

FRIENDS OF BOMBAY HOOK

Newsletter



Vol. 26, No. 2
March 1, 2016

Our Mission Statement:

The Friends of Bombay Hook is a not-for-profit 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.

We are recruiting Friends volunteers to operate our Blue Heron Gift Shoppe and to assist with other events at the Refuge.

Please contact us either on Facebook or our phone number listed below if either you or someone you know is interested.

The Visitor Center will reopen on the weekends starting March 5, 2016.

This year is the 100th anniversary of the Migratory Bird Treaty and Bombay Hook has events planned for adults and children throughout the year (see our Spring Calendar of Events on pages 11-14 for some of these events).

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<http://www.friendsofbombayhook.org>



The President's Corner By Linda Osiecki

offers for celebrating nature and taking a part in conservation.

During Snowmageddon, Store Manager Karen Dever and I were in Shepherdstown, West Virginia, attending Moving Friends Forward at the National Conservation Training Center of the Fish and Wildlife Service. In spite of the impending weather, there were Friends volunteers, refuge staff and instructors from across the country at the training, sharing what they do at their refuges and what resources are available. Many of the sessions I attended linked to two national focuses – migrators and pollinators – and opportunities for citizen science.

Migratory birds can be appreciated by anyone as they see them flying overhead or observe them at a bird feeder. August 16, 2016 is the centennial of the first Migratory Bird Treaty, signed by the United States and Great Britain on behalf of Canada; this was the first of international agreements and legislation aimed at the conservation of birds and other wildlife. There are also other migrators that we might not readily think of, such as dragonflies, fish, monarch butterflies, and even bats.

Pollinators are vitally important not only for much of the food that we eat, but also to the health of various ecosystems. Pollinators include bumble bees, butterflies (including monarchs), hummingbirds, and are celebrated during Pollinator Week (June 20 thru 26).

Citizen science is basically how ordinary people can conduct research and collect data without having to be a professional scientist. If you have ever entered bird sightings at the Visitor Center at the eBird tracker or online, then you are already a citizen scientist. Citizen scientists expand tremendously the volume of collected data that can be analyzed by scientists. Cornell Lab of Ornithology runs Project Feederwatch, eBird Tracker and YardMap. The USA National Phenology Network has Nature's Notebook available online for regularly recording observations of the seasonal changes in plants and animals. During the Moving Friends Forward conference, I also heard about butterfly counts, migratory dragonfly counts and even the celebration of migratory fish.

In addition to citizen science, there are things that you can do personally that will help with conservation efforts, including migrators and pollinators. Planting milkweed for monarch butterflies and other native plants in your own yard is one way; look online at the YardMap site for tips and wonderful yards shared by other participants. Be aware of pollution and try to cut down on it as much as you are able; my manual reel mower doesn't produce air pollution and makes very little noise.

Please share with the rest of Friends at the Annual Meeting this June your interests are and how you are trying to make a difference with your life with conservation. Please also let us know about topics that you want to learn more about.

BIRD NOTES

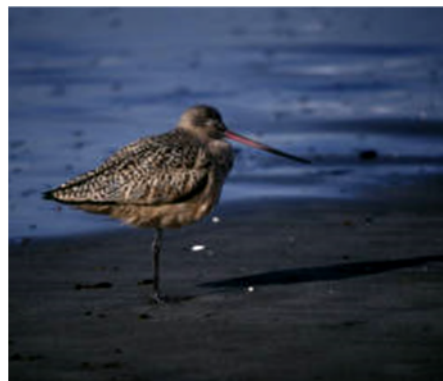
By Franklin Smith

October 1, 2015 through January 31, 2016

The weather for the report period began on a wet note with a Northeast storm that dropped 3.6" of rain during the first four days. Precipitation was near-normal during the remainder of October and November was below normal. Well-distributed rainfall was received at near-normal levels for December. January was relatively dry until a Northeast storm hit the area on January 22 and 23 with very high winds and heavy, drifting snow.

Water levels within the impoundment system were adequate to provide good habitat for migrating shorebirds, waterfowl, and waders. A very warm December resulted in little ice cover of the impoundments allowing the birds excellent feeding conditions through December. Things changed abruptly during January when ice covered most of the impoundments following low temperatures in the teens. A warm-up occurred during the last few days of the month and January went out like a lamb with temperatures in the 60's on the last day of the month.

Numbers of American Avocets along the wildlife drive peaked during October at 600, remained at 200 or better through November, and a few birds lingering during December. Both Marbled and Hudsonian Godwits were noted into early November. Black-bellied Plovers and an occasional Golden Plover were also recorded through early November. The sandbar in Shearneck and Money Marsh were good observation sites for Avocets, Godwits, and Plovers.



Marbled Godwit
Credit: Lee Karney/USFWS



Black-Bellied Plover
Credit: Karen Bollinger/USFWS

Peregrine Falcons were noticeable through October and November pursuing migrating waterfowl and shorebirds. Interestingly, a leucistic Red-tailed Hawk was noted on a couple of occasions in November near Finis and the Allee House.

Snow Geese began arriving during early October and were observed in flocks of up to 5,000 birds by the end of the month.

Large numbers of Snows utilized the gravel pits near Little Creek for

roosting, in addition to the Refuge marshes and impoundments. By mid-November, Refuge surveys recorded up to 10,000 birds, and by early January, at least 50,000 birds occasionally roosted, fed, or rested on Bombay Hook. Tundra Swans arrived by early November and 100+ could usually be seen throughout the remainder of December and early January. Uncommon waterfowl observed during the report period included a drake Redhead in Shearneck Pool in early December, a Eurasian Wigeon in Bear Swamp (also in early December), Brant, as well as several sightings of Ross's and Cackling Geese. A Eurasian Green-winged Teal was photographed at Bear Swamp in early January.

