



# the Swamp Scene

friends of great swamp national wildlife refuge

ISSUE FORTY SIX  
NOVEMBER 2014

## Highlights

Summer Interns	4
Two Herons at Great Swamp	5
Fall Festival	6
Photo Contest Winners	7
Wood Turtle Head-Start Update	8
Climate Change... From the Director	9

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## CELEBRATING THE 50TH ANNIVERSARY OF THE WILDERNESS ACT

By Laurel Gould, Volunteer

**F**ifty years ago, Secretary of the Interior Stewart Udall came to Great Swamp for the formal dedication of the Refuge. On September 3, 2014, fifty years later, Secretary of the Interior Sally Jewell visited Great Swamp to celebrate the 50<sup>th</sup> Anniversary of the Wilderness Act. Why Great Swamp? This Refuge was the first Wilderness Area designated by Congress in the National Wildlife Refuge System—we were first!



Secretary Jewell (center) with Friends of Great Swamp NWR volunteers.

Photo: USFWS

community leaders, representatives from our many partner organizations, and the press. Under a clear blue sky, the Refuge gleamed—it has never looked better thanks to the hard work of Acting Refuge Manager Steve Henry, his staff, and Friends volunteers in the weeks leading up to the event.



Secretary Jewell (right) and Rep. Rodney Frelinghuysen (left) saw through a log in Great Swamp Wilderness Area. Photo: USFWS

As you might expect, Secretary Jewell does not travel alone. More than 100 people gathered to celebrate—including U.S. Fish and Wildlife Service Director, Dan Ashe, and Service employees from Washington and from the regional office in Massachusetts. Also on hand were Congressmen Rodney Frelinghuysen, Leonard Lance, and Rush Holt as well as local mayors, state and

## WORKING UP AN APPETITE

In between speeches and lunch, Secretary Jewell spent several hours in the Great Swamp Wilderness Area working one end of a cross cut saw to clear a fallen tree from the trail. According to the Wilderness Act, no motorized equipment is allowed in wilderness areas, in order to maintain the wilderness character. So, when maintenance work needs to be done, staff and volunteers rely on traditional tools, such as the axe, bow saw, and cross cut saw, rather than the chain saw.

Read selected remarks from the event on page 10



## FRIENDS LEADERS FROM ACROSS THE COUNTRY MEET FOR FRIENDS ACADEMY 7

By Elaine Seckler, Volunteer and Vice President, Friends of Great Swamp NWR

As do so many of you, I find the Great Swamp National Wildlife Refuge a very special place: a place to experience nature, for a respite from life in New Jersey, to enjoy a moment of peace and solitude. It provides so much for so many in an unexpected area of the country. Until recently, I was aware there were 562 National Wildlife Refuges in the country yet, until my attendance at the Friends Academy, that statistic was only remotely important to me. That all changed in August when I was chosen to be one of the 23 Friends from across the United States who attended Friends Academy 7 in Shepherdstown, West Virginia at the National Conservation Training Center (NCTC).

We converged on a Sunday as representatives of our own Friends group and departed on Friday afternoon as a network of partners committed more deeply to each of our own refuges and to the National Wildlife Refuge System. We were from New Jersey, Florida, Alaska, Oregon, Arizona, Minnesota, Delaware and many more states.

Friends Academy is a week-long training designed to cultivate emerging Friends leaders, to give them a broader understanding of the National Wildlife Refuge System, and to enhance skills for effective



Friends/Fish & Wildlife Service partnerships. Presenters at Friends Academy were knowledgeable professionals, including other Friends, Fish & Wildlife Service (FWS) staff, National Wildlife Refuge Association staff and others.

For me, attending the Academy created a stronger and more powerful understanding of the vast, varying and important natural habitats throughout the U.S. that need national protection through governmental supervision. Each Refuge is unique in what it brings to the system whether it be the Great Swamp,

or wetland potholes for duck migration in the Midwest, or the Arctic Refuge with more than 19.5 million acres of land and water, or Archie Carr NWR in Florida designated to protect critical nesting habitat for loggerhead sea turtles and green turtles.

