Just Passing Through: Fall Songbird Migration at Jug Bay

By Katy Goodwin
Fall Bird Migration Intern

After six previous seasons monitoring fall migration patterns of songbirds, one would think that the results would be fairly predictable. However, such was not the case in 2003. The overall number of birds captured was dramatically lower this year than in past years: 1484 compared to an average of 2448 (a decrease of about forty percent). In addition, species diversity was down slightly, from an average of 89 species for 1997-2002 to 84 for 2003.

The mist-netting and monitoring station at Jug Bay was established with several goals in mind. Primarily, we hope to find out how many migrant songbirds pass through the Jug Bay area and what species are represented. In addition, we are learning about the timing and pattern of migration and how these differ between species. A related project undertaken by Danny Bystrak and a few other volunteers is habitat improvement around the station through shrub plantings and removal of invasive species.

Each year, twenty-six mist nets are set up at the River Farm area of the Sanctuary for the period between August 15 and November 15. The nets are opened before sunrise every Monday, Wednesday, and Friday and checked at forty-minute intervals throughout the morning. All birds found in the nets are carefully removed and brought back to a central “processing” station. Here, they are identified by species, age, and sex, then measured and marked before being released. If a bird is already marked, it is released immediately at the net, rather than being processed again. A team of five dedicated volunteers and an intern under the direction of master bander Danny Bystrak operate the Jug Bay migration monitoring station. In addition to the regular volunteers, about eight others assisted several times during the 2003 season and two larger groups visited for one day each (the Southern Maryland Audubon Society and an ornithology class from Washington College).

What Species Did We Catch?

Several species that have been abundant in the past were relatively rare this year. For example, we caught only 19 American Goldfinches (previous average is 168), only 50 Chipping Sparrows (previous average is 119), and only 20 Myrtle Warblers (previous average is 255). One possible reason for the low numbers this year is the unfavorably cold and wet weather during the winter (which would affect year-round residents) and during the summer (which would affect locally breeding species).

Although many species experienced a decline this season, a few groups did unusually well. We caught average or above-average numbers of four out of five species of woodpeckers. Also, many of the larger-sized, shrub-habitat birds (including the Brown Thrasher, White-throated Sparrow and White-crowned Sparrow, Gray Catbird, and Eastern Towhee) were captured much more frequently than before. We set new records for the highest numbers of Catbirds and Towhees! Another pleasant surprise was capturing the Marsh Wren, Northern Saw-whet Owl, and Bay-breasted Warbler for the first time.

What Age and Sex Were the Birds?

We determined the sex of each bird by examining the color patterns of its feathers or by measuring its wing and tail length. However, because of the similarity between the two sexes in many cases, we were able to

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Dear Friends,

I advised the Board several months ago that I would be resigning as president of the Friends when my current term expires. This is related to the fact that after many years of work I will be retiring this spring. As author Abigail Trafford writes in My Time—a book aimed at readers at my stage of life—it's time to figure out, 'What's next?' Unfortunately, answering this question and fulfilling some long deferred dreams won't permit me to devote the time and attention required to continue as president of FOJB. However, I plan to remain as an active volunteer at the Sanctuary. I hope to see many of you there when I visit.

I want to extend my thanks to the Board, and especially vice president Peggy Brosnan, treasurer Mike Quinlan, and secretary Betty Chaney for their help and support. It is their unheralded work and that of our committee chairpersons that really makes the Board go. And I want to thank the staff at the Sanctuary. They have been wonderful to work with.

Fortunately, I am departing on the cusp of good news. The State Board of Public Works just approved $1.25 million in additional funding to complete the purchase of the Rigglerman Farm, which encompasses 300 acres and almost a mile of riverfront immediately south of the Sanctuary. Some Friends may not know that Ken Rigglerman is a long time member of the FOJB Board and was very helpful in this preservation effort.

This achievement, and the Board's successful effort in 2003 to maintain the Glendening Nature Preserve free from commercial development have strengthened the Sanctuary. In addition, the upcoming expansion of the CBNERR designation to include the Glendening Preserve and River Farm and the adoption of a Management Plan to govern the Preserve both lay a solid foundation for the future protection of the entire Sanctuary.

At a meeting on February 3, 2004 to solicit public input on the draft Management Plan, I spoke in favor of it and have since drafted a letter of support on behalf of the Friends. In general, the plan is to manage the Preserve similarly to the Sanctuary with some increased public access. But the plan also contains a lengthy list of tasks that need to be done at the Preserve. These include environmental assessments, trash removal, tearing down unsightly shacks, creating trails, and implementing a meadow management plan. Completing many of these activities will require the assistance of the Friends and the many volunteers who help in so many ways at the Sanctuary.

This speaks to a theme of great importance to me: that we serve as examples to the younger people who will come after us. Whatever we do today is critical to the legacy we leave for them. I give credit for my own interest in nature and the environment to three people I met more than 50 years ago. One was an elderly lady who ran a dairy farm in New Hampshire. My father sent me there because I was a skinny and sickly child. That experience introduced me to farm life, and allowed plenty of time to explore the woods and streams nearby. The second person was the father of a boyhood friend who was an amateur naturalist and first taught me about reptiles and amphibians. The third was a professor from the University of Alabama who was a real renaissance man—artist, scientist, and educator—who enthusiastically communicated his love for the out-of-doors and all the recreational activities associated with it. I was fortunate to have known them all.

