

MARSH NOTES

NEWSLETTER OF JUG BAY WETLANDS SANCTUARY

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The Birdman Cometh: SUMMER ORNITHOLOGY IN THE WETLANDS

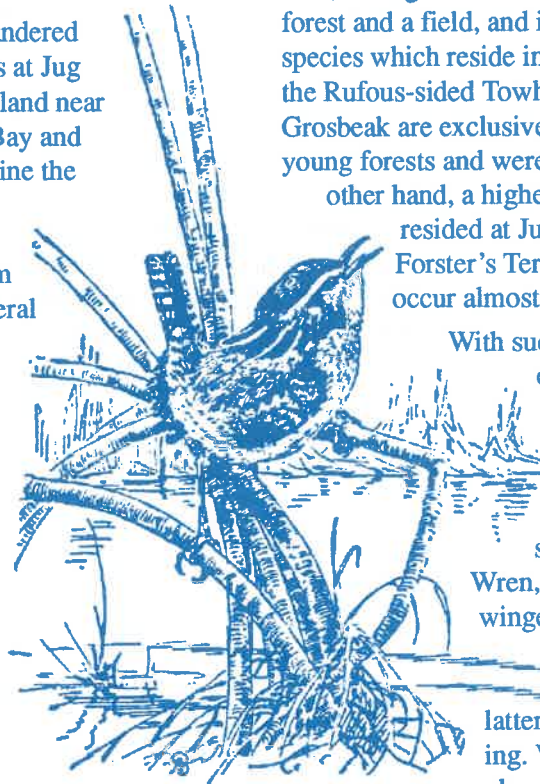
by Andrew Dubill, Princeton University

It's 4:33 a.m. The clock radio has been blaring rhythm & blues for three minutes. The Patuxent is quiet and the sky is black. A lone cardinal sings a slower and quieter version of its normally boisterous song, "whoit-cheer-cheer-cheer." Thus begins another morning for Jug Bay's ornithological intern.

Since the beginning of June, I have meandered throughout the freshwater tidal wetlands at Jug Bay and through a created 143-acre wetland near Harwood (five miles upriver from Jug Bay and now owned by A. A. County) to determine the nature of the breeding season bird populations residing in these two sites. Every morning as I wiped the sleep from my eyes, I would be thinking about several questions: What birds actually nest in the wetlands? What birds forage in the wetlands? What are the differences between the re-created wetland and the natural wetland at Jug Bay?

In an effort to answer these questions, I conducted both systematic and qualitative surveys of the birds at both sites. Every Monday and Friday, I ran point counts at 8 locations overlooking the wetlands at Jug Bay; on Wednesday mornings, I visited 12 points at Harwood. In order to count as many birds as possible, I attempted to arrive at the beginning of each count at or before sunrise, a time when the birds are most active. Each station was marked by a blue flag, where, in a five minute period, I counted as many birds as I could see or hear. Each census took between 1.5 and 2 hours to complete. Avian ecologists agree that one person can census relatively large areas with a series of brief point counts.

The point count data alone yielded some pretty interesting results. Throughout June and July, I observed 82 species at Jug Bay and 70 species at the Harwood wetlands. However, at Harwood, I found more "edge" species than at Jug Bay. Known in the scientific community as an ecotone, an edge is a border between two habitats, such as a forest and a field, and is characterized by a mixture of species which reside in both habitats. Some birds, such as the Rufous-sided Towhee, Field Sparrow, and Blue Grosbeak are exclusively adapted to living in edges and young forests and were common at Harwood. On the other hand, a higher number of "wetland" species resided at Jug Bay. These birds include Forster's Tern and Virginia Rail — species that occur almost exclusively in wet areas.



Marsh Wrens nest in dense tangles of cattail and wild rice. Sketch by Allen Brooks, "Birds of Pacific States."

With such large assortments of birds at each site, one might assume that large numbers of species actually nest in the marsh vegetation.

