The Wrack Line

Newsletter of Parker River National Wildlife Refuge • Newburyport, MA

United States Fish & Wildlife Service Fall, 2013

Using Tiny "Nanotags" to Track Large Scale Bird Migrations

By Nancy Pau, Wildlife Biologist

We live in an exciting era where advances in technology are opening new doors in wildlife research. Radio telemetry has been used since the 1950s to study local movement of animals. In the past, the bulky equipment and handheld tracking limited its use to larger animals with small ranges. Today, tags are getting small enough to be put on dragonflies; and advances in computing have made it feasible for wildlife researchers to build receiver stations that automate tracking of animals over hundreds, if not thousands of miles. This year, the Refuge joined a group of Canadian and US researchers to study the movement of birds throughout the Gulf of Maine.Parker River National Wildlife Refuge is very important to shorebirds that make the bi-annual migrating from the breeding grounds in the arctic to wintering grounds in South America. While Refuge biologists and bird watchers have studied shorebird migration over many years, there is still a lot we don't know about them.

One of the automated receiver towers at Stage Island. 3 antennas track birds in different directions. Solar panel provides power, and a Rubbermaid bin keeps the computer and battery dry. The receiver tower can detect birds up to 12 km away.

The nanotags are 10 mm long, and weigh 0.3 grams (a paperclip weighs 5 times as much!), and will last for about 1 month before the batteries die. The tag is glued onto the back of the bird. The antenna trails behind it — something that doesn't seem to bother them.

- How long does each bird stay at the Refuge?
- How many birds (tens of thousand or hundreds of thousands) move through the Refuge each year? Which habitats are most preferred by shorebirds? And how do the shorebird use the different habitats during their stay in Plum Island?
- Where are the important feeding or roosting areas for shorebirds?
- How does the tide affect how the birds use the different habitats?

In August of 2013, we put 30 nanotags on semipalmated sandpipers, the most common shorebird using the Refuge. Four automated receiver towers were set up

to track these birds throughout the Refuge. Additionally, there's a network of automated receiver towers deployed from Canada to Cape Cod, each able to pick up any bird tagged by any researcher in the network.

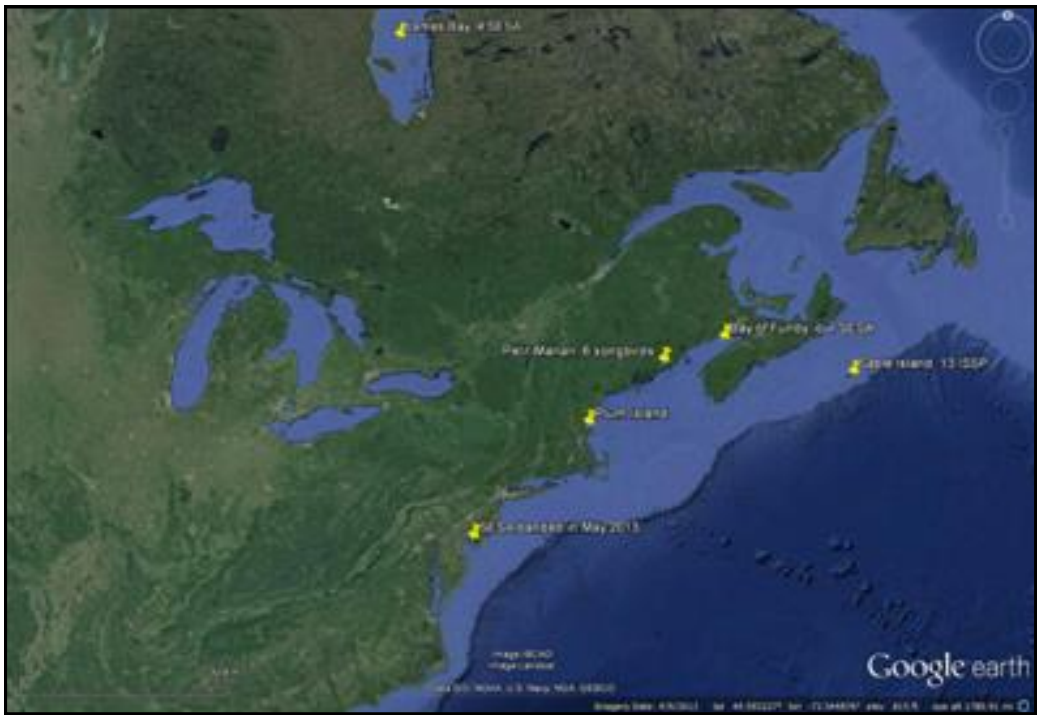
As of November 4, the towers are still recording birds that are migrating through; but the preliminary data is already pretty exciting. Of the 30 semipalmated sandpipers we tagged, about 34% left the Refuge in less than 1 week, 42% left after 2 weeks, and 23% stayed over 3 weeks. It was also surprising where some of our birds decided to go. Of the 6 birds we tagged at the end of August, 3 headed north to Maine and 2 showed up in Bay of Fundy in Canada. Because there are only 3 towers south of us, we can't confirm if the rest of the birds headed south. We may be able to answer this question when we do the detailed data analysis.

