

Vol. 28, No. 4 September 1, 2018

Our Mission Statement:

The Friends of Bombay Hook is a not-forprofit corporation working in conjunction with Bombay Hook NWR and the U.S. Fish and Wildlife Service. It supports and enhances educational and recreational programs at Bombay Hook, provides volunteer services and financial assistance and serves as a link between the Refuge and the public.

Summer is almost over and that means it's time for the Refuge to reopen again on the weekends. We will be having our Volunteer Orientation on September 1 at 10:00 a.m. in the Visitor Center auditorium. We need Friends volunteers in operating our Visitor Center and Blue Heron Gift Shoppe as well as assisting with other events at the Refuge for the Fall season. If you are interested, please let us know at fob@comcast.net. Training will be provided.

Our store will also open for the Fall season starting September 1 and will remain open until December. We have new Fall items available (see Page 4), so please stop in and check them out!!! We still have "I SUPPORT NATIONAL WILDLIFE REFUGES" decals available; every purchase/donation goes to our Capital Improvement Fund. Also we will be selling the book "Birds of Delaware" for \$10.00; every purchase also goes to the Capital Improvement Fund (also see Page 4).

2018 Newsletter Schedule

Newsletter Release
November 1

Articles Due October 7

The next newsletter will be issued on November 1, 2018

Published Quarterly by
Friends of Bombay Hook, Inc.
2591 Whitehall Neck Road
Smyrna, DE 19977
(302) 653-8322

http://www.friendsofbombayhook.org



A New Face

Friends of Bombay Hook would like to introduce a new face that you have probably seen around the Refuge. We have a

new Maintenance person named Michael Vandevander. Michael comes to us from Caanan Valley NWR in West Virginia. Relatively new to the service of three years, Michael is from Parsons and then recently from Elkins, West Virginia. His past work history includes Water Treatment Plant Operator and is a veteran of the U.S. Navy. Thank you for your service Michael! He has a seven-year old daughter and his hobbies include fishing, woodworking and occasionally likes to get in front of the cooking stove! Within the first two weeks here, he rescued many visitors from roads blocked by falling trees during Winter storms. He is currently work-



Michael Vandevander Photo by Karen Dever

ing on getting the new maintenance shop up and running smoothly, helping to maintain the roads and other various duties.

Give him a wave when you see him out on the Refuge!!

Bombay Hook Volunteers

During the off season this Summer, seventeen BH Volunteers signed up for Kent County's Certified Tourism Ambassador Program.



Photo by Karen Dever

The Certified Tourism Ambassador program is offered from Kent County for people in the tourism industry. The training is to help increase tourism by inspiring front-line employees and volunteers to turn every visitor encounter into a positive experience. Many of our visitors to Bombay Hook are focused on what they can do on the Ref-

uge, but many times people have questions about other places in Delaware to eat, stay, and visit. We are proud to be a part of this program and help our visitors get the most out of their visit to the First State!

The curriculum is delivered through reading assignments and in-class participation. Upon successful completion, participants will earn the Certified Tourism Ambassador certificate and lapel pin.



By Franklin Smith

BRD Notes The four months covered by this report included a significant portion of the migration for many shorehirds through Bombay Hook tion of the migration for many shorebirds through Bombay Hook on route to their northern nesting grounds during April and May. By the end of July, some species such as **Dowitchers** were passing

back through the Refuge on their way to their wintering grounds. Rainfall during the period was adequate during the first two months but became scarce during the last half of June and the first half of July. Rainfall was very abundant after the middle of July. Most of the migrating waterfowl departed the Refuge during April. The last significant flock of Snow Geese departed by mid-month. Green-winged Teal, Shovelers, and a few Buffleheads and Common Mergansers could usually be encountered through much of April. Eagles began gathering in the impoundments and adjacent salt marsh in early April in conjunction with the spawning carp. Eagles remained very abundant through mid-May. Low tide offered tremendous viewing opportunities as 60 or more Eagles could be observed perched in the trees and on the marsh islands off Shearness, Bear Swamp, and Raymond Pools. The Finis Pool area as well as Parson Point and Boardwalk Trails offered good opportunities to record migrating passerines during April and May. June and July found marsh and wading birds very noticeable within the impoundments as **Egrets** and **Herons** concentrated.

WATERFOWL

After the departure of migrating waterfowl to the northern breeding areas, Black Ducks, Mallards, Gadwall, Wood Ducks, and an occasional Green-winged and Blue-winged Teals, and Hooded Merganser were still observed. Canada Geese broods were very noticeable in Bear Swamp while a pair of **Mute Swans** hatched a brood in Shearness.

SHOREBIRDS

Avocets were abundant through April when as many as 450 were reported. A few were still observed during May with 60 reported in mid-June; 250 by mid-July; and back up to 450 by the end of the month. Black-necked Stilts were reported during each month and birds on the nest could be seen in Bear Swamp. Black-bellied and Golden Plovers were both recorded during April and May while Black-bellied and Semipalmated Plovers were seen during May, June and July as well. Dowitchers were recorded during all four months. The following sandpipers were recorded during the report period: Solitary, Spotted, Pectoral, Stilt, White-rumped, Least, Semipalmated and Western. Other shorebirds included both Yellowlegs, Snipe, Woodcock, Wilson's Phalarope, Red Knot, Dunlin, Marbled Godwit (late June), Red-necked Phalarope (late May) and **Ruff** during each of the four months with three

birds sighted in early July. MARSH AND WATERBIRDS



Cattle Egrets USFWS/Chelsi Burns

Black- and Yellowcrowned Night Herwere sighted ons throughout the report period in Bear Swamp. At least one Tri-colored Heron was reported each **Great** and month. Snowy Egrets, Little

Blue Herons and Great Blue Herons were common and seen in spectacular concentrations. Least and American Bitterns, Green-backed Her-Cattle Egrets, Horned and Pied-billed Grebes were less abundant. Glossy Ibis were usually present.

GULLS AND TERNS

Bonaparte's Gulls were reported regularly this



is published quarterly by "Friends of Bombay Hook, Inc. (FOBH)", a non-profit 501(c)(3) organization working in conjunction with Bombay Hook NWR and U.S. Fish and Wildlife Service. FOBH provides financial and developmental support for Environmental Education programs at the Refuge and in communities throughout the region.