Having so many different Refuges represented allowed Friends Academy participants to gain a greater understanding of the diverse complexion of the refuge system throughout the U.S. Our days were long, yet filled with exciting and pertinent issues and themes shared by most academy attendees. Although many times the actual needs were different for each of the Friends groups, many of the subjects had Friends recognize a shared commonality. While each refuge has its unique and specific needs, requirements, and obligations, we concluded that Friends groups, and the Refuge they partner with, are all part of a system vitally important to the protection of the natural wonders, wildlife and habitats of each Refuge now and for future generations to come!

My attendance at Friends Academy increased my knowledge and understanding of the National Wildlife Refuge System. It was a remarkable experience for me, which has enriched my participation with Friends of Great Swamp NWR.

### 2014—A YEAR OF ACCOMPLISHMENTS

In 2014 Friends funded the following projects for Great Swamp National Wildlife Refuge—totaling \$60,000.

- Head-start Wood Turtle Research Project
- Biology Intern for 20 Weeks
- Two Habitat Interns and Habitat Restoration Work
- Waterfowl Research—Year Two
- ADA Compliant Portion of Bockoven Trail
- Interpretive Signs for Kiosks and Vernal Pool
- Junior Refuge Manager Printing—4th edition!
- 15th Annual Fall Festival
- Co-sponsor 28th Annual Volunteer Recognition Event
- Viewing Scopes for Visitor Center
- Plantings and Maintenance for Visitor Center Gardens
- Three Issues of Swamp Scene Newsletter
- Memorial Benches
- 50-50-15 Celebrations

### PLANNING AHEAD FOR 2015

Each year the Friends Board and Refuge staff meet to share ideas for new projects for the coming fiscal year. This year, it was amazing how much overlap there was between Refuge requests and Friends ideas. Here are some of the projects that may be included in the budget for FY2015.

Summer Interns • Wood Turtle head-start program funding • Continued impoundment research with graduate students • Continuing the highly successful invasive plant control programs • Development and implementation of a trail maintenance plan • Capital improvements, such as energy efficient lighting and ADA compliant picnic tables and benches • An outreach video on Great Swamp NWR.

### THANK YOU

All of this is made possible  
by your generous donations and by  
the thousands of hours donated by our volunteers.



## REFUGE UPDATE

By Steve Henry, *Acting Refuge Manager*

### ADMINISTRATION/PERSONNEL

Following former Refuge Manager Bill Koch's retirement this spring, his position was abolished and Great Swamp NWR has been re-complexed with Wallkill River NWR. The new expanded Complex includes Great Swamp, Wallkill River, Shawangunk Grasslands, and Cherry Valley NWRs and will be managed by Mike Horne, the Project Leader of the current Wallkill River Complex. The refuges were previously complexed from 2005-2010.

In September, George Molnar was hired as the Refuge's new Contaminants Biologist, replacing Rob Allen who retired in March. George comes to U.S. Fish and Wildlife Service from the private sector where he worked on environmental contaminants and cleanup projects throughout the region. George will split his time between Great Swamp and John Heinz NWRs and focus primarily on the Rolling Knolls and Folcroft landfill cleanups.

### PLANNING

Public comment on the Refuge's Comprehensive Conservation Plan (CCP) was accepted from mid-May through the end of June. Two public meetings were held to facilitate input. Over 80 substantive comments were received during that period. Comments are being addressed, revisions to the document made, and the final CCP is expected to be released by notice in the Federal Register this fall. Thanks to all who provided input.

### BUDGET

The 2015 fiscal year began on October 1 without a budget from Congress. The Service is operating under a "continuing resolution" (CR), which basically means flat funding, through December 11. The CR could be extended until a budget resolution is reached. In recent years, the Refuge has not received its official budget allocation until spring.

### INFRASTRUCTURE

Work will begin shortly on repairs to the exterior of the Visitor Center, including replacement of the main door at the top

of the ramp with a heavy duty steel door, replacement of the three windows behind the Helen Fenske panel with one large window, replacement of rotten wood trim, and scraping and painting peeling paint. Work will also begin shortly to replace several roofs damaged by Hurricane Sandy.

The project to resurface Pleasant Plains Road from Great Brook bridge to the cul-de-sac and realign the curve at Marsden's Corner remains on hold pending permits from NJDEP. The work has tentatively been rescheduled for the summer of 2015.