We also picked up some birds tagged by our partners:

- 4 semipalmated sandpipers tagged in James Bay, Canada (900 miles)
- 6 songbirds (red-eyed vireo and black polled warbler) tagged at Petit Manan Refuge in Milbridge, ME (200 miles)
- 13 Ipswich Savannah sparrows tagged at their breeding grounds at Sable Island, Canada (600 miles)
- We also recaptured 3 semipalmated sandpipers that were already banded. One was banded in Delaware Bay last fall, and two were banded in Brazil. The Brazilian birds were flying together and flew a minimum of 8,000 miles from Brazil to the Arctic and back to Parker River.

The Ipswich Savannah sparrows are still migrating through (or may be here for the winter), so we'll be leaving the towers up for a few more weeks to capture their movements. This winter, we will be delving into the data to answer the question we first posted this spring about how shorebirds use our Refuge. We will also be sharing information with all our research partners to map the large-scale movement of birds through the Gulf of Maine. Answering these larger geographic scale questions will be very important to the conservation of birds, as we face new threats like wind turbine development and climate change. Nanotags and other advances in technology is opening new doors to wildlife research; with this will come new and unforeseen research questions. This biologist, for one, is excited about where this innovative research will lead us.

Too much of a good thing! One morning, we caught about 60 sandpipers in the net. It was a race to get these birds out as fast as possible—luckily, they all made it.



Map with some locations of where our birds have been.

The Battle Against Perennial Pepperweed

By Frances Toledo-Rodriguez, Biological Technician

This is a stand of perennial pepperweed.

Perennial pepperweed has been observed on Parker River National Wildlife Refuge since the 1990's. Since 2006 the U.S. Fish and Wildlife Service and Mass Audubon have concentrated increasing attention and resources toward controlling pepperweed in the Great Marsh. Currently, the Pepperweed Eradication Project is treating pepperweed in the Massachusetts towns of Salisbury, Amesbury, Newburyport, Newbury, Rowley, Ipswich, Essex and Gloucester. Partner organizations are working in Hampton and Rye, NH, Salem Sound and Boston Harbor.

Since 2006 the pepperweed volunteers, known as the Great Marsh Weed Warriors, have donated over 7,000 hours to the project. Together, the Warriors have mapped pepperweed for the entire Great Marsh – an area comprising over 27,000 acres (from Gloucester to Salisbury). In 2013 alone, the Great Marsh pepperweed team treated over 600 sites, with volunteers hand-pulling more than 200 sites.

Perennial pepperweed (*Lepidium latifolium*) is a plant that you have probably seen around the Great Marsh area and you might not recognize it. Pepperweed is an aggressive non-native plant which has increasingly threatened the integrity of salt marshes throughout southern New England; it can be found in salt marshes and estuaries, wetlands, and riparian areas, but is known to invade disturbed areas like roadsides as well. Pepperweed spreads through seed distribution as well as through a root-like subterranean stem. Pepperweed produces thousands of highly viable seeds annually, which are then dispersed by wind and by water. In areas with wet, saline conditions pepperweed forms dense, single species stands which displace native plants. The concern is that if allowed to spread, pepperweed may continue to expand its range into other habitats, degrading salt marshes and displacing species like the New England cottontail and salt marsh sparrow, which depend on these habitats for food and shelter.