Our readers are encouraged to share comments, provide articles for publication and/or suggestions regarding the Refuge as well as notifying us of address changes.

Please direct communications to:

Friends of Bombay Hook, Inc. 2591 Whitehall Neck Road **Smyrna**, DE 19977 Phone: (302) 653-8322 Fax: (302) 653-0684

email: fobhmembership@idv.net http://www.friendsofbombayhook.org period as were **Forster's Terns**, **Caspian Terns**, **Common Terns** and occasional **Least Tern**. One of the more interesting developments of this Summer was the increase in the numbers of **Black Skimmers**. As many as 65 were reported in late June. Personally, I can't remember ever seeing more than a handful in previous years, although they were usually present during the Summer months but seldom more than a dozen. A **Gull-billed Tern** was also reported in Raymond Pool in mid-July.

RAILS, COOTS & CRANES

A few **Coots** were reported in April and May. **Clapper, Virginia** and **Sora Rails** were reported infrequently. A **Common Gallinule** was reported on at least two occasions. A **Sandhill Crane** was reported flying over Raymond Pool in June.



Grasshopper Sparrow USFWS/Aron Flanders

PASSERINES

White-crowned Sparrows were reported at the Office feeder during April. Tree, Bank, and Cliff Swallows were reported during the period. The Tree Swallows, of course nest frequently in the Bluebird boxes. Purple Martins continued to utilize the nesting houses at the Refuge Office. Rusty Blackbirds were frequently sighted at Finis. Seaside Sparrows and a Red-headed Woodpecker were noted along the Boardwalk Trail. Grasshopper Sparrows were noted near the Allee House and just west of Parson Point Trail. Both species of cuckoos were reported. A Willow Flycatcher and Blue-headed Vireo were also reported as were many species of warblers including the Prothonotary which was frequently reported from the Finis area.

GALLINACEOUS BIRDS

Both **Bobwhite** and **Turkeys** were observed frequently during the period. **Turkeys** were heard gobbling vigorously from the woods and fields west of Parson Point Trail during April and early May.

RAPTORS

Kestrels (Entrance Road & Allee House), Peregrines (chasing shorebirds in the impoundments), Barred Owl (Finis), Barn Owl (Maintenance Area & Pavilion Area), Great Horned Owl, Screech Owl (Bear Swamp Duck box), Northern Harrier (Allee House), Mississippi Kite (flying over 5/12), Osprey and Bald Eagle were all reported this period.

Purple Martin Program at Bombay Hook NWR

The Purple Martin numbers are a little down from last year. We are attributing it to the cold weather. Better luck next year! Thank you to volunteers Joel Martin and Ray Gingerich for their ongoing management of this Friends of Bombay Hook-sponsored program! (Photo by Program Attendee)



Purple Martin Numbers for 2018

	Six Poles						Totals	
First egg laid	5/16	5/16	5/14	5/23	5/17	5/17	<u>2018</u>	<u>2017</u>
Total # of eggs (E)	57	52	64	17	137	132	459	448
Total # hatchlings (Y)	53	39	56	12	108	85	353	368
Total # fledglings (F)	46	39	49	10	98	70	312	341



Hope you all had a great Summer! I am looking forward to Fall and all that it brings!

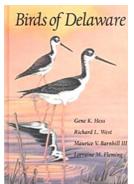
The Blue Heron Gift Shoppe (BHGS) will open up again for our autumn "season" starting in September.

The hours will be from 10:00 a.m.—2:00 p.m. M-F and 9:00 a.m. - 5:00 p.m. on Saturdays and Sundays.

We will be offering a special purchase this Fall. A wonderful book entitled *Birds of Delaware*. For just a \$10.00 donation, this hard-cover book could be yours! All profits from this special purchase will go towards our Capital Improvement Campaign.



Another way you can contribute to this special fund is to purchase an "I Support" decal. We are asking for a \$10.00 donation for this item as well. You can pick up the decal at the BHGS, or mail in a check for \$10.00 with your name and address and I will send one right out!



You don't have to spend all your money at once! With our frequent shopper card, just drop a purchase of at least \$20 at a time and after 5 visits receive 15% off your next purchase!



I have been busy looking for new items to tempt you with. We have a new canvas tote bag for \$18.00. It features many butterflies and wildflowers in full color on the front and a black-and-white illustra-

tion on the back with all the names of the butterflies and flowers. We have also taken that design one step further and came up with a front design only 3/4 length T-shirt with a shirt tail hem for the ladies, selling for \$24.00. Sizes and quantities are very limited so get yours right away! I can re-order if enough interest is shown in this item.



Don't forget to check out our **CLEARANCE** baskets!

Please remember that the BHGS is operated by the Friends of Bombay Hook and loyal volunteers. Purchases go toward the support of the Refuge. We appreciate all of your continued support! (Photos by Karen Dever)

Karen Dever, BHGS Manager/ Friends of Bombay Hook Coordinator fobh@comcast.net (302) 653-8322 (302) 250-6567 (cell)

Bombay Hook NWR Pollinator Field 2018



Over the past several years, you may have noticed a wild meadow taking form to the south directly across from our Refuge Visitor Center. In years past this area of the Refuge was in agricultural production; it also served as an overflow parking lot for Refuge activities. For various reasons these 19 acres have been transformed into what is presently called the Pollinator Field.

In June of 2014 President Obama signed a Presidential Memorandum to bring Federal actions to bear on addressing rising concerns with pollinator issues across the country. This got the ball rolling on educating the general public, collaboration between

agencies on pollinator management, research, landscaping Federal facilities for pollinators, and much more. This was an unfunded mandate so Federal agencies were expected to implement actions within their existing budgets.

In an effort to document how the Bombay Hook Pollinator Field was started, I had a conversation with Flavia Rutkosky, Biologist for the US Fish & Wildlife, Delaware Bay Estuary Project, who works here on the Refuge. The overview she sent me of the Pollinator Field history was so complete and detailed it's included below:

Bombay Hook Pollinator Field

Populations of both native and managed pollinations are in decline. Native pollinators include bees (Bumble Bees, Carpenter Bees, Sweat Bees and Long-horned Bees) and other insects including wasps, flies, beetles, butterflies and moths. Pollinating insects contribute their services to approximately one-third of U.S. agricultural production. In recent years, projects which benefit native pollinators have become a high priority on Federal lands including National Wildlife Refuges and also in habitat restoration projects implemented by the U.S. Fish and Wildlife Service on private lands.

