The Wrack Line

Newsletter of Parker River National Wildlife Refuge • Newburyport, MA

United States Fish & Wildlife Service Summer, 2015

We Built It… And They Came!

By Matt Poole, Visitor Services Manager

Photo: Matt Poole/FWS

Archery target shooting was a very popular event activity.

Much has been said (or lamented) in recent years about the apparent, growing disconnection between people and nature. Much of the blame always seems to center on our growing preoccupation with ever-evolving visual technologies such as video games, computers, tablets, YouTube, Facebook, and the like. (Now it's even possible to "explore" some national parks and wildlife refuges via smart phone "apps!").

Emboldened by the U.S. Department of the Interior's longstanding focus on getting the American public to engage in healthy, outdoor activities, last winter the staff at Parker River enthusiastically charted course for a brand-spanking-new public event called, simply enough, *Let's Go Outside! (LGO).* The event's design was elegantly simple: invite the public to a free, daylong event during which they could "tryout" and enjoy such activities as surf fishing, kayaking, archery target shooting, nature photography (of live birds of prey!), and birdwatching. The hope, of course, was that such opportunities would whet event participants' appetites for more of the same.

Photo: Matt Poole/FWS

Birdwatching and the art of seeing.

A number of considerations went into the event planning. First, because such a complex event could not simply be postponed or rescheduled, it needed to be relatively weatherproof. That requirement ultimately led to a variety of indoor "nature-based arts & crafts activities" that would appeal more to younger kids. The indoor activities would be offered in tandem with the other activities that had to be conducted outside. In short, there really was something for everyone at the LGO event. Even if the weather "went south" folks would have fun. That, of course, was the whole point!

Another event goal was to encourage the public to spend time at the refuge's visitor center and headquarters – a wonderful facility for hosting public events. Even though Parker River is the second most visited national wildlife refuge in the thirteen state Northeast Region (behind

Chincoteague NWR in Virginia), a large number of visitors never stop at the visitor center on their way to or from the refuge. Ironically, when someone walks into the visitor center for the first time, they frequently comment about how impressive the facility is. We just need to get them in the door!

Finally, LGO presented a wonderful opportunity for refuge staff, volunteers, and the Friends of Parker River to roll up their sleeves and work together on a really fun project! The event also afforded the public an opportunity to meet and interact with these same folks. Public outreach and promoting awareness of our agency and its work was, needless to say, a part of the event's strategic calculus.

All (successful) event planners follow the mantra "plan for the worst and hope for the best." As it turned out, the weather on that Saturday (June 20th) could not have been more perfect. Event workers and participants were treated to dry air, puffy white clouds in a blue sky, and pleasant temperatures. Even though children might have been the undeclared or presumptive target audience for the event, plenty of

Photo: Matt Poole/FWS

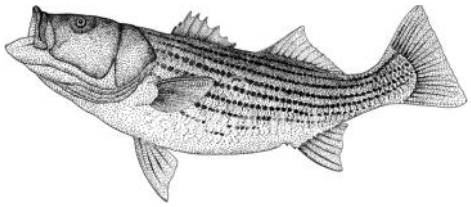
After getting their event passport books stamped at each activity station, these kids returned to the visitor center for an official Junior Refuge Manager badge!

Photo: Matt Poole/FWS

Father and son celebrate their surf fishing success on the refuge beach.

adults — not all of whom were accompanied by kids — seemed to be having a great time as well. Well over five hundred event participants spent time at the various "activity stations" that were located both at the visitor center site and on the refuge. A big unknown had been whether or not two free shuttle buses would attract passengers? They did!

Again, by all metrics, the inaugural *Let's Go Outside!* event was a huge success. Not a few participants told us that they were already looking forward to LGO next year. Will there be a LGO in 2016? You betcha!



From the Manager's Desk

By Bill Peterson, Refuge Manager

On Friday, July 24, I travelled with other refuge staff, volunteers, and Friends members to Assabet NWR in Sudbury, MA to assist with an outdoor recreation-themed event for YMCA youth campers. Boston is participating in the Department of Interior's initiative to connect urban youth with nature and this was our first on-refuge event. It was a mostly sunny day, great weather for two busloads of 6-8 year old campers to birdwatch, practice archery, fish, and explore Assabet. Judging by the smiling faces during our afternoon debrief, it was a great event for the adults, too. Assabet's event wouldn't have been successful without support from Cabela's, both refuges' Friends organizations, and the volunteers who donated their time for our next generation of conservationists.

Parker River also relies upon the support of its volunteers, Friends organization, and partners to accomplish its mission. Refuge staff wouldn't dream of controlling invasive perennial pepperweed throughout the Great Marsh by themselves; however, by partnering with NE MA Mosquito Control, Mass Audubon, other conservation organizations, and a crew of dedicated volunteers, we collectively controlled pepperweed from Salisbury to Essex during June and July. Similarly, June's *Let's Go Outside* event succeeded thanks to assistance from the Friends of Parker River, Plum Island Surfcasters, and many refuge volunteers. From the front desk hosts greeting newcomers at the visitor center to plover wardens monitoring the beaches, volunteers similarly fill many daily refuge roles.

The Friends of Parker River NWR provide additional support layers by sponsoring refuge events including last winter's *American Conservation Film Festival NORTH*, fundraising for the Hellcat boardwalk rehabilitation project, and hosting evening speakers on the Bartlett Mall Frog Pond and other community-relevant

conservation topics. Of course, the Friends' Reading Room is a terrific place to have coffee, read a good book, and watch the visitor center birdfeeders.

I'm grateful for the refuge volunteers' and the Friends of Parker River NWR's support. The next time you visit Parker River, I hope you'll take a minute to personally thank our volunteers, consider volunteering yourself, and join the Friends.

August is a great month for exploring the refuge; every day brings more shorebirds and fewer greenheads. The least tern chicks near Emerson Rocks are growing quickly and all beaches should re-open by early September!