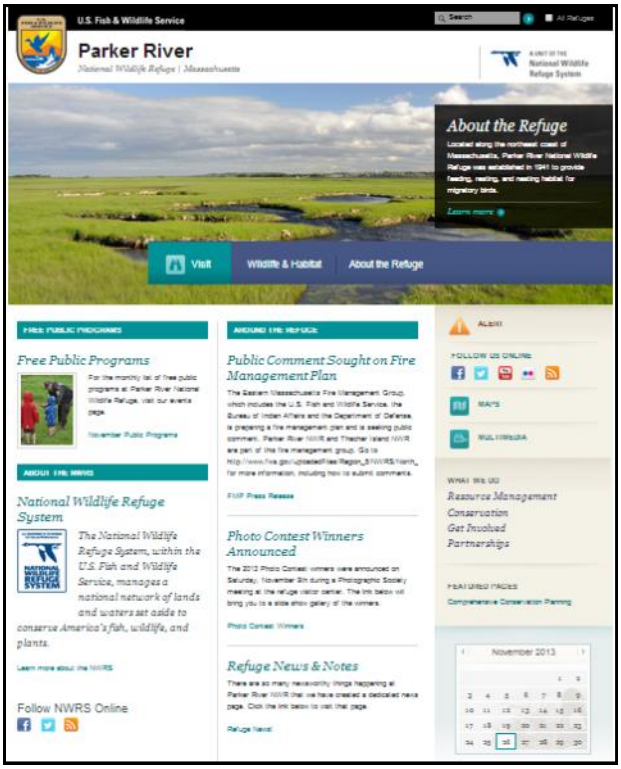
Perennial pepperweed is native to Eurasia. In the 1930's the plant was introduced to the United States through a shipment of sugar beet seeds. Since that time, pepperweed has become a serious problem on the West Coast infiltrating roadsides, riversides and pasture lands. Pepperweed is present in all states

left: Sze Wing (Student Conservation Association intern) and Frances Toledo-Rodriguez (USFWS staff) pulling pepperweed at Parker River National Wildlife Refuge. right: Collected pepperweed bags before they were sent for proper disposal (incineration).

Pepperweed, continued

west of the Rocky Mountains. Although pepperweed was first recorded in Peabody, Massachusetts in 1924 and Norton, Connecticut in 1933, it has only recently been observed spreading rapidly in Massachusetts and Connecticut. In New England, infestations of *Lepidium latifolium* are mainly found near the coast and on coastal islands. Stands often occur at the upper edges of salt marshes above the high-tide line, frequently forming dense stands. It also occurs along highways, where it grows in disturbed areas near roads. In 2006, pepperweed was confirmed in New Hampshire and in 2013 it was confirmed in Maine at Rachel Carson National Wildlife Refuge.

Parker River National Wildlife Refuge and Mass Audubon are working with many conservation partners, towns, State, volunteers and local schools to contain and eradicate this invasive plant before it takes over our salt marshes. Volunteers are an essential part of the project, and help with mapping, hand pulling, monitoring, and outreach. We need as much help as we can get. If you would like to be part of this effort please contact Frances Toledo-Rodriguez at Frances_Rodriguez@fws.gov or (978) 465-5753 ext. 203.



Don't Forget to Check Out the **NEW** Refuge Web Site!

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

The Passing of a Refuge Friend

Refuge volunteer Wally Dash was a familiar, friendly, and productive member of the refuge team for 20+ years. He recently passed away and will be dearly missed by everyone who had a chance to know and/or work with him. Several of the refuge staff who knew Wally well wanted to share their thoughts and memories:

From Jean Adams, Outdoor Recreation Planner: What I remember about Wally is that he actually listened when you spoke to him. A lot of people these days will ask how you're doing-but few really wait for the answer. Wally did. He listened and he cared about what you were saying and how you were doing. And the next time he saw you-- he referred back to the past conversation. He was full of stories and loved to share them but also wanted to hear what you had to say. He always had a smile and possessed a great sense of humor. he had a sarcastic side that was funny without being obnoxious. He was a man of integrity and a hard worker and was truly a proud and fitting member of the "greatest generation." I will miss him.