The Pollinator Field Project, began in 2014, is a collaboration between Bombay Hook NWR and the U.S Fish and Wildlife Service, Delaware Bay Estuary Project (DBEP), which is located at the Refuge. These FWS Offices and the Friends of Bombay Hook provided funding to establish pollinator habitat on 11-acres of the 19-acre former agricultural field to the right of the Refuge entrance gate. DBEP developed the seed mix and provided some of the funding to purchase the seeds.

Prior to planting, Refuge staff prepared the field to eliminate weed competition. The field was disked twice during the late Summer/early Fall of 2013, with enough time in between disking to allow for germination of weed competition, with the expectation that the second disking would eliminate much of the competition. Invasive species such as Chinese Lespedeza and Japanese Honeysuckle were also treated along field margins to eliminate these species and prevent them from invading the meadow. After disking the seed mix was sewn using a seed spreader hopper in mid-January 2014. Planting with a seed drill was not possible, as the custom seed was premixed and included many species of variable seed size and shape. The seed mix contains locally native species of herbaceous wildflower and warm and cool season grasses.

The wildflowers bloom from early Spring through late Fall, providing habitat for pollinators, grassland birds and small mammals. The first flowers to appear are the white blossoms of Indian Hemp and Tall White Beardtongue. Then yellow flowers predominate: Black-eyed Susan, Ox-eye Sunflower, Tall Sunflower and Swamp Sunflower. Later-flowering Goldenrods include: Canada, Early, Gray and Wrinkleleaf Goldenrod. Pale Pink and Purple Asters and Joe-Pye Weed are included to compliment the profusion of yellow.

Seeds of the tall, robust pink-flowered Common Milkweed and the smaller more delicate bright orange-flowered Butterfly Milkweed are in the meadow



(Continued on next page)

mix. Of particular importance is the inclusion of the milkweeds. Common Milkweed is the larval host plant for Monarch Butterflies whose populations have experienced a severe decline over the past two decades. In 2014, the Fish and Wildlife Service was petitioned to initiate a status review for the Monarch under the Endangered Species Act. The results of the status review are expected next June.



The warm and cool season grasses include: Autumn Bentgrass, both Big and Little Bluestem, Broomsedge, Beaked Panicgrass, Redtop Panicgrass, Deertongue, Purpletop, Eastern Gamagrass and Indiangrass. Over the Fall and Winter, foliage and seed heads of the grasses provide texture and color to the landscape for Refuge visitors to admire and for food and cover for wildlife.

As part of the land management at Bombay Hook, several areas of the Refuge, including the middle of the Pollinator Field, were burned in March 2018. No burning occurred in the Pollinator Field in areas where the fuel build-up was not adequate to support a

burn. Funding to seed the remaining acres of the Field was now available and the previously unseeded area was seeded. The same species were used, however the seeds were not mixed to allow the seeds of each species to be planted separately – drilled in with a seed drill to effect better seed-soil contact.

Currently a variety of native grasses and wildflowers are blooming in this developing Pollinator Field. A mowed path provides access through the eastern portion of the field where foraging grassland birds can be seen and heard. There is a very healthy population of mosquitoes that first greets you, but as you continue down the path, you're overwhelmed with the variety of insects working the sea of blooming flowers. On an early August walk, my short list of species included Monarch Butterflies, Skippers, Spicebush Swallowtail, Silvery Checkerspot, moths, variety of pollinator bee species, wasps, bumblebees, milkweed bugs, Praying Mantis and grasshoppers. In the background, I heard Indigo Buntings, Bobolinks, Purple Martins, Blue Grosbeaks, Field Sparrows, Common Yellowthroat and Red-winged Blackbirds. There's just no other meadow in the Refuge like it.

As with any pollinator field, the forces of plant succession are always at work. Flavia has suggested a future article to detail the actions involved in maintaining the Bombay Hook NWR Pollinator Field. This Fall, the mix of Goldenrod species will be in bloom and Fall Sparrows and other field migrants will be coming through. Be sure to check out our Pollinator Field and the wild-life that uses it. (*Photos by Bruce Lantz*)

Photos by Bruce Lantz

Native Trees of Bombay Hook NWR

Program by Bill McAvoy,
Delaware State Botanist
Sunday, October 7th at 9:00 a.m. to 11:00 a.m.
Meet at Refuge Visitor Center, Free
A tree walk with Bill McAvoy, don't miss this one!

LARGE MILKWEED BUGS (ONCOPELTUS FASCITUS)

Here are some fun facts about the Large Milkweed Bug, a common Summer resident at Bombay Hook NWR:

- Relax. Large Milkweed Bugs can't bite or sting you.
- This bug sports a solid black bar across an orange-colored back.
- Don't be confused by my little cousin, the Small Milkweed Bug (Lygaeus kalmii), which has a black heart on its orange back.
- Large Milkweed Bugs suck the juice of the Milkweed plant seeds, leaves and stems.
- They concentrate the bad tasting toxins from the plant sap in their bodies, giving them a bad taste.
- A bright orange "X" color pattern warns predators "bad taste ahead."

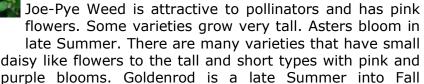


Photo by Bruce Lantz

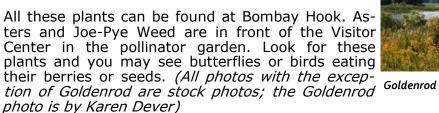
- Don't let your dog eat this bug; their body toxin could stop the dog's heart.
- These bugs are more of a nuisance than a threat to the milkweed plant.
- This bug will gather in large numbers on the Milkweed plant's leaves and stems.

Native Plants for the Fall Season By Ellen Wright

During the drought this Summer my Pokeweed thrived unaffected by the weather. Every Fall a flock of Mockingbirds arrive to enjoy the berries on my Pokeweed in my side yard. I really enjoy watching them. It is poisonous to people and some animals but are enjoyed by birds and some small mammals.



blooming native with plumes of yellow flowers. It does not cause allergies. Goldenrod is often confused with ragweed which produces pollen at the same time Goldenrod is blooming.





