

An Important Piece of Native American History: The River Farm Archaeological Site

By **Stephanie Sperling**, *Director of Archaeological Research, Division of Cultural Resources, Anne Arundel County*

Archaeologists working with Anne Arundel County's Cultural Resources Division and The Lost Towns Project have spent the last two years investigating the ancient past at River Farm. These researchers discovered tens of thousands of artifacts dating as far back as 9,000 years, painting a vibrant picture of the generations of people who once called Jug Bay home.

This stretch of the Patuxent River has long been known as a hotbed of Native American activity. Nearly 25 archaeological sites have been recorded in the area, including base camps, resource procurement camps, and ritual areas, which span at least 12,000 years, or nearly the entire length of human existence in Maryland. Perhaps the most significant of these sites is called "Pig Point." The Pig Point archaeological site is located on private property about one mile up the Patuxent River from River Farm and was excavated between 2009 and 2014. Nearly 700,000 artifacts were recovered from Pig Point, along with hundreds of features situated within a seven-foot-thick stratigraphic column. A thick, rich Woodland period feasting midden was discovered measuring at least 60 ft in diameter, along with several thousand post holes denoting living areas and five large Adena-influenced mortuary pits that contained the remains of hundreds of individuals. These discoveries make Pig Point one of the most significant Native American sites in the entire Chesapeake Bay region.

In order to more fully understand the Pig Point complex, archaeologists sought to conduct additional testing on known sites that were "satellites" of Pig Point. With support from the State of Maryland, archaeologists excavated units at the Dorr site in 2014. Dorr, situated in the Glendening Nature Preserve about two miles north of River Farm, was first recorded in the 1940s and was excavated multiple times throughout the 20th and 21st centuries. The site stretches for nearly two miles along a cliff overlooking the Patuxent River, and Lost Towns Project archaeologists excavated a portion of this campsite that was occupied from about 3,000 B.C. through around A.D. 1000.

In 2015, archaeologists turned their attention to the River Farm area of Jug Bay Wetlands Sanctuary.



Intern Jen Hammell showing off a projectile point she found in Area 1. Photo by Barry Gay.

River Farm was first visited by archaeologists in the 1940s, and the site was recorded with the State of Maryland in 1992, but the first professional excavation of River Farm did not take place until 2015. That year, The Lost Towns Project, Inc., was awarded a grant by the federal Hurricane Sandy Disaster Relief Fund to investigate five storm-damaged sites across Anne Arundel County. River Farm was selected for study since this portion of Jug Bay was flooded during Hurricane Sandy, and the low-lying areas are still highly threatened by sea level rise and coastal erosion.

A team of professional archaeologists, trained volunteers, and student interns excavated along the 1300-ft River Farm floodplain during the summer of 2015 and found an astounding collection of Native American and Colonial period remains. Thousands of artifacts were recovered that span at least 9,000 years of human history along the Patuxent River, including dozens of projectile points; over 1,000 sherds of prehistoric pottery, some with

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Jug Bay Wetlands Sanctuary
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410-741-9330
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www.jugbay.org

Jug Bay Wetlands Sanctuary is operated by the Anne Arundel County Department of Recreation and Parks. It was established in 1985 with the goals of wetlands research, environmental education, and protection. The Sanctuary is a limited-use park. Groups are requested to make a reservation by calling the office before planning a visit.

Jug Bay Wetlands Sanctuary is a component of the Maryland Chesapeake Bay National Estuarine Research Reserve, which along with 27 other Reserves around the country promotes scientific research, public education, resource management and stewardship in estuaries across the nation.

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Comments and suggestions are welcome.

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Stephanie Sperling digging the Late Woodland midden from Area 1. Photo by Barry Gay.

beautiful incised decoration, faunal materials; and an unusually high number of jasper flakes and stone tools. This non-local chert (microcrystalline quartz) was used by Native peoples across the Chesapeake region, but the residents of River Farm seemed to favor it for a very long time. This might signify the site's importance as a place of trade and meeting along the Patuxent River for millennia.

Several Native American features were also found during the 2015 dig, including hearths, storage pits, and post holes that might mark the spot of ancient dwellings. The largest single feature found at River Farm in 2015 was a Late Woodland period feasting midden that dates to between A.D. 1,100 and A.D. 1,400. This large refuse area was the remains of intense cooking and working and was full of a wide variety of animal bones, scales, and teeth, in addition to decorated pottery and tools made of stone and bone. It appears the Native people were harvesting and feasting upon the vast and plentiful resources of Jug Bay, including species as diverse as mussels, oysters, turtles, deer, birds, and fish. About 1,000 years ago, this bonfire was happening right on the beach at the end of the River Farm floodplain, which would have afforded the ancient residents a commanding view of Jug Bay to the south.