Other notable observations during the period included a Lark Sparrow along the Raymond/Shearneck Dike in late October, Wilson's Phalarope in Raymond Pool in early November, Lap-

Friends of BOMBAY Hook Newsletter

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:

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Phone: (302) 653-8322
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Pileated Woodpecker
Credit: Michelle Smith/USFWS

land Longspur along Whitehall Neck Road and White Pelicans in Bear Swamp in late December.

Frequent observations of Bob-white continue to indicate Bombay Hook NWR as one of the few habitats in the state where this species still thrives. Increased observations of Pileated Woodpeckers on the Refuge certainly seem to indicate population increases of this species in the area over the last 20 years.



Lapland Longspur
Credit: Alaska Maritime NWR/USFWS

***Bombay Hook Christmas Bird Count
Refuge Census
By Andy Ednie
December 14, 2015***

It was a beautiful day, fantastic morning and good birds. There were 33 observers in 7 parties. Every group commented that there were not as many birds around as usual. The warm weather seemed to keep the birds more dispersed.

Owl species included Barn and Barred Owls, Long-eared owls, Great Horned Owls, and Eastern Screech Owls. A total of 35 owls were spotted.

The numbers of Snow Geese were down this year, less than 20,000. They mostly flew north at sunrise. There was a single Ross's Goose seen flying over. Waterfowl was down, with very few diving ducks. Maybe some birds were still north due to warm weather and/or because water levels seemed low in the impoundments.

No rails were found, warm weather has them scattered. A few shorebirds flew in at high tide in the evening, but not as diverse as during the 2014 and 2013 bird counts. There were record numbers of Long-billed Dowitchers this year!

There were few half-hardy winter birds, Eastern Phoebe, House Wren or Common Yellowthroat. There were high numbers of Ruby-crowned Kinglets.

The total of **99 species** is less than average. There were 117 species during the 2014 Christmas Bird Count--which was a record! The 2015 Christmas Bird Count on the next page lists the birds that were spotted and the totals. Please note that several of the bird totals such as the Snow Geese and Owl species (particularly the Barn Owl) were lower due to different groups counting the same species.

Weather: Clear to partly cloudy
Visibility: 5-10 miles
Temp: 27° to 47° F
Wind: W – SW @ 5-15 MPH
Ground: Open
Water: 100% open
Time Limits: 4:00 a.m. to 5:30 p.m.

Morning: clear
Afternoon: clear to partly cloudy

Thank you to the participants for your dedication to Bombay Hook's Christmas Bird Count.

**Bombay Hook Christmas Bird Count Census
December 14, 2015**

Birds Spotted	RP	SP	BS	FP	D	BT	Total:
Goose, Snow	3,500	10,200	5,000	10,500	8,000	5,500	18,500*
Goose, Ross's			1				1
Goose, Canada	103	558	100	63	600	630	2,054
Swan, Tundra	42	25			81	5	153
Gadwall						6	6
Wigeon, American			5			2	7
Duck, American Black	2	85	20	60	180	462	809
Mallard	42	335	40	3	55	160	635
Shoveler, Northern	3	237			40		280
Pintail, Northern	150	2,006	55		5,000	43	7,254
Teal, Green-winged		101	60			71	232
Scaup, Lesser						6	6
Bufflehead	8	13			7	14	42
Merganser, Hooded			16			6	22
Merganser, Common						8	8
Merganser, Red-breasted	2						2
Duck, Ruddy		21			20	4	45
Turkey, Wild				18			18
Loon, Common						2	2
Grebe, Pied-billed		1			1	1	3
Heron, Great Blue	2	5	4	1	15	24	51
Egret, Great	1	1	1	1	1		5
Night Heron, Black-crowned			1				1
Vulture, Black	3		1			2	6
Vulture, Turkey	2	10	8	5	7	4	36
Eagle, Bald	9	8	2	1	10	2	32
Harrier, Northern	5	9	11	1	11	16	53
Hawk, Sharp-shinned	2	1		2	1		6
Hawk, Cooper's		2			2		4
Hawk, Red-shouldered	1						1
Hawk, Red-tailed	4	4	3	4	3	1	19
Kestrel, American	1			1			2
Falcon, Peregrine		1			1		2
Coot, American						1	1
Plover, Black bellied	3						3
Avocet, American	5						5
Yellowlegs, Greater	8					18	26
Yellowlegs, Lesser	1					3	4
Sandpiper, Western	1						1
Dunlin	200	500	300		600	2,500	4,100
Dowitcher, Long-billed	5					14	19
Woodcock, American		1					1
Gull, Ring-billed	53	173	31	2	255	35	549
Gull, Herring	15	35				56	106
Gull, Lesser Black-backed		1					1
Gull, Great Black-backed		5				18	23
Pigeon, Rock		6					6
Dove, Mourning	7	15			12	2	36
Owl, Barn	3	2	5	2			5*
Owl, Eastern Screech	1	3	6	2			12
Owl, Great Horned	2	6	6				14
Owl, Barred			1	2			3
Owl, Long-eared			1				1
Woodpecker, Red-bellied	3	11	1	7	1		23
Sapsucker, Yellow-bellied	1			1			2
Woodpecker, Downy	4	11	5	7	2		29
Woodpecker, Hairy		2		4			6
Flicker, Northern	4	17	3	5	1		30
Woodpecker, Pileated		1		3			4
Jay, Blue	4	21	18	16	1		60
Crow, American		1	3	6			10
Lark, Horned	270	202					472