As Anne Arundel County continues to develop and become more urban, young people are likely to have fewer natural places to enjoy and may never have the kinds of early experiences that were so important to me. That is why 'preserving in perpetuity' places like Jug Bay is critical to the legacy will we leave. As I said in my very first letter to you, Jug Bay is a beautiful place with wonderful staff and wonderful volunteers. I hope it always remains so.

Sincerely,

Bill Steiner
determine the sex for only one-third to one-half of the birds. Those that could be determined were split about equally between male or female.

Many birds can be aged simply by examining the color and molt pattern of their feathers, but in some cases, it is necessary to look at a bird’s skull to determine the degree of ossification. While the adult birds we caught almost always had completely ossified skulls, birds that had just hatched this past summer were only beginning the ossification process. We determined the age of about 95 percent of the birds we caught this fall. Juvenile birds accounted for 69 percent and adults, 26 percent. Again, these percentages closely match previous years’ data, with 70 percent being juvenile and 22 percent being adult from 1997 to 2002.

The Timing of Migration

The graph shows the typical migration timing for Swamp Sparrows, which use the Jug Bay marshes as a major stopover each fall. Swamp Sparrows first arrive at the end of September. Their numbers peak in late October and then quickly drop off in early November.

The overall number of birds captured was dramatically lower this year than in past years.

As we operated the Jug Bay station this fall, we found that many species arrived in the area later than usual. For example, the first of another kind of sparrow, the Song Sparrow, was not captured until October 1. In the previous six years, the first arrival of this species occurred as early as August 8 and only as late as September 11. Even though the sparrows were late to arrive, they still showed the typical pattern of migration.

The Other Migration Monitoring Station

Those of us without enough to do supplemented our daytime activities with some nighttime banding, once again seeking the wily Northern Saw-whet Owl. In general, the owls also moved later and in smaller numbers than last year. We captured and banded a total of seven owls between October 21 and December 3. They were all females and mostly birds hatched this year, which is the norm.

Although our primary banding site remains at the River Farm on the Sanctuary, we operated at the Glendening Nature Preserve for two nights this year. It proved to be a worthwhile experiment, as two of the seven owls were captured there.

It was the first Saw-whet Owl for the Preserve, adding to the bird list for that property. The single Saw-whet Owl caught during fall migration banding was one of the Preserve birds that had been banded and released two nights before.

For more information about the migration monitoring projects at Jug Bay, please contact Mike Quinlan at MikeMQ@aol.com.

Wood Frog Emerges for Interview

Interviewer: I’m walking down to the Two-run Creek floodplain to interview an interesting fellow, the Wood Frog. Ah, I can hear his unmistakable call—that raspy, duck-like quack. And there he is! The vocal sacs on the sides of his throat are bulging with air. I have to admit, the mask he’s wearing makes me a little nervous. Is he getting ready to rob a bank?

I: Hi, I wasn’t sure you’d be out of hibernation. Don’t you know it’s only late February, and there’s still some snow left on the ground?

WF: Yeh, but all the other wood frogs are out, and I gotta find a mate!

I: If other kinds of frogs came out of hibernation now, they’d die.

WF: Sure. They’d be ice cubes in no time. We wood frogs are tough. Thanks to my liver, glucose in my bloodstream lowers the freezing point of my body—kind of like antifreeze in your car.

I: So this weather doesn’t bother you?

WF: Nah—Not until the temperatures dip below -7 degrees C (20 degrees F)! Look, I gotta go. If I don’t keep calling, I’ll won’t get a mate.

I: What’s the rush?

WF: We Wood Frogs are known as “explosive” breeders. That means that that we all reproduce in just a few days. My mate will lay her egg mass—with 500 to 3,000 tiny embryos inside, and it won’t be long before my little tadpoles fill this pond!

I: Thanks for talking to us. Now back to the Jug Bay News.
Volunteer Gains Field Experience, Serenity at Jug Bay  By Pete Uimonen

My main objective in volunteering has been to complement my academic work in conservation biology at the University of Maryland with a little work in the field and some exposure to how practicing biologists and naturalists practice their craft. This objective has been easily met. Each project has provided other benefits as well. For example, the herpetological projects at Jug Bay have rekindled a love from my youth while the plant habitat survey has provided an introduction to the Sanctuary’s forest communities, about which I hope to gain a better understanding in the future.

I began volunteering at Jug Bay in August 2002, providing assistance with the marbled salamander population monitoring study. Since then I have continued helping out on this and a number of other projects, including water quality monitoring, red-bellied turtle reproduction data analysis and the plant habitat survey in 2003.

The marbled salamander project involves a fascinating species with a fall breeding habit timed to the presence of rain. During the last two seasons, I have enjoyed helping staff and other volunteers check and maintain the pitfall traps, collect data on captured animals, and photograph them for estimation of recapture rates. The project is a load of fun, particularly on mornings after a big population movement. It also provides camaraderie with other volunteers and staff.