Osprey Nest Cam as "Reality TV"

Success, Saga, & Sacrifice

By Matt Poole, Visitor Services Manager

If you want to add a little "zip" to your visitor center exhibit gallery, and at little to no cost, consider providing a live nest cam feed to a standard television monitor. We did exactly that in the Parker River visitor center in late spring and it paid "interpretive dividends" almost immediately.

For years we had discussed actually installing a nest cam on one of the osprey nest platforms that lies within the refuge boundary. Sure, the idea was a good one—to provide refuge visitors with a real time view of what was happening with one of OUR very own osprey "families." But the project had never risen high enough on the priority list to actually happen. And, in hindsight, that lack of progress may not have been such a bad thing.

Enter "Plan B." Having worked at the agency's national training center where there is a very popular nest cam in a bald eagle nest, I knew well the popularity of such an "exhibit." I was also well aware that there are already many, many nest cams "out there" - each providing a unique view into the lives of a host of avian species. Rather than expending the time and

Photo: Matt Poole/FWS

Osprey nest spectators in the refuge visitor center!

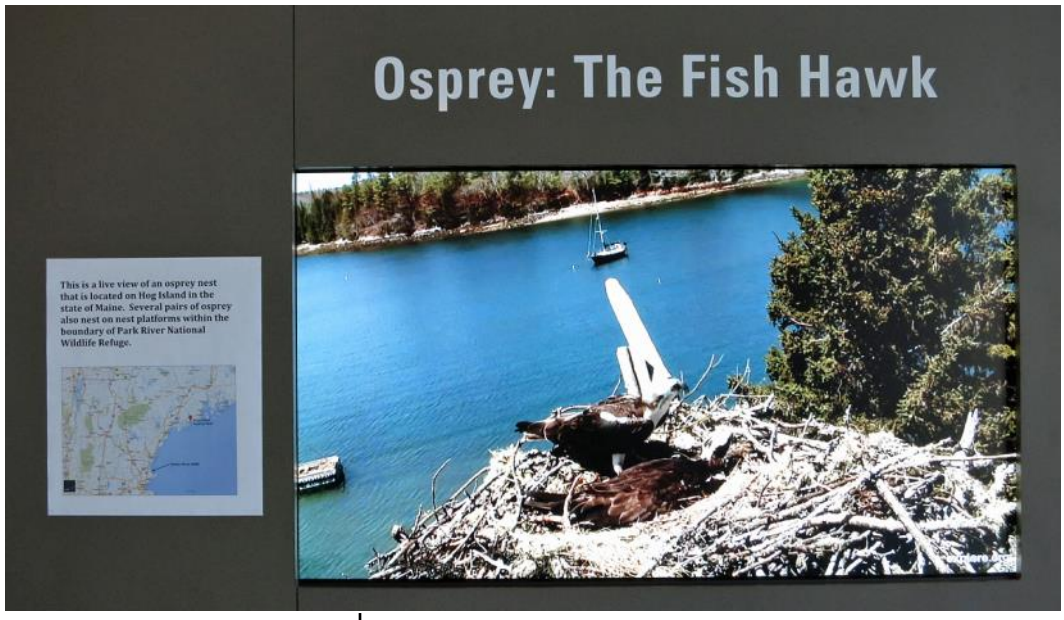
resources to build our own nest cam, why not tap into someone else's signal?! And that's exactly what we set out to do.

A quick Google search for "nest cams" yields quite a few positive results. The Cornell Lab of Ornithology's web site provides links to a "bunch" of really great nest cam sites. A number of national wildlife refuges also have nest cams. So, again, why "reinvent the wheel?

For the Parker River visitor center, the original idea was tap into a "feed" from a nest cam that was sited on an osprey nest within the Great Marsh—a location

Photo: Matt Poole/FWS

fairly nearby. When the osprey pair for that particular nest failed to "stick around" this year, we had to look further afield.



We ultimately settled on an osprey nest and camera setup that is located on a little island about halfway up the coast of Maine. Hog Island has long been the site of a popular summer camp run by Maine Audubon. For our purposes, the Hog Island nest was perfect. It is relatively nearby and the image quality was simply superb (which is not always the case with nest cams).

Very quickly our osprey nest cam "exhibit" generated lots of positive buzz among visitor center guests. Many would sit in chairs placed in front of the "osprey nest TV" and watch it for long periods of time. We definitely had a good thing going there for awhile. Then, as often happens, nature stepped in and changed things—literally, overnight.

One night at home I received an email from someone notifying me that the Hog Island osprey chicks had been taken by a bald eagle. The predation was recorded by the nest cam—digital video footage that later found its way to YouTube!

Not surprisingly, there was an outpouring of regret and reflection from a number of people who had been following the chicks' progress in the Hog Island nest. There were references made to the "harsh realities" of the natural world. And there were certainly those who spoke of the value, perhaps even the privilege, of being able to witness natural behaviors of charismatic birds of prey—"the good, the bad, and the ugly." For sure, there was a palpable, collective sadness following the loss of the chicks.

Photo: Matt Poole/FWS

From the standpoint of having value as a visitor center exhibit, the Hog Island nest had lost much of it's "juice." It was, literally, a case of interpretive empty nest syndrome. Not much to see. So, what did we do? After "Googling" for more osprey nest cams, we dialed in a feed from a nest on Cape Cod. That simple!

Plum Island's Camp Era

By the "Archive Team"—Alix McArdle, Kate Murphy, and Karen Stahle.

In early times the lands of Plum Island were held in common by all the residents of each town (Ipswich the lower two-fifths, Rowley the middle, and Newbury the upper two-fifths) and livestock, bearing the owner's mark, then grazed and roamed at will. The remote location (access was only by boat) prevented many residents from occupying their holdings and entrepreneurs gradually bought up large parcels. By 1739 the grazing of livestock had become so destructive to vegetation that the General Court prohibited it and by 1785 it outlawed the cutting down of trees and bushes as well.