From Frank Drauszewski, Deputy Refuge Manager: I first met Wally over 20 years ago. I was the new assistant Refuge Manager at Parker River NWR responsible for maintenance operations. My first big task was to build a large observation deck on the old Visitor Contact Station at Parking Lot 1. Refuge Manager Jack Filio wanted it completed using our newly formed Friend's Group. The challenge was our Friend's group had no money or know-how. Enter Wally Dash and his friend Joe Burke. I was introduced to these gentleman by Joe's son Gary, the Refuge's recently-hired Maintenance Worker. Gary said his dad Joe and friend Wally were retired tradesman in need of something to do with their free time. I guess their wives needed them out of the house. We started the project in the spring of 1993 with a few other volunteers and staff and completed this large 1000 sq ft deck before the summer season. Wally was the brains of this operation his years as a carpenter and ability to keep things straight and true resulted in a beautiful deck built on time and under budget. How often can you say that about a Government project?

As the Refuge volunteer coordinator, Jean Adams got to know Wally pretty well.

Wally Dash, Refuge Volunteer, 1992— 2013.

Over the years I have enjoyed Wally stopping by my office to check in and talk about the old times on the Refuge, his fishing and gunning experiences and growing up in the area. Wally was a gem, he touched all of us at the Refuge who knew him. I will never forget him.

Refuge, his fishing and gunning experiences and growing up in the area. Wally was a gem, he touched all of us at the Refuge who knew him. I will never forget him.

From Gary Burke, Engineering Equipment Operator (retired): Wally was one of the best volunteers I ever worked with at the refuge. He was frugal by nature and always came up with ways to help the refuge save money on maintenance projects. Whatever the project, large or small, Wally was always eager to pitch in with his knowledge and skill. He was a kind and giving person.

From Nancy Pau, Wildlife Biologist: Wally was a “fixture” at the Refuge when I started here in 2002, our “go to volunteer” for whatever needed to be done. I feel really lucky to have worked with him and gotten to know him personally. He was one of those

(Article concludes bottom of next page.)

A Fellow Volunteer Remembers Wallace "Wally" Dash

By Dennis Crivello, Volunteer

Some years ago Readers Digest published a monthly magazine which included an article by various authors' rememberances of their most unforgettable character. For me, Wallace "Wally" Dash falls into this category of my most unforgettable character. Approxamately four or five years ago, Wally and I were teamed up to perform various maintenance projects on the refuge. I was his second pair of hands. Neither of us knew how this arrangement would work out – Wally having been a carpenter all of his life, and familiar with Plum Island, and me being a university desk jockey. In a very short period of time we formed a partnership that proved to be productive and enjoyable to both. I found out shortly that Wally fit the mould of a "hard rock yankee" in every positive sense of the word. He came from Nova Scotia "stock" and grew up in Salem, always being close to the sea. He was a man of skill, never wasted words, could be opinionated, devilish, a hard worker, independent, and never broke rules or laws (but might bend them to the near-breaking point!). There was a side of him that would take chances – some of which he survived and others for which he paid the price; however, he always found the effort enjoyable no matter what the outcome.

We would spend hours involved in projects and always talking about hunting, fishing, boats, camping, birds, Plum Island history, or just our own personal history. During that time the discussions between us led each of us to have greater respect, understanding and knowledge of the other. I learned a lot about Wally during that time. Simply put, Wally spent time on Plum Island because he was deeply in love with it. He loved the sea, sand, marsh, history and wildlife. He knew every inch of it – having been brought there by his father at age 10. He treated the island as if he owned it and was its caretaker. Among many other memories, he shared with me that that the main refuge road was nothing more than a two rut car path which occasionally flooded at high tide. He loved that memory.

To speak with Wally, one might have a hard time reading his humor. My personal experience occurred one day as we were making springtime repairs to the Marsh Loop boardwalk, when we came upon a section where it takes a right angle turn. At the corner of the angle is a small triangular bench. It appears that the bench sustained some winter damage and needed repair. Wally and I began the repair process and somehow I lost my footing and balance, falling backwards and down about two feet off the boardwalk into wet, matted marsh reeds. I wasn't hurt except for my pride, but my backside was soaked. After Wally saw me spread eagle on the wet reeds and realized I wasn't hurt, he broke into a slight smile and a misty gleam appeared in his eyes. Even though there was no boisterous laughter, I just knew that inside he was killing himself with laughter. We continued our task without further comment, but I knew that every time he saw my wet backside he was laughing inside!