In 2003, Chris Swarth and Elaine Friebele asked me to have a look at some data collected from red-bellied turtle nests at the Sanctuary. I used a couple of different types of statistical tests and found a positive relationship between average hatching mass and female carapace length, which is likely related to the size of her pelvic opening. Interestingly, there was no such relationship between female carapace length and clutch size, or between clutch size and average hatching mass. This suggests that as female turtles grow they tend to produce larger offspring, not more offspring. We also tried to determine whether season of hatching emergence (fall or subsequent spring) is related to average temperature or precipitation during the incubation period, but we did not find statistically significant results. A future experiment may provide some answers.

Also in 2003, I joined team conducting a plant habitat survey of the Sanctuary. This was a thoroughly rewarding experience from which I gained a nice introduction to Jug Bay plants and trees, thanks in no small part to the knowledge imparted by the other volunteers and Karyn Molines. Hopefully, the data collected from that survey will provide some useful ways to describe gradations in the relative abundances of plant species at the sanctuary.

As we all know, the Chesapeake Bay watershed is continuing to face a number of challenges, including excess nutrient and sediment flows. It is therefore extremely important to establish good quality, long-term datasets on water quality from a number of sites in the region. This is particularly difficult to do in an era of tight budgets. I feel privileged to have had the opportunity to provide such assistance at Jug Bay over the past year.

The more you know about a place like Jug Bay, the more remarkable—and valuable—it becomes. With all too many wetlands under increasing pressure from development and other forces, obtaining a better understanding of these ecosystems and the species within them is one of the best ways to protect them—because knowledge of structure and function can inform conservation efforts and also because we tend to attach greater value to things we know more about. The Sanctuary staff and its many volunteers are a tremendous asset in this regard. Elaine Friebele, Christina Miller, Karyn Molines, Chris Swarth, and Jamie Zambo have always been available to patiently explain methods for data collection and processing. Even more importantly, as volunteers, they are always available as educators, providing their expertise in diverse areas such as herpetology, plant taxonomy, and ecology.

The Jug Bay Wetland Sanctuary is a true gem in the Chesapeake region, with an excellent community of plant and animal species for discovery and observation. Many of the more common reptile and amphibian species can be found regularly on a leisurely summer walk, along with a variety of other plant and animal species. It is a place with an uncanny ability to inspire a sense of serenity and wonder. Indeed, each time I arrive and walk toward the door of the Wetlands Center I catch myself saying, “Gosh, I really do love this place.”

Marsh Boardwalk Under Construction

The Marsh Boardwalk, which was turned topsyturvy by Hurricane Isabel, is being rebuilt this winter. After being unable to use the boardwalk this fall, we are all looking forward to having the close-up view of the marsh that the boardwalk affords. The boardwalk is a critical part of our education programs. Reconstruction is funded mostly by the County, with a large supplement from CBNERR--MD. Additional funds come from the Federal Emergency Management Agency. Thanks to Department construction officials Jack Keene and Jack Adamecz for design and construction oversight.
Spring 2003–2004 Education Programs

- Reservations and entrance fees are required for all events. Call (410)741-9330 or e-mail jugbay@toad.net.
- Check our website www.jugbay.org for additional information, directions and updates to our schedule.
- Open to the public 9 am-5 pm Wed, Sat, and Sun. 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.
- Entrance Fees: Adults $3; Children under 18 $2; Over 60 $2; FOJB family membership $20.

Birding at Jug Bay
Saturday, March 6, 8-11 am
Saturday, April 3, 8-11 am
Saturday, May 1, 8-11 am
Saturday, June 5, 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.

Bay Grasses to the Masses Workshop
Saturday, March 13; 9 am-noon
Supply Fee: $5
Bay grasses, or SAV—underwater plants that provide important wildlife habitat and improve water quality—are declining throughout the Chesapeake Bay and its tributaries. Learn how to grow bay grasses at home that will be planted near Jug Bay. Co-sponsored by the Chesapeake Bay National Estuarine Research Reserve in Maryland and The Chesapeake Bay Foundation. Appropriate for families. Training provided; $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.

Skullduggery
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.

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 or teens.

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, marsh ecology, canoe safety and paddling techniques, canoe routes and an overview of Sanctuary policies. Volunteers must have canoeing experience. For adults and older teens.

Community Service Day
Sunday, April 4; 9 am-2 pm
Join us to help clear trails, straighten up our barns, clean the SAV tanks, and accomplish various other projects. Refreshments will be available. Please register and let us know what time you will be arriving. Scouts and community groups are encouraged to participate. Children should be at least 10.

Naturalist Training: Insects and Spiders
Saturday, April 10; 12-4 pm
Volunteers are needed to lead a variety of weekend programs for families. This workshop will focus on the basics of entomology and provide activities that make a “Bug Hunt” fun and educational. For adults or older teens.

Bugs 101
Saturday, April 10, 1-3 pm
Sunday, May 23, 2-4 pm
Saturday, June 26, 2-4 pm
Here’s your chance to learn about the cool critters found crawling in our fields and under our logs. All ages welcome.