Purple Aster





Pokeweed Berries

For more information about native plants, visit these sites:

http://plantnative.org/rpl-denjny.html

http://www.dnrec.delaware.gov/fw/dplap/information/Documents/Native%20Plants%20for% 20Delaware%20Landscapes%20(UD%20Cooperative%20Ext.).pdf

Moapa Valley Wildlife Refuge By Joanne and Bruce Lantz



Last May we flew out to Las Vegas and headed northeast up Route 15 toward Utah and Zion National Park. We were hoping to check out a Nevada national wildlife refuge before entering Utah. The Moapa Valley National Wildlife Refuge is very small and has an incredible comeback story.

Historically within the Moapa Valley, a series of six thermal springs constituted the headwaters of the Muddy River system. A small fish, the Moapa Dace, was endemic to the Muddy River headwater. The average water temperature of the springs at discharge point is 90°F.

As the city of Las Vegas grew, the springs, being an hour away, were developed and operated as a vacation resort. Swimming pools, bathhouses, recreational vehicle hookups were all built. However, eventually business soured and it all went bust. The Moapa Dace, a fish native to the hot springs waterway, was in peril due to habitat destruction and introduced fish species, so action was taken to secure this critical habitat. In 1979 the property was purchased and 116 acres were established as the Moapa Valley National Wildlife Refuge.

So, fast forward to 2018 and an amazing transformation of the property. The Refuge is located about eight miles off the interstate in a vast desert environment. As you arrive, a narrow green ribbon of vegetation can be seen threading up through the desert valley.



The resort complex has been removed, the riverbed and native habitats reestablished. The Refuge visitor is all outcomplex Information | doors. panels, shaded benches, patios with picnic tables and nature trail signs all greet you. A 30-foot section of the river (a small creek to us back east) flows



along glass panels on one side. This allows the visitors an opportunity to view the river bottom habitat and the Moapa Dace swimming in the current. We found the visitor area a great outdoor experience.

There are still lots of work to do; ongoing restoration includes removing large, waterstealing non-native Palm trees around the property and reestablishing native river habitat. These efforts are paying dividends; 2017 surveys indicate Dace populations were increasing.

This little Refuge is well worth the 60-minute ride outside of Las Vegas. Check it out next time you're in the neighborhood. (*Photos by Bruce Lantz*)



Ethical Wildlife Watching

Paul Daly, a past Bombay Hook Refuge Manager, wrote about "Ethical Wildlife Watching", in his 1996 Manager's Corner. The practices (below) he requested of visitors more then 20 years ago are still an important message to our visitors today.

- Observe "closed area" signs
- Stay on designated trails and roads
- Keep to posted speed limits
- Consider other observers
- Do not approach wildlife
- Use binoculars and scopes
- Keep noise to a minimum
- Encourage others to do the same

Larry and Leslie Cook

The Friends of Bombay Hook thank you for

all the time and hard work both of you put into the Refuge flower beds. The plant selection, planting, routine weeding and care make the beds a flowering showcase of nature. Around the entrance sign and Visitor Center, the flower beds are an attraction to Refuge wildlife and



the visiting public. (Photo by Karen Dever)

Bombay Hook NWR

2591 Whitehall Neck Road, Smyrna, DE 19977 (302) 653-9345

http://www.fws.gov/refuge/Bombay_Hook/

The Bombay Hook Visitor Center is open Monday through Friday from 8:00 a.m. to 4:00 p.m. and is open on weekends from 9:00 a.m. to 5:00 p.m. starting September 1.

The Wildlife Drive is open daily from ½ hour before sunrise to ½ hour after sunset.

The Allee House remains closed until further notice.

For more information about programs, contact Tina Watson at (302) 653-9345 or check our website above and <u>Face-book</u> for additions or changes.

Fall 2018 Calendar of Events

<u>Saturday, September 1, 2018</u> *Volunteer Orientation* (10:00 a.m. - 12:30 p.m.) - A meeting about volunteer opportunities will be held in the auditorium. The meeting will describe the different types of volunteer opportunities, upcoming activities, and the latter part of the session will be a tour of the Refuge. Individuals are needed to staff the Visitor Center on weekends and weekdays from September through November. Volunteers are also needed to provide Environmental Education programs for school groups, conduct Refuge tours, provide trail and landscaping maintenance, and lead adult education bird/nature programs. Training is provided.

<u>Sunday, September 9, 2018</u> <u>Bird Identification Station</u> (6:30 a.m. - 12:00 noon) - Get a close look at the different bird species in the impoundments. Randy Murphy will be set up on the Wildlife Drive with scopes and binoculars to help you identify waterfowl, passing raptors, and whatever else flies by. Look for the Blue Bird ID Station sign along the Auto Tour route.

Saturday, September 15, 2018



- Junior Rangers Learn about Pollinators (9:30 a.m. 12:00 noon) New and returning children (7-11 years old) are invited to attend. WHO NEEDS POLLINATION? We do! Can you imagine a world without flowers, fruit, or even chocolate? You will learn that pollinators are important because they create and maintain habitats that many animals depend on for food and shelter. During this session you will study different pollinators and learn how you can protect them in your backyard environment. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.
- Monarch Tagging (2:00 p.m. 4:00 p.m.) Terry Willis will give a short explanation of the Monarch Butterfly
 life cycle before tagging Monarchs. After tagging Monarchs that were raised in captivity, participants will visit the
 meadow at the Visitor Center to capture and tag Monarchs. Participants should wear long pants and longsleeved shirts.

Tuesday, September 18, 2018 Toddlers/preschoolers (1 year old to 5 years old) and their guardians are free (9:00 a.m. - 2:00 p.m.) - Bombay Hook will be free for toddlers and their guardian on the 3rd Tuesday of September, October and November. Children from 1 to 5 years old are developing cognitive skills and being in nature can expose them to sights and sounds that might go unnoticed in their everyday setting. Take your child on the Wildlife Drive, walk a trail, climb a tower, read them a nature book, and look at wildlife exhibits in the Visitor Center. You are never too young to explore and learn. This is a free self-study for families. You can come anytime between 9:00 a.m. and 2:00 p.m.