Archaeologists concluded that the floodplain was occupied as early as about

2000 B.C., and they found several artifact clusters dating between 1,500 and 500 B.C. near Two Run Branch on the north end of the landform. However, artifacts were found that dated much earlier than that. A few very ancient projectile points were discovered that were made around 7000 B.C., but these probably washed down from the bluffs uphill where some of the earliest residents of Jug Bay might have camped.

Given all these impressive discoveries, the team determined more work was needed to fully understand the River Farm site. They first dug lines of shovel test pits, or small holes hand excavated to look for artifact concentrations, in the forested uplands of River Farm. A large majority of these shovel tests contained artifacts, and three possible hearth features were found along with several activity areas dating to the Early Woodland period, between around 1,000 and 500 B.C.

Lost Towns Project archaeologists then partnered with the Archeological Society of Maryland in 2016 to host their 45th Annual Field Session in Maryland Archeology at River Farm. Over the course of 11 days, over 100 people, including professional archaeologists from around the region and volunteers with all levels of experience, participated in this excavation. The team also hosted daily lunchtime lectures with topics that ranged widely, from "The Pig

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Dear Friends,

As I write this letter for the fall issue, the “feels-like” temperature is well over 100°. I can’t wait for the bright, sunny, high pressure days of fall to arrive. However, all around us changes come at differing paces. Some, like the temperature, can’t come soon enough, because we have a high degree of certainty that it will be cooler in the fall. Even though we have a degree of certainty, we are well aware that the change also comes with the uncertainty that it could also be damp, cloudy, and cool. It is well known that we as human beings tend to make predictions of long-term events based on short-term evidence. Most of us don’t need the weatherman to tell us what the weather will be in the next few hours, but most of us rely on the forecasts for the following days. Although weather forecasting has become science-based, it relies on long-term

observations, statistics, and probabilities. Even here the uncertainty overwhelms certainty in a few days. But what happens when the prospect of change becomes imperceptible?

This prologue brings me to the topic of the future for The Friends of Jug Bay (FOJB). The organization may be the strongest it has ever been. We are financially sound, thanks to the generosity of over 900 members who sustain us from year to year and to those who volunteer to aid the mission of the Jug Bay Wetlands Sanctuary. We are considered a small to medium-sized nonprofit. Our mission is to complement the resources Anne Arundel County provides, never to replace them. Our short-term predictions for the organization certainly are bright and sunny. But like the coming of fall, there are harbingers that changes are in the offing. Over the years the physical size of the Sanctuary has expanded to over 1,700 acres, yet the size of the staff has remained constant over time. In 2019 the current lease on the Jug Bay Farm will expire, and the Sanctuary staff will take over active management of the property. This change will require more staff time, many more volunteer hours, and more resource support from the Friends of Jug Bay.

How will we meet the challenges this change presents? Will we recognize it as an opportunity and seize it or not? The physical expansion presents the opportunity for new programs. While these programs will require more people, we must expect that the fragility of Jug Bay will continue to limit the number of activities and people accessing the Sanctuary. What will these new programs be? Jug Bay as a National Estuarine Research Reserve certainly sets the direction toward environmental research and education. The need for environmental science has never been greater than now with the requirements for educators with science-based backgrounds.

A concept the FOJB Board of Directors has been considering is partnering with other organizations that would utilize the natural resources of Jug Bay for this opportunity. Jug Bay with its multiple habitats presents options for a panoply of long-term environmental research experiments that will answer many future questions about the regional effects of climate change and the concomitant impact of development. Long-term studies offer the opportunity for many participants: researchers, educators, and students, both advanced and new. Environmental educators and advanced students would be able to participate in actual research programs and to bring this first-hand experience back to their own classrooms. Quite naturally this program would become an advanced program for Anne Arundel County Public Schools as well as create opportunities for STEM students.

To further this concept, the FOJB Board of Directors recognizes that The Friends organization will have to grow. In order to accomplish this expansion, The Friends will need to take on new roles and responsibilities. These new activities will require expertise that is lacking on our current Board of Directors. We currently have openings for two new Board members. We will need expertise in how to effect this next level of nonprofit management. Specifically, we are seeking board members who have experience in growing a nonprofit organization. We will also need to have Board members who are familiar with the legal aspects and financial organization of nonprofits. If you know (or you are) an environmentalist with any of these qualifications, please make recommendations to me or step forward and help us create the vision for the Sanctuary’s future.

Al Tucker, *President*

Save the Date

Taste of the Wild

Saturday, September 10,

6:00 pm to 9:00 pm

Cost: \$60 per person

Reservations will be taken until September 2; call 410-741-9330 for reservations and payment options. See back cover for details.