That, however, was not the case; I discovered only four species — Least Bittern, Marsh Wren, Common Yellowthroat, and Red-winged Blackbird — which definitely bred in the Jug Bay tidal wetlands. At Harwood, only the latter two species appeared to be breeding. What are the reasons for such a phenomenon?

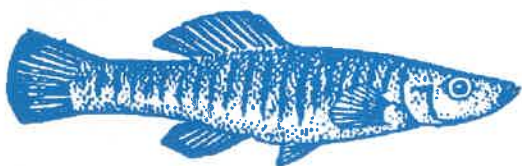
For the Jug Bay wetlands, one might look towards the tidal range; every day, two high and two low tides visit the marsh. The tidal amplitude is about four-fifths of a meter — nearly three feet. Furthermore, prolonged bouts of rain could significantly raise even a full-moon high tide. With these facts in mind, one possible reason behind the low

Continued on page 2

JUG BAY WETLANDS SANCTUARY FALL '94 SCHEDULE OF EVENTS

Reservations and fees required. Space is limited! Make reservations by calling 410-741-9330. Admission is \$2.50 for adults, \$2.00 for senior citizens and \$1.50 for children under 18. Canoe trips are \$5.00 per person (non-refundable); payment must be made in advance. Most activities are free for volunteers and FOJB members.

SPECIAL EVENTS



Estuaries Day

Saturday, September 17; Noon - 3:00 p.m.

Celebrate National Estuaries Day with us as we use hand-held seines to capture small fish in the marsh and creek. Wear your wading shoes and we'll head to the creek and beaver ponds to try our skill at catching sunfish, shiners, killifish, catfish, and eels. No admission fee but please call to register.

Canoeing the Marsh

Sunday, October 9; 9:00 a.m. - Noon

Observe waterbirds, identify aquatic plants and learn about the ecology of freshwater wetlands. Trips are led by experienced volunteers or staff naturalists. All equipment is provided. To reserve a space, mail payment (\$5/person) in advance to the sanctuary. Indicate the number in your party, children's ages and a daytime telephone number.

Introduction to Wetlands Ecology

Thursdays 4:15 p.m. - 7:15 p.m. (Sept. 29 - October 20)

Saturday, October 22; 9:00 a.m. - 5:00 p.m.

This course is designed for school teachers and environmental educators. Learn about the science of wetlands as well as interesting activities that can be used in the classroom or field. The instructor is sanctuary director, Chris Swarth. MSDE credit is available. This course is offered through County school's Office of Staff Development and is partially funded through a grant from the Chesapeake Bay Trust. To register, call 410-222-3822.



Canoe Guide Pot Luck Lunch and Canoe Trip
Sunday, October 16; lunch from noon - 2:00 p.m.;
canoe trip 2:00 - 4:30 p.m.

For all volunteer canoe guides and any interested newcomers! Join us for a tasty lunch, your very own copy of the new Volunteer Canoe Guide (if you haven't already received one), and one of the last canoe trips of the year. This is our way of saying thank you for all your help this past canoe season (RSVP before October 1). Please bring a covered dish; drinks will be provided.

Fall Children's Day

Saturday, October 1; 11:00 a.m. - 3:00 p.m.

Children of all ages are invited to join us for an afternoon of canoeing, wetland hikes, nature games and activities, arts-n-crafts, and live animals. Refreshments and lunch available. No admission fee.

Volunteer Excursion

Smithsonian Environmental Research Center

Monday, October 17; 4:00 p.m. - 6:00 p.m.

Volunteers-in-good-standing are invited to a special behind-the-scenes tour of the 2000-acre facility in nearby Edgewater on the Rhode River. Education Director Mark Haddon will give a slide lecture explaining the research and education programs and will lead us on tour of the research sites in forest and marsh. Staff scientists will be available to discuss their research projects. Space is limited, please call the office to sign-up. Rain date is October 18.