Birds Spotted	RP	SP	BS	FP	D	BT	Total:
Chickadee, Carolina	4	24	8	25	6		67
Titmouse, Tufted	2	15	4	9	2		32
Nuthatch, White-breasted		2		6	2		10
Creeper, Brown		8		3			11
Wren, Carolina	1	20	2	7			30
Wren, Winter		1	1	1			3
Kinglet, Gold-crowned		2		6			8
Kinglet, Ruby-crowned	3	5					8
Bluebird, Eastern	2		4	3			9
Thrush, Hermit	1	3					4
Robin, American	3	23	30	23	2		81
Catbird, Gray		1					1
Mockingbird, Northern	6	3	1		4		14
Thrasher, Brown	1						1
Starling, European	6	40	25	26	8	15	120
Pipit, American	1			57			58
Warbler, Yellow-rumped			8		2		10
Towhee, Eastern	2	5		1			8
Sparrow, American Tree	1	8		1			10
Sparrow, Chipping				2			2
Sparrow, Field	1	6		4			11
Sparrow, Savannah		19	9		15		43
Sparrow, Fox	5	4	4				13
Sparrow, Song	9	36	7	8			60
Sparrow, Swamp	7	24		11	1		43
Sparrow, White-throated	25	76	18	67	6		192
Junco, Dark-eyed	17	9	12				38
Longspur, Lapland	1	2					2*
Cardinal, Northern	8	29	6	11	4		58
Blackbird, Red-winged	274	592	90	320	20	300	1,596
Meadowlark, Eastern			18				18
Blackbird, Rusty				3			3
Grackle, Common	3	6		1			10
Cowbird, Brown-headed	2						2
Finch, House		8					8
Goldfinch, American	21	9	7	12	2		51
Sparrow, House	7	5		8			20
Total Species:							99

Observers:	10	7	2	5	6	3	33
Parties:	1	2	1	1	1	1	7

Hours	5.5	10	6	7		4	32.5
Hours, car	1.5	2	1	4			8.5
Hours, foot	4	8	5	3			20
Hours, boat						4	4
Hours, owling		2	1.5				3.5

Miles	16	25	18	19	13	22	113
Miles, car	13	15	17	15	12		72
Miles, foot	3	10	1	4	1		19
Miles, boat						22	22
Miles, owling		25	9				34

Localities Key: RP – Raymond Pool; SP – Shearneck Pool; BS – Bear Swamp; F – Finis Pool; D – Dunlins; BT – Boat

NOTE: Several of the totals indicated with an * are lower due to different groups counting the same species.



Hello Friends!

Thank you for a great debut season of our new Blue Heron Gift Shoppe!

I have been busy over the winter break re-stocking some of your favorite items and getting some new merchandise in. We still have plenty of the America the Beautiful state quarter merchandise if you didn't get yours. Once the items are sold out, we will not be re-stocking so get it while you can! And last call for our 2015 Quarter T-shirt....



We Still Have America the Beautiful State Quarter Merchandise...Get Them While They Are Available !

Do you see everything you want in our Shoppe? Do you have any suggestions of what we could carry that you would be interested in? Please call (302) 653-8322 and leave me a detailed message of merchandise that you would like to see for sale and if we get enough interest in your item(s), I will look for a vendor and see what I can do about bringing it in!

The Blue Heron Gift Shoppe will be open most weekdays and weekends starting in March 2016. The Shoppe is staffed by volunteers only. If you are interested in volunteering in the Visitor Center and store, please stop in and let us know. We do not have enough volunteers for all of our shifts so please consider volunteering if you can.

All your purchases in the Blue Heron Gift Shoppe help the Friends of Bombay Hook's mission of supporting and enhancing educational and recreational programs at Bombay Hook.

See you in March!
Karen Dever,
Store Manager



Happy Birding!

The spring migration is one of the best times of the year for birding. Please join us! The Friends' Bird Club for is open to all (teenagers and adults) with no dues or fees, and no meetings. We just go birding! Whether you are a novice or very

experienced, you are welcome as often, or as seldom, as your schedule allows. You do not have to be a member of the Friends to participate.

If you are a beginner, just bring binoculars and dress for the weather. We can show you how to use binoculars correctly, help you learn to spot and identify birds, and answer your questions. We are casual group and easy to be with.

On January 1st, the Bird Club continued its tradition of starting the New Year at the Indian River Inlet and nearby areas. We had great views of many species, especially at the Inlet. More than a dozen people participated. Most of the group are in the accompanying photo, taken near the marina.



The Bird Club at Indian River Inlet on New Year's Day.

As this is written, a mid- February outing is scheduled for Moore's Lake in Dover. Next will be Bombay Hook followed by Prime Hook NWR. Late April will take us to White Clay Creek State Park. We plan to go on a Warbler Walk at Bombay Hook in early May. Summer is also on the schedule at the Woodland Beach WMA.

If you would like to receive the schedule details and updates, please email hmclennan@comcast.net.

A Story of Change and Consistency
by Refuge Chief Cynthia Martinez

Reprinted from Friends Forward
February 2016



Weather forecasters predicted a blizzard for West Virginia and many major East Coast cities. Nevertheless two-thirds of the invited Friends came to the *Moving Friends Forward* (<https://www.flickr.com/photos/usfwsHQ/albums/72157664209926606>) workshop in January at the National Training Center. The snowfall topped 40 inches in Shepherdstown, WV. But that didn't stop the Friends and U.S. Fish and Wildlife staff. They learned. They networked. They planned. And they even had fun.

We called the workshop *Moving Friends Forward* (<https://www.flickr.com/photos/usfwsHQ/albums/72157664209926606>) -- and moving is just what the experience was. Moving because it was extraordinary to see so many people so dedicated to the cause of wildlife conservation that they would elect to brave dire weather forecasts to make the journey. Moving because that is a word that participants and presenters used again and again as they talked about change, about moving in new directions in order to move forward.

Change isn't always comfortable. Yet, we know that America has changed – and is changing – and that's okay.

That means the way Service staff interacts and connects with their communities will continue to change. Our Ambassador Program – which will be available for Friends as well as staff -- will facilitate that change. The make-up of Friends boards and memberships will change as Friends involve new segments of their communities. The way we all communicate will keep changing as we become more comfortable and conversant in online communications and the many emerging social media avenues.

