. The long, rigid sections of the Marsh Boardwalk below the visitor center floated up with the water. Walking on them at 4 a.m. was like log rolling. At each

After Isabel hit, volunteers were ready to help! A special thank you to Lynette Fullerton and Bill Steiner (pictured), Jim Harle, Pete Uimonen, and Kim Elliott for clearing the mounds of vegetation covering the boardwalk to the Observation Blind, for emptying out the Swamp Blind (full of vegetation!) and for clearing debris from trails.

Dave Linthicum kayaks down the Railroad Bed Trail during Hurricane Isabel.

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boardwalk joint, I would slowly sink down four feet to the bottom, then slowly rise back to the surface as I climbed the next rigid boardwalk section! (The boardwalk was mined and will be replaced ed.)

After 1972’s Agnes, bay grasses declined by 67 percent. But that storm hit in June at the beginning of the growing season, and introduced extreme amounts of freshwater runoff into the Chesapeake with its load of harmful sediment and nutrients. Isabel did neither. Yet ten of the previous 12 months exceeded normal rainfall, some by quite a bit (like February’s 28-inch snowstorm of the century). What will be the long-term effects of excess precipitation plus Isabel? Will the impact be comparable to the oddly similar year of 1996, with its record January snowmelt flooding and then more flooding from September’s Tropical Storm Fran?

I saw one famously adaptable wildlife group, crawling insects, everywhere heading up trees as the Isabel storm surge rose into Jug Bay’s woods. One group of a dozen big red ants unfortunately picked a square-topped survey post on the Railroad Bed Trail to climb. They had clustered on top with only three inches left at 3 a.m. When I returned at 9 a.m., the top was an inch under and they had, in my imagination, swum to safety! Then again, in my imagination, all of Jug Bay’s critters survived this storm in fine fashion. Perhaps my “rose-colored glasses” may be a bit logged over!

Note: If you want to see some of the locations referred to in this article, Dave has marked high-water-mark locations with small metal discs, most with an orange streamer. Look for them about five feet above normal high tide near both ends of the damaged and closed Marsh Boardwalk, along the Railroad Bed Trail, at Otter Point, Pindell Point, and River Farm Point. They are also marked on the “Map with Grid Poles” on the Wetland Center’s real computer.

Visit www.jugbay.org for the latest sanctuary news
Vernal Pool Study Reveals Diverse Herp Community

By Chris Swarth

The Glendening Preserve holds a wealth of interesting aquatic habitats, from tidal wetlands and deep river habitat to meandering, gravelled streams and large vernal pools. These last habitats—vernal pools—were absolutely huge this summer, the result of tremendous rains that fell in late spring. In order to learn more about these habitats and the amphibians they support, summer intern Sarah Glatt undertook a two-month study. She concentrated most of her fieldwork on two vernal pools in the forest adjacent to the old horse pastures, not far from Plummer Lane. With the help of fellow interns, Doug Kaylor and Beth Nichols, she marked the pools with a measured grid of poles in order to accurately map them. Then, using dip nets and leaf bags, she proceeded to determine that at least 10 amphibian species dwell in these ephemeral pools. They include the Marbled Salamander, Spotted Salamander, American Toad, Spadefoot Toad, Northern Cricket Frog, Gray Treefrog, Green Treefrog, Spring Peeper, Green Frog, and Wood Frog.

The most significant result of Sarah’s study was the discovery of a huge “knot” of toad tadpoles. On 23 July, in the “Forest Vernal Pool,” she found a rolling mass of more than 5,000 spadefoot toad tadpoles, all squirming and compacted into just four square meters! There were so many tadpoles, and they were so active, that it looked like an artesian spring was bubbling into the pool. Five days later, most of the tadpoles had metamorphosed into “toadlets,” had left the pool and were hopping madly for the nearby pasture. The soft sandy soil in the pasture probably provides a safe place for the tiny toads to burrow underground where they would spend the winter. By June 29, there were no more tadpoles or toadlets to be found. To learn more about her other findings, you can read Sarah’s report in the sanctuary library.

Vernal pools in the wet and dry season.