I am proud to have known and called Wally Dash my friend. He was a man of substance in every sense of the word. Now every time I walk that magnificant refuge beach I will see, in my mind, that slightly built man scramble up twelve foot dunes like a teenager to place mile markers for all to see and measure their progress up and down the beach.

Friends and fellow volunteers Dennis Crivello & Wally Dash.

continued from page 4:

New Englanders who was really connected with nature and could do anything. He taught me how to read the landscape and to track wildlife. He spent a lot of time on Plum Island, even before it became a Refuge—and told great stories of the changes over the years. He also loved teaching young people how to hunt and fish and took both my husband and I out fishing for cod. Wally gave a lot to Refuge in the last 20 years. Both the island and the staff will miss him.

Ruminations of a Plover Warden

By Bonnie David

Maybe it was the hat...

Perhaps it was my own migration to the north shore that gave me the affinity for the refuge, perhaps it was being now an empty nester, or maybe it was simply the U.S. Fish and Wildlife Service hat, but when I learned of the volunteer opportunity as a plover warden on Plum Island while the beach was closed, I knew I wanted to learn more.

The training at the Refuge visitor center was complete with a presentation on all the refuge holds - beach and salt pannes, cranberry bogs and beach plums, wildlife and migrations; and all that comes from these - birders, joggers, bikers, boaters, sunbathers, fishermen and huntsmen. We learned how to be plover wardens, to maintain a presence and to inform.

Equipped with refuge garb, 2-way radio and backpack with sunscreen, bug spray and plover information, I carried the folded beach chair over the boardwalk to my post on Day One. I looked through my binoculars in all directions, seeing only a lone black backed gull, knowing the plovers were somewhere out there, scopping their nest sites. That first shift on the Refuge was cold and windy, sand whipping and waves crashing, and not a soul on the beach.

Eventually the beach at parking lot 1 opened, the sun came out and the beach filled, all appreciative of the Refuge, many going to the end of the restricted area to admire and photograph. Many had questions, how are the plovers doing, what is the water temperature, why is the sand purple (small specks of garnet from the dunes, lighter than sand, sitting on the top), and often, when will the beach open?!! Conversations were varied and rewarding daily from the well dressed elderly gentleman who came over and shared he was 92 and hadn't been to Plum Island since a child to the fisherman sharing fishing tips.

All were respectful ~ pulling in newly raised kites when learning it could frighten wildlife, appearing to be a predator, or coming off dunes when hearing how it could damage vegetation roots, quickening the erosion, and the families I shook my head towards when noting they were tossing bits of their lunch to the excited gulls hovering over them.

I headed off joggers along the low tide line from entering the refuge, unaware of the large signs on the beach, and relocated the ball players close to the restricted area. Refuge officers were called on the radio when needed, walking waters edge one day to a boat that had pulled up on the closed beach and the occupants on the beach.

Soon the season turned to the dog days of summer, the chicks had hatched, having survived against predators and storms, taking their newly hatched selves to the seaweed to feed and grow, and by August most fledged. I too grew, learning it didn't really matter what bait you had, that there were several types of gulls, terns and plovers. I learned young birds were called immatures and larger or smaller birds called greater or lesser. I also learned the success of the Refuge depended on the diligence of many, from volunteers to refuge professionals, the informative gatekeepers to the protective officers.

Trail Renaming Will Honor Those Who Came Before

By Lincoln Furber

When visitors move down the Ferry Way Trail at the Great Bay National Wildlife Refuge in Newington, NH, they are following in historic footsteps. In the mid-1600s, colonial settlers arrived in this part of the New World and thus joined Native Americans already there. Part of this land area protruded into what came to be called the Great Bay and, like its surrounding territory, it was the site of trading, hunting, fishing and farming, as well as violent clashes between the newcomers and those who had been there for many, many years.

The trail initially runs along the former weapons storage area fence line before heading off on a two mile loop through wetland, meadow, and forest.

At one spot along the shoreline, it was only about a 200-yard span to the far shore across the Great Bay's rushing, tidal waters. And, as more settlers arrived and busied themselves trying to eke out a living here, at least one of them saw the need for a link between the two shores at this location where he lived. So, in 1694, William Furber sought and received a license to set up a ferry. The square-ended craft carried people, animals and goods across the 40-foot deep, fast-moving current. It went between what is still called Welsh Cove, where Furber's house was, over to what was then called Mathes Neck, now Adams Point. Old records show that there were two docking places at the neck on the east side of the strait. A trip to the first one cost an individual three pence, and a man and his horse eight pence. If they docked at the second one, it was six pence for one person and twelve pence for man and horse. The ferry continued being run by Furber descendants in later years.