The first summer camps were built before 1700. By the early 1800s businesses began and people came to the island to work. A salt works factory on Stage Island was followed by a hotel which prevailed for many generations; these businesses required housing for employees and cottages began to appear at Bar Head (now part of Sandy Point State Reservation) and on Stage and Grape islands. Campers began to spend whole summers living in tents and taking meals at the popular hotel. Access was still by boat and at one time as many as fifteen motorboats and two steamers ferried passengers from Little Neck in Ipswich to Ipswich Bluffs (Stage Island) and Grape Island.

View a remarkable gallery of the old cottages at the end of this article!

In 1941, when the federal government acquired the lower two thirds of Plum Island in order to establish a national wildlife refuge, there were sixteen abandoned cabins, thirteen summer cottages, and forty-four other structures (hunting camps and storage sheds) on the 4500 acres. Until this time the only road ended near today's maintenance barns and boats remained the choice of transportation. The majority of the cottages were in three locales: Stage Island, the Knobbs (on the Sound opposite the Rowley River), and Grape Island (Bar Head also had a colony of camps). The cabins were simple in construction and style; rainwater was gathered in cisterns; light was provided by oil or kerosene lamps or sometimes a 6-volt battery; heat and cooking were by way of wood stoves; and chemical toilets took care of waste. Furniture tended to be hand-me-downs, sleeping was dormitory style, meals were simple and usually harvested from the sound, the garden, or by hunting. But the memories of those who experienced summers on Plum Island were golden.

Grape Island

Because Grape Island is connected to the main island by a narrow isthmus, the wandering livestock of the 1700s did not visit and therefore the devastating effects of overgrazing never happened; that is, the top soil remained. Ipswich farmers began a small settlement to utilize the rich crop lands and by the mid-1800s Ipswich ordered a school built to educate the growing number of year round children. By the 1880s the island's well known hotel (later called the Grape Island Inn) was attracting tourists not only from the adjacent communities but also from as far upriver as Haverhill. Its dining room was well known and island farmers could earn a living by supplying produce, eggs, poultry, and dairy products. Other locals supplied the fish and meats and women could find work as housekeepers and waitresses. The hotel continued to grow into the twentieth century, adding a casino and dance hall. With each expansion came the need for local workers. Ultimately, it was the Depression in the early 1930s that ended the high times on Grape Island and many camps were simply abandoned. The Inn closed in the early thirties and shortly thereafter the abandoned building burned to the ground. An occasional forsythia or lilac bush now mark a former house site.

The Knobbs

The Knobbs is a small cove with sandy beach flanked on either side by miles of salt marsh.

This beach made for a natural boat landing where, for years, people accessed the entire island. Farmers, hunters, fishermen, and swimmers all used the Knobbs and its first camps were built in the late 1800s. Its low lying terrain and the increasing level of high tides did not make this a suitable site for the larger cottages of Grape or Stage islands, but the few simple built-on-stilts camps put here were adored by their owners.

"Oh, to hold these thoughts
And this place forever
In my mind
This beloved place
So much a part of me."

(Alice Taylor as quoted in Nancy Weare's Plum Island, The Way It Was.)

Stage Island

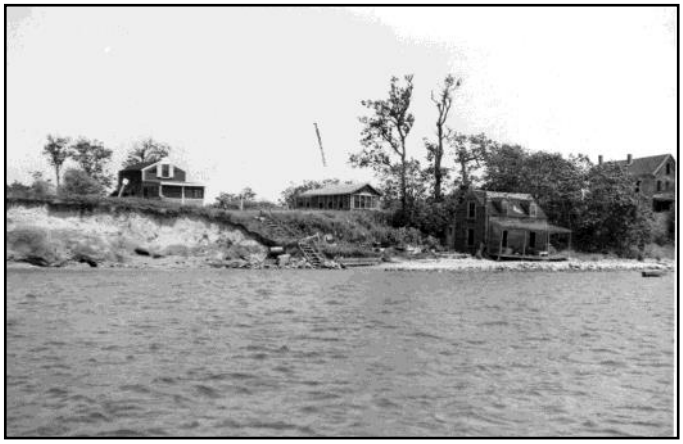
Stage Island offered the sandy beach access of the Knobbs, but was an elevated peninsula with a desirable deep water channel and sheltered anchorage. There remain the stone remnants of a substantial pier where steamers ferried people and cargo from Little Neck. Accessible by a road (today by foot only) made by refuge staff when creating the 100-acre freshwater Stage Island Pool (opposite Lot 5), early land access was by way of Sandy Point. At an earlier time Stage Island was called Ipswich Bluffs and like Grape Island, it enjoyed a lively tourist trade, several businesses including farming, a fish drying operation (on racks called stages, perhaps the source of its later name), a salt works site that included windmills, and later, a successful hotel. Many of the early camps and cabins were built for workers in these businesses. Like the Grape Island Inn, the hotel was a victim of the Depression and in 1936 Massachusetts Audubon purchased the land and the buildings were demolished. Four larger homes on the southwest point, built around the turn of the century, remained until the 1980s when three of them, like all other remaining Plum Island camps, were taken down by the Refuge. Only the Goodwin Camp, also known as the Knowles Camp and The Anchorage, remains.

The National Wildlife Refuge

The Parker River National Wildlife Refuge's location in the center of the Atlantic Flyway made it a worthy site for the protection and management of habitat for migratory waterfowl. To the extent former land use practices were compatible with the refuge's stated purpose, they were allowed to continue and, to a lesser extent, still are. By the early 1940s many of the camps had been abandoned and Rachel Carson is quoted as saying, "(Some) had lapsed into an uninhabitable state of decay and dilapidation before the government bought the property for a wildlife refuge." Owners who chose to were allowed to remain for their lifetime, acquiring from the refuge, for $25, an annual land use permit. The arrangement, however, did not allow for the property to be passed on to heirs. As elders died, families were allowed to remove and salvage anything they could and if they chose not to the refuge staff demolished and burned the camp, returning the land to its natural state. These were not easy times for those who had summered on the island since childhood and there were court fights and litigation and letters to the editor. But as one who, in his youth, had spent his summers on Stage Island recently said, mostly there was sadness, as it marked the end of an era. The reclamation allowed what we now have, miles of protected barrier beach and salt marsh open, not without restriction, to all for the protection of wildlife.