A vernal pool is a wetland that is covered by shallow water for extended periods during the cool season but is completely dry for most of the warm season. Vernal pools undergo four phases: wetting, aquatic, drying, and finally drought. These phase changes generally begin in late winter with snowfall, accelerate with heavy spring rains and by mid-summer, when temperatures and evapotranspiration are high, the pool dries up. Because they often exist as isolated wetlands without a free connection to a stream, vernal pools are also characterized by an absence of fish.

Spadefoot Toad: an Elusive Species

Spadefoot toads are small, smooth-skinned toads with a bright golden eye and vertical pupil. You can spend many days in Maryland natural areas and never see this species. Why? Spadefoots spend most of the year hidden, out of sight underground. When heavy rains come in the spring, they emerge en masse, congregate in recently flooded vernal pools, and mate. At this time, their harsh “caw, caw” calls briefly fill the air. They go as quickly as they come. Within days, the adults are back underground. Spring and summer 2003 provided the perfect weather conditions for spadefoots. These conditions may not occur again for a number of years. We have now identified at least three areas in the Sanctuary where they may breed. Protection of these habitats is crucial for the survival of these and other amphibians.
Scarce Red-headed Woodpeckers Appear

By Elaine Friebele

The Red-headed Woodpecker, a species seen only five times during the last twelve years at Jug Bay, has been spotted frequently this fall. Several volunteers and staff members have reported seeing a pair of Red-headed Woodpeckers, and several juveniles as well, near the Two-Run Creek/Beaver Pond/Otter Point area. This species was last seen at Jug Bay seven years ago at the River Farm. Prior to 1996, Red-headed Woodpeckers were spotted three times between 1991 and 1993.

The scientific name, Melanerpes erythrocephalus, which suggests black, red, and head, describes the bird well. It is unmistakable with bright red head and neck, white underside, and black back and wings with prominent white secondary feathers visible in flight and at rest. Males and females have similar coloration.

Red-headed Woodpeckers prefer open woodland, especially with beech or oak trees, in areas with many large, dead trees. Their nest cavities average forty feet in height, while those of their cousin, the Red-bellied Woodpecker are usually lower. Though Red-headed Woodpeckers are often seen on tree trunks and major limbs, they are less likely to drill for food than other woodpeckers. One can see them flying out from a perch to catch insects in the air or on the ground. They also glean insects from bark and foliage, and gather acorns, beechnuts, and other nuts in fall, storing them in holes and crevices, and sealing up their caches with moist splintered wood.

In the late 1800s, naturalist John Burroughs reported that red-heads were more numerous than American robins in Washington, D.C. Over the last century, however, red head populations have declined. Numbers throughout the species’ range, which extends through the Midwest and Eastern United States, are now half what they were in 1966. Competition with other woodpeckers and starlings for nest sites may reduce their breeding success. The impact of starling competition is limited, however, because starlings nest later in the season than do red heads. Cutting of dead trees has also significantly reduced the woodpecker’s habitat.

In Maryland, the greatest concentration of red-heads occurs in Washington, Frederick, and Carroll counties, where they nest in sparsely wooded pastureland and along sycamore-dominated creeks. They are also more abundant on the lower Eastern Shore in cutover woodlots in pine forests. Increasing red-head populations on the Chesapeake Bay’s western shore may be associated with the explosion of beaver populations in the past 15 years. Beavers create flooded woods with abundant dead snags. Apparently, Red-headed Woodpeckers find good habitat within the Sanctuary—now that the Beaver Pond has increased in size, killing a number of larger trees in the floodplain.

The Patuxent: A Wild and Scenic River?

There is an effort underway, spearheaded by the Patuxent River Commission, to designate the Patuxent as a Wild and Scenic River. The purpose of the federal Wild and Scenic Rivers Act is to protect free-flowing rivers that have "remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural and similar values" by linking local governments, private landowners, and nonprofit environmental organizations with state and federal agencies. The Patuxent certainly possesses many of these attributes!