An observation deck along the Ferry Way Trail affords a view of Great Bay and the site where the Furber Ferry once operated.

William Furber's house at the ferry was actually a garrison, a not uncommon fortified structure at the time to cope with Indian attacks and also to house soldiers. William Furber himself had the military rank of lieutenant. At one stage of his service he was court martialed, apparently for dismissing his troops due to a lack of supplies for them. In addition to a fine, he was forbidden to hold public office. But this punishment soon evaporated because he served as a representative to the General Assembly of the Massachusetts government in 1703 and 1704, and in 1707 had the duty of running boundaries for five area townships.

This man who started the ferry was the namesake son of the first Furber to come to the New World. At age 22, he had sailed out of Bristol, England, in June 1635 with a few other immigrants aboard the galleon "Angel Gabriel", a ship which was once in the fleet of Sir Walter Raleigh. On this voyage, however, she was a doomed vessel. For on August 14, 1635, the very night the ship finally arrived in what is now Pemaquid Harbor, ME, a massive hurricane tore up along the northeast coast. The "Angel Gabriel", with some passengers and crew members still aboard, was demolished. No trace of her has ever been found. Some of the passengers and crew had managed to get ashore to the small fishing settlement at the harbor before the storm struck. Young William Furber was one of these lucky ones. And, very soon, as an indentured servant

to a prosperous family of passengers who had also survived, he went with them down to Ipswich in Massachusetts. Two years later, his debt paid, Willliam Furber moved up to Dover, NH. There, he married, acquired land, raised his family and lived out his life.

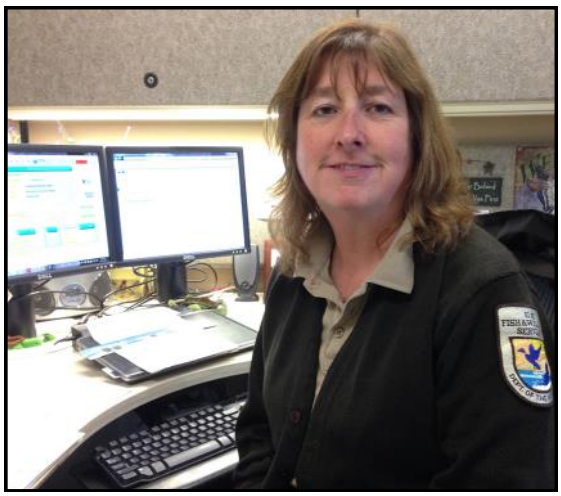
Fast forward to the mid-1900s when the federal government took over this Newington property to create an air force base which eventually served as the home of two Strategic Air Command units. The government takeover of the area resulted in, among other things, the physical removal of some historic landmarks, including a cemetery where early colonists like William Furber were buried. The moving damage, as well as great age, has virtually obliterated all the gravestone markings.

In 1989, the government closed the air base with its various facilities, including missile storage units. Then, at the urging of concerned citizens of Newington and other nearby towns, as well as interested environmental groups, a national wilidlife refuge was created on part of the former air base land. This Great Bay National Wildlife Refuge, with its vibrant woods, ponds and fields, now has two classic walking trails, one of which has the name Ferry Way Trail. This is a two-mile-long loop that runs down to a point of land projecting into the Great Bay. And this point is the genesis of the trail's name because it was at this narrow stretch of water that the second William Furber established his ferry in 1694. The crossing over to Adams Point eventually came to be known as Furber Strait, and the point itself became Furber Point.

In the coming year, this ancient track will be renamed the William Furber Ferry Way Trail by the Fish and Wildlife Service to note its historic connection to the ferry that was created more than 300 years ago. In addition to the trail's renaming, a small monument will be placed at the viewing platform site at Furber Point with a plaque briefly describing the origin of the trail's name. This name change and the new stone marker will be commemorated at Furber Point with a small event in August 2014 by some of the descendants of the first William Furber. They will also be observing what they believe would be William Furber's 400th birth year. (His exact date of birth is unknown.) U.S. Fish and Wildlife Service officials at the Parker River National Wildlife Refuge in Newburyport, MA, manage the Great Bay Refuge as well as two others. They have provided invaluable support and assistance to the William Furber descendants who, in January 2013, proposed renaming of the trail and the placing of a marker at Furber Point.