Saturday, September 22, 2018

• FREE ENTRANCE FEE (½ hour before sunrise to ½ hour after sunset) - The \$4.00 entrance fee will be waived to celebrate National Public Lands Day and to invite people to visit Bombay Hook. It's a great opportunity to spend the day exploring and relaxing in nature. National Public Lands Day is a fee-free entrance day at many Federal public lands including, National Park Service, U.S. Fish and Wildlife, Bureau of Land Management, Forest Service, and U.S. Army Corps of Engineers.

• Incredible Insects at Bombay Hook (7:00 p.m. - 9:00 p.m.) - Join Anthony Gonzon, Entomologist, for a presentation about the incredible and sometimes annoying insects of Bombay Hook. The program will start in the auditorium with a brief presentation on insect diversity. Following the presentation, the group will go outside near the woods, where a bright light and white sheet will be set up to see what resident nocturnal insects have come to investigate. It is suggested that your wear long sleeve shirts and long pants.

Sunday, September 23, 2018 Tour of the Refuge (11:00 a.m. – 12:30 p.m. & 1:30 p.m. – 3:00 p.m.) - Join volunteer, Ray Cullom, for a tour of the Refuge. Find out how the Refuge is managed for wildlife, visit different habitats, and walk a trail. Meet at the Visitor Center.

<u>Friday, September 28, 2018</u> Your First Visit To Bombay Hook Tour (10:00 a.m. - 12:30 p.m.) – Learn a little about the Refuge's history, why it is here, how it is managed for wildlife, bird migration at the Refuge, and identify birds. We will also walk a trail. Space is limited, call to register at (302) 653-9345 or email: tina_watson@fws.gov.

Sunday, September 30, 2018 Tour of the Refuge (11:00 a.m. – 12:30 p.m. & 1:30 p.m. – 3:00 p.m.) - Join volunteer, Ray Cullom, for a tour of the Refuge. Find out how the Refuge is managed for wildlife, visit different habitats, and walk a trail. Meet at the Visitor Center.

<u>Sunday, October 7, 2018</u> Tree Walk with Bill McAvoy (9:00 a.m. – 11:00 a.m.) - Learn about the native trees of Bombay Hook with Bill McAvoy, Botanist for the State of Delaware. The program will cover the native trees commonly found within the Refuge and Delaware. In addition the program will explore the value these trees offer resident Refuge wildlife. The program is free and will begin at the Refuge Visitor Center.

<u>Saturday, October 13, 2018</u> <u>Beginning Bird Watching – Backyard Birds</u> (10:00 a.m. – 12:00 noon) - Now that cooler weather is here, birds are more visible in gardens and at feeders. But what kind of birds are they, and how do we attract more of them? In this talk, Eileen McLellan and Terry Willis will help you identify common backyard birds and learn how to create a habitat for them in your backyard.

Sunday, October 14, 2018

- FREE ENTRANCE FEE (½ hour before sunrise to ½ hour after sunset) The Refuge's \$4.00 entrance fee will be waived to celebrate National Wildlife Refuge Week and invite people to visit Bombay Hook. It's a great opportunity spend the day exploring or relaxing in nature.
- Refuge Introduction Tour (1:00 p.m. 3:00 p.m.) "Climb aboard" the Refuge's 12-passenger bus for a 2-hour guided tour of the Refuge. Look for wildlife, walk a short trail, and learn how the various habitats on the Refuge are managed to provide the food, water, and cover needed by the many species of wildlife that live on or pass through the Refuge. Bring your binoculars, or borrow a pair at the Visitor Center. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.

Tuesday, October 16, 2018 Toddlers/preschoolers (1 year old to 5 years old) and their guardians are free (9:00 a.m. - 2:00 p.m.) - Bombay Hook will be free for toddlers and their guardian on the 3rd Tuesday of October and November. Children from 1 to 5 years old are developing cognitive skills and being in nature can expose them to sights and sounds that might go unnoticed in their everyday setting. Take your child on the Wildlife Drive, walk a trail, climb a tower, read them a nature book, and look at wildlife exhibits in the Visitor Center. You are never too young to explore and learn. This is a free self-study for families. You can come anytime between 9:00 a.m. and 2:00 p.m.



<u>Saturday, October 20, 2018</u> Junior Rangers Learn about Trees (9:30 a.m. - 12:00 noon) - New and returning children (7-11 years old) are invited to attend. TREE STUDY - There are many kinds of trees around us...they all have three parts and can be divided into two groups. We will explore the Refuge to identify different trees, do bark rubbings, and learn how their leaves and seeds are used by wildlife. You will have a permit to collect leaves for your plant press. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.

<u>Wednesday, October 24, 2018</u> Refuge Introduction Tour (10:00 a.m. – 12:00 noon) - "Climb aboard" the Refuge's (Continued on Next Page)

Bombay Hook NWR Fall 2018 Calendar of Events (Continued from Previous Page)

12-passenger bus for a 2-hour guided tour of the Refuge. Look for wildlife, walk a short trail, and learn how the various habitats on the Refuge are managed to provide the food, water, and cover needed by the many species of wildlife that live on or pass through the Refuge. Bring your binoculars, or borrow a pair at the Visitor Center. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.

<u>Friday, October 26, 2018</u> Your First Visit To Bombay Hook Tour (10:00 a.m. - 12:30 p.m.) — Learn a little about the Refuge's history, why it is here, how it is managed for wildlife, bird migration at the Refuge, and identify birds. We will also walk a trail. Space is limited, call to register at (302) 653-9345 or email: tina_watson@fws.gov.

Saturday, October 27, 2018

- Impoundment Tour of the Refuge (10:00 a.m. 12:00 noon) Join Terry Willis and Eileen McLellan for a bus tour of the Refuge impoundments and salt marsh. We hope to see and identify shorebirds, waterfowl, and wading birds along with Eagles and other passing raptors. Viewing scopes will be provided. Tour will take approximately 2+ hours depending on conditions. Space is limited, call to register at (302) 653-9345 or email: tina_watson@fws.gov.
- Afternoon Hayride on the Refuge (2:00 p.m. 4:00 p.m.) This is great for the Kids! If they come dressed as their favorite animal, they will receive a small gift. You will learn about the salt marsh, birds, and wildlife conservation. Parents you can come dressed as your favorite animal as well! Refreshments will be served by Friends of Bombay Hook. Space is limited and registration is required, contact Tina Watson at (302) 653-9345 or email: tina_watson@fws.gov.
- Sunset Hayride on the Refuge (5:00 p.m. 7:00 p.m.) This is great for the Adults! Children dressed as their favorite animal will receive a small gift. You will learn about the salt marsh, birds, and wildlife conservation. Parents you can come dressed as your favorite animal as well! Refreshments will be served by Friends of Bombay Hook. Space is limited and registration is required, contact Tina Watson at (302) 653-9345 or email: tina watson@fws.gov.