Marsh Ecology by Canoe
Saturday, April 10; 9:30 am-1:30 pm
Sunday, April 18; 12:30-4:30 pm
Saturday, May 8; 9:30 am-1:30 pm
Sunday, May 16; 12:30-4:30 pm
Saturday, May 29; 11 am-3 pm
Saturday, June 12; 11 am-3 pm
Fee: $5.00 per person
Come learn about wetland ecology through our popular canoe explorations of the wetlands along the Patuxent River. Experienced volunteers or staff naturalists lead trips. Canoe instruction and all equipment is provided. To reserve a space, mail your payment of $5 per person (including FOJB) in advance to the Sanctuary. Please include your names, address, daytime phone number, number of people in your party and the ages of children, as well as a first and second choice of dates. Children must be at least 7 years old, unless noted otherwise.

Spring Peepers
Friday, April 16; 7-9 pm
Join us for an evening hike to the Sanctuary’s ponds, where we’ll listen and look for Spring Peepers, Wood Frogs and other amphibians that call in early spring. Dress for the weather, with footgear that can get wet, and bring a flashlight. All ages.

Jug Bay Wetlands Sanctuary
410-741-9330
www.jugbay.org
Fish Survey
Saturday, April 17, 1-4 pm (Two-run Creek)
Saturday, May 29, 12-3 pm (Patuxent River)
Saturday, June 26, 10 am-1 pm (Patuxent River)
Once a month we monitor the fish populations living in shallow water and wetlands. Volunteers willing to get wet are needed to help catch, identify, and measure (and then release) fish. Not appropriate for children under 12.

Eggs to Legs
Sunday, April 18, 2-4 pm
Investigate animal life cycles such as insect and amphibian metamorphosis. Meet live animals hatched from eggs and take a hike outdoor in nature’s nursery. Dress warmly. All ages.

Habitat Survey Training
Saturday, April 24, noon-4 pm
As part of a long-term project, volunteers team up to survey the habitats at the Glendenning Preserve and identify and measure the trees in 10-meter plots. The methods are simple, and regardless of your plant knowledge, there’s a job for everyone! We’ll teach you survey methods and tree identification techniques. Most surveys take place on weekday afternoons, but some weekend dates can be scheduled. Children should be at least 10.

Create a Nature Journal
Sunday, April 25, 2-4 pm
A Nature Journal is a kind of scrapbook, holding memories of what we see and sense in Nature. We’ll take a Nature hike, taking time to look and sharpen our observations skills. Using colors, shapes, words, and various media, we’ll harvest a moment, an image, or idea in our journals. Bring a notebook or journal and wear sturdy walking shoes. For adults and children over 8 years old.

Stream Monitoring
Saturday, May 1, 9:30 am-noon
Volunteers are needed to help collect, identify, and count stream invertebrates that are used to evaluate stream health. Not appropriate for children under 12.

Signs of Spring
Sunday, May 2, noon-2 pm
Spring has sprung...plants are beginning to grow and animals are coming out of hibernation! Come explore the Sanctuary as we look for signs of spring. We will also learn how to sign some animals and plants using sign language. All ages welcome.

Dancing Dragonflies
Sunday, May 16, 1-3 pm
These interesting insects start out their life in the water and look like small monsters. Once they emerge from their aquatic habitat, they become beautiful, elegant flyers. They are just beginning to emerge from Jug Bay’s ponds, so join us in watching these amazing insects dance through the air. All ages welcome.

Secret Life of Plants
Saturday, May 22, 1-3 pm
What mysteries lie beneath our feet and tower above our heads? Learn about unique plant adaptations that let them grow as giants, produce seeds that fly, and perform other amazing feats of survival. All ages welcome.

Herp Search
Saturday, June 5; 10 am-3 pm
Saturday, June 12; 10 am-3 pm
Come and search the forest leaf litter, stream banks and marsh edges for turtles, frogs, toads, salamanders, lizards and snakes (a.k.a. herps.) Participants will be assigned to teams to help gather information and document herp population changes at Jug Bay. Box turtles will be notched, salamanders will be weighed and banded. Race Runners will be watched running away! Special teams for families led by volunteer naturalists will get a chance to learn more about reptile and amphibian biology. Please make advanced reservations for the Family Teams. Scout troops and community groups are encouraged to participate. Children should be at least 6 years old.

I Spy Osprey
Sunday, June 6, 2:30-4:30 pm
Where does an Osprey live? What does it eat? These are just some of the questions we’ll answer. All ages welcome.

Sensory Stroll
Sunday, June 13, 2-4 pm
Observe nature in a whole new way! Discover how animals use their senses to survive. We will also test our senses by going on a Sensory Scavenger Hunt. All ages welcome.

Flower Power
Saturday, June 19, 10 am - noon
Come explore our field and learn about pollination and the important role butterflies and bees play in making new flowers. Also learn how to attract butterflies to your own backyard! All ages welcome.

Silly for Snakes and Salamanders
Sunday, June 20, 1-3 pm
Snakes and salamanders— as well as frogs, toads, turtles, and lizards— will be the stars of this program, as we search for the animals known as “herps.” We’ll investigate the similarities and differences between reptiles and amphibians, and learn what it means to be an ectotherm. Wear boots or shoes that can get wet. All ages welcome.