See image gallery, following pages>>>

Grape Island



Bulkheads were built along Grape Island's shoreline to stabilize the fragile bluffs. Ultimately, they washed away and some cottages toppled onto the beach.

Grape Island was continuously inhabited for over 300 years until 1984, with the passing of Lewis Kilborn, the only "permanent residence" allowed on Plum Island by the refuge.

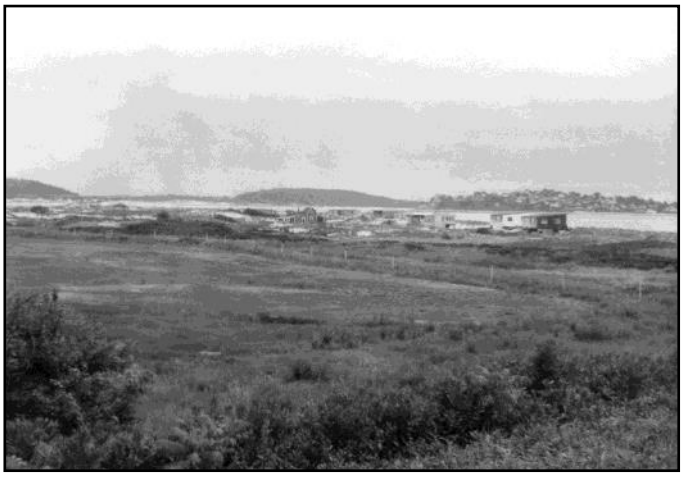
The Knobbs

Camp of Alice Taylor (see poem). 16' x 24' x 8' with an open porch. It washed away during a storm in the winter of 1977-78.

Gladys Night's camp

Stage Island

The Mehaffeys were allowed to rebuild after their first camp burned. They rebuilt after the initial government "taking" gave them the distinction of owning their cabin (while still leasing the land).



The view south from Stage Island at the Sandy Point cabins.

The Goodwin Camp, also known, at various times, as Knowles Camp and The Anchorage, located at the tip of Stage

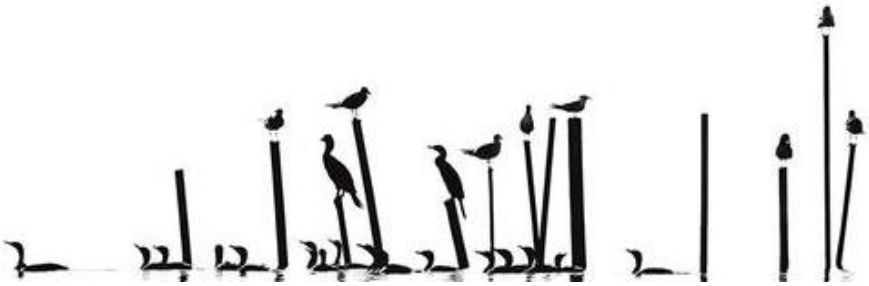


Photo Camp 2015

Photo Mojo for Teens!

By Matt Poole, Visitor Services Manager

It's going on ten years since I designed and delivered my very first photo camp for teens while working at the agency's National Conservation Training Center in Shepherdstown, WV. And it remains an annual summer "work task" that I really look forward to. And what's not to like about spending five days with a group of teens while they "tune in and turn on" to the creative magic involved with capturing and editing digital images of nature and wildlife?! (And the fact that the week culminates with a trip to a local ice cream parlor is, well—ahem, simply icing on the cake!)

This year seven local teens completed the five day camp, including a very talented young photographer, Ben Peters, who had attended last year's camp. Three Photographic Society board members — Tony Contarino, Karen Stahle, and Sue Doherty — ably assisted with this year's session.

One of my longstanding arguments for conducting this camp is that it gets kids outdoors into nature. For youth that might be a little more reluctant to spend time outside, the promise of "playing" with technology (e.g., digital cameras

Photo: Matt Poole/FWS

and computers), can be that extra push that gets them out the door.

A summer camp should be fun, not work. So, as we do in every camp session, most of our week was spent on the road, traveling to a variety of destinations where we conducted photo shoots. This year we travelled to The Center for Wildlife in York , Maine to shoot live birds of prey. Live butterflies were the point of focus at The Butterfly Place in Westford, MA. Time was also spent at three national wildlife refuges, (Parker River, Great Bay, and Great Meadows), and one national park (Minute Man). Local trips to Maudsley State Park, two cemetaries, the Newburyport waterfront, and the Spencer-Peirce-Little Farm filled out the weeklong itinerary. (And did I mention the ice cream?!)

Photo: Matt Poole/FWS

As happens every camp, each teen produced an impressive portfolio of diverse images by week's end. It's from these individual collections that I then select the images—one from each camper— that will be printed, matted, and framed for a yearlong gallery in the refuge visitor center. (Yes, the refuge gets a new exhibit from the photo camp ever year!)

The Eastern Coyote: Misunderstood, Maligned & Entirely Successful!

By Linda Schwartz,
Volunteer Refuge Naturalist

Coyotes have long been a feared and maligned predator, but in actuality they are a very necessary and beneficial species of canid. Native Americans have long revered the coyote. They are a highly intelligent and social creature. I have worked with a hand-reared coyote and it had many behaviors that might make you think (wrongly of course) he was a domestic dog. He loved to be scratched on his throat, and though we never went into the enclosure with him, he would frequently come up to the fence separating us and ask for attention. He would even wag his tail.

The exact nature of the eastern coyote (*Canis latrans*) is somewhat controversial. The eastern coyote is significantly larger than its western cousin and is a relatively new species in this region. While its western cousin averages 20-30 pounds, the eastern coyote generally weighs 30 - 50 pounds (occasionally tipping the scale at 75 lbs.). There are also some differences in appearance. There is much speculation that our local coyote is in fact a coyote-wolf hybrid. And while there is some wolf DNA found in the eastern coyote, it is usually a small portion of their ancestry. They are basically a rather rapidly evolving species that fills an ecological niche once held by the eastern wolf (*Canis lycaon)* (or possibly even the red wolf *(Canis rufus*)).