Sunday, October 28, 2018 Tour of the Refuge (11:00 a.m. – 12:30 p.m. & 1:30 p.m. – 3:00 p.m.) - Join volunteer, Ray Cullom, for a tour of the Refuge. Find out how the Refuge is managed for wildlife, visit different habitats, and walk a trail. Meet at the Visitor Center.

Saturday, November 3, 2018

- Winter Waterfowl Identification Workshop (10:00 a.m. 12:00 noon) is a joint program with Delaware Museum of Natural History (DMNH) and Delmarva Ornithological Society (DOS). The program will offer participants the opportunity to examine closely, study and discuss the skins of a variety of waterfowl common to Delmarva in the Winter. Birds for study will include both the expected and the unusual species. This program will introduce new birders to many commonly seen waterfowl, while offering plumage challenges for our more advanced birders and waterfowlers. Dr. Jean Woods, Curator of Birds at DMNH, will guide us through the museum's selected collections. The workshop is free and will be at Bombay Hook's Visitor Center. Space is limited and registration is required. (Age 16 and over unless accompanied by a parent) If you are interested, contact Jean Woods at jwoods@delmnh.org or by phone (302) 658-9111, x314.
- Afternoon Hayride on the Refuge (2:00 p.m. 4:00 p.m.) This is great for the Kids! If they come dressed as their favorite animal, they will receive a small gift. You will learn about the salt marsh, birds, and wildlife conservation. Parents you can come dressed as your favorite animal as well! Refreshments will be served by Friends of Bombay Hook. Space is limited and registration is required, contact Tina Watson at (302) 653-9345 or email: tina_watson@fws.gov.
- Sunset Hayride on the Refuge (5:00 p.m. 7:00 p.m.) This is great for the Adults! Children dressed as their favorite animal will receive a small gift. You will learn about the salt marsh, birds, and wildlife conservation. Parents you can come dressed as your favorite animal as well! Refreshments will be served by Friends of Bombay Hook. Space is limited and registration is required, contact Tina Watson at (302) 653-9345 or email: tina_watson@fws.gov.

Saturday, November 10, 2018 Beginning Bird Watching - Duck, Duck, Goose (10:00 a.m. - 12:00 noon) - What are

all those ducks and geese around the Refuge? Come and learn how to tell one duck from another at this beginning birders' class. We'll meet at the Visitor Center at 12 noon for a talk and then go out to the Bird ID Station and practice new skills.

Sunday, November 11, 2018

- FREE ENTRANCE FEE (½ hour before sunrise to ½ our after sunset) Honoring veterans, the National Wildlife Refuge System is providing free entrance to Bombay Hook NWR and all the refuges throughout the U.S. This is a good time of year to see hawks, eagles, ducks, and geese. Take time out to remember our veterans and to enjoy nature.
- Dr. Erica Miller, Veterinarian at Tri-State Bird Rescue, will give a presentation on 'TOXINS IN NORTH AMERICAN BIRDS' (1:30 p.m. 3:00 p.m.) Dr. Miller will discuss how birds come in contact with a wide variety of toxic agents, from pesticides, heavy metals, petroleum products, and other man-made chemicals to toxicants occurring naturally in the wild. Exposure can occur in many ways and settings, often affecting large number of birds. The presentation will address toxicants commonly affecting wildlife, how the birds are treated when poisoning occurs, and some thoughts about what can be done to prevent such poisonings in the future. Dr. Miller will also provide information about Tri-State Bird Rescue and Research, Inc. and what people should do if they come across a bird that needs help. At Tri-State she specializes in rehabilitation of wildlife injured as a result of oil spills.

Saturday, November 17, 2018



- Junior Rangers Learn how Wildlife Survive in the Winter (9:30 a.m. 12:00 noon) New and returning children (7-11 years old) are invited to attend. WILDLIFE IN WINTER How do animals prepare for the Winter months ahead? How do bats, birds, deer, foxes, snakes, turtles, butterflies survive in the Winter and where do they live during cold weather? We'll study hibernation, migration and adaptation and how burrows, dead trees, dens and nests help animals survive. You will learn how to cast animal tracks with a take-home kit for your family to use through the Winter. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.
- Afternoon Hayride on the Refuge (1:00 p.m. 3:00 p.m.) This is great for the Kids! It is getting close to
 Thanksgiving and we should be thankful that we have places protected for wildlife. Maybe we will see a wild
 turkey along the way! You will learn about the salt marsh, birds (turkeys), and wildlife conservation. Space is limited and registration is required, contact Tina Watson at (302) 653-9345 or email: tina_watson@fws.gov.
- Sunset Hayride on the Refuge (4:00 p.m. 6:00 p.m.) This is great for the Adults! It is getting close to Thanksgiving and we should be thankful that we have places protected for wildlife. Maybe we will see a wild turkey along the way. You will learn about the salt marsh, birds (turkeys), and wildlife conservation. Refreshments will be served by Friends of Bombay Hook. Space is limited and registration is required, contact Tina Watson at (302) 653-9345 or email: tina_watson@fws.gov.

Sunday, November 18, 2018 Live Birds of Prey - Presented by Animal Behavior & Conservation Connections (1:00 p.m. - 1:45 p.m.) - Come enjoy a live birds of prey presentation by Animal Behavior & Conservation Connections. Learn the habits and behaviors of hawks, falcons and owls. Experience the "silence" flight of an owl as it glides inches over your head. See a vulture demonstrate its role as "nature's recycler". Learn about the decline of the Peregrine Falcons, Bald Eagles and the efforts people took to recover the population. Meet birds up close where you will be able to see the details of their magnificent contour feathers. Other raptors will swoop inches over head for a close connection. This program is a must see for the entire family.