The concept of Friends started nearly 90 years ago – back in 1937, when the Department of the Interior Appropriations Act recognized the legal status of cooperating associations. The very idea of Friends – nonprofit organizations dedicated to public lands – represented a change in thinking.

By 1997, there were 114 Friends groups. Today there are some 200 Friends organizations.

Throughout the decades, the story of Friends has been a story of change, a story of moving in new directions in order to move forward.

It has also been the story people with vision and aspirations, the story of people who know the value of conservation and the cost of disregard, the story of people who know how to get things done – and how to do them right. That hasn't changed.

Neither has the Service's commitment – made in the Conserving the Future vision – to develop and nurture active and vibrant Friends groups or community partnerships for every staffed refuge or refuge complex.

Friends groups are the Service's best ambassadors. Organizations have different names, but they all share a passion for wildlife and wild places. That was obvious, especially in the 40-inches of snow that made the Moving Friends Forward training distinctly memorable.

Thank you for everything you do, each and every day, for wildlife and wild places.

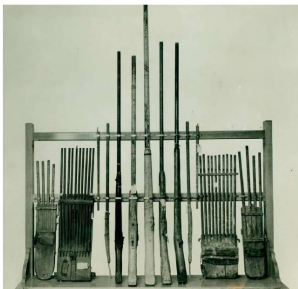
Last updated: February 9, 2016

http://www.fws.gov/refuges/friends/February_2016/ChiefsColumn-StoryOfChange.html



Migratory Bird Treaty Centennial Timeline

100 Years of Migratory Bird Conservation - Conserving today's birds for tomorrow



1916 - 1926

- Convention between the U.S. and Great Britain (for Canada) for the Protection of Migratory Birds was signed in 1916
- Canada passes Migratory Bird Convention Act in 1917
- Migratory Bird Treaty Act was passed July 3, 1918
- U.S. Supreme Court ruling in *Missouri v. Holland* upholds Migratory Bird Treaty Act



1926 - 1936

- Migratory Bird Conservation Act passed, establishing the Migratory Bird Conservation Commission 1929
- The Migratory Bird Hunting and Conservation Stamp Act (Duck Stamp) was passed in 1934
- Treaty between the United States and Mexico for the Protection of Migratory Birds and Game Mammals was signed in 1936



1936 - 1946

- In 1938, the first mid-winter waterfowl survey took place
- Bald Eagle Protection Act, signed into law in 1940, was first federal legislation on America's national emblem.
- US ratifies Convention for Nature Protection and Wildlife Preservation in the Western Hemisphere in 1941



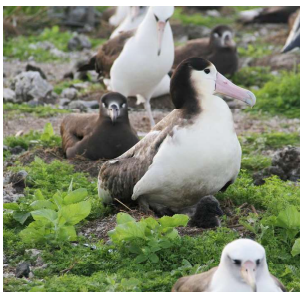
1946 - 1956

- Since 1948, waterfowl have been managed by four administrative Flyways that are based on migration pathways.
- A formal organization of Flyways Councils was established in 1952



1956 - 1966

- The Bald Eagle Protection Act became the Bald and Golden Eagle Protection Act and extended protection to golden eagles in 1962
- The North American Breeding Bird Survey, an international avian monitoring program, was created in 1966



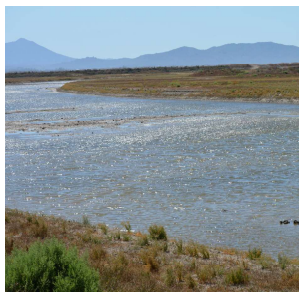
1966 - 1976

- Treaty between the U.S. and Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and Their Environments was signed in 1972
- Treaty between the United States and Soviet Union [now Russia] Concerning the Conservation of Migratory Birds and Their Environment was signed in 1976



1976 - 1986

- The 1980 Fish and Wildlife Conservation Act provided funding to state agencies to develop and implement plans for nongame fish and wildlife conservation
- In 1985, the U.S. and Canadian governments developed the North American Waterfowl Management Plan, a strategy to restore waterfowl populations



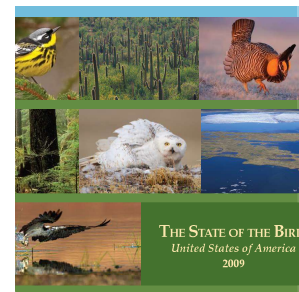
1986 - 1996

- The North American Wetlands Conservation Act was passed in 1989, providing funding for partnerships to carry out wetlands conservation
- Partners in Flight was launched in 1990 in response to growing concerns about declines in the populations of many land bird species
- The celebration of International Migratory Bird Day began in 1993



1996 - 2006

- In 1999, the U.S. North American Bird Conservation Initiative (NABCI) was created
- The Neotropical Migratory Bird Conservation Act was passed in 2000, providing grants to partners for the conservation of Neotropical migratory birds
- U.S. Shorebird Conservation Plan was established in 2000
- North American Waterbird Conservation Plan was established in 2002



2006 - 2016

- The 2009 State of the Birds Report was an unprecedented partnership effort that resulted in the first comprehensive analysis of the state of our nation's birds
- In 2016, we celebrate the treaty that launched a century of bird conservation

Migratory Bird Treaty Centennial 1916-2016

100 Years of Migratory Bird Conservation
Conserving today's birds for tomorrow



Why Celebrate the Migratory Bird Treaty?

The year 2016 marks the centennial of the Convention between the United States and Great Britain (for Canada) for the Protection of Migratory Birds (also called the Migratory Bird Treaty), signed on Aug. 16, 1916. The Migratory Bird Treaty, and three others that followed, form the cornerstones of our efforts to conserve birds that migrate across international borders.