The coyotes started moving eastward at the beginning of the 20th century. They are a very adaptable predator and can live within a wide variety of habitats. They have existed in Massachusetts since the 1940's or '50s. While they are mostly active at dusk and dawn (crepuscular), it isn't unusual to see them in the daytime. Their usual prey includes rabbits, birds, insects, fruits, berries, the occasional deer and even roadkill. As a predator of deer, the eastern coyote helps to keep the deer population in check and, as a result, can help keep Lyme Disease levels down, since deer are a major host species of the deer tick. The coyote also preys on a variety of small rodents, keeping those populations from exploding and overrunning an area. They are an essential apex predator in this area and have essentially taken over for the eastern wolf, which was hunted to extinction here.

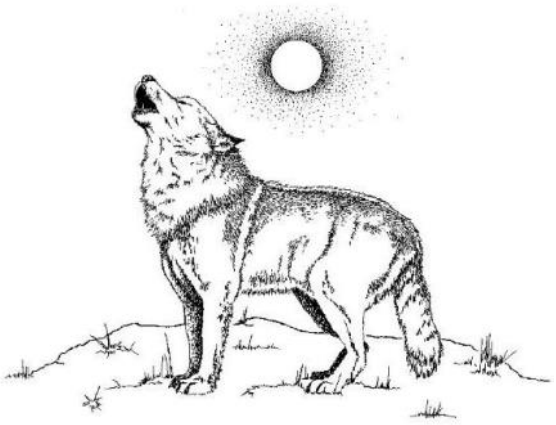
Many people probably saw coyotes for the first time this winter. Not that they have not been here, but with all the snow this year, they, like many other animals, had a harder time finding food. As a result, the coyotes may have been seen out in the open, during daylight hours as they searched for hard to find food. Coyotes have been found in the Newburyport area for many years and even in the city of Boston since at least the 1980's.

Many falsely believe that coyotes will attack humans and, while that has happened in a few very rare instances, Massachusetts Audubon reports that there have been less than ten documented cases in over sixty years. Those incidents have usually occurred in the late winter or early spring breeding season, when coyotes are more likely to be hyper-territorial and/or vigilantly protective of their young. They start to stake out dens around February, with the

pups usually born in April after a gestation of a bit over two months (similar to that of a domestic dog). Coyotes have also been known to tangle with humans when the person is walking a dog; frequently, this may be a territorial issue. They are a rather secretive animal much of the time. They may be a resident of your neighborhood and you do not even know it, unless you hear their chorus of yips and howls. Their tracks resemble that of domestic dogs with several differences apparent to people who study the tracks.

Coyotes are frequently blamed for missing pets and, in some instances, may be the culprit. Motor vehicles, domestic dogs, raccoons, fishers, owls or hawks are probably at least as common culprits but, unfortunately, the blame frequently falls on coyotes. Sometimes blamed for taking livestock, it is much more likely that a pack of domestic dogs is responsible for this type of predation.

Unfortunately, coyotes are often regarded as vermin in many states when, actually, they play an important role by helping to keep vermin under control. Without coyotes, many places would be overrun with rodents and lagomorphs (rabbits). They are a very valuable agent for helping to keep the numbers of many problem species at a manageable level. Since humans eradicated many of the apex predators (such as wolves), that historically kept other species in balance, coyotes are a valuable animal that we need to learn to live with, if not appreciate. So next time you see a coyote, stop and admire this intelligent, beautiful, and very successful animal!



Refuge Staff Receive Awards for Exemplary Service

By Peggy Hobbs, Administrative Officer

The *Northeast Region Employee Appreciation and Awards Ceremony* was held in the Regional Office in Hadley, MA, on June 10. Refuge Manager Bill Peterson accompanied four Parker River NWR staff members who received recognition. Regional Director Wendi Weber presented the awards.

Frank Drauszewski (Deputy Refuge Manager) and **Bob Springfield** (Maintenance Worker) each received the "Unsung Hero Award" for their behind-the-scenes contributions to the mission of the Service and the Department. This award recognizes employees who display extraordinary effort in performing tasks beyond normal job duties, show enthusiasm and initiative while displaying a customer-oriented attitude. They also unselfishly share their time and expertise, and consistently and willingly extend a helping hand.

Peggy Hobbs (Administrative Officer) received the "Eagle Award" for her involvement with the Refuge Division's Budget Tracking System Team. This award recognizes exemplary employees who provide an exceptional quality of service, and produce a higher quality or quantity of output than is expected which reflects a high degree of complexity or a significant benefit. The recipient resolves a tough problem or improves a product or service resulting in increased efficiency and productivity.

Nancy Pau (Wildlife Biologist) received the "Communications Champion Award" for her outstanding accomplishments in communicating Service stories that reinforce messages of sound science and public service, while demonstrating exemplary communication skills for outreach.

Help Conservation by Becoming a

Friend of Parker River!

Are you looking for an opportunity to give back to the refuge, make a difference for local conservation, and meet others who share your interests? If you answered *Yes*, you should consider joining the Friends of Parker River NWR.!

The Friends is an independent, non-profit organization dedicated to promoting the conservation of the refuge's natural resources, fostering public understanding and appreciation of the refuge, and engaging in activities that will assist and challenge the U.S. Fish and Wildlife Service to meet its mandates.

As an organization, the Friends have the collective strength to secure grants for special projects, promote community awareness of the refuge through membership in the Newburyport Chamber of Commerce, politically advocate for the refuge and other conservation issues, sponsor refuge events, and independently plan and host refuge tours and events. The Friends of Parker River NWR were instrumental in helping to secure funding for building the refuge visitor center and Parking Lot 1 contact station/restrooms, managed the visitor center gift shop, and sponsored last winter's conservation film festival.

In September, the Friends will be staffing a table at the Newburyport Farmer's Market, hosting an evening of presentations on the Bartlett Mall Frog Pond, planning fall fundraising activities, and working in the Friends' Reading Room. The Friends are also seeking members to join and/or assist the board with efforts to grow our membership, expand fundraising activities, and assist with bookkeeping.