There are currently no rivers that have been given wild and scenic status in Maryland, but the Allegheny and Clarion Rivers in nearby Pennsylvania are so designated. As part of the designation process, a federal study will be made that verifies the qualifications of the river. Designation will add to the programs and activities that are already in place to protect the Patuxent and will further enhance the environmental quality of the entire watershed. Most of the seven counties in the Patuxent River watershed have indicated their support for this proposal. To learn more about this federal program, you can visit the National Park web site at http://www.nps.gov/rivers/. For more information on local efforts to designate the Patuxent or to get involved, please contact Jack Leighty, vice president of the Patuxent River Commission, at jleighty@chesapeake.net.

Now it will be easier for paddlers to disembark from their canoes at the dock. Here, volunteers Jim Cunningham and Steve Tew help install the sturdy ladder built by Mickey Taylor (right).
Where Do We Go from Here?

By Carol Towle, Reserve Manager

It is hard to believe that four years have gone by since I began the job as Reserve manager. So many accomplishments, so many interesting people and still so much to do! I want to share some of our many accomplishments and then try to describe our desired direction for the future.

But, first, let me thank the Reserve staff, the staff at the components and all of the volunteers for their hard work, ingenuity, dedication and generosity. It truly has been an amazing four years. I have learned so much from all of you.

Probably the biggest accomplishment is having four full time Reserve staff and a fiscal officer on board. Nothing would get done without this talented crew! Here is a list of the successes:

- Completed exhibits about the Reserve and the Chesapeake Bay at the Anita C. Leight Estuary Center at Otter Point Creek.
- Designed and completed a traveling exhibit describing ongoing research, monitoring, education and volunteer activities.
- Finalized the purchase of the Hirschauer property adjacent to the Estuary Center.
- Hosted a one-hour segment of Estuaries LIVE at Jug Bay, an interactive internet program for students. You can view the 2002 event at http://www.estuarieslive.org/.
- Helped with the revision of the Jug Bay Volunteer Guide and printed the Birds of Jug Bay brochure and the Volunteer manual at Otter Point Creek.
- Expanded the System Wide Monitoring Program (tracks water quality parameters) to include 3 dataloggers (continuous monitoring devices) at Jug Bay and one site at Otter Point Creek. This data is near real time and can be viewed at http://www.eyesonthebay.net/.
- Initiated a focus on tidal, freshwater species of submerged aquatic vegetation and their restoration. This includes research, monitoring and citizen participation in restoration efforts. Grow-out tanks for SAV were built at Jug Bay and Otter Point Creek to serve as a source of plant material.
- Continued the successful Wetlands and Wildlife Field Days for fourth grade students at the Monie Bay component. In 2002, representatives from all three components participated.
- Organized and hosted a series of "Coastal Decision Maker" workshops. Topics include: Rain Gardens, the Impact of Phragmites on the mid-Atlantic, Submerged Aquatic Vegetation Restoration, Beneficial Use of Dredged Materials, Green Development, Septics and their Impact, Research at Jug Bay and the Impact of Personal Watercraft on Shallow Water Habitats.
- Conducted Amphibian Calling Survey workshops to teach citizens how to recognize amphibians by their calls. All data collected goes to a national program to track populations of amphibians.
- Initiated a fish identification workshop for citizens to provide the Department of Natural Resources with data on fish populations.
- Former Governor Glendenning recognized the 30th anniversary of the Clean Water Act at Jug Bay.
- NOAA presented two Jug Bay Wetlands Sanctuary volunteers with Environmental Heroes Awards.

And we aren't done yet. We still have places to go and things to do. We are trying to consolidate, streamline and improve our efforts. In the future all of the Reserve's efforts in research, monitoring, education and citizen participation will focus on the two themes of water quality and submerged aquatic vegetation. Water quality is a rather broad category with many possibilities. We will try to target our efforts to coincide with the National System Wide Monitoring Program. (See the article from the fall 2002 newsletter for more specifics on that program.) Due to the interest and expertise of Andrea Hardy-Campo and Julie Bortz, SAV has become an increasingly important topic, so our efforts in this area will continue.

Briefly, our goals for the Maryland Reserve are to:

- Advance the state of knowledge about the requirements for sustainable estuarine ecosystems and the interaction of humans with those ecosystems;
- Improve decisions affecting estuarine and coastal resources; and
- Improve the operations and the infrastructure of the Maryland Reserve.