The Treaty connects the U.S. Fish & Wildlife Service with our federal, state, private, non-governmental, tribal, and international partners, who share a long, successful history of conserving, protecting, and managing migratory bird populations and their habitats. Celebrating the centennial of the first Treaty allows us to bring together those who have contributed to its success, and to galvanize efforts to protect migratory birds for the generations to come.



Migratory birds

- ...connect people with nature and add beauty, sound and color to our world. They provide countless opportunities for enjoyment by birders, hunters, and outdoor enthusiasts and have cultural and spiritual importance.
- ...contribute environmental benefits, including pollination, insect and rodent control, and seed dispersal.
- ...are good indicators of environmental health because they are so visible and relatively easy to study. Studying birds can give us a picture of what is going on in the world.
- ...play a key role in the U.S. economy, supporting recreational opportunities that create jobs and generate billions of dollars in revenue.

Goals and Objectives

Create awareness about the importance of migratory bird conservation

- Encourage stories in news media about Treaty achievements, migratory birds, and habitat conservation
- Connect people to migratory bird conservation via social media

Promote key actions to help conserve birds

- Increase participation in citizen science programs
- Expand property/homeowner use of best practices (lights out, reduce collisions, wildlife-friendly gardens)

Increase support for migratory bird conservation programs and initiatives

- Strengthen international partnerships
- Increase knowledge and understanding of key legislation

Our Goal

Create awareness, promote key actions, increase support, and expand opportunities for engagement in the conservation of migratory birds

Expand opportunities for engagement in bird watching, hunting, and conservation

- Support bird-focused programs and festivals in Urban Bird Treaty Cities and Urban Refuge Partnerships
- Increase participation in Duck Stamp and Jr. Duck Stamp
- Promote youth birding and hunting events at National Wildlife Refuges

Next Steps

Throughout 2016 the Service will work with partners to create awareness, promote actions, increase support, and expand engagement in the conservation of migratory birds.

A national strategy provides a framework for working together to achieve mutual goals and objectives. This centennial celebration is a big one, and we hope your organization will join us. We need your input, ideas, and commitment to participate.

Help shape and lead this effort to celebrate the legacy of the Migratory Bird Treaty. Together we can inspire the next 100 years of international collaboration for bird conservation.

Contact us to learn more and get involved:

Email: MBTreaty100@fws.gov

Web: <http://fws.gov/birds/MBTreaty100>

January 2016

Monarchs

1. Laying eggs



2. Larva or Caterpillar



Video from Seney National Wildlife Refuge, MI
<http://on.fb.me/1xN8Vmx>

3. Pupa or Chrysalis



4. Adult



Monarch butterflies are found across the United States – but there are fewer and fewer of them every year. These graceful insects travel thousands of miles over many generations from Mexico, across the United States, to Canada. But the places they live and fly are threatened – especially by the loss of milkweed. When monarch butterflies lay their eggs in the spring, they need to place them in milkweed, which is also the only food source for monarch larvae. You can collect and grow milkweed seeds in your backyard or school garden. Every little bit helps!

More about collecting and planting milkweed here - www.fws.gov/refuges/news/MonarchButterfliesTrouble.html

Five Super Stops on the Monarch Migration Trail - www.fws.gov/refuges/news/FiveSuperStopsMonarchMigration.html

U.S. Fish and Wildlife Service Save the Monarch Butterfly – www.fws.gov/savethemonarch/

Monarch Joint Venture – monarchjointventure.org

Word Search

Find the hidden words related to the monarchs in the puzzle below. Extra letters are being used to camouflage them, so look closely and see how many words you can find. Be sure to look from right to left, left to right, top to bottom and bottom to top.

- | | |
|------------------|-----------------|
| 1. BUTTERFLY | 11. FOREST |
| 2. MONARCH | 12. HIBERNATION |
| 3. DANAUS* | 13. OYAMEL* |
| 4. METAMORPHOSIS | 14. CANADA |
| 5. EGG | 15. MEXICO |
| 6. LARVAE | 16. LINNEO* |
| 7. CATERPILLAR | 17. MIGRATION |
| 8. CHRYSALIS | 18. NECTAR |
| 9. PUPA | 19. PLEXIPPUS* |
| 10. ASCELEPIAS* | 20. SANCTUARIES |

S	W	I	M	O	N	A	R	C	H	N	R	V	N	I
A	B	C	I	C	H	A	S	C	L	E	P	I	A	S
D	E	F	G	F	P	L	E	X	I	P	P	U	S	A
G	H	I	R	O	J	A	D	A	N	A	C	P	D	N
L	M	N	A	R	O	P	Q	O	R	S	A	U	A	C
B	U	T	T	E	R	F	L	Y	U	V	N	P	N	T
X	Y	Z	I	S	A	B	C	A	C	H	A	A	A	U
M	E	F	O	T	E	G	G	M	G	H	U	O	U	A
E	J	K	N	L	M	N	O	E	P	Q	S	C	S	R
X	C	A	T	E	R	P	I	L	L	A	R	S	T	I
I	S	I	S	O	H	P	R	O	M	A	T	E	M	E
C	U	L	A	R	V	A	E	V	W	X	Y	Z	A	S
O	B	C	C	H	I	B	E	R	N	A	T	I	O	N
D	E	N	G	H	I	S	I	L	A	S	Y	R	H	C
L	I	N	N	E	O	J	K	L	R	A	T	C	E	N

* *Scientific Names:* Danus Plexippus Linneo = Monarch Butterflies Asclepias = Milkweed

Factoid - Monarchs winter in oyamel fir trees in Mexico.

Reference: Word Search originally created for the Monarch Butterfly Royal Mail manual for the environmental educator available at <http://1.usa.gov/1N17L0a>.