Tuesday, November 20, 2018 Toddlers/preschoolers (1 year old to 5 years old) and their guardians are free (9:00 a.m. - 2:00 p.m.) - Bombay Hook will be free for toddlers and their guardian on the 3rd Tuesday of November. Children from 1 to 5 years old are developing cognitive skills and being in nature can expose them to sights and sounds that might go unnoticed in their everyday setting. Take your child on the Wildlife Drive, walk a trail, climb a tower, read them a nature book, and look at wildlife exhibits in the Visitor Center. You are never too young to explore and learn. This is a free self-study for families. You can come anytime between 9:00 a.m. and 2:00 p.m.

(Continued on Next Page)

Bombay Hook NWR Fall 2018 Calendar of Events (Continued from Previous Page)

Friday, November 23, 2018

- FREE ENTRANCE FEE (½ hour before sunrise to ½ hour after sunset) Bombay Hook National Wildlife Refuge is providing free entrance to introduce you and your family to wildlife conservation and bird watching. This is a good time of year to see hawks, eagles, ducks, and geese. Bring your family to drive the 12-mile Wildlife Drive and walk 5 short walking trails.
- Black Friday Tours of the Refuge (Starting at 8:00 a.m., 10:00 a.m., 12:00 noon and 2:00 p.m.) Are you and family members looking for something to do the day after Thanksgiving that DOES NOT include shopping? Bombay Hook is offering 1-1/2 hour tours throughout the day to introduce people to Bombay Hook, bird watching, and wildlife conservation. What a great way to spend time with family or come by yourself and join the fun. Space is limited. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.
- Bird Identification Station (10:00 a.m. 5:00 p.m.) Get a close look at the different bird species in the impoundments. Randy Murphy will be set up on the Wildlife Drive with scopes and binoculars to help you identify waterfowl, passing raptors, and whatever else flies by. Look for the Blue Bird ID Station sign along the Auto Tour route.

Saturday, November 24, 2018

- Impoundment Tour of the Refuge (10:00 a.m. 12:00 noon) Join Terry Willis and Eileen McLellan for a bus tour of the Refuge impoundments and salt marsh. We hope to see and identify waterfowl, along with Bald Eagles and other passing raptors. Viewing scopes will be provided. Tour will take approximately 2+ hours depending on conditions. Space is limited, call to register at (302) 653-9345 or email: tina_watson@fws.gov.
- Sunset Tour of the Refuge (3:30 p.m. 5:30 p.m.) Join Tina Watson for a tour of the Refuge as the sun sets. The tour will begin early enough to make a couple stops along the way. The group will walk a trail, discuss wild-life management practices, bird watch, and will end with the sunset over Shearness Pool. Space is limited, call to register at (302) 653-9345 or email: tina_watson@fws.gov. Meet at the Visitor Center.

Sunday, November 25, 2018

- Bird Identification Station (12:00 noon 5:00 p.m.) Get a close look at the different bird species in the impoundments. Randy Murphy will be set up on the Wildlife Drive with scopes and binoculars to help you identify waterfowl, passing raptors, and whatever else flies by. Look for the Blue Bird ID Station sign along the Auto Tour route.
- Tour of the Refuge (11:00 a.m. 12:30 p.m. & 1:30 p.m. 3:00 p.m.) Join volunteer, Ray Cullom, for a tour of the Refuge. Find out how the Refuge is managed for wildlife, visit different habitats, and walk a trail. Meet at the Visitor Center.

<u>Wednesday, November 28, 2018</u> Refuge Introduction Tour (8:30 a.m. – 10:30 a.m.) - "Climb aboard" the Refuge's 12-passenger bus for a 2-hour guided tour of the Refuge. Look for wildlife, walk a short trail, and learn how the various habitats on the Refuge are managed to provide the food, water, and cover needed by the many species of wildlife that live on or pass through the Refuge. Bring your binoculars, or borrow a pair at the Visitor Center. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.

Friday, November 30, 2018 Your First Visit To Bombay Hook Tour (10:00 a.m. - 12:30 p.m.) — Learn a little about the Refuge's history, why it is here, how it is managed for wildlife, bird migration at the Refuge, and identify birds. We will also walk a trail. Space is limited, call to register at (302) 653-9345 or email: tina_watson@fws.gov.

<u>Saturday, December 1, 2018</u> Refuge Nest Boxes, Who's in There? (9:00 a.m. - 11:00 a.m.) - Join volunteer Bruce Lantz as we explore the wildlife that finds "Refuge" in the nest boxes at Bombay Hook. The program will begin with a presentation in the Visitor Center and then the group will visit some of the nest boxes.

Sunday, December 2, 2018 Refuge Introduction Tour (2:30 p.m. – 4:30 p.m.) - "Climb aboard" the Refuge's 12-passenger bus for a 2-hour guided tour of the Refuge. Look for wildlife, walk a short trail, and learn how the various habitats on the Refuge are managed to provide the food, water, and cover needed by the many species of wildlife

that live on or pass through the Refuge. Bring your binoculars, or borrow a pair at the Visitor Center. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.

<u>Wednesday, December 5, 2018</u> Refuge Introduction Tour (8:30 a.m. – 10:30 a.m.) - "Climb aboard" the Refuge's 12-passenger bus for a 2-hour guided tour of the Refuge. Look for wildlife, walk a short trail, and learn how the various habitats on the Refuge are managed to provide the food, water, and cover needed by the many species of wildlife that live on or pass through the Refuge. Bring your binoculars, or borrow a pair at the Visitor Center. Call to register at (302) 653-9345 or email: tina_watson@fws.gov.

<u>Sunday, December 9, 2018</u> <u>Bird Identification Station</u> (10:00 a.m. - 5:00 p.m.) - Get a close look at the different bird species in the impoundments. Randy Murphy will be set up on the Wildlife Drive with scopes and binoculars to help you identify waterfowl, passing raptors, and whatever else flies by. Look for the Blue Bird ID Station sign along the Auto Tour route.