Special Evening Lecture

"Biodiversity of the Patuxent River Wetlands"

Thursday, November 10; 7:30 p.m. - 9:00 p.m.

Bill Sipple, Chief Ecologist with the EPA, will present a slide lecture focusing on the plant and animal communities of the Patuxent River wetlands — from the mouth to the headwaters. Bill is an expert field naturalist and enthusiastic instructor who's been teaching about and exploring wetlands (occasionally up to his neck!) for several decades. Fee-\$5/person, please call to reserve a space.

Volunteer Appreciation Dinner

Sunday, December 4; 4:00 - 8:00 p.m.

All 1994 volunteers are invited to our annual dinner held in your honor. A delicious meal will be prepared by the Jug Bay staff and served in the Jug Bay's McCann Wetland Study Center. Guest speaker Sam Droege, ornithologist with the National Biological Survey, will give a lecture on recent trends in nation-wide bird populations. Please call to confirm.

Holiday Wreath Making

Saturday, December 10; 10:00 a.m. - Noon

Create holiday wreaths and garlands with nature's finest materials — spruce boughs, pine cones, hickory nuts, and wild berries. Bring your favorite ribbon and a wreath form (preferably straw). Call for reservations. Fee \$5.00/person.

DISCOVERY PROGRAMS

These Sunday activities are for children and their adult chaperons. Naturalist Marcy Damon is the leader.

Take a Walk in Your Socks

Sunday, September 11; 1:00 - 3:00 p.m.

Wear knee socks to catch weed seeds as we walk through a field. Then we'll investigate their funny shapes under a magnifying glass. All ages.

Migration Mysteries

Sunday, September 25; 1:00 - 3:00 p.m.

From a marsh observation blind we'll see what birds are flocking and migrating through the area. Binoculars and field guides provided. Ages 8-14.

Indian Lore

Sunday, October 9; 10:00 - Noon

The Piscataway Indians were the first settlers of Jug Bay. With games, crafts and a scavenger hunt, learn about their way of life and special survival skills. Ages 6-12.

Autumn Walk

Sunday, October 30; 1:00 - 3:00 p.m.

Join us for a walk "over the river and through the woods" to the River Farm. Enjoy the beauty of fall and see what preparations Mother Nature is making for the coming winter. All ages.

Story and Puppet Time

Sunday, November 6; 1:00 - 3:00 p.m.

Gather 'round and listen to nature stories; then play with puppets and make up a mystery story about some of our native animals. Ages 2-6.

Behind-the-Scenes at the Nature Center

Sunday, November 20; 1:00 - 3:00 p.m.

Come inside and explore our Wet Lab. Help feed and learn about the hawks, fish and turtles kept at the Nature Center. Ages 8-14.

SUMMER CAMP '94

The end of school is the beginning of carefree and adventure-filled summer days for youngsters. For 40 children their adventures began at the Sanctuary's Summer Science Camp where they hiked, canoed, seined for fish, and camped out under the stars. During the two, week-long sessions, June 27 - July 1 and July 11 - 15, the children explored marsh, forest, stream, and field habitats and learned about the plants and animals that live in each. Impromptu lessons on weather, teamwork and bees were also experienced. A looming thunderstorm led to rapid, well-coordinated teamwork as canoe paddlers headed quickly for shelter. On another day campers "discovered" a nest of ground bees (thankfully only a few stings). Read on for the youngsters' reflections of camp:

Summer Camp is awesome. We made a trail. We also went in two barns. We also canoed. It was cool. I saw a dead beaver, ducks, and plants. I loved seining. We caught 2 crabs, 10 mummichogs.

Patrick Smiley
Age 9
Churchton

I think it was neat to learn how to identify different plants and animals. It was fun playing the different games and participating in activities. My first experience canoeing was great!

Megan McCormick
Age 10
Arnold

My favorite activity was when we got to learn about the different kinds of trees. Like the tulip poplar, white oak, sassafras and a lot of other kinds of trees. And that is only one of the fun activities we did at camp.