We welcome new and returning FOJB members:

Laura Amin
Cal and Steve Baier-Anderson
Valentina Aquila
Diane Balantine
Alison Barry
The Byrd Family
Krista Carter-Smith
Tom Casey
Nasrin Dahlgren
Timothy Guida
Pierre Henkart
Anne Hobbs
Mathew and Karen Icklan
Mark and Natalie Ivy
Josh Kiner
Sophia Lafargue

Christina Lesniowski
Ryan McCamon
Nicholas Minot
Thomas Moran
Casey and Desi Murphy
Carolyn O'Reilly
Katie Palso
Aaron Rappaport
Bill Sanderson
Gena Schultheis
David Schwenker
Teresa Settles
Leah Sherman
Ann Stinely
Chandra Turpen
Dana Uehing
Oden Warman
Jim and Nancie Waterman
Paula Wood
Josh Woolsey



Photo by Liana Vitali.

Jug Bay Welcomes Kevin Carpenter of the Chesapeake Conservation Corps

Jug Bay Wetlands Sanctuary is very happy to introduce and welcome Kevin Carpenter as our first Chesapeake Conservation Corps staff member. Kevin joined our team in August and will work with us for a year on different projects in our education, stewardship, and citizen science programs.

Kevin is originally from King George, Virginia. He graduated last May from Christopher Newport University with a B.S. in Organismal Biology. He has a passion for conservation and restoration that he hopes to spread through environmental education. Please join us in welcoming Kevin to the Jug Bay Community!



Art & Science Collided at the 2016 Patuxent River Conference

Over 90 individuals representing 35+ federal, state, county, and local organizations attended this year's Patuxent River Conference held at the Smithsonian Environmental Research Center, Edgewater, MD. From archaeological discoveries to Patuxent River science in comic form, we hope all found the conference presentations to be informative, motivational, and inspiring.

According to one of the conference participants, the most beneficial aspect of the Patuxent River Conference was "removing strictly STEM only, and putting the R and A back where it belongs in everyone's education in the natural world—STREAM...Reading and (the) Arts. Not JUST science, technology, engineering, and math. It's everything that's crucially important to help our education towards the Pax River and more."

The conference enjoyed support from several outstanding sponsors including the Washington Suburban Sanitation

Commission, Friends of Jug Bay, and Wegmans (Crofton). Freshly brewed

coffee donated and served by the Chesapeake Bay Roasting

Company kicked off the morning while participants were further energized by a thought-provoking keynote address by Coreen Weilminster on the power of artful storytelling to effectively translate science.

The rest of the day was spent in concurrent sessions until the day culminated with a

Networking Expo Hour replete with live music from the band Big Tribe, which has written and produced songs about the Patuxent River.

If you would like to be a part of the PAXCON 2017 Planning Committee and help steward the theme and discussions at next summer's event, please email your interests to rpvita23@aacounty.org.



Sean McGuinn, Outdoor Educator at Arlington Echo, leads a dynamic session on Monarch Butterflies in the Patuxent River Watershed. Photo by Coreen Weilminster.

KIDS PAGE

Awesome Ospreys!

Right about now, the ospreys that live around Jug Bay are getting ready to migrate south to their winter homes. Before we say goodbye, let's see how much YOU know about ospreys!



1. Smarty Pants! How far south do some Jug Bay ospreys migrate?

- (A) Virginia
- (B) Brazil
- (C) Panama
- (D) Florida

2. Smarty Pants! Which part of the osprey chick grows the fastest?

- (A) Feet
- (B) Beak
- (C) Wings
- (D) Head

Word Search! The following ten words are hidden in the puzzle below: BEAK, CHICK, EGG, FEATHER, FISH, MIGRATE, NEST, OSPREY, TALON, WING. How many can you find?



Amazing Artist! Joe, 10 years old, joined us for our Life on the River Camp this past summer. He drew this photo of an osprey catching a yummy dinner for itself. Nice!



Answers
 1. Answer: Brazil!
 2. Answer: Feet! Osprey chick feet and talons are their greatest defense so growing them fast helps better the chance that the chick will survive to become an adult!

PUBLIC PROGRAMS AT JUG BAY

Open Hours:

Sanctuary Wetlands Center: Wednesdays, Fridays, Saturdays and Sundays, 9:00 am – 5:00 pm

Glendening Nature Preserve: Wrighton Road entrance daily, gate open 9:00 am – 5:00 pm; Plummer House entrance Monday to Saturday, gate open 9:00 am – 5:00 pm (trails, butterfly garden, dogs on leash)

Patuxent Wetland Park: daily, dawn to dusk (fishing, hand-carried boat launch)

Wootons Landing Wetland Park: daily, dawn to dusk (fishing, loop trail, hand-carried boat launch)

Sanctuary Wetlands Center admission fee: \$6.00 per vehicle

Free for current Friends of Jug Bay members, active volunteers, and the military.