U.S. Fish & Wildlife Service
<http://www.fws.gov>

March 2015

Bombay Hook NWR

2591 Whitehall Neck Road, Smyrna, DE 19977

(302) 653-9345

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

Spring 2016 Calendar of Events

Bombay Hook Visitor Center is open Monday through Friday from 8:00 a.m. to 4:00 p.m. The Visitor Center will also be open on weekends from 9:00 a.m. to 5:00 p.m. beginning March 5, 2016. **The Wildlife Drive is open daily from ½ hour before sunrise to ½ hour after sunset. The Allee House is in need of repairs and is closed until further notice.** For more information about programs contact Tina Watson at (302) 653-9345 or check the website above for additions or changes.

Saturday, March 5, 2016

- **Volunteer Orientation (10:00 a.m. - 12:30 p.m.)** - A meeting about volunteer opportunities will be held in the auditorium. The meeting will cover volunteer opportunities and upcoming activities, with the latter part of the session being a tour of the Refuge. Individuals are needed to staff the Visitor Center on weekends and weekdays from March through June. Volunteers are also needed to provide environmental education programs for school groups, conduct Refuge tours, provide trail and landscaping maintenance, and help with highway cleanups. Volunteers may be called upon for special wildlife projects throughout the year. Training is provided.
- **Bird Identification Station (12 Noon - 6:00 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 ID Station sign along the wildlife drive.

Saturday, March 12, 2016 **Waterfowl Identification during Spring Migration (9:00 a.m. – 11:30 a.m.)** - The northern migration of waterfowl should be apparent this time of year. Join Frank Smith, retired wildlife biologist, for a waterfowl identification tour. The group will start in the auditorium with an introduction to waterfowl characteristics and then proceed along the wildlife drive and observation towers to view and identify waterfowl. The tour is excellent for beginners and intermediate bird watchers. **Space limited, call to register (302) 653-9345 or email: tina_watson@fws.gov.**

Tuesday, March 15, 2016 **Toddlers/preschoolers (1 year old to 5 years old) and their guardian is free. (9:00 a.m. - 2:00 p.m.)** - Bombay Hook will be free for toddlers and their guardian on the 3rd Tuesday in March, April, and May. 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 self-study for families. You can come anytime between 9:00 a.m. and 2:00 p.m.

Saturday, March 19, 2016 **Spring Family Exploration Series INTRODUCING the “Junior Refuge Manager” Program (9:30 a.m. – 11:30 a.m.)** - The Junior Refuge Manager program will be introduced during the program. Children from age 7 through 13 will receive a journal that will help them learn about and explore the Refuge. Some of the requirements to become a Junior Refuge Manager will be met during the program. After each child meets all requirements, through family self-study, they will receive their Junior Ranger or Junior Refuge Manager patch. Families will explore the Refuge and learn about wildlife conservation. **Call to register, (302) 653-9345 or email: tina_watson@fws.gov.**

Saturday, March 26, 2016 **The Red Fox: an Elusive Resident (9:00 a.m. – 11:30 a.m.)** - Join volunteers, Bruce

(Continued on next page)

Bombay Hook NWR Spring 2016 Calendar of Events (Continued from previous page)

Lantz and Arthur Straughn, for a program about an important mammal at Bombay Hook NWR. The Red Fox workshop will explore the presence and life cycle of this normally shy, intelligent, highly adaptable species on the Refuge. In addition, we'll cover the role the Red Fox has played in Delaware's history and some of the current challenges faced by foxes due to changing human activity and development. The program will begin in the auditorium with a presentation followed by a field study on the Refuge. Hope to see you as we explore the Red Fox. **Space limited, call to register - (302) 653-9345 or email: tina_watson@fws.gov.**

Sunday, March 27, 2016 *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, April 2, 2016 *Environmental Education Workshop (10:00 a.m. – 12:30 p.m.)* - This hands-on workshop will help people understand, and experience, what kind of environmental education field trips can take place at Bombay Hook. You will learn about the Refuge's habitats, explore the tidal salt marsh, dip net in the brackish and fresh water, identify birds, explore the forest, and learn about wildlife management techniques. This is an excellent opportunity for teachers, scout leaders, Refuge volunteers, and interested visitors to get outside and explore the Refuge. **Contact the Refuge to register, (302) 653-9345 or email: tina_watson@fws.gov.**

Saturday, April 9, 2016 *Bike Ride on the Refuge (1:00 p.m. – 3:30 p.m.)* - Join Tina Watson for an eight-mile bike ride on the Refuge. The group will make several stops for bird identification and to discuss wildlife management techniques. Bicycle should have hybrid tires. Don't forget your helmet and check the air in your tires! Meet at the Visitor Center. **IMPORTANT:** Delaware State law states, "a person under sixteen years of age shall not operate, ride upon, or ride as a passenger any bicycle, unless that person is wearing a properly fitted and fastened bicycle helmet which meets or exceeds the ANSI Z90.4 bicycle helmet standard."

Saturday, April 16, 2016

- **Spring Family Exploration Series** *INTRODUCING the "Junior Refuge Manager" Program. (9:30 a.m. – 11:30 a.m.)* - The Junior Refuge Manager program will be introduced during the program. Children from age 7 through 13 will receive a journal that will help them learn about and explore the Refuge. Some of the requirements to become a Junior Refuge Manager will be met during the program. After each child meets all requirements, through family self-study, they will receive their Junior Ranger or Junior Refuge Manager patch. Families will explore the Refuge and learn about wildlife conservation. **Call to register, (302) 653-9345 or email tina_watson@fws.gov.**
- *Highway Clean Up (1:00 p.m. – 3:30 p.m.)* – Volunteer to help clean up the roads leading to Bombay Hook. Meet at the Visitor Center. Wear shoes that can get wet and bring work gloves. Refreshments will be served after the clean-up.

Sunday, April 17, 2016 *Bike Ride on the Refuge (1:00 p.m. – 3:30 p.m.)* - Join Tina Watson for an eight-mile bike ride on the Refuge. The group will make several stops for bird identification and to discuss wildlife management techniques. Bicycle should have hybrid tires. Don't forget your helmet and check the air in your tires! Meet at the Visitor Center. **IMPORTANT:** Delaware State law states, "a person under sixteen years of age shall not operate, ride upon, or ride as a passenger any bicycle, unless that person is wearing a properly fitted and fastened bicycle helmet which meets or exceeds the ANSI Z90.4 bicycle helmet standard."