Nancy Franke
Age 9
Harwood

POND

*Pond, Pond, Pond, your contents are so delightful
What I catch from you they are so wonderful
6 tadpoles, 3 beetles, 10 sal-a-manders
some eggs, I really did capture
I want to go back sometime
It's probably not a crime
The pond is a wonderful place
You see the expression on my face.*



Brian Link
Age 10
Churchton

JUG BAY VOLUNTEERS

Since 1989 the Friends of Jug Bay have generously provided camp scholarships. The two scholarships awarded this year were based on a poster contest. Twenty children entered posters illustrated the theme "Where have the Wetlands Gone?" The winners were **Colleen Arnold** of Dunkirk and **Bilan Bruce** of Annapolis. The Friends also provided two scholarships to economically disadvantaged youths and provided stipends to **Christina Bird** and **Michelle Sumpter**, our terrific camp counselors.

Several hard-working camp volunteers deserve to be recognized. Many thanks to university interns **Andrew Dubill** for leading bird walks and **Laura Perry** for canoeing and sharing her plant knowledge. Volunteers **Mark Peabody** and **Bill & Holly Mills** (who came from Delaware!) provided much-needed relief for the staff during the overnight and early morning outings.

Special thanks to **Jean Hershner** for her unbelievable support and assistance with summer camp and throughout the entire summer. With a skeleton staff due to vacations and camp duties, Jean ran the office on several days and help out whenever needed. Her calm, unfaltering nature kept things running smoothly even when unannounced visitors (like the health inspector!) arrived and when an electrical stove cord was needed on short notice. Jean is always ready with a smile, a word of encouragement, and a tidbit or two of natural history to share with all she meets. She is a true "Friend" of Jug Bay and a dedicated volunteer!

CONSTRUCTION PROJECTS COMPLETED

With rolls of hardware cloth and fence posts donated by Jack Smith of Smith Lumber Supply Co. in Churchton and an excellent volunteer effort, new drift fences were erected and old ones refurbished. Many thanks to young volunteers **Christopher Borrer, Patricia Boyer, Nashawn Jones, Deon Kinard, Van Nixon, Detroy Parker, Meredith Ridzinski, Lydell Tyler** — all members of BaySavers, an Anne Arundel County summer jobs program. Hats off to their crew chief **Paul Cherrier**.

Aside from a bit of anxiety about snakes and ground bees, the crew had fun learning about reptiles, amphibians and trapping techniques. The fences will be used for trapping amphibians as part of our long-term population study.

The Pindell Bluffs Trail is now ready for hikers! — thanks to work by several groups of scouts, summer campers and individuals this past spring and summer. **Pat Wilson**, River Farm caretaker, oversaw a clearing project by **Gary Schekells** from Friendship and **Webelo Scout Pack 840**. On a hot and humid Saturday in July, a foot-bridge over a non-tidal wetland was completed by staff member **Ben Dove**, and volunteers **Philip DeGreen, Robert Dull, Erik Henrikson, Stephanie Bishop,**

SUMMER VOLUNTEERS

Thanks for all your help during those hot summer months!