Survivor!
Sunday, June 27; 1-3 pm
Talons, teeth, and cryptic camouflage are some of the many ways that adaptations help animals to stay alive. We’ll learn about these as we explore the forest and fields. All ages welcome.

Parris N. Glendenning Nature Preserve at Jug Bay

Join us for programs at the Glendenning Preserve, one of Annie Arundel County’s newest parks, encompassing over 620 acres. Public access to the site is through guided hikes and programs.

Participants generally meet at the Sanctuary’s Wetlands Center and car pool to the site.

Wear sturdy shoes and be prepared to walk 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.

Friday Ramble at the Glendenning Preserve
Friday, March 19; 10am - 2 pm
Celebrate the beginning of spring by exploring the beautiful forest and beaver pond along Galloway Creek. Bring a lunch and dress for the weather. Meet at the Sanctuary’s Wetlands Center and we’ll car pool to the site. Children should be at least 10 years old.

Birdwalk at the Glendenning Preserve
Saturday, April 17; 8-11 am
Explore the fields and forest of the Glendenning Preserve for both resident birds and early spring migrants. Binoculars and field guides will be available to borrow. Meet at the Plummer Lane entrance of the Preserve. Children should be at least 12 years old.

Spring Flowers
Saturday, May 15; 10am - 2 pm
Many woodland plants bloom before the forest canopy shades the forest floor. We’ll hike the woods of the Glendenning Nature Preserve to admire Bloodroot, Trout Lily, and Spring Beauties. Meet at the Sanctuary’s Wetlands Center and we’ll car pool to the site. Children should be at least 10 years old.
Jug Bay Summer Science Camps

Give your child a natural adventure this summer at Jug Bay Wetlands Sanctuary’s Summer Science Day Camp! The cost is $120 per session ($110 for FOJB members). Our camps are designed to introduce campers to wetlands, ecology and scientific investigations. During these outdoor, all-day programs, campers explore the natural world and conduct ecological studies through hands-on, student-centered activities. For more information call the Sanctuary at (410) 741-9330, email jugbay@toad.net or visit www.jugbay.org.

Registration Information

- To register your child for summer camp, call for a registration form or print it from our website. Registration is on a first-come, first-served basis, by mail or walk-in (Wed, Sat, or Sun 9am-5 pm).
- Mail registrations to Jug Bay Wetlands Sanctuary, 1361 Wrighton Road, Lothian, MD 20711.
- Registration fee must be paid at time of registration, by cash or check only.
- Camp size is limited. You will be notified of your registration for camp or if a camp is filled.
- Carpool lists will be made available for those who register.

Reptiles and Amphibians

(for children entering 5th or 6th grades in Fall 2004)

Monday, June 28 - Friday, July 2
(9:30 am - 3:30 pm)

Snakes, turtles, lizards, frogs, toads and salamanders will be the stars of this program. We’ll investigate the differences and similarities between reptiles and amphibians. Each day we will explore a different habitat. We’ll search ponds for tadpoles as we learn about the life cycles of frogs, toads and salamanders. A canoe trip, overnight camp-out on Thursday, and a nocturnal Herp Hike are highlights of the camp. Art projects, games and experiments will enhance our daily activities.

Our Blood Runs Cold . . .

(for children entering 7th or 8th grades in Fall 2004)

Monday, July 12 - Friday, July 16
(9:30 am - 3:30 pm)

...or so they say. Come discover what it means to be an ectotherm (cold-blooded animal), as we investigate the lives of reptiles, amphibians, fish, insects and spiders. Seining for fish in the marshes and river and exploring the ponds for salamanders and frogs will put us in the habitats where many animals are found. A canoe trip on the Patuxent River will give us a chance to search for Painted Turtles and water snakes. During the Thursday overnight camp-out we’ll go on a nighttime search for moths, katydids and spiders (as well as their predators: owls, bats, frogs and toads).

R.A.C.E. for Survival

(for students entering at least 9th grade in Fall 2004)

July 26-30: Mon, Tues, and Wed (9:30 am - 3:30 pm);
Thurs, 3:30 pm until Fr 10am (an evening program and sleepover)

The new Reptile and Amphibian Conservation and Ecology program focuses on the high diversity of reptiles and amphibians found at Jug Bay Wetlands Sanctuary. We’ll track turtles and search for stream salamanders. We’ll canoe through wetlands to watch basking turtles and snakes and listen for frogs calling at the breeding ponds. Each day we’ll explore the forest, streams, and wetlands and learn how to help protect our these populations. On Thursday, we will have a cookout, and after we listen for frogs we’ll camp out. The week ends after a Friday morning breakfast.

Teen Adventure

High School Students (entering at least 9th grade in Fall 2004) --- are you ready for an adventure? This summer we have opportunities for you to expand our research efforts to the Glendening Nature Preserve at Jug Bay. Each day you will participate in the on-going research projects, interpret the data collected, and complete a community service project. There is a $5 fee per program (free for current volunteers) and you can use the hours to fulfill your community service learning requirements. If you start volunteering this spring, you can attend these programs for free! Contact us for more details.