Tuesday, April 19, 2016 *Toddlers/preschoolers (1 year old to 5 years old) and their guardian is free. (9:00 a.m. to 2:00 p.m.)* - Bombay Hook will be free for toddlers and their guardian on the 3rd Tuesday in March, April, and May. 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 self-study for families. You can come anytime between 9:00 a.m. and 2:00 p.m.

Wednesday, April 20, 2016 *Neotropical Migratory Bird Walk* (8:00 a.m. – 10:30 a.m.) - Join Marcia Poling, avid birder and artist, to look for early songbird arrivals from Mexico and South America. The group will walk several trails in search of seeing and listening to these small colorful birds. Location “To Be Determined” depending on current sightings. Meet at the Visitor Center.

Saturday, April 23, 2016 *Barn Owl and Screech Owl Program* (10:00 a.m. – 11:30 a.m.) - Wayne Lehman, a retired Fish and Wildlife Manager for the Delaware Division of Fish and Wildlife, will give a presentation on owl banding. Wayne has been involved in research and management of barn owls and screech owls since the early 1990’s and has banded over 700 barn owls and 200 screech owls! He will discuss banding methods, nest boxes, nest site competition with other species of wildlife, life history, and much more. The program will be in the auditorium.

Sunday, April 24, 2016 *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.

Wednesday, April 27, 2016 *Neotropical Migratory Bird Walk* (8:00 a.m. – 10:30 a.m.) - Join Marcia Poling, avid birder and artist, to look for early songbird arrivals from Mexico and South America. The group will walk several trails in search of seeing and listening to these small colorful birds. Location “To Be Determined” depending on current sightings. Meet at the Visitor Center.

Saturday, April 30, 2016

- *Presentation on Salt Marsh Habitat & Avian Research Program (SHARP)* (9:00 a.m. - 12 Noon) - This program will explain the research being done in the mid-Atlantic region about the salt marsh and the birds that rely on the salt marsh habitat. Bombay Hook is one of the study sites.
- *Beginning Birding - Warbler Program* (4:00 p.m. - 5:00 p.m.) - Eileen McLellan and Terry Willis will lead a program about warblers migrating through Bombay Hook during the spring.

Sunday, May 1, 2016 *Beginning Birding - Warbler Walk* (8:00 a.m. - 10:00 a.m.) – The walk will be on one or two trails along the wildlife drive with expert birders Eileen McLellan and Terry Willis. This will be an excellent way to practice what you learned at the Warbler Program the day before or for anyone who wants to look for warblers.

Wednesday, May 4, 2016 *Neotropical Migratory Bird Walk* (8:00 a.m. – 10:30 a.m.) - Join Marcia Poling, avid birder and artist, to look for songbird arrivals from Mexico and South America. The group will walk several trails in search of seeing and listening to these small colorful birds. Location “To Be Determined” depending on current sightings. Meet at the Visitor Center.

Saturday, May 7, 2016 *Beginning Birding - Warbler Walk* (8:00 a.m. - 10:00 a.m.) – The walk will be on one or two trails along the wildlife drive with expert birders Eileen McLellan and Terry Willis.

Wednesday, May 11, 2016 *Neotropical Migratory Bird Walk* (8:00 a.m. – 10:30 a.m.) - Join Marcia Poling, avid birder and artist, to look for early songbird arrivals from Mexico and South America. The group will walk several trails in search of seeing and listening to these small colorful birds. Location “To Be Determined” depending on current sightings. Meet at the Visitor Center.

Saturday, May 14, 2016 *International Migratory Bird Day, Spring Bird Count* (7:00 a.m.) - IMBD is celebrated in Canada, the United States, Mexico, Central and South America, and the Caribbean. Public awareness and concern are crucial components of migratory bird conservation. Citizens can learn about birds and their migratory threats, and can make a contribution by participating in the international spring bird count. Meet at the Visitor Center to participate in Bombay Hook’s count. Teams will be formed and each team will survey a section of the Refuge. The teams tabulate their bird sightings and are usually finished around noon. Over the years, volunteer participation has become less and we encourage more volunteers to help with this important citizen science project. Meet

(Continued on next page)

at the Visitor Center.

Sunday, May 15, 2016 *Bird Identification Station (12 Noon - 6:00 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 wading birds, shorebirds, and whatever else flies by. Look for the blue ID Station sign along the wildlife drive.

Tuesday, May 17, 2016 *Toddlers/preschoolers (1 year old to 5 years old) and their guardian is free. (9:00 a.m. to 2:00 p.m.)* - Bombay Hook will be free for toddlers and their guardian on the 3rd Tuesday in March, April, and May. 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 self-study for families. You can come anytime between 9:00 a.m. and 2:00 p.m.