<i>Cheryl Adams</i>	<i>Robert Frezza</i>	<i>Bill Mills</i>
<i>Marty Barron</i>	<i>Elaine Frieble</i>	<i>Holly Mills</i>
<i>Terri Beachley-Peterson</i>	<i>Stewart Gammill</i>	<i>Abbie Moses</i>
<i>Sandy Bell</i>	<i>Carlton Hershner</i>	<i>Dottie Mumford</i>
<i>Peter Bergstrom</i>	<i>Jean Hershner</i>	<i>Stuart Nagy</i>
<i>Joseph Bernstein</i>	<i>Nelson Horine and son</i>	<i>Susan Nugent</i>
<i>Eric Berthelette</i>	<i>Jennifer Houston</i>	<i>Mark Peabody</i>
<i>Mike Blackstone</i>	<i>Carroll Hughes</i>	<i>Mike Quinlan</i>
<i>Susan Blackstone</i>	<i>Kristen Hughes</i>	<i>Lisa Ruthel</i>
<i>Bob Boxwell</i>	<i>Johns Hopkins University Field Ecology Class</i>	<i>Sue Ricciardi</i>
<i>Sharon Brewer</i>	<i>Jerald Jordan</i>	<i>Vincent Salomone, Jr.</i>
<i>Sandy Bullinger</i>	<i>Shirley Jordan</i>	<i>Gretchen Seielstad</i>
<i>Danny Bystrak</i>	<i>Humaira Khan</i>	<i>Bill Sipple</i>
<i>Betty Chaney</i>	<i>Herb Kobayashi</i>	<i>Jean Sipple</i>
<i>Ginger Chaney</i>	<i>Bob LaPorte</i>	<i>Ron Spritzer</i>
<i>Cathy Cronin</i>	<i>Rita Mankowski</i>	<i>John Swartz</i>
<i>Ben Dove</i>	<i>Leonard Mankowski</i>	<i>Jeff Weber</i>
<i>Mark Eanes</i>	<i>Jack Martin</i>	<i>Ann West</i>
<i>Chuck Erskine</i>	<i>Woody Martin</i>	<i>Ann Wood</i>
<i>Margo Feehan</i>		<i>Susse Wright</i>
<i>Dave Fluetsch</i>		<i>Tom Wright</i>
		<i>Dave Ziolkowski, Jr.</i>

SUMMER DONATIONS

Many thanks to all who made donations to the Sanctuary this summer:

- Roy and Grace Gast** for Corning dishes (service for eight!) and kitchen utensils.
- Suzanne Gubbings** for dishes for the kitchen.
- Jim and Ardith Harle** for a dry erase board and markers.
- Jean Hershner** for donation of a vacuum cleaner.
- Bob LaPorte** for sponges for the amphibian study and a clock radio for the office.
- Harry Olsen** for a copy of the Field Guide to Eastern Birds.
- Herb Kobayashi** for a copy of the National List of Plant Species that Occur in Wetlands: 1988 National Survey.
- Mark Peabody** for making six beautiful shutters for the conference room windows.
- Mike Quinlin** for a microwave for the intern house.

Ann Jones, Laura Perry, Sue Nugent, and Vinnie Salamone. More trail clearing was accomplished by **Philip DeGreen** and summer campers **Colleen Arnold, Ellen Baumann, Bilan Bruce, Jack Dawson, Charlotte Dixon, Neva Glannini, Scott Hood, Julie Lowndes, Dan Jarashow, Clint Jones, Catie Lacey, Caitlin Lee, Brian Link, Joseph Mihoces, Peter Roehrich, Peter Sabbatini, Patrick Smiley, Andrew, Tryon, Ingrid Uhlenhopp, Ryan Wooldridge, Sara Wetz.**

Thanks to all!

Make a Worm Farm

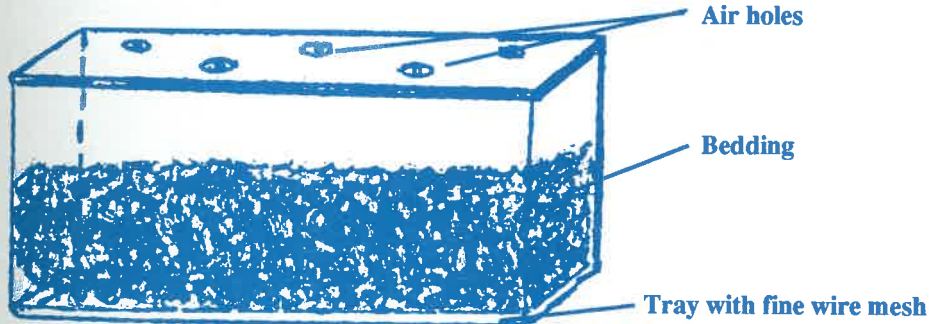
by Jean Hershner and Shannon Smithberger

Imagine a pet that's silent, gentle, odor free, never needs to visit the vet, and you can keep 1000 in a box. Sound impossible? Not if your pet is a worm! Red Wiggler worms are available at local pet stores and because they are very beneficial to our environment it might not be too difficult to convince your parents to let you keep some.