If you would like a copy of the complete action plan or the annual report, please contact me at 410-260-8713 or ctowle@dnr.state.md.us. We welcome your comments.

All in all, it has been a great four years. I look forward to continued success and working with all of you.
Fall Volunteers
August – October

Barbara Anderson  
Morgan Angus  
Ramona Angus  
Mike Blackstone  
Susan Blackstone  
June Bourdet  
Alex Boyer  
Chris Boyer  
Susan Bradford  
Tom Bradford  
Judy Burke  
Gordon Burton  
Mary Burton  
Danny Bystrak  
Betty Chaney  
Ginger Chaney  
Kate Cinelli  
Andrew Cronin  
Alex Crowe  
Terry Crowe  
Jim Cunningham  
Sandy Curry  
Alison Deau  
Adam Duke  
Dennis Duke  
Lindsay Duke  
Kim Elliott  
Kathy Englar  
Tom Englar  
Maureen Fink  
Bob Ford  
Alex Fort  
Theresa Fort  
Robert Frezza  
Rosemary Frezza  
Lynette Fullerton  
Katy Goodwin  
Jim Harle  
Adon Harris  
Daniel Harris  
Mala Harris  
Mucah Harris  
Tom Hoffman  
Lloyd Lewis  
Dave Lichtenstein  
Jennifer Lowery  

Jennifer Muro  
Connie Nissley  
Shelly Nixon  
Jim O'Reilly  
Dave Perry  
Rod Perry  
Mike Quinlan  
Arlene Ripliy  
Rogard Ross  
Amy Rubino  
Anthony Rubino  
Jeff Sherot  
Mary Shilinski  
Lisa Siciliano  
Bill Steiner  
Steve Tew  
Peter Uimonen  
Bruce Weidle  
Tina Whittle  
Susan Wood

Thanks for all your help!
Winter 2003-2004 Education Programs

Reservations and entrance fees are required for all events. Please call 410-741-9330 or e-mail jugbay@road.net. Open to the public 9 am-5 pm, Wed & Sat (closed Sun, Dec - Feb). Programs are open to families and individuals. Please note age limits for each program. An adult must accompany children under 13. Scouts and other groups must call to arrange a program designed for their group. Check out www.jugbay.org for information, directions and updates to our schedule. Entrance Fees: Adults $3; Children under 18 $2; Over 60 $2; FOJB family membership $20.

Birdwalks for Beginners
Saturday, December 6; 8-11 am
Saturday, January 3; 8-11 am
Saturday, February 7; 8-11 am
Learn the skills of identifying birds by sight and sound. Binoculars and field guides will be available to borrow. Not appropriate for children under 12.

Animal Sleepers
Saturday, November 22; 1-3 pm
Most animals disappear from our sight during the winter. Many warm-blooded animals such as chipmunks, groundhogs, and bats hibernate. But what happens to the turtles, frogs, and insects at Jug Bay? How do they cope with freezing temperatures? Come for a hike to learn where they go when they become dormant during the cold winter months. All ages welcome.

Beaver Pond Hike
Saturday, December 20; 4-6 pm
Join us to learn about beaver adaptations and then take a hike to the beaver ponds. Dress warmly and bring a flashlight. Children should be at least 6 years old.

Friends with Feathers
Sunday, November 16; 1-3 pm
Come, learn, look and listen for birds that stay here all winter and discover the birds who will be arriving for winter. We’ll learn about bird adaptations and make a wildlife feeder to take home. Dress warmly. Children should be at least 6 years old, and adults with little birding experience are invited.

Story Tellers
Friday, November 21; 10 am-noon
Friday, December 19; 10 am-noon
Friday, January 16; 10 am-noon
Come relax, warm up by the fire, and listen to a tale while sipping on hot chocolate. We’ll take a short nature hike and make a nature craft. All ages welcome.

Winter Waterbirds of the Patuxent Estuary
Friday, January 16; 8 am - 5 pm
Leader: Chris Swarth
We will journey from the freshwater part of the estuary at Jug Bay downriver to the mouth at Solomons. We’ll meet at the Wetlands Center and carpool to a half dozen locales en route to scan the river for ducks, loons, gulls, and other waterbirds. Bring a lunch and dress for the weather. A great trip for beginners and experienced birders alike. Children should be at least 12 years old.