There are no fees to visit our other sites.

Visit www.jugbay.org for directions, information and updates to our schedule.

Registration is required for all programs. Please call 410-741-9330 or email programs@jugbay.org to register. All programs meet at the Wetlands Center at 1361 Wrighton Road unless otherwise noted. An adult must accompany children under 13.



Preschool Nature Series

First Friday of each month (generally),
10:00 am - 11:00 am

Ages: 3-5

Fee: \$2 per child

Children enjoy sensory activities and learn about nature through an interactive story, craft and hike. Dress for outdoor exploration and hands-on learning. Extend your visit with free play at our Nature Play Space. **Registration required:** Call 410-741-9330 or e-mail programs@jugbay.org.

Guided Birdwalks

First Saturday of every month,
8:00 am - 11:00 am

Ages: 12 and older

Fee: \$6 per vehicle entrance fee

Learn the skills of identifying birds by sight and sound. Binoculars and field guides are available to borrow. Wear comfortable walking shoes and dress for the weather. **Registration required:** Call 410-741-9330 or e-mail programs@jugbay.org.



Caterpillar Safari

Sunday, September 4, 9:00 am - 11:00 am

Ages: 7 and older

Fee: \$6 per vehicle entrance fee

Early September is a good time to search for caterpillars at the Sanctuary. Moth guru Ben McAllister from the Smithsonian's National Museum of Natural History will lead the search for butterfly and moth caterpillars in the meadow next to the Wetlands Center.

Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.

Bill Steiner Canoe Trip

Sunday, September 18, 3:00 pm - 7:00 pm

Ages: 21 and older

Fee: \$35/person

The trip is in honor of Bill Steiner, long-time volunteer, canoe guide, and FOJB president. Paddlers will leave from the Sanctuary's River Pier for an ecology trip on the Patuxent River. There will be a stop along the way at historic Mt. Calvert mansion for cheese and beverages and a nature-related presentation. **Registration required:** Call 410-741-9330 or e-mail programs@jugbay.org.

Trails and Tails

[Glendening Nature Preserve]

Sunday, September 25 and Sunday,
November 27; 10:00 am - 12:00 pm

Ages: All

Fee: Free

Come enjoy the trails on a led hike for individuals and families with tail-wagging buddies. Leashes and waste bags are required. One adult per dog is required.

Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.

Fall Equinox Hike

Saturday, September 24, 4:00 pm - 7:00 pm

Ages: 12 and older

Fee: \$2/person, \$8/family

Join one of our volunteer naturalists for a hike through the Sanctuary to celebrate the arrival of fall. We'll look for signs of the changing season and end at the Observation Deck to watch the sunset. **Registration required:** Call 410-741-9330 or e-mail programs@jugbay.org.

Nature Journal Workshop

Sunday, September 25, 1:30 pm - 4:00 pm

Ages: Adults and teens 13 and older

Fee: \$6 per vehicle entrance fee

Join naturalist Judy Burke, recently retired from editing at National Geographic Traveler, in an afternoon of observation and reflection. We will each find a quiet spot to look, listen and record, then gather to share our words. Bring a notebook and a pen or pencil. **Registration required:** Call 410-741-9330 or e-mail programs@jugbay.org.

Women of the Woods

Saturday, October 1, 9:30 am - 3:00 pm

Ages: 21 and older

Fee: \$30/person

Tap into the serenity of Jug Bay Wetlands Sanctuary during a day just for women. A naturalist will guide you on a leisurely 4-mile hike as we look for wildlife and plants along the trails. Enjoy a gourmet lunch followed by a guided relaxation session. Please bring a yoga mat or towel. **Registration required:** Call 410-741-9330 or e-mail programs@jugbay.org.

Catching the Light Photography Workshop

Saturday, October 8,

6:30 am - 7:30 pm

Ages: Adults

Fee: \$20/person

Photographers will be given the opportunity to capture the beauty of Jug Bay Wetlands Sanctuary's sunrise and sunset during this one-day photography workshop. Workshop will include a lunch-time presentation and access to the grounds all day. Limited space.

Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.

Fall Foliage Canoe Trip

Saturday, October 15,

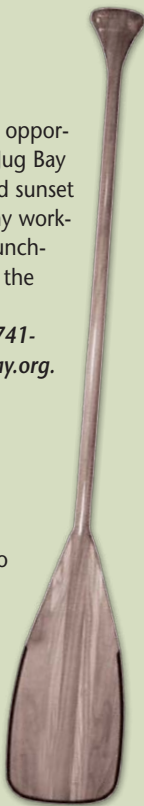
2:00 pm - 6:00 pm

Ages: 7 and older

Fee: \$20/person

The marsh is getting ready to go dormant for the year but is not finished yet! We'll look for late-season flowers, migratory birds and more. Bring plenty of water, sun block, a lunch and shoes that can get wet.

Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.



Beaver Hike

Saturday, October 15, 5:00 pm - 6:30 pm

Ages: All

Fee: \$6/vehicle entrance fee

Early evening is a good time to look for beavers in our creek. We'll walk through the woods to the beaver pond they built and listen for the slap of their tails. Bring a flashlight. **Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.**

Little Jug Bay Buddhas

Saturday, October 22, 2:00 pm - 4:00 pm

Ages: 5-10

Fee: \$10/child

Introduce your child to mindfulness, meditation, and the art of zen-doodling against the beautiful Jug Bay sanctuary backdrop. Led by Naturalist Liana Vitali, who studied contemplative education in Thailand, children will learn relaxation techniques, challenge their balance skills with yoga postures, build a nature altar, and create their own mala bracelet to take home.

Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.



Post Turkey Perambulation [Glendening Nature Preserve]

Friday, November 25, 1:00 pm - 4:00 pm

Ages: 12 and older

Fee: Free

Join Naturalist Mike Quinlan in a bipedal circumnavigation of the Glendening Nature Preserve. This long (4 miles) and sometimes difficult hike will be partly off trail, giving participants rarely seen views of the Preserve. Sights will include the largest tree on the Sanctuary grounds, the Galloway Creek floodplain, and the Swarth Boardwalk. **Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.**



Volunteer Opportunities

- Most of our projects require no experience; come to learn!
- Vehicle admittance fee waived for volunteer events.
- New online volunteer registration form: We encourage you to register online for volunteer opportunities at <http://tinyurl.com/jbws-volunteer-registration>. Got feedback on this tool after trying it out? Please send your suggestions to Melinda Fegler.

For more information, call 410-741-9330, or e-mail Volunteer & Stewardship Coordinator Melinda Fegler at rpfeGL00@aacounty.org.

Ongoing Bird Survey

Thursdays: September 1, 15 and 29; October 13 and 27; November 10 and 24; 7:30 am - 9:30 am

Ages: 12 and older

Come and join the amazing volunteer birding team of Jug Bay Wetlands Sanctuary! The ornithological knowledge of this team makes for a phenomenal learning and collaborative experience. All of this in the beautiful early morning light of the Jug Bay wetlands on the Patuxent River.

Vernal Pool Monitoring

Fridays: September - November; start and end times vary (register for notification)

Ages: 10 and older

Join our vernal pool monitoring volunteer team. We will hike out to assess hydrology and salamander and frog activity at each of our pools. Volunteers experience the variety of Jug Bay Wetlands Sanctuary habitats as well as those of Glendening Preserve. *Registration required: Call 410-741-9330 or e-mail rpfeGL00@aacounty.org.*

Butterfly Garden Stewardship [Glendening Nature Preserve]

**Tuesdays: September - October;
9:00 am - 12:00 pm**

Ages: All

Join fellow gardeners, butterfly watchers, and native plant enthusiasts in our garden maintenance group. Volunteers weed, water, prune, and otherwise maintain the Butterfly Garden at the Glendening Preserve's Plummer House. Bring work gloves, a snack, a refillable water bottle, hat and sunscreen, and clothes and shoes that can get dirty. Benefits of volunteering in the butterfly garden include resources for plant selection and garden design, identification experience with beneficial insects, and free plants and cuttings to take home.

Weed Whacking [Glendening Nature Preserve]

**Tuesday, September 6; Thursday, September 8;
Monday, September 12; Tuesday, September 13;
start and end times vary (register for notification)**

Ages: 16 and older

Help us execute our 5-year Japanese Stiltgrass management plan for Glendening Nature

Preserve. Volunteers will remove heavy patches in September of each year, prior to seed set, to reduce and eliminate additions to the seed bank. Clear patches with your own weed whacker (we will supply fuel); volunteer as part of the wildlife drive team that will walk ahead of the whackers to flush herps, birds, and small mammals from targeted patches; or hand pull stiltgrass in areas where native plants are integrated with invasives. *Registration required: Call 410-741-9330 or e-mail rpfeGL00@aacounty.org.*

Garden Clean-up and Maintenance

**Wednesdays: September - November;
7:30 am - 9:30 am**

Ages: All

Come enjoy the early morning weather and morning beverages while helping to keep our visitor center gardens beautiful.