Earth worms are important decomposers — turning dead leaves and other plant material into fertilizer. As they tunnel through the soil worms ingest decaying organic material. During digestion, some nutrients are absorbed while the remainder pass out of the worm and are deposited in the soil as tiny pellets or castings. Castings are loaded with nutrients which can be used by plants. Worms can speed up the action of a backyard compost pile as they convert kitchen scraps into plant fertilizer. Keeping worms also saves landfill space — leftover kitchen scraps are gobbled by worms rather than going to the landfill in the weekly garbage.

Building your worm bin

Bin with tight-fitting lid



“Vermi-composting” begins by providing a suitable habitat. Worms are sensitive to light and they need a moist, dark, cool (55-77 F) home. Start with a plastic bin. The lid should have ventilation holes and use a wire mesh tray on the bottom. The bin should then be half-filled with a bedding mixture of either moist shredded newspaper and soil or cardboard and peat moss. Grass clippings, dried leaves, a bit of manure, or straw can also be added to the bedding. This makes a perfect worm habitat!



Your worms will need to be fed once or twice each week. Eggshells, leftover fruits and vegetables, cereals, or coffee grounds will keep them happy. Although worms can eat meat, avoid this because it can attract unwanted pests.

In three to four months you can remove the worm castings, separate them from the bedding and now you have excellent plant fertilizer. Remember to put new bedding material into your bin after removing the castings.

From time to time, pick out a worm and examine it closely. You'll see that its body is made up of many segments that enable the worm to twist and turn. They lack eyes and ears. If you could see inside your worm, you would find a tiny brain near the mouth, five hearts, a gizzard for grinding food, and a very long digestive tract. Each worm is both a male and a female at the same time; they are able to both produce eggs and to fertilize eggs produced by another worm. Adult worms have a smooth broad band called a clitellum which secretes mucus that later forms the egg case. How many of your worms are adults?

SOME SIMPLE MATH ABOUT MUNCHING WORMS:

Healthy worms can digest enough food to equal nearly half their body weight. Let's say you bought 1000 Red Wiggler worms weighing a total of 1 kilogram. Knowing that 1 kilogram equals 2.2 pounds, how many pounds of food can these worms digest in 10 days?



DEPARTMENT OF RECREATION AND PARKS

Jug Bay Wetlands Sanctuary
1361 Wrighton Road
Lothlan, MD 20711
410-741-9330



*Autumn is a great time
to see waterfowl at Jug Bay.
Come take a look!*

CRITTER CHRONICLES

by Doris Peters

In the summer 1994 issue of Marsh Notes I reported that for the first time our captive pair of Red-tailed Hawks finally produced a chick. The pair were good parents, faithfully protecting and feeding their chick which grew rapidly to adult size and weight on a diet of "previously-deceased" mice.

Even though only the parents fed the chick, the youngster quickly learned that we humans were the ultimate source of its daily meal. As a result it cried loudly for a handout whenever one of us appeared near the cage. This was endearing but could be a definite hindrance to its eventual release. To help insure its survival we decided not to release the bird immediately but instead to turn it over to a falconer who could teach it to hunt on its own. After USFWS biologist Woody Martin banded the bird, licensed falconer Brian Moyer received the fledgling on July 31. Brian will use the bird to educate the public about raptors and will release it to the wild in a year. We wish Brian and the young hawk good luck.



JOIN THE



Friends
of Jug Bay

For information
call 410-741-9330.