Please visit the Friends of Parker River NWR Facebook page or website, www.parkerriver.org, to learn how you can join!

Congratulations to…

the Massachusetts Division of Fisheries and Wildlife (MassWildlife) for their recent $720,000 North American Wetlands Conservation Act (NAWCA) grant for Great Marsh wildlife habitat conservation. According to MassWildlife Director Jack Buckley, "This is the largest and most complex wildlife conservation grant award the Division has received." The NAWCA grant will help MassWildlife purchase 239 acres, protect an additional 569 acres through conservation easements, restore 202 acres, and enhance 80 acres of wildlife habitat in the towns of Essex, Ipswich, Newbury, and Salisbury.

One particularly notable restoration project involves replacing the undersized Kent's Island Creek Bridge at William Forward Wildlife Management Area to restore natural tidal flow into 47 acres of saltmarsh. The resulting healthy, more resilient marsh will benefit wildlife and Newbury residents well into the future.

The U.S. Fish and Wildlife Service's Division of Bird Habitat Conservation provides NAWCA matching grants to organizations and partnerships for wetlands conservation projects in the United States, Canada, and Mexico. NAWCA funding is appropriated by Congress and also comes from fines, penalties, and forfeitures collected under the Migratory Bird Treaty Act of 1918; Federal fuel excise taxes on small gasoline engines; and interest accrued on a fund established under the Federal Aid in Wildlife Restoration Act of 1937.

This is the tenth NAWCA grant focusing on Great Marsh wildlife conservation.

Hellcat Trail Interpretation Goes Hi-Tech!

By Matt Pfannenstiel, Visitor Services Intern

By the end of this summer a new high tech trail guide will be available for the Hellcat Trails! On both the dune loop and marsh loop this online guide will be accessible to anyone carrying a smart phone equipped with a "QR code" scanning app. The guide, which will provide refuge visitors with a self-guided tour of Hellcat, is scheduled to be to be finished before the end of the summer.

Similar to the old paper-based guide, the new online trail guide will contain information about wildlife (plants and animals) that you might encounter during your trek. The new online version will be more organized and contain specific information about different wildlife species, including their natural history and habitat preferences. The stops will still primarily be based on the old interpretive posts placed along the boardwalk.

We hope that you enjoy this new resource once it becomes available. For anyone having questions about what is currently going on with the project, feel free to contact anyone in the refuge's visitor services department.

Meet Great Bay Volunteers Charlie and Cheryle Lawrence

Compiled by Jean Adams, Outdoor Recreation Planner

Although not a well-known fact, Great Bay NWR is administered by the staff of Parker River NWR. It's a beautiful, somewhat undiscovered refuge located in Newington, NH. The majority of the time, it's unstaffed. Thus it relies almost exclusively upon volunteers to get the day-to-day work done. Cheryle and Charlie Lawrence have been active stewards of this quiet, off the beaten path refuge for the past decade.

I asked this engaging and very hard working couple to answer a few questions for *The Wrack Line*. After reading this, I think you will agree that they certainly are not leading the lives of sedate retirees!

How long have you volunteered? Do you volunteer elsewhere?

Seems we've always been volunteering. We've been helpers for the boy and girl scouts, chaperoned our children's school trips, been involved with junior achievement, chauffeured disabled vets and helped military families while their soldiers were deployed. After retirement, we've enjoyed Habitat for Humanity builds across the country and helping visitors at National Parks, in places like Fort Moultrie and Fort Sumter, SC.

We are now in our 10th year at Great Bay on the east coast and 4th year at the Tijuana Slough National Wildlife Refuge, located just south of our home in San Diego, on the west coast. Ten years ago, volunteering at Great Bay was very new for us, especially as "RV" volunteers. This included actually living six months at a time at the refuge in our 40-foot motor coach. It's like living on a 'little piece of paradise,' where we can watch young fawns playfully circling around our motor coach while their mom rests in the grass under the shade of a huge pine tree. The refuge is a special place. After a full day of volunteering work, we can walk down through

a beautiful meadow to skip rocks out across Great Bay, while bald eagles fly overhead. We hope our time volunteering has many more enjoyable and rewarding years to come.

We also volunteer with the Portsmouth Piscataqua Maritime Commission, which brings tall ships to the NH Seacoast to fund sail training scholarships for area students in a program called Sea Challenge. This program includes a week at sea for at-risk seacoast youth (14-17 years old), and helps them to build resilience, find out things about themselves they did not know (such as going without technology for a week). This program also pushes them physically and gives them daily structure and routine.

What did you do before you started to volunteer?

We grew up in coastal New Hampshire, returned to raise our family here after some military service overseas, and still consider it home, even though we now have a winter home in San Diego. Charlie is a retired US Army officer, who spent 22 years as an Army engineer with duties including Facilities Officer in Hohenfels Germany, Company Commander in Germany and Vietnam, and Supply, Logistics, and Operations Officer with a Training Brigade in Portsmouth, NH. Charlie also spent 30 years working at the Portsmouth Naval Shipyard, in various management capacities, including a graduate Marine Machinist,

and served in all supervisory positions in the Outside Machine Shop, helped to evolve the human resource management system that helped insure enough of each trade and skill level was available to perform all known tasks associated with submarine repair. Cheryle was the first female line foreman at a seacoast fishery manufacturer before moving on to Liberty Mutual Insurance, where she retired after 27 years of Insurance underwriting and information systems management responsibilities.

Wildlife refuge volunteering is so far removed from our government and insurance management experiences! We so enjoy volunteering and being able to contribute to the care and maintenance of such beautiful treasures. As RV volunteers, we are able to earn our keep and give back in our own small way. Of course, we don't miss the challenges and regimens that went with our former corporate lives, and truly enjoy what has now replaced them!

What do you do as a volunteer at Great Bay? What is your favorite job?

We do whatever is needed and we're able to do. This includes trail and boardwalk maintenance; mowing; gardening; visitor kiosk and restroom maintenance and servicing; equipment care and maintenance; assisting with refuge events and habitat improvement projects. We also provide information and updates to visitors and orient school groups .