Stream Water Chemistry

**Friday, September 16, 9:30 am to 10:30 am
(Galloway Creek);**

**Saturday, September 17, 9:30 am to 10:30 am
(Two Run Branch) and 1:00 pm to 2:30 pm
(Pindell Branch)**

**Saturday, October 15, 9:30 am to 10:30 am
(Two Run Branch) and 1:00 pm to 2:30 pm
(Pindell Branch);**

**Friday, October 21, 9:30 am to 10:30 pm
(Galloway Creek)**

**Friday, November 18, 9:30 am to 10:30 am
(Galloway Creek);**

**Saturday, November 19, 9:30 am to 10:30 am
(Two Run Branch) and 1:00 pm - 2:30 pm
(Pindell Branch)**

Ages: 16 and older

Volunteers will conduct field tests on dissolved oxygen content and other parameters. Water samples are also collected for lab analysis.

Registration required for new volunteers: Call 410-741-9330 or e-mail rpfeGL00@aacounty.org.

Moth Monitoring [Glendening Nature Preserve]

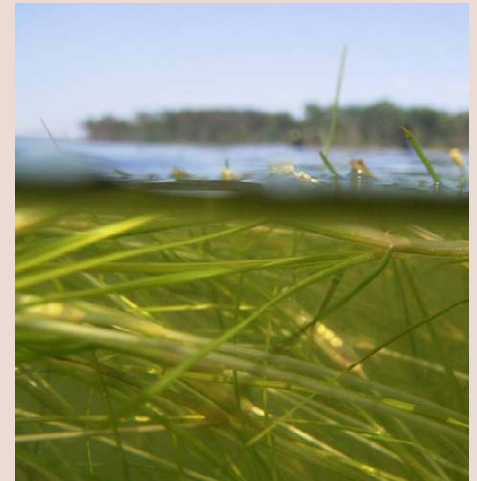
**Monday, September 19 (rain date Tuesday,
September 20), 7:30 pm - 11:30 pm**

Ages: 18 and older

Help monitor moth diversity on the Glendening Nature Preserve and contribute to the Maryland Biodiversity Project and Moths of North America by posting records on iNaturalist. Volunteers are

needed to set up and take down equipment (white sheets illuminated with lights), photo-document moths and other arthropods that visit the sheets (macrophotography a plus), capture/ photograph/release specimens flushed from nearby vegetation, and help identify photographed specimens at the project web site.

Registration required: Call 410-741-9330 or e-mail rpfeGL00@aacounty.org.



Estuaries Day: Free River Clean-up by Canoe

Saturday, September 24, 1:00 pm - 4:00 pm

Ages: 7 and older
Celebrate Estuaries Day by having fun on the water and helping to keep our river clean! Bring plenty of water, sun block, hat, sunglasses, a lunch, and shoes that can get wet and muddy. There is a 1-mile hike to the canoe launch site.

Registration required: Call 410-741-9330 or e-mail programs@jugbay.org.

River Clean-up [Patuxent Wetland Park]

**Friday, September 30; Friday, October 28;
and Friday, November 25; 2:00 pm - 4:00 pm**

Ages: 16 and older

Volunteers will enjoy a boat ride to Patuxent Wetland Park, then remove trash from the river to be hauled back on the boat. PFDs, gloves, and bags will be provided. Bring sunscreen, sun hat, sunglasses, water, and closed-toe shoes that can get wet and muddy. Spots are limited.

Registration required: Call 410-741-9330 or e-mail rpfeGL00@aacounty.org.

Chestnut Tree Monitoring [Glendening Nature Preserve]

Friday, October 28; 10:00 am - 11:00 am

Ages: All

A pair of volunteers are needed to measure trees, enter data, and share results for our American Chestnut tree plot in Glendening Nature Preserve. *Registration required: Call 410-741-9330 or e-mail rpfeGL00@aacounty.org.*



Jug Bay volunteer Mike Quinlan (center) flanked by Diana and Sandy Teliak at the Teliaks' farewell luncheon. Photo by Carol Quinlan.

Farewell to the Teliaks

By Mike Quinlan

On June 28 a group of Sanctuary staff and volunteers gathered in the Wetlands Center for a farewell luncheon in honor of Sandy and Diana Teliak. They have moved west—to Ohio—after many years in Maryland. Sandy in particular was a longtime volunteer at the Sanctuary, dating back to 1995. During those years he did it all: He was a Friends of Jug Bay board member and participated in several research projects, most notably the Box Turtle Population Study and the Monitoring Avian Productivity and Survivorship (MAPS) bird banding project. As the maintainer of the MAPS data, he produced daily summaries that were enjoyed by all, and his analysis of over 20 years' worth of data provided detailed insight into bird life at the Sanctuary. Sandy could always be counted on to help with clean-ups, habitat management, and construction projects. His willing spirit, strong back, and cheerful attitude will be sorely missed. We wish him and Diana all the best in the Buckeye State.