Thursday, June 24; 9:30-3:30: Herp Search
Thursday, July 8; 9:30-3:30: Stream Monitoring
Tuesday, July 20; 9:30-3:30: Fish Survey
Thursday, July 22; 9:30-3:30: SAV I
Thursday, August 5; 9:30-3:30: Box Turtles
Tuesday, August 10; 6-10 pm: Amphibians
Thursday, August 12; 9:30-3:30: Forest Ecology
Thursday, August 19; 9:30-3:30: SAV II
Tuesday, August 24; 9:30-3:30: Wild Rice Restoration

Summer Camp Volunteers

We need volunteers to assist with the summer camps. If you like working with younger students and enjoy being outdoors, we could use you for one or more of the weeks of Summer Science Camp. Volunteers must be at least 14 years old. Please contact Karyn Molines (rpkarym@aacounty.org or (410) 741-9330) if you are interested.
A Perfect Day “On The Water”

By Stacie Moon
North County High School Teacher

“On The Water: Canada Goose” is an excellent program presented by the Sanctuary in cooperation with Patuxent River Park and Merkle Wildlife Sanctuary. I have been bringing honors zoology juniors and seniors from North County High School in Glen Burnie for four years to participate in this fun and educational experience.

In Honors Zoology, I focus on many animal species of concern, both locally and on a national level. In addition to learning about these animals, we try to experience each one in some way. Sometimes we invite guest speakers to talk about endangered animals. We even have terrapins in the classroom to raise awareness. However, Jug Bay’s Canada Goose program is the best culminating activity we do each year.

Karyn Molines is an excellent resource and we work together to develop a curriculum that satisfies the needs of my students. We created a variety of activities, including videos, scientific readings, lecture notes, and data collection that I use both before and after the trip. Because students are well prepared when they arrive, the program is more meaningful to them.

Our field trip is always planned for the first week of November, when the migratory geese arrive in the area. We start our program at Merkle Wildlife Sanctuary where the students learn how migratory birds are tracked by discussing data collected on migratory geese and mapping it. Afterwards, they go outside to make population estimates and observe goose behaviors. The students are always amazed at the number of birds and are careful not to get up close and personal with any “goose grease!”

A discussion is held about the differences between resident and migratory geese. Most students think resident geese are fun and cute, and should be fed. However, many change their minds when they realize how the geese decimate submerged aquatic vegetation (SAV) and wild rice in the area. They talk about different techniques to control the resident goose population while preserving the migratory flocks. Of course, a major debate is the ethical treatment of animals, whether or not they are considered a nuisance.

We then travel to the Sanctuary via boat. Each year we have been blessed with wonderful weather. The students are amazed at the amount of SAV in the areas behind the fencing compared to the open areas where the geese graze. This really brings home the point when they see it first-hand. In addition to geese, we often see beaver lodges, mallards, and sometimes turtles if the sun is shining.

When we arrive at the Sanctuary, we take a leisurely hike from the dock to the visitor’s center. The students have the opportunity to examine the hands-on activities in the display room and observe the taxidermy mounts located throughout the center.

The highlight of the day is when Greg Kearns, a naturalist from Patuxent River Park, comes in carrying his partially frozen goose with his bare hands! This year, he even brought in a snow goose for size and anatomical comparisons. The students gather around the table as Greg explains the function of each structure on the bird. He is very easy going and light-hearted with the students and they are immediately at ease with the dissection. The Sanctuary provides a special video camera that allows the students a better close-up look at smaller structures via the television screen. By the time the dissection is over, the students ask for souvenir wings and feet to take back to school!

This is an excellent program for older students. The day is filled with hands-on, exciting activities that help the students to remember and make connections. I am thrilled that I have been able to bring my students on this field trip each year.

In addition to the Canada Goose field trip, some of my students and I have had the privilege to be part of the “On The Water: Osprey” trip. The highlight of this trip is getting to hold one of these gorgeous young birds of prey before it is weighed and banded, and to learn about its habitat and life cycle.

Each of these opportunities provides insight on the careers of naturalists, and many students have even decided to work towards that professional goal. The Sanctuary provides an invaluable resource to teachers of students in all grades. I am especially grateful that the Friends of Jug Bay provides funding each year for transportation. Without their assistance, the trip would not be affordable for most of my students.
Personal Discovery Key to School Field Trips

By Evelyn Klahr
Mayo Elementary School Teacher

Where better to go in Southern Maryland with a class of inquisitive students who have spent much of their second grade year learning about mammals, birds, reptiles, amphibians, fish, and invertebrates, than to Jug Bay Wetlands Sanctuary? These wetlands are just the place for children to have hands-on experiences and see animals they may never have seen before except in books.

The second grade students from Mayo Elementary School have been enjoying this experience at Jug Bay for the last three or four years as one of our annual field trips. Each year, the students always seem to talk about this trip the longest. Not only is the rustic setting of the facility, with its beautiful animal and nature displays, a drawing card, but so are the wonderful and caring naturalists waiting to work with the group of children. In fact, the whole day is planned to coincide with the classroom curriculum. And, would you believe the cost of this fine trip is only $1.00 per student?