A crew from the Student Conservation Association spent four weeks in late summer clearing trails in the Wilderness Area. They also updated trail blazes. The trails are in the best shape they've been in for quite some time.

Construction of a new trail across the street from the Visitor Center will begin shortly. This approximately 1 mile loop, which passes through several different habitat types, will provide additional outdoor opportunities in close proximity to the Visitor Center.

New refuge directional signs have been received and will be installed during the fall and winter. The new signs will specifically mention the "Visitor Center" and replace out-of-date references.

### PUBLIC USE/SPECIAL EVENTS

On September 3rd, Secretary of the Interior Sally Jewell came to Great Swamp to celebrate the 50th anniversary of the Wilderness Act. [See the story on p. 1]

During FY2014, 165 volunteers donated nearly 12,000 hours of service to the Refuge. This is the equivalent of six staff members!

The annual whitetail deer hunt will be held on November 1 (youth) and November 5-8 (general). The management area will be closed to the public during the youth hunt and the entire refuge will be closed during the general hunt.

### HABITAT MANAGEMENT

Progress continues to be made in the battle to control invasive plant species. The Friends invasives group wrapped up for the season in early October. Twenty volunteers and one school group contributed nearly 300 hours of effort. The Strike Team will wrap up its season in late October. Two new emerging invasives, chocolate vine and Japanese angelica tree, were treated this year.

Staff are preparing for a big mowing year with 283 acres targeted for treatment. Work will begin in mid-October and should take two weeks to complete.

### POPULATION MANAGEMENT

Thirty-four wood turtle hatchlings sent to Massachusetts to be headstarted over winter were returned and released in May. Twenty-eight hatchlings from this year's nests were sent for headstarting in August and should return, much larger, next spring. [See the story on p. 8]

This year has been one of the busiest ever for wildlife research on the Refuge. Staff and graduate students worked on a number of wildlife projects this summer and fall including bat acoustic monitoring and roost box checks, telemetry of wood duck hens, camera monitoring of predators, bird use in early successional habitats, and habitat characteristics of Indiana bat roosts, among others. Thanks to the Friends for their support.

A new two-year research project to develop improved deer monitoring techniques and management models recently began in cooperation with South Dakota State University. Graduate student Elise Berheim will be working on the project as part of her Masters degree.

A second round of deer browse monitoring will be conducted this winter into next summer. This work was originally conducted in 2007-08. It will be interesting to compare the results given that the Refuge's deer population has been reduced as the result of two recent disease outbreaks.





## 2014 SUMMER INTERNS FUNDED BY FRIENDS AND BY MUSHETT FAMILY FOUNDATION

Interns provide much needed assistance to Refuge staff in the busy summer season. The Mushett Family Foundation and the Friends of Great Swamp have been supporting this important program for the past 11 years. This year, the Friends funded two habitat restoration interns, Samantha Neuman and Rachel Swanwick, and a biology intern, Emily Scully. The Mushett Family Foundation sponsored a General Intern, Luke Wlasniewski.



### My Summer at Great Swamp

By Samantha Neuman (left in photo above)

When entering the Great Swamp NWR, all I could think was "I am in heaven". Even within the first day, I knew the drive of nine hours from Ohio was worth it and my summer was going to be great. I got to work with some wonderful people, help graduate students, work on a variety of projects, along with my own project. This summer has shaped up to be one of the best experiences so far in my wildlife career.

The main project I got to work on was planning and mapping out an area at the Visitor Center for a habitat island to benefit the surrounding wildlife and to give visitors a glimpse of the beauty of different native vegetation. I collected herbarious samples for the growing herbarium and starting the Region 5 Phragmites protocol on the refuge. I got to work side by side with wonderful, diverse volunteers on Friends Invasive Species Control Work Days and Strike Team Work Days. Other fun new learning experiences were helping with Canada goose banding, bat surveys, wood duck habitat surveys, and one of the greatest field trips to Duke Farms. I am very happy for this unique opportunity to explore a part of the East Coast and to get me away from Ohio. I loved seeing the different cultures and landscape that New Jersey offers. I owe all of this to the Friends of Great Swamp NWR for funding this summer internship.