Donations: Our thanks for these gifts: a hand-carved wooden walking stick from **Carolyn O'Reilly**, two tents and a gazebo from **Chris Taylor**, binoculars and office materials from **Sandy and Diana Teliak**, a backpack from **Steve and Barbara Tillett**, and a copy of *Last Child in the Woods* from **Siobhan Percey**.

Summer Volunteers:

Cal Baier-Anderson	Siobhan Percey
Tere Baranano	Dave Perry
Marty Baron	Beth Petenbrink
Woody Barron	Meghan Petenbrink
Mike Blackstone	Tom Petska
Susan Blackstone	Sean Phillips
Cynthia Bravo	Mike Quinlan
Susan Brockman	Dom Raino
Peggy Brosnan	Tim Reichard
Gordon Burton	Cyndi Reynolds
Mary Burton	Gordon Reynolds
Danny Bystrak	Barbara Ricciardi
Karen Caruso	Jennifer Rooks
Alan Christian	Rick Rooks
Regan Christian	Doris Schmitz
Rebecca Christopher	Lee Sepulvado
Mike Cunningham	Joan Slettvet
David Davis	Bob Smith
Cathryn Dippo	David Smith
Margie Dowsett	Linda Smith
Kim Elliott	Troy Stern
Kristen Enzinger	Nick Tait
Detolla Family	Chris Taylor
Gramlich Family	Sandy Teliak
Lind Family	Kathleen Turk
Lee Fisher	Pete Uimonen
Elaine Friebele	Anna Watson
Madeline Gardiner	Peter West
Joyce Gillespie	Suzanne White
Diane Goebes	Larry Whyte
Ernie Goins	Bob Williams
Edwin Granados	Sea Williams
Julie Haimes	Sue Williams
Jim Harle	Dave Williamson
Darcy Herman	Andrew Wood
Mary Kay	Kris Wood
Regina Kreger	Paula Wood

Volunteer Groups:

- Eleanor Roosevelt High School (Greenbelt, MD) AP Biology
- The Harbor School of Annapolis
- Liberty Leave
- Jewish Community Center of Annapolis
- Boy Scout Troop 908
- Life on the River Nature Camp
- The Wild Life Nature Camp

During the summer, volunteers logged 2,416 hours. A contribution worth over \$63,855!

Thank You!

Carolyn O'Reilly



Point Ceremonial Complex” to “Modern Climate Change in Jug Bay” to “The Historic Period at River Farm,” and several people were treated to a cultural resources canoe tour of Jug Bay.

Participants were invited to excavate in four separate areas across the 27-acre site, called Areas 1–4, and each was highly productive. Units in Area 1 were excavated in order to understand more about the Late Woodland period midden found in 2015 in the southern end of the floodplain. The four units dug in this area revealed that the midden is at least 50 ft in diameter and has exquisite preservation, despite the relatively shallow water table in this part of the site. Excavators also found the riverside edge of the midden located very close to the activity areas, further suggesting that the residents of the site were burning huge bonfires on the beach for several hundred years during the Late Woodland period. An Early Woodland living surface (ca. 500 B.C.) was encountered underneath the dark Late Woodland layers, but sadly, a coastal flood sent the groundwater rising through the soil column and destroyed this horizon during excavation.

The units dug in Area 2 revealed the most unusual find of the Field Session. The team discovered a portion of a large oval-shaped structure, at least 25–30 ft in length

Ritual structure from Area 2. Photo by Al Luckenbach

and surrounded by ritualistic artifacts including a marked, slate pendant and ornately decorated pottery. A small portion of the wall feature was excavated, and archaeologists were surprised to find large burned sherds of Native American pottery and a tiny stemmed quartz projectile point at the bottom. A few small post holes discovered at the bottom of the wall trench suggest the building may have been constructed of saplings. This type of structure has never been seen by Maryland archaeologists, and the high density of artifacts and features nearby suggests this was an area of intense activity in the Late Woodland period between A.D. 900 and A.D. 1,400.

Several hearths and storage pits were found near Two Run Branch in the northern end of the floodplain in Area 3. These features likely dated to the Late Archaic and Early Woodland periods, between about 1,500 and 500 B.C., and represent some of the earliest occupation of the floodplain. Participants searched for the earliest occupation of the entire River Farm site in the uplands of Area 4, and a magnetometer survey conducted at the beginning of the Field Session revealed several compelling



Sherd of highly decorated pottery found near the ritual structure. Photo by Stephanie Sperling.

anomalies. With little time to spare, participants found one small hearth surrounded by a few post holes in this field, along with traces of human activity spanning at least 8,000 years.