Cheryle's favorite job is working in the native plant and wildflower gardens. Charlie enjoys maintaining and caring for refuge equipment. We both enjoy observing the diversity of wildlife and learning about their varying habits and habitats.

Any favorite memories that stand out?

Observing and assisting biologists with wildlife surveys and work practices. We have enjoyed netting and tagging bats. Doing this task in the middle of some very dark nights and early mornings has made it really interesting and will truly be a lasting memory for both of us.

At one of our first GBWR open house events, we participated in an activity where attending visitors used cut twigs and branches, we had prepared, to build sample osprey nests. It was very simple and visitors of all ages participated. When completed, many had fun jumping in and pretending to be osprey! As we watched, we were so excited to be part of such a fun exercise that allowed visitors and volunteers alike to participate and learn about wildlife in such an enjoyable and easy way! Another truly lasting memory.

Any advice to other volunteers?

As we travel across this country of ours, we can only repeat what we tell so many: "America is such a beautiful country and resource. It's ours to care for and enjoy! Volunteering at places like Great Bay is one way to do both!"

Footnote from Jean Adams: After reading Charlie and Cheryle's responses to my questions, I was struck by their sincerity and gratitude. They seem truly thankful for being able to contribute to both conservation on national wildlife refuges and to their community. These two are fabulous, hard-working people and we are lucky that they have donated their time and enthusiasm to important conservation work at Great Bay NWR. Thank you Cheryle and Charlie!

Photo: Matt Poole/FWS

Meet Our Summer Staff!

Editor's Note: Like many national wildlife refuges, staffing levels at Parker River typically swell during the warmer months. Below, two of our summer folks, both employed by the Student Conservation Association, introduce themselves:

Katy Bland: If you've recently traveled to the refuge and gawked at people traipsing around the marsh with heavy equipment, you've probably seen me in action as a biological technician intern.

Hello! I'm Katy, one of Parker River National Wildlife Refuge's interns. I came to be at Parker River in May 2015 after graduating from Cornell University in May 2014 with a degree in Science of Earth Systems and a minor in Business. My time between Cornell and Parker River NWR has been spent exploring my interests in coastal resiliency by working for a subtidal ecology lab at UMASS Boston, which meant SCUBA diving around the Gulf of Maine in kelp forests during the summer, and working in a biogeochemistry lab at Cornell University during the winter. This spring, I moved on land and am now exploring the same geographic location as last summer, the Gulf of Maine, through a completely different lens – Plum Island and the Great Marsh.

I have always valued salt marshes as principle to coastal resiliency and carbon sequestration, but our projects this field season have opened my eyes to just how important the diversity within and the persistence of the salt marsh ecosystem are. It's obvious to me, now more than ever, that protecting coastal areas is of imminent concern, and I look forward to how the remainder of my internship will inform my goals.

Matt Pfannenstiel: I am a SCA intern in the visitor services department. I am from Northborough, Massachusetts and after this summer will be entering my senior year at Saint Joseph's College where I am majoring in environmental science and marine science, with minors in sustainability studies and biology. Doing work with my professors and the Massachusetts Dept. of Fisheries and Wildlife, I have participated in a wide range of projects including: snow sampling on Mount Washington, various types of marine research on a hull of a schooner for 2 weeks, and navigating through tornado damaged environments to retrieve and deploy bird call recording devices.

This summer I will be primarily working on making a new online self-guided tour for the Hellcat boardwalk trails. However, don't be surprised if you see me leading other events around both Parker River and Great Bay refuges, such as the *Let's Go Outside* event, kayaking, bicycling, and tide pooling. I will also be assisting with different biological research projects. Some of my time will be spent at the Great Bay refuge, maintaining the public information and recreational resources.

No, I'm not one of those increasingly rare New England cottontails. Rather, I'm one of the far more common, and nonnative, eastern cottontails — making my summer rounds at the Parker River NWR visitor center and headquarters site.

Common Carp & the North Pool:
A Love-Hate Relationship

By Kaytee Hojnacki, Biological Technician

The origin of how the common carp *(Cyprinus carpio)* came to be found in the United States isn't completely clear, but one thing is for certain, it is now here to say. Several sources state that carp was introduced into U.S. waters sometime between 1830 and 1870, with multiple introductions by different people in different areas occurring. During the last two decades of the 19th century, the U.S. Fish Commission (one of two agencies that would later be combined to form the U.S. Fish and Wildlife Service) led an intensive campaign to stock and distribute the fish throughout the country as a "food fish." At the time, the idea of an "invasive" species was not known, and the idea that introducing non-native species into a habitat could be detrimental to native species was not understood. Hence, the proliferation of carp throughout the country, and the ensuing downfall from prized dinner fish to most hated species.

Common carp are both highly successful and most disliked for the same reasons. As omnivores, they will consume just about anything they can get into their mouths, including plants, invertebrates, and the eggs of other fish. To obtain a majority of their food, carp grub through the bottom sediments, uprooting and destroying native plants that other species (including invertebrates, amphibians, fish, and ducks) depend on. Additional impacts to vegetation from the carp's feeding behavior stems from the fact that as they feed, the displaced sediment fills the water column, which leads to noticeably cloudier water and a reduction in the amount of light reaching submerged plants. On top of all of that, the vegetation the carp do consume isn't fully digested before being excreted, which further contributes nitrogen to the water, causing excessive algae growth.

The success of the carp isn't due solely to their feeding behavior, but also because of their ability to tolerate some extreme environmental

conditions. Though they are a freshwater fish, carp can tolerate somewhat brackish (or moderately salty) water. Their temperature tolerance range is quite expansive (37-95°F), and they can even survive in a frozen-over pond as long as a little bit of open water remains below the ice. Carp can even tolerate low oxygen levels, as they have the ability to gulp air at the water's surface.