The sponsoring teacher is asked to attend a planning workshop with naturalists at the Sanctuary to discuss field trip activities available to support the county’s curriculum and to fulfill state assessment standards. After I request a date for the trip and that request is granted, the naturalists help me decide what the students will see, do, and experience that day (rain or shine!).

My second graders have discovered wonderful invertebrates using nets at the pond. They have seen nests with young osprey and watched the osprey dive into the water to catch and successfully carry away their prey. My students have taken nature walks along the Patuxent River, exploring the wetland terrain. They have learned to identify various animals they have studied in the classroom. They have been introduced to a variety of turtles and learned a great deal about these amazing reptiles. They’ve learned about the food chain by playing games. They have touched the fur of mammals and tried to identify what animal it was. Some of my students have been lucky enough to see a snake sunning itself on a dry log on a spring morning.

When it’s time to come back to school, the students seem to bring back a much deeper understanding of nature because they were able to experience it first-hand. But the experience does not end when the field trip of over. In the classroom, the students begin to write and draw and do independent research on their own.

There is no question in my mind that I will go back every year if the Sanctuary will allow me to come and bring my students. Time shared in places like this environmental Sanctuary gives children the opportunity to see for themselves the wonders of nature and to learn the importance of taking care of our precious environment.

Check Out the New Eagle Scout Project!

By Jamie Zambo

Although the cold winter weather usually slows things down here at Jug Bay, an Eagle Scout from Troop 840, Harwood, MD, was working on his project full speed! John Gillespie, who was also a member of our “Teen Adventure” group this past summer, completed his Eagle Scout project this past December.

Taking on an Eagle Scout project is not a simple task. Once a scout discusses project ideas and building logistics with Doug Willis, Superintendent of Maintenance, he is responsible for putting the whole project together, including the materials and all of the volunteers. John felt this helped develop his management and leadership skills greatly.

John decided to tackle two different projects. First, he created and built a new gate at the Glendening Preserve, located just past the original gate off Wrightton Road. He feels the gate will improve the Sanctuary because it “will provide a barrier to vehicular traffic when a parking lot is installed at the Glendening Preserve, thus preserving the forests within the preserve.”

He also built a new door for the swamp blind and rebuilt the boardwalk that wraps around the blind (see photos below). Finishing the boardwalk the most satisfying part of his project, John said, because he could walk on it, knowing that not only was it preventing him from getting wet, but it will also be providing “a safe experience for [visitors] walking on it.”

When asked about his overall experience, John said, “I am very satisfied with my project, for I feel it was very successful. With Jug Bay, communication with the staff was very easy and the people there were very helpful. I will definitely recommend Jug Bay as a site for future projects by other scouts from Troop 840.”

John’s engineering of the gate, the swamp blind door, and the swamp blind boardwalk was well organized and professional. On behalf of Jug Bay Wetlands Sanctuary, we would like to acknowledge John’s hard work and thank him for choosing to complete his project here at Jug Bay.
Volunteer Social - a Success

About 60 of our 150 volunteers joined us at our annual Volunteer Appreciation Day on December 7. There was a chill in the air and snow on the ground, making for a lovely day.

The day started off with a couple of hikes: a nature hike led by volunteer Gary Pendleton and a history hike led by Bob Finton, CBNERR Education Coordinator. Then we mingled by the fire, enjoying hors d'oeuvres and Ken Riggleman's "Jug Bay Farm" wine. Next we recognized everyone for their hard work this past year and watched a slide show featuring our volunteers in action.

As a special treat this year, volunteer Yvette Dietrich, who works as Tiffany's Bakers, donated a beautifully decorated cake, featuring a marsh scene that included cattails, turtles, birds, and yes, even a tire. To end the evening, we all joined in playing Bird and Frog Call Bingo! Winners were rewarded with prizes, including books, t-shirts, mugs, hats, and posters.

A special thanks to the CBNERR-MD and the Friends of Jug Bay for making the Volunteer Social possible.

New 2003 Mudmuckers added to the Jug Bay Mudmuckers Club!

The following individuals have donated 100 or more hours over 3 or more years.

Morgan Angus  Tara Whittle
Ramona Angus  Tina Whittle
Carolyn Fulton  Nancy VanDerveer
Mickey Taylor

During 2003, more than 470 volunteers donated over 5800 hours of their time, skills, and enthusiasm to realize Jug Bay Wetlands Sanctuary's goals in environmental education, scientific research, and protection of the valuable wetland ecosystem.