River Farm holds tremendous potential for revealing more about the ancient past of our region. We have already learned that Native Americans first occupied this part of Jug Bay as early as 9,000 years ago and settled in the floodplain starting around 2,000 B.C. They used the Patuxent River as a transportation system, moving people and goods near and far, and they harvested the rich fish and wildlife resources available in Jug Bay. There was a spike in the population around 500 B.C., and by around A.D. 1,000, people constructed an unusual ritualistic building near the water's edge. Within 100–200 years, they were having huge bonfires on the beach at the edge of the floodplain. This was very similar to what was happening just one mile away at Pig Point. How are the two sites related? Were they used at the same time? For different reasons? By the same people?

Archaeologists and volunteers hope that further excavations conducted around the mysterious Late Woodland structure in August will lead to a better understanding of this unusual edifice and its surroundings. A full report of all the findings will be completed by spring 2017, and in the meantime, the team will search for funding to go back and excavate more. Stay tuned!

A Time to Pause and Celebrate the Bay

By Jennifer Raulin, *CBNERR-MD Reserve Manager*

Summer is hands down my favorite season. It's a time for celebration: long days, friends and family, fresh food, and the outdoors. The season is unofficially flanked by two patriotic holidays, with Independence Day smack dab in the middle, further proof of my theory that summer is for celebration. How do you revel in the season? For me, our family hails the end of summer with my grandmother's crab soup. My grandmother, whom we called Marme (yes, from *Little Women*), was the very first and last individual winner of the Maryland Seafood Festival's Crab Soup Cookoff. After that inaugural year, the crab soup competition has been open only to restaurants and caterers. Official reasons cite something about health regulations, but I'm pretty sure it's because an old lady put some chefs' egos to shame. This year when I sit down to a steaming bowl of crab soup or grab a mallet to crack into some hard shells, I'm going to think about what a great year it has been for the Bay.

If you've been tracking the news of the Chesapeake, you may have noticed that there have been several indicators that the Bay's health is improving. Here are some of the highlights:

Submerged Aquatic Vegetation acreage is at its highest level in over 30 years! This year's annual aerial survey showed 91,631 acres of vegetation in the Bay, which is close to one-half of the Bay Program's goal for 2025. Some areas have already reached or exceeded local restoration goals, including the Bush River.

Maryland Department of Natural Resources' (MDDNR) 2016 Winter Dredge Survey showed a 35% increase in Blue Crabs. This year's population, estimated at 553 million, can be attributed to mild weather, favorable currents and tides, and consistent harvest regulations.

June's dissolved oxygen levels were the 2nd best since 1985. MDDNR measured the Bay's hypoxic (low oxygen) zone at 0.42 cubic miles, compared with 1.11 cubic miles



Maryland DNR staff conducting a winter crab survey. Photo by Joe Evans, Fisheries Service, Maryland Department of Natural Resources.

in 1985. Even more impressive, the department found no evidence of anoxic (no oxygen) zones in late June.

So what does this mean? Is the Bay clean? Well, not quite. There's still a lot to do, but also a lot to celebrate. As the Chesapeake Bay's Total Maximum Daily Load (often referred to as the pollution diet) 2017 mid-point assessment nears, the state can be proud of all it has achieved so far. Maryland is on track to have all Bay restoration activities attained by 2025, and even now, based on some major actions such as investments in wastewater treatment plant upgrades and reductions in atmospheric deposition, we've seen improvements in non-tidal areas of the Bay.

The fact that water quality improvements are being seen in non-tidal areas, the rivers and streams near our backyards, is proof that the actions we take really do make a difference. So, as the summer winds down and the cooler weather kicks in, take some time to celebrate all the good work contributing to our water's health.



Chesapeake Bay
National Estuarine Research Reserve
Maryland

Jug Bay is one of the three components in the Chesapeake Bay National Estuarine Research Reserve, Maryland. The purpose of CBNERR-MD is to manage protected estuarine areas as natural field laboratories and to develop a coordinated program of research and education as part of a national program administered by National Oceanic and Atmospheric Administration (NOAA).

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MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Check out the **NEW**
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<http://dnr2.maryland.gov/waters/cbnerr>



DEPARTMENT OF RECREATION AND PARKS

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2016



SAVE THE DATE!



See page 3 for ticket info.

TASTE OF THE WILD

Saturday, September 10, 6:00 pm to 9:00 pm

Join us at the Sanctuary for music, wine, and great food!

Taste of the Wild will feature several small plates of local and wild-foraged plants, vegetables, game, and fish prepared by Jug Bay naturalists and volunteers. Music and local wines, including some from the Jug Bay Farm vineyard, will accompany the "wild" fare.

Taste of the Wild is the second Friends of Jug Bay fundraising event for 2016. Funds raised from ticket sales will contribute to the purchase of research tools for the Sanctuary.