Activity at the Great Bay National Wildlife Refuge seems to be at a minimum these days, but for all present and future Refuge visitors who love wild places, the centuries old heritage of one of this refuge's two beautiful trails will now be known.

Welcome New Additions to the Refuge Team!



Peggy Hobbs, Administrative Officer

Tajuan Levy, Maintenance Worker

He's A *Handy* Man to Have Around the Refuge: Meet Rick Miller

By Jean Adams, Outdoor Recreation Planner

Here Rick Miller stands next to one of several fine pieces of cabinetry that he has constructed for the Refuge visitor center. Rick recently designed and, ably assisted by Refuge staffer Bob Springfield, built a shed for the refuge's small , but growing fleet of sea kayaks.

If you go inside the Visitor Center at Parker River NWR or in the contact station in lot 1, you're likely to see the handiwork of Rick Miller, our volunteer carpenter. His beautiful woodwork can be seen and enjoyed every day by the staff and public.

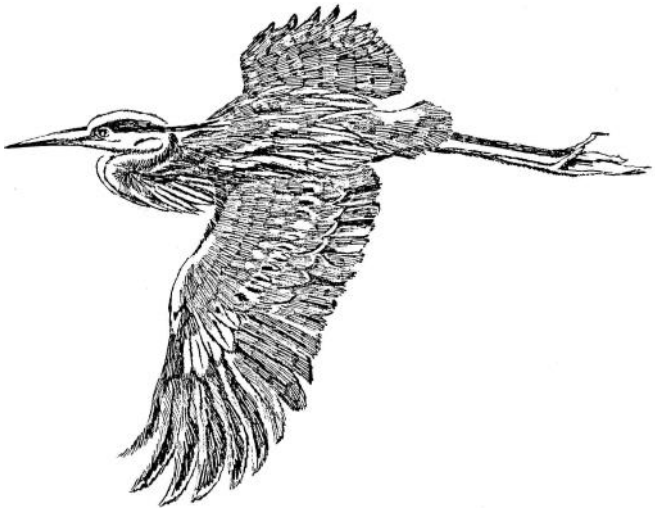
Rick has been a volunteer for over 4 years. Initially he was recruited as a plover warden while fishing on the beach by longtime volunteer, Steve Mangion. It didn't take long, however, to realize that we needed someone with his skills in the workshop and not on the beach. Since that time, Rick has created quite a few beautifully crafted custom made pieces for the Refuge Visitor Center including brochure racks, podiums, TV stands, and taxidermy cases.

Although a very skilled woodworker, Rick spent many years in the culinary industry and used to cook for Emaus House in Haverhill .For the last ten years that he worked, he also spent time building custom furniture.

When asked what he likes most about his volunteering, Rick says that he really enjoys time with Refuge staff—especially the varied and often educational discussions around the lunch table. He says that he is impressed by the wood shop-and very much enjoys working in it. "I wish I could take that space home with me! " says Rick.

From the Refuge's perspective—we're glad he leaves his home to spend time with us.

Thanks, Rick. We really appreciate your valuable and specialized skills.



Tide Pool Discoveries!

By Ellie Bailey, Volunteer/Master Naturalist

Volunteer Master Naturalist Ellie Bailey leads a tide pool program.

Once again our Tide Pool Discoveries program proved to be a popular and successful event for children and their families. Led by Refuge staff and Master Naturalist volunteers, this program literally allows children to get their feet wet as young marine biologists. On those summer days when low tide fell in the morning, kids five to ten years old headed out into the pools at Sandy Point looking for life between the tides. Equipped with sharp eyes and a plastic pail half full of salt water, it didn't take long for each child to collect a live periwinkle or dog winkle. However, the most sought after prize was always a crab and before long even the novices began to discover the hiding places of these lively animals. Asian shore crabs, green crabs, and hermit crabs brought squeals of delight to all the kids and were plopped in pails to share with the group. Occasionally a child discovered a sea star or sea anemone, or noticed a slipper shell or