### My Summer at Great Swamp

by Rachel Swanwick (right in photo)

Interning at the Great Swamp NWR this summer has truly been an experience of a lifetime. I am from Basking Ridge, New Jersey and have been lucky enough to grow up with the Great Swamp NWR in my back yard. This internship has provided me with a new perspective on the importance of both preserving our natural systems while at the same time protecting the very essence of a community. Throughout my time here I have been able to participate on a variety of habitat restoration and conservation projects.

The focus of this habitat restoration internship was the creation and implementation of a habitat island at the Visitor Center which will promote the prosperity of native plant and wildlife communities. My partner Sam and I worked together to plan and map the outline of a site that will provide early successional landscape to attract bird and pollinator populations. I also worked on site surveys, the controlling of invasive species with both the Friends group and Strike Team, as well as identifying and cataloging plants for the Great Swamp herbarium. I also participated in numerous other projects happening throughout the refuge including bat surveys,

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*"I am looking forward to utilizing  
my newfound knowledge of  
wildlife and habitat management  
as we strive to continue acting as stewards  
of our beautiful planet."*

Rachel Swanwick

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checking bat and duck boxes, tracking turtles using radio telemetry, Canada goose and duck banding.

I was constantly amazed by the amount of protected plant and wildlife that is able to thrive and develop within the beautiful backdrop of the refuge. The Great Swamp NWR is truly a gem amidst an ever expanding suburban landscape and it is essential that we continue to protect and preserve such a natural wonder for generations to enjoy and experience.

I would like to thank the Friends of Great Swamp NWR for funding this inspirational internship, and I am looking forward to utilizing my newfound knowledge of wildlife and habitat management as we strive to continue acting as stewards of our beautiful planet.



## TWO HERON SPECIES NEST AT GREAT SWAMP NWR

Story and Photos by Leo Hollein, Volunteer



**T**he Great Swamp National Wildlife Refuge is home to two heron species that nest annually in the Refuge—the great blue heron and the green heron. These two herons vary significantly in size and life styles. A number of other herons such as great egrets, little blue herons and night herons can be seen occasionally in the Refuge. However, these species nest along the coast and have not been observed nesting in the Refuge.

The great blue heron (shown above) has long stilt-like legs as well as a very long slender neck. It stands nearly four feet tall with a wing span of six feet. Great blue herons are partial migrants. While many migrate to warmer climes, they are present throughout the year in the Refuge as long as there is some open water in the winter.

Great blue herons are common in the Refuge, often seen and easy to identify. Their flight is distinctive as their wings are bowed, their neck is bent, and their wing beats are slow. Great blue herons forage in pools using their long legs and necks to hunt in shallow water where they feed on fish and other aquatic animals. They are solitary hunters and do not forage close to one another. Great blues are vocal and have a deep hoarse flight call described as sounding like *braak* or *fraaaahnk*.

Great blue herons nest in large, noisy treetop colonies known as heronries. They build large stick nests high in trees

(photo at right). For at least 25 years there was a colony of nesting great blue herons in the top of dead trees visible from the Overlook on Pleasant Plains Road. In 2006, the great blue herons abandoned this nesting site. They now nest in the Rubenstein marsh where a smaller colony was already established. This heronry is off White Bridge Road and is difficult to access. There is another small nesting site in the Refuge management area.

The heronry viewed from the Pleasant Plains Overlook had many nests. Surveys of the heronry were made annually for 25 years. Great blue herons lay from 3 to 5 eggs in a clutch. The average number of young recorded was about 45, with the number of young ranging from 2 to 92. The breeding great blue heron population in the Refuge and New Jersey is healthy. New Jersey removed great blue herons from the state threatened breeding population list a number of years ago.

### GREEN HERONS ARE MORE SECRETIVE

Green herons (photo below) are smaller and stockier than great blues, with more



subtle coloring. Green herons are 18 inches long with a wing span of about 2 feet. They are migratory and winter in Florida, Mexico and northern South America. They arrive in May and leave in early fall. Green herons are more secre-



tive than great blues. They are less common in the Refuge and less likely to be seen. However, at times they will roost atop bare trees or on wires. Green herons in the Refuge are solitary nesters. They typically nest in branches of a tree or in a large bush near or even extending over water. Their nests are difficult to locate.

Green herons tend to hunt fish from a perch on land or from a branch using their long straight bill. They do not have long legs for wading in deep water.