Saturday, May 21, 2016 *Migratory Bird Celebration - Shorebird and Horseshoe Crab Presentation (8:30 a.m. – 11:30 a.m.)* - Greg Breese, Project Manager for the Delaware Bay Estuary Project, will start the program with a presentation on shorebirds, their amazing migration journey, and horseshoe crabs on the Delaware Bay. The Red Knot, a robin-sized shorebird was designated as threatened under the Endangered Species Act December 9, 2014. A “threatened” designation means a species is at risk of becoming endangered throughout all or a significant portion of its range. The group will then go to Pickering Beach to see horseshoe crabs that come up onto the Bay beach to spawn. If we are lucky we will see shorebirds as well, bring binoculars and spotting scopes if you have them. Note: High tide is at 10:30 and we will plan to be on the beach for about an hour around high tide. Meet at the Refuge’s auditorium. **Space limited, call to register - (302) 653-9345 or email: tina_watson@fws.gov.**

Saturday, May 21, 2016 *Migratory Bird Celebration – Family Fun (11:00 a.m. – 3:00 p.m.)*

- 8:30 a.m. - 11:30 a.m. – Shorebird and Horseshoe Crab Presentation and Field Trip
- 11:00 a.m. – 2:00 p.m. - Live Birds of Prey
- 12:00 p.m. – 1:30 p.m. - Bus Tour of the Refuge
- 12:00 p.m. – 3:00 p.m. - Children’s Games and Crafts

MORE INFORMATION AVAILABLE MID-MARCH

Sunday, May 22, 2016 *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, June 11, 2016 *Bird Identification Station (1:00 p.m. - 7:00 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 wading birds, shorebirds, and whatever else flies by. Look for the blue ID Station sign along the wildlife drive.



<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.

Birds of Bombay Hook Refuge Watercolor Exhibit
by Ellen Lawler

The Upper Crust, Birthplace of the Historic Georgetown Art Crawl, at 7 East Market Street in Georgetown, Delaware, is very proud to present watercolor paintings by local artist and Friends of Bombay Hook member, Ellen Lawler, with her exhibit *Birds of Bombay Hook Refuge* at their "Coffee shop and more ..." The exhibit begins Monday, March 14, 2016, and runs through Friday, April 8, 2016. A "Meet the Artist" session is scheduled for Wednesday, March 23, 2016, from 12:30 p.m. till 2:00 p.m. where individuals will be able to discuss Ellen's inspiration and Bombay Hook National Wildlife Refuge.

Ellen's watercolor paintings of birds and nature reflect her deep appreciation for the beauty and diversity of our natural heritage. She has lived in Salisbury, Maryland, for over 25 years and recently retired from the Biology Department at Salisbury University. Ellen spends much of her time in the field – observing, photographing and sketching. This first-hand experience helps her capture the essential features of her subjects in her finished work which has been exhibited and she has received awards at numerous shows on Delmarva including the Art Institute and Gallery and the Ward Museum of Wildfowl Art in Salisbury, and the Ocean City Art League. She has also had work accepted in to the Kentucky National Wildlife Art Exhibit in Henderson, Kentucky.



Out with the Kiddies
Credit: Ellen Lawler



Lunch on the Move
Credit: Ellen Lawler

Delmarva is blessed with many wonderful places to observe wildlife. Ellen enjoys sketching and photographing at one of her favorite places: Bombay Hook National Wildlife Refuge. Ellen's paintings in this show highlight some of the amazing birds that are found at the Refuge at various times of the year - from abundant waterfowl in winter, to spectacular shorebirds passing through during spring and fall migration, to lovely songbirds that breed here during the summer

months. There is an abundance of activity at Bombay Hook in March during her exhibit. The spring waterfowl migration peaks with ducks, Snow Geese and Canada Geese. Woodchucks and turtles emerge from hibernation. Woodcock courtship flights occur while Alders and red Maples flower. Ellen hopes that this show will inspire others to visit this remarkable location and take a closer look at the natural beauty all around us.

The Upper Crust (<http://theuppercrust.info/home>) serves made-from-scratch baked goods, fair trade organic coffee, breakfast and lunch in a casual setting. Part of The Upper Crust's commitment to the community is to offer gallery space to local artists who might not otherwise have an opportunity to show their work.

ARE YOU INTERESTED IN JOINING FRIENDS???

FRIENDS OF BOMBAY HOOK is a cooperating association formed with the Bombay Hook National Wildlife Refuge and the U.S. Fish and Wildlife Service. It is a private, non-profit corporation which was founded to promote conservation, environmental education, and better understanding of and appreciation for Bombay Hook National Wildlife Refuge.

Each year more than 3,000 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 used an Auto Tour Brochure or the Bird or Mammal List, these too have been funded by **FRIENDS OF BOMBAY HOOK!**

Your Membership Dues will make it possible for Friends of Bombay Hook to continue its support of educational and recreational programs at Bombay Hook.

Proceeds from the Blue Heron Gift Shoppe in the Visitor Center at Bombay Hook also help support the Friends program and activities. Make this 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 www.friendsofbombayhook.org/membership.html
and follow the instructions in applying or renewing your membership

Renewal New Member

Date: _____

Name

Address

City, State, Zip

E-mail

Newsletter Preference:

Print E-mail (require E-mail address)

Membership Plan (Check One)

- | | Annual |
|---|----------|
| <input type="checkbox"/> Junior (under 18)* | \$5.00 |
| <input type="checkbox"/> Individual | \$15.00 |
| <input type="checkbox"/> Family | \$20.00 |
| <input type="checkbox"/> Sponsor*** | \$25.00 |
| <input type="checkbox"/> Sustaining | \$50.00 |
| <input type="checkbox"/> Corporate** | \$100.00 |
| <input type="checkbox"/> Life*** | \$200.00 |

*Junior membership: under age 18.

**Corporate sponsorship includes link to FOBH website;
no voting privileges or store discount.

***Sponsor and Life memberships includes family .

Method of Payment

- Cash (payment at Visitor Center only)
 Check (payment by mail or at Visitor Center)
 Visa / MasterCard (payment at Visitor Center only)



2591 Whitehall Neck Road
Smyrna, DE 19977

2016 Newsletter Schedule

<u>Newsletter Release</u>	<u>Articles Due</u>
May 1	April 7
September 1	August 7
November 1	October 7

**The next release of the Friends of Bombay Hook
Newsletter is May 1, 2016.**

Articles are due on or before April 7, 2016.

ALSO.....

**Check the website at
http://www.fws.gov/refuge/Bombay_Hook/
and our Facebook page ([http://facebook.com/
bombayhookwildliferefuge](http://facebook.com/bombayhookwildliferefuge))
for updates on Refuge events.**