Winter Volunteers
November-January

Barbara Anderson  Dick DelGiudice  Rick Malmgren
Morgan Angus  Yvette Dietrich  Bill Miles
Ramona Angus  Adam Duke  Louise Miles
Susan Blackstone  Dennis Duke  Dotty Mumford
June Bourdat  Kim Elliott  Jennifer Muro
Sussanne Brander  Alex Fort  Gary Pendleton
Ray Brinson  Theresa Fort  Rod Perry
Judy Burke  Robert Frezza  Mike Quinlan
Gordon Burton  Rosemary Frezza  Gordon Reynolds
Mary Burton  Carolyn Fulton  Arlene Ripley
Danny Bystrak  John Gillespie  Jeff Shenot
Erika Camargo  Katy Goodwin  Mary Shilinski
Betty Chaney  Adon Harris  Lisa Siciliano
Ginger Chaney  Mala Harris  Mickey Taylor
Kate Cinelli  Bob LaPorte  Steve Tew
Jim Cunningham  Lloyd Lewis  Pete Uimonen
Sandy Curry  Dave Linthicum  Bruce Weidle
Alison Dean  Jennifer Lowery

Thanks for your donations

Mike Quinlan for *Backyard and Beyond. A Guide for Discovering the Outdoors* by Edward Duensing and A.B. Millmoss
*Common Plants of the Mid-Atlantic Coast. A Field Guide.* By Gene M. Silberhorn, illustrations by Mary Warinner
Yvette Dietrich for the beautifully decorated cake for the Volunteer Dinner
Cathy Gilleland for her own beautiful photos, handouts, and seeds for a Butterfly Gardening program.

Sanctuary's Herps Star in New Field Guide

Have you ever seen a frog or turtle at Jug Bay and wondered how to identify it? The Sanctuary will soon have a field guide available to volunteers and visitors to help them identify the amphibian and reptile species that they encounter here. Funded by CBNERR-Maryland and written by naturalists Elaine Friebele and Jamie Zambro, the illustrated guide describes the 40 species of herps that live within the Sanctuary, as well as their habitats and behavior. Be sure to check out the guide the next time you visit.
All Hands on Deck for SAVs

By Julie Bortz, Research Coordinator

If you had a chance to visit the CBNERR-MD site at Otter Point Creek this past summer, you would have been amazed to see the amount of submerged aquatic vegetation (SAV) growing in the tidal flats. Most of the increase in SAV occurred naturally via expansion of the non-native Hydrilla verticillata, but speckled amongst the mats of Hydrilla were PVC poles marking areas where scientists transplanted native SAV in an effort to restore the marsh to a more diverse aquatic ecosystem.

Otter Point Creek was one of two sites selected by scientists to test an innovative approach to restoring SAV to the Chesapeake Bay during the summer of 2003. The experimental effort involved the use of a large pontoon boat retrofitted with two paddle wheels, which propel the boat while simultaneously planting SAV into the bottom substrate. The boat, affectionately called “JEB” (Jim’s Environmental Boat), was first brought to the Chesapeake Bay from the Florida Gulf in 2001 to test the feasibility of using a boat for mechanized, large scale SAV planting. The initial goal was to see if the boat, historically used to plant marine SAV or seagrasses in the coastal Floridian waters, could prove successful in the Chesapeake Bay region. Scientists also wanted to see if the machine would be more efficient than using certified SCUBA divers, which is the present method of SAV planting. In 2001, eelgrass, or Zostera marina—a species growing at relatively high salinity, was selected for planting into the sandy bottoms of the lower Chesapeake Bay.

In 2003, the question was the same, but this time scientists wanted to use the same approach with a more freshwater species in the muddy bottoms of the upper Chesapeake Bay.

Using funding from the National Oceanic and Atmospheric Administration (NOAA), the Chesapeake Bay Foundation (CBF) teamed up with scientists from the Chesapeake Bay National Estuarine Research Reserve in Maryland, and NOAA’s Restoration Division to design a study that would test the efficiency of boat plantings versus traditional manual planting of SAV using certified SCUBA divers. Two sites, Otter Point Creek (OPC) and Rocky Point (located on the Back River), were identified as test sites for the freshwater plantings of wild celery Vallisneria americana. Both sites are successful restoration sites (survival for at least two growing seasons) through the Grasses for the Masses program. In 2003, scientists used a similar approach to that taken in 2001, planting paired rows of SAV using two different methods: boat and hand planting. Certified SCUBA divers from NOAA and Aberdeen Test Center’s (ATC) Geodetics Team laboriously planted plants into the murky waters of the Otter Point Creek marsh. At the same time, volunteers from OPC and CBF prepared plants for JEB to plant, using planted peat pots with single shoots of wild celery. Over 12,000 plants were planted into the OPC marsh to test the ability of man versus machine.

While we learned that this planting boat could deposit plants on to the bottom successfully and at a faster rate than divers, the success of this effort at restoring SAV to the upper Bay has not fully been determined. We do know that this project was truly successful in bringing the local community together in an attempt to improve the science of SAV restoration. Volunteers from ATC and the APG Dive Team donated time, staff and resources to both the planting and monitoring effort while volunteers from CBF and OPC assisted greatly with plant preparation and site set-up. All in all, the endeavor demonstrated what can be done when groups pool their resources and work together in restoration science.
FOJB Annual Meeting - Please join us!

Life in a Frog Pond—
it costs to call, but it pays to advertise!

Dr. Don C. Forester
Sunday, March 14
3 - 5 p.m.

Dr. Forester, of Towson State University, will present an illustrated lecture on why frogs call—emphasizing his own work with the spring peeper at the Friends of Jug Bay Annual Meeting.

Brown Bag Lunch Seminar at the Visitor's Center

Friday, April 2, 2004
12 noon - 1 pm

State of the Bay 2003

Speaker provided by the Chesapeake Bay Foundation