Green herons have been credited with using tools. They perch on branches over water and drop twigs to the surface to attract minnows which they then capture.

The population of green herons in the Refuge seems stable as the habitat supports a successful breeding population. However, the U.S. Geological Survey's annual breeding bird survey suggests that the green heron population across the United States has declined 55% in the last 50 years. The reasons for the decline are not

known and difficult to determine for this secretive bird. Studies are underway to find ways to enhance their numbers and reduce their population decline. Habitat loss and degradation are likely contributors to their decline.



# 15TH ANNUAL FALL FESTIVAL—SEPTEMBER 6, 2014—WILD ABOUT WILDERNESS!

Despite temperatures in the high 80s, nearly 600 visitors, Refuge staff, and volunteers enjoyed the 15th annual Fall Festival at Great Swamp NWR. The day began early, with a guided walk on the Wilderness Area Orange Trail to celebrate the 50th anniversary of the Wilderness Act.

In the meantime, at the Visitor Center, there was a lot to see and do—walks, river seining, archery instruction, an original play, a Scavenger hunt, and of course—hot dogs on the grill. The Refuge heavy equipment was on display and youngsters were delighted to climb into the seats of the big machines. The Raptor Trust brought several kestrels and visitors cheered as the rehabilitated birds were released back into the wild. Thunder, and the threat of a storm, brought the festivities to an abrupt end by 2:30, but once again the annual Fall Festival was a fun and educational day for all attendees.



Enjoying hot dogs and fresh farm apples.  
Photo by Jane Bell



T.R. Bear (aka Jerfelis Pimentel) gets a high-five!  
Photo by Mayra Henry



Learning how to use the traditional cross-cut saw. Note the spiffy 50th anniversary T-shirts worn by all volunteers.  
Photo by Jane Bell

*Learning  
how important  
wildlife refuges  
and nature are  
to our  
environment.*

—Elaine Seckler



River seining in the Passaic.  
Volunteers spread the net and visitors check out the fish and invertebrates.  
Photos by Jane Bell



Learning amazing things about bears.  
Photo by Mayra Henry



## FRIENDS 2014 PHOTO CONTEST WINNERS ANNOUNCED AT FALL FESTIVAL

### FRIENDS 2014 PHOTO CONTEST WINNERS

**Youth:** Best of Youth—Ashleigh Scully

**Birds:** 1st Place—Robert Lin (shown left); 2nd Place—Chuck Hantis; Honorable Mention—T.C. Chiang

**Landscape:** 1st Place—David Kenny (shown below right); 2nd Place—Richard Harris; Honorable Mention—David Kaplan

**Plants:** 1st Place—Susan Hunt; 2nd Place—David Kenny; Honorable Mention—Gay Raab

**Wildlife:** 1st Place—Kurt Chiappone; 2nd Place—Jim Duffy; Honorable Mention—Mike Duffy

**Wilderness:** 1st Place—Judi DiMaio (shown below center); 2nd Place—Jim Mulvey; 3rd Place—Carol Duffy



**T**he auditorium was packed on September 6 as photographers, friends, family, and visitors gathered to hear the results of the 2014 Friends Photo Contest.

Awards were presented by our judges, Jim Gilbert, professional wildlife photographer and Bill Koch, recently retired Refuge Manager. This year 142 entries were submitted by 29 photographers.

Winning photographs are on display at the Visitor Center and are posted on the Friends website. In the Visitor Center, a slide show is running continuously which includes all of the photos entered in the contest. You will be amazed at the diversity of plants and animals that people photograph at Great Swamp.



### THE 2015 PHOTO CONTEST HAS BEGUN!

Entry forms will be available in the near future. The rules and the categories are the same. Photos must be taken on the Refuge; the deadline is June 30, 2015. Our library of Refuge photos now exceeds 1,000—truly a remarkable resource for Friends, staff, and the U.S. Fish and Wildlife Service. Thank you photographers.

### FRIENDS LIBRARY—NOW AVAILABLE FOR YOUR USE

*By Esther Warner, Volunteer*

**A**ll readers, researchers, and those folks who just want to stay warm and dry in the colder seasons to come, are invited to take advantage of the recently reorganized Friends Library at the Helen C. Fenske Visitor Center.