Winter Detectives
Saturday, January 24; 1-3 pm
Saturday, February 28; 1-3 pm
Where do animals go and what do they do in winter? Become a Jug Bay Detective and search for clues like animal tracks and scat to learn which animals are active during the winter. All ages welcome.

Become a Volunteer
Saturday, February 7; 1-4 pm
The success of Jug Bay is dependent on numerous volunteers. People, young and old, help with education programs, conservation projects, and ecological research. Spring research projects include stream monitoring, bird studies, water testing, and fish surveys. Volunteers lead our morning birdwalks and other nature education programs and they assist in the Wetlands Center on weekends. Trail maintenance and clean-ups are done throughout the year. Learn how you can become a volunteer at Jug Bay Wetlands Sanctuary and participate in volunteer opportunities. For adults and teens.
Grasses to the Masses Workshop
Saturday, March 13; 9 am-noon
Bay grasses or SAV, important underwater plants that provide wildlife habitat and improve water quality, are declining throughout the Chesapeake Bay and its tributaries. Learn how to grow bay grasses at home and become part of a restoration project. Appropriate for families. Training provided and $5 includes the cost of supplies.

Marsh Cleanup
Saturday, March 20; 10 am-3 pm
Volunteers will pick up trash that has floated into the marsh. Please dress in work clothes (long sleeves and long pants), including boots or shoes that can get wet, and bring work gloves, a bag lunch, a change of clothes and a towel. Free admission to the Sanctuary. Children should be at least 6 years old. Scout troops and community groups are encouraged to participate.

Water Chemistry and Nutrient Dynamics Training Workshop
Saturday, March 27, 1-4 pm
Since 1988, volunteers have monitored nutrient pollution, dissolved oxygen levels, pH and water clarity in Jug Bay’s waters. We will refresh those skills and orient new volunteers. We will also discuss research results. All volunteers, new and experienced, must attend at least one training workshop each year. For adults and teens.

Skulduggery
Saturday, March 27; 10 am-noon
We’ll study mammal, bird and reptile skulls and learn how to identify them. Skulls, teeth, and beaks offer clues about an animal’s life style. Compare the bones in your own body with the bones of other animals. All ages welcome.

Canoe Guide Training
Saturday, April 3; 10 am-3 pm
Become a Jug Bay canoe guide! This workshop will be a land-based training, for both experienced and new volunteers, and will cover volunteer responsibilities, canoe safety and paddling techniques, canoe routes, marsh ecology, and an overview of Sanctuary policies. Canoe volunteers must have canoeing experience and must be over 18.

Parris N. Glendening Nature Preserve at Jug Bay
Join us for a program at one of Anne Arundel County’s newest parks, encompassing over 620 acres. Extensive tidal marshes, upland forests, stream valleys and open meadows offer various habitats to search for a diversity of plants and animals. Public access to the site is through guided hikes and programs. Participants meet at the Sanctuary’s Wetlands Center and car pool to the site. Wear sturdy shoes and be prepared to walk for two hours, at a moderate pace (approximately three miles), on natural surface paths, with some short, steep sections. There is no entrance fee for programs held at the Preserve.

Sunset Hike
Saturday, December 13; 3-5 pm
Dusk is a time when many animals are just beginning to awake for the day. We’ll search woods and field for signs of deer, foxes, rabbits and owls. We’ll end the hike watching the sun set over the Patuxent River. Bring a flashlight for the last leg of the hike. Be prepared to hike a few miles. Children should be at least 10 years old.

Owl Hike
Saturday, January 17; 5:30-8 pm
Come and learn about owl adaptations and go on a short night hike. We will bring along a tape to play owl calls and see if we get any owls to respond! We’ll return in time to enjoy a campfire and marshmallows. Meet at the Glendening Preserve’s Plummer Lane entrance. Please bring a flashlight and dress for the weather. Free for all ages.

Friday Ramble at the Glendening Preserve
Friday March 19; 10 am - 2 pm
Celebrate the beginning of spring by exploring a beautiful forest and a beaver pond along Galloway Creek. Bring a lunch and dress for the weather. Children should be at least 10 years old.