The common carp's reproductive success, coupled with its natural tendency to damage aquatic habitat, is why it is considered one of the world's 100 worst invasive species. In fact, in many locations it is considered THE most problematic invasive species. Sadly, it is also one of the refuge's most troubling species, as it is found in the North Pool. Carp found their way into both the North and Bill Forward Pools as a result of a flood event that occurred in 2006. Managing water levels in the Bill Forward Pool is easier than in the North Pool, so several years ago we were able to drain that impoundment and remove the carp. Removing carp from the North Pool is a bigger challenge due to its size, combined with the logistical challenges of manipulating its water level.

Hopefully, that will change this year. Beginning in early August, we will begin to drain water out of North Pool, with the goal of removing as much water as possible. This will concentrate the carp into a smaller area, at which time a crew of FWS fisheries biologists (from Nashua, NH) will arrive with their electrofishing boat to remove them. We are hoping that with this method, we'll be able to remove the carp but leave the native fish. Since removal has not been attempted in the North Pool before, we will have to see how successful this approach will be. But we've got our fingers crossed!

Photographica Esoterica

Summer is the temporal realm of dragonflies and damselflies. This little collection of images was taken during a brief meander thru Great Bay National Wildlife Refuge some time ago. The presence of these creatures...their diversity...and, ultimately, their beauty...speaks to the intrinsic value of a "little patch of wildlife refuge" along the New Hampshire seacoast.

All photos by Matt Poole/FWS

Parker River & Eastern MA Complex Collaborate on Special Event for YMCA Day Camp Youth

By Matt Poole, Visitor Services Manager

As part of the U.S. Department of the Interior's ambitious youth initiative, the National League of Cities, YMCA of the USA, and the Department of Interior signed an agreement last April to coordinate efforts to bridge the growing disconnect between young people and the great outdoors.

In comments made during the partnership signing, Secretary Sally Jewell said that "the millennial generation is more urban and diverse, but more disconnected from nature than any generation before. In a time of constrained resources, we need to work collaboratively with partners to engage the next

Photo: Matt Poole/FWS

YCCer Anna Springfield spent part of her day instructing youngsters in the finer points of archery target shooting.

National League of Cities and the YMCA have a long history of working with communities and young people across the nation. With this trifecta, I'm excited about the possibilities to leverage our existing resources and our collective expertise to inspire millions of young Americans to play, learn, serve and work in the great outdoors."

Several cities, including Boston, were selected as host sites for pilot events and projects in year one of the new partnership. One such event was held at the Assabet River NWR in Sudbury, MA on Friday, July 24th. On a warm, sunny morning, about 70 6-8 year olds, enrolled in one of the YMCA's Boston-based day camps, trouped out to Sudbury to participate in a day-long, "*Let's Go Outside"-style* event during which they had an opportunity to rotate through a diverse array of "activity stations" that focused on archery target shooting, fishing, live raptors, a nature discovery walk, getting "up-close and personal" with a state-listed Blanding's turtle, and even a tour of a World War 2-era bunker (the Assabet property was formerly a U.S. Army property).

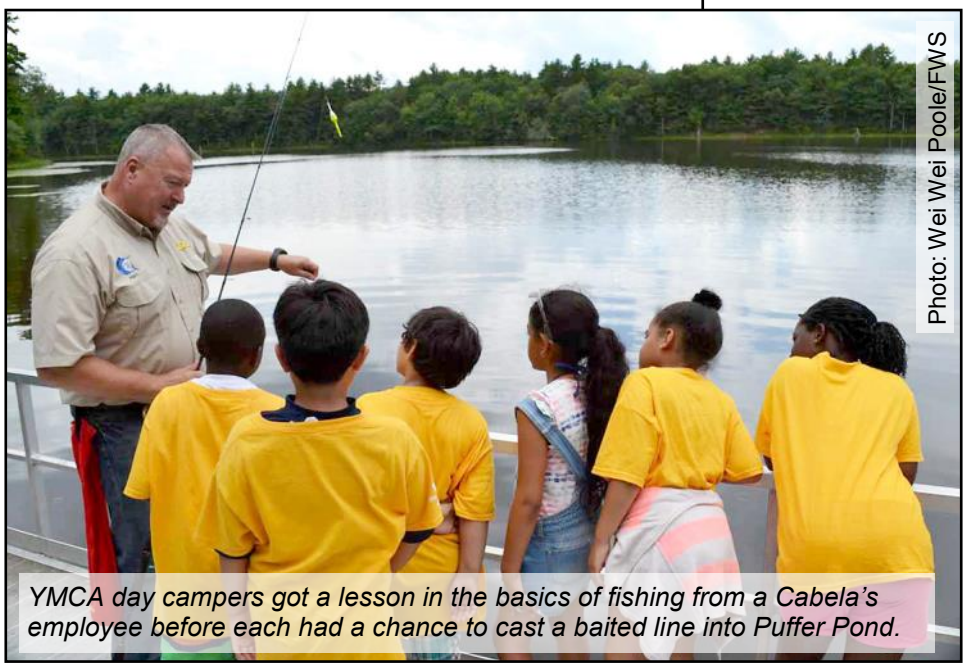


Photo: Wei Wei Poole/FWS

YMCA day campers got a lesson in the basics of fishing from a Cabela's employee before each had a chance to cast a baited line into Puffer Pond.

The Assabet River event was yet another shining example of the power of partnerships.

Refuge staffs couldn't have run this event without help from two refuge friends groups (Assabet River and Parker River), refuge volunteers, Student Conservation Association interns, Youth Conservation Corps workers, and Cabela's, Inc. (who conducted the very popular fishing station).

Photo: Matt Poole/FWS

In short, the event went off without a hitch. But how exactly does one measure the success of such a pilot? Well, smiling faces and "oohs and ahs" are one indicator. And there were plenty of both. The other approach is to simply ask the kids how it went. Based on all the "high fives" I saw, I think it can be safely said that we struck pay dirt!

Photo: Wei Wei Poole/FWS

Photo: Matt Poole/FWS

The Wrack Line, Parker River National Wildlife Refuge's newsletter, is generally published on a quarterly basis—fall, winter, spring, and summer.

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Editing & Layout: Matt Poole
Articles contributed by Refuge Staff, Volunteers, & Partners