The books have been shelved in individual color-coded categories such as: Refuge Information, New Jersey, Birds, Mammals, Plants, and related field guides. Other topics including children's books and puzzles, nature literature and art, and biographies are also available. The Refuge Readers book club selections even have their own section.

A complete directory of subject categories is available for your convenience in the library. All items may be used in the library and Friends members may borrow books for use at home. Take your selections to the Visitor Center front desk to check them out. Items circulate for a month. In the future, when you come to the library to visit our bear and fox, please feel free to stay for a while and browse the library.



The Library Bear—It's O.K.  
He's friendly!



## WOOD TURTLE HEAD-START UPDATE—AUTUMN 2014

By Emily Scully, Biology Intern, Great Swamp NWR



Emily in the field with turtle. USFWS

On Memorial Day weekend, May 2014, our 28 wood turtle hatchlings, from the 2013 Cohort (age group), returned to the Refuge from the Bristol County Agricultural High School in Dighton, Massachusetts. The nine-month old turtles were returned to Great Swamp at approximately the same size as four year old wild turtles. This increase in size is beneficial to the survival rate of the wood turtle because it makes them more formidable and less attractive as a prey item, and presumably enables them to survive better in their environment.

Once the turtles arrived back on site, eight received radios and were released at their native site where I monitored them weekly. I also tracked 12 head-started wood turtles that had been released in previous years. These included five from the 2012 Cohort and seven from the 2011 Cohort.

Some interesting and encouraging news included my discovery of previously released head-starts that did not have radios. During the course of tracking the head-starts, we located two 2011 and two 2012 head-starts that were thriving in their environment. We attached addi-

tional radios on these four head-starts. Through my continued telemetry, we located these turtles and found them to be doing well.

The only discouraging news for summer 2014 was the loss of several head-starts to predation. Within the first week of the head-starts' release, we lost our first turtle to predation. We have lost a total of eight head-starts (from all three release years combined). Because the predation was unlike previous years, we placed wild-life cameras around the study site to identify the predators present. After reviewing the pictures and assessing the types of injuries sustained, it was determined that the culprits were raccoons. Since our goal with this project is to augment the number of wood turtles at the site and, over time, create a self-sustaining population, this unprecedented high level of mortality needed to be dealt with. As a result, four live traps were set in select locations for a total of seven nights. After 28 trap-nights, six raccoons were captured and dispatched (a 21.4% success rate, which is exceptionally high for mammal trapping). Since we stopped trapping in early September, no additional injuries or mortalities of our wood turtles have been observed.

During our summer research, we identified nine wood turtle nests and one box turtle nest on the nest mound. In the middle of August, our nests started to hatch giving us

a total of 41 hatchlings; 28 were sent to Bristol County Agricultural High School and we directly released the remaining 13. Four of these direct release hatchlings were outfitted with micro-transmitters. To date, two of the four hatchlings with radios are thriving; one was lost to predation, and one lost its radio.

Now that autumn is here and the weather is cooling down, the turtles will start to settle into the stream bank for winter hibernation.

Come mid-April, as the weather starts to warm up again, the turtles will emerge and be ready for a new field season. In May, the 2014 Cohort will be returned to Great Swamp.



2013 head-start (9 months old) during release in May.

Thank you to the Friends of Great Swamp for funding this project and for the opportunity to work on the wood turtle project and to intern at Great Swamp National Wildlife Refuge. I have thoroughly enjoyed every moment of this summer!



*Wood Turtles are Beautiful!*



## FROM THE DIRECTOR—WE MUST HELP NATURE ADAPT TO CLIMATE CHANGE

By Dan Ashe, Director, U.S. Fish and Wildlife Service

**T**he National Climate Assessment released in May puts it bluntly:

*"Evidence for climate change abounds, from the top of the atmosphere to the depths of the oceans. Scientists and engineers from around the world have meticulously collected this evidence, using satellites and networks of weather balloons, thermometers, buoys, and other observing systems. Evidence of climate change is also visible in the observed and measured changes in location and behavior of species and functioning of ecosystems. Taken together, this evidence tells an unambiguous story: the planet is warming, and over the last half century, this warming has been driven primarily by human activity."*

The scientific debate about whether human-induced climate change is occurring—or whether rising average surface temperatures are disrupting the natural systems that support life on Earth—is over. But two significant questions remain to be answered: How catastrophic will the effects of this disruption be? And what can be done to avert the worst impacts and help wildlife and natural systems cope with those that occur?

These are not easy questions to answer. Fortunately, we still have time to act to sustain the web of life that sustains human population.

The U.S. Fish and Wildlife Service is working with the scientific, conservation and business communities to prepare for these impacts and ensure forward-thinking and effective conservation of fish, wildlife and plants, and their habitats. Guided by the President's Climate Action Plan and the National Fish, Wildlife and Plants Climate Adaptation Strategy, we are leading efforts to protect natural resources.

The scale and intensity of climate change impacts pose an enormous challenge.

But there is hope, and we are making progress. Here are a few examples:

- At Neal Smith National Wildlife Refuge in Iowa, the Service and partners are finding that restoring diverse, native tall-grass prairie vegetation helps protect the soil year-round, slowing overland flow of water. It also helps recharge groundwater and provide important habitat.
- By planting trees at refuges in the Red River and Lower Mississippi River valleys of Louisiana, the Service and partners are reducing greenhouse gases in the atmosphere and restoring habitat that feeds and shelters songbirds and other wildlife. Similarly, refuges in Texas, Hawaii and Kansas are planting trees to restore habitat and reduce greenhouse gases.

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*How we choose to respond here and now  
—or whether we respond at all—  
will determine the kind of world in which  
we and our families live for the foreseeable future,  
as well as the kind of world we leave  
to future generations.*

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- Refuge managers in North Carolina and Virginia are helping to restore the natural hydrology of peatland ecosystems, which reduces fire potential and cuts carbon emissions.
- In California, refuge staff, Coastal Program staff and partners have



Biologists and university researchers have been monitoring the ecological impacts of climate change, such as the rising treeline in the mountains, at Kenai Refuge in Alaska for decades. (USFWS)

been working to raise the elevation of former salt marsh areas around Humboldt Bay that have experienced significant subsidence. This project has helped offset the loss of approximately 95 percent of historic salt marsh around the bay, and builds resiliency to climate change and sea-level rise by providing areas for salt marshes to migrate to behind dikes.

- Biologists and university researchers have been monitoring the ecological impacts of climate change, such as the rising treeline in the mountains and American marten colonization of the lowlands, at Kenai Refuge in Alaska for decades.
- The Refuge System has worked to reduce its carbon footprint by purchasing hybrid vehicles, constructing low-energy "green" visitor center/headquarters buildings and installing renewable wind and photovoltaic systems.

What happens in the next few decades will have profound implications for society. How we choose to respond here and now—or whether we respond at all—will determine the kind of world in which we and our families live for the foreseeable future, as well as the kind of world we leave to future generations. Everyone has a stake in the outcome of those efforts—and we must succeed.



## CELEBRATING 50 YEARS OF WILDERNESS—REMARKS FROM SEPTEMBER 3, 2014 *(continued from page 1)*

### EXCERPT FROM REMARKS: U.S. SECRETARY OF THE INTERIOR, SALLY JEWELL



"In a Rose Garden ceremony 50 years ago today, President Lyndon Johnson signed the Wilderness Act and the Land and Water Conservation Fund Act. It was one of the most amazing days for conservation in the history of this country. Probably the most amazing day. It was a day when 9 million acres were set aside for wilderness. Since that time, over 100 million acres of wilderness have been added, including the Great Swamp National Wildlife Refuge, the first place within the Department of the Interior that was classified as wilderness ... and not what people expect, which I think is absolutely terrific. Because this land—this land that was developed, that did have utilities running through it, that had structures on it, that was going to be an airport—was permanently set aside, mostly for the critters that call this home with a little taste for the humans that visit to understand what's at stake."

"President Johnson said, 'True leadership must provide for the next decade and not merely the next day'. He didn't realize he was providing for the next half century, not merely the next decade, and I hope that all of us, in celebrating this 50 years of the Wilderness Act, will call upon our friends, and colleagues and elected officials to make the next 50 years of wilderness the best yet."

### EXCERPT FROM REMARKS: U.S. FISH AND WILDLIFE SERVICE DIRECTOR DAN ASHE



"Like the rest of the world, America is increasingly diverse and urban. As a result, we are increasingly disconnected from the outdoors. So it's crucial that we provide places like this, where we can come and we can reconnect and restore ourselves. We can rejuvenate our spirit—being a part of wilderness—something that is different from what we live in every day, and it's important to our children ... that they have these opportunities, because these are the people who will be the next Congressmen and women, the next Secretaries of Interior, the directors of the U.S. Fish and Wildlife Service. It's important that these places instill why it's necessary to preserve these for the United States of America and who we are as a people."

"50 years ago, our predecessors began what has become a great legacy. We are here today to celebrate that legacy and rededicate

ourselves to that mission, but again recognize that we have the opportunity and the obligation to support it and to sustain it, but also to expand and enlarge it. So it's really a privilege to be here today at Great Swamp National Wildlife Refuge and to join in the celebration of this great legacy and accomplishment but also to rededicate and resubmit ourselves to makes this even better in the future."

### PUT YOUR STAMP ON CONSERVATION—BUY A DUCK STAMP

Federal Duck Stamps buy land for national wildlife refuges. Since 1934, \$800 million dollars in proceeds from Duck Stamp sales have helped acquire and protect more than 6 million acres of wetlands within the Refuge System—like Great Swamp! Dollar for dollar, this is the best investment one can make toward the future of America's wetlands. What a great way to act on the advice of Sally Jewell and Dan Ashe. The current Duck Stamp may be purchased at Refuge Headquarters and at the Visitor Center. Support *your* national wildlife refuges.



Each year, the U.S. Fish and Wildlife Service holds an annual wildlife art competition to select an image for the next Federal Duck Stamp. This year's winner is Jennifer Miller, from Olean, New York. This pair of ruddy ducks will be made into the 2015-16 Federal Duck Stamp which will go on sale in June 2015.





## FRIENDS OF GREAT SWAMP NATIONAL WILDLIFE REFUGE MEMBERSHIP FORM

The Friends of Great Swamp is an independent, non-profit organization organized in 1999. Our operations and activities are managed by an all-volunteer Board of Directors. As our mission statement indicates, our focus is Refuge-centric — we support the goals, projects, and mission of the Great Swamp National Wildlife Refuge.

To become a member of the Friends of Great Swamp, fill out the information on this form, and mail with your check to:  
Friends of Great Swamp National Wildlife Refuge  
241 Pleasant Plains Road, Basking Ridge, New Jersey 07920

### ANNUAL MEMBERSHIP APPLICATION

☐ EASTERN BLUEBIRD—\$15-\$49

☐ PAINTED TURTLE—\$50-\$99

☐ RIVER OTTER—\$100-\$249

☐ MONARCH BUTTERFLY—\$250-\$499

☐ WOOD DUCK—\$500 +

☐ New Member?

TOTAL ENCLOSED \$ \_\_\_\_\_

You may also join online at [www.friendsofgreatswamp.org](http://www.friendsofgreatswamp.org)

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State, Zip Code \_\_\_\_\_  
Phone Number \_\_\_\_\_  
E-Mail Address \_\_\_\_\_  
Gift Membership From: \_\_\_\_\_

(If this is a gift, please include your full name on the line above so we may notify the recipient)

**We need more Friends ...**  
**Become a Friend Today—or,**  
**Give a gift membership to a friend.**

**Thank you**



Memberships help support the projects and programs at Great Swamp National Wildlife Refuge.

#### Membership Benefits

- The Swamp Scene Newsletter.
- A 10% discount in Friends Nature Shop .
- Notifications of upcoming events.
- Satisfaction in knowing you are helping protect wildlife and wild places while safeguarding a national treasure for future generations.

Gift Memberships will include a coupon redeemable at the Friends Nature Shop for a free Great Swamp pin or Great Swamp patch.







*Friends of Great Swamp*  
*National Wildlife Refuge*

## **THE SWAMP SCENE NOVEMBER 2014**

Friends of Great Swamp National Wildlife Refuge  
Is an independent, volunteer, non-profit organization  
dedicated to

Promoting stewardship of the natural resources of the Refuge,  
Inspiring an appreciation of nature through education and outreach,  
Engaging in partnership activities that support and enhance the Great Swamp National  
Wildlife Refuge and the National Wildlife Refuge System.