2018-2019 DEER & WATERFOWL HUNT DATES

Partial Closures affecting the Wildlife Drive

Back Section Closed - Bear Swamp, Finis Pool, and road to Allee House

September 7 and 14, 2018 - until 1:00 p.m. for Archery October 8, 10, and 12, 2018 - all day for Muzzleloader November 9, 10, and 14, 2018 - all day for Shotgun December 10 and 13, 2018 - all day for Shotgun January 18, 2019 - all day for Shotgun

Front Section Closed - Raymond and Shearness - Enter Refuge on Rt. 9 at Dutch Neck Road

November 12 and 16, 2018 - all day for Shotgun December 12, 2018 - all day for Shotgun Waterfowl hunting dates - TBD



http://facebook.com/bombayhookwildliferefuge

IMPORTANT REMINDER TO REFUGE VISITORS....

To protect wildlife and their habitat and to provide the best opportunities in wildlife observation and photography, it is important not to disturb, injure, or damage plants and animals of the Refuge. In fact, it is a prohibited act as stated in 50 CFR27.51. This disturbance includes flushing birds and other wildlife or using electronic calls (taping) to lure birds closer for observation or photography. Please remember to take only memories and photographs and leave only footprints.

ARE YOU INTERESTED IN JOINING FRIENDS???

FRIENDS OF BOMBAY HOOK (FOBH) is a cooperating association formed with Bombay Hook National Wildlife Refuge (BHNWR) and U.S. Fish and Wildlife Service (USFWS). It is a 501(c)(3) non-profit corporation which was founded to promote conservation, Environmental Education, and better understanding of and appreciation for Bombay Hook NWR.

Each year students visit Bombay Hook. They use equipment to study habitats, watch videos about endangered species, and are taught from field guides - all provided by **FRIENDS OF BOMBAY HOOK!**

If you visited our store, the Blue Heron Gift Shoppe, that has been financed by FRIENDS OF BOMBAY HOOK!

If you attended programs such as the Native Plant Symposium or a Shorebird ID presentation, they are supported by FRIENDS OF BOMBAY HOOK!

Your Membership Dues and proceeds from the *Blue Heron Gift Shoppe* in the Visitor Center at Bombay Hook will make it possible for Friends to continue its support of popular educational/recreational programs, services, and improvements at Bombay Hook. Make the *Blue Heron Gift Shoppe* your place to buy field guides, books, T-shirts, posters, and souvenirs!

OUR MEMBERSHIP BENEFITS INCLUDE:

- •10% Discount on all items sold at the Blue Heron Gift Shoppe
- •Participation in special wildlife education programs and field trips
- Participation in the Birding Club
- •Attendance at the Annual Meeting in June
- •Eligibility in the Dover Federal Credit Union (DFCU)
- •Opportunity to meet others with similar interests in birds, other wildlife, wetlands, and the environment

And perhaps best of all, the chance to say, "Thank you Bombay Hook, for all the great times I've had here!"

MEMBERSHIP APPLICATION

Submit completed application at the Visitor Center (payment by cash, check or credit card) or Mail (with check) to:

Friends of Bombay Hook 2591 Whitehall Neck Road Smyrna, DE 19977

Or you can go to <u>www.friendsofbombayhook.org/membership.html</u> and follow the instructions in applying or renewing your membership thru PayPal

☐ Renewal ☐ New Member	<u>Membership Plan (Check On</u>	<u>e)</u> Annual		
Part 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	☐ Student (under 18)*	\$5.00		
Date:	☐ Individual	\$15.00		
130 64	☐ Family	\$20.00		
Name	☐ Sponsor***	\$25.00		
12 March 201	☐ Sustaining	\$50.00		
Address	☐ Corporate**	\$100.00		
Address	☐ Life***	\$200.00		
4. YA W.M.	*Student membership: under age 18.			
City, State, Zip	**Corporate sponsorship includes link to FOBH website; no voting privileges or store discount.			
1/4/24	***Sponsor and Life memberships includes family.			
E-mail	Method of Payment			
Newsletter Preference:	☐ Cash (payment at Visitor Center only)☐ Check (payment by mail or at Visitor Center)			
☐ Print ☐ E-mail (require E-mail address)	☐ Credit/ Debit Card (payment at Visitor Center only)			

How Do You Support Friends???

(It's a fact: The National Wildlife Refuge system is underfunded and understaffed)

D-O-N-A-T-E!!!

Every year as funding is reduced, job vacancies are not filled and refuges operate without a budget. To cut costs, many refuges have been consolidated to share staff and resources.

Without the financial and volunteer support of Friends, many of the programs and activities at Bombay Hook would be either cancelled or nonexistent. Friends of Bombay Hook pays for or subsidizes many of the most popular Refuge programs, services, and improvements. Within the last several years, Friends paid for the construction of the new store, the *Blue Heron Gift Shoppe*; purchased new chairs and a screen-smart TV for the Refuge auditorium for enhanced presentations as well as viewing programs, webinars and movies to educate visitors; instituted a program to assist schools in funding transportation for field trips to the Refuge; and many other expenditures. Working with Refuge staff, Friends members and volunteers helped to launch the Junior Ranger and Junior Refuge Manager programs and the *Every Kid in a Park* pass program to 4th Grade teachers at local schools; planned, organized and staffed the "Connecting Families with Nature" and the Bombay Hook Quarter Ceremony events; organized the Native Plant Symposiums for the Garden Keepers; and many other activities.

As a 501(c)(3) corporation, we receive no Federal or State funding. We rely on the membership dues and donations we collect and the profits from the Blue Heron Gift Shoppe to provide financial support for the Refuge. Your donations are tax-deductible.

There are several ways you can donate to Friends:

- You can make a donation to Friends by check made out to "Friends of Bombay Hook Inc." and send to:
 Friends of Bombay Hook, 2591 Whitehall Neck Road, Smyrna DE 19977 (make sure to indicate on
 the Memo line of the check that it is a donation) with the enclosed form provided below.
- You can go online at www.friendsofbombayhook.org/support.html and donate thru PayPal.
- You can stop in at the Visitor Center during Gift Shoppe hours (will vary in the Fall and Spring months) and make a donation (by either check, cash or credit/debit card)

We urge you to help us continue to improve the visitor experience at Bombay Hook National Wildlife Refuge simply by making a contribution to the Friends of Bombay Hook.

Date:	BMBAY HOOK DONATION FORM
Name	Donation Amount: \$
Address	
City, State, Zip	Cash (payment at Visitor Center only) Credit/ Debit Card (payment at Visitor Center only)
E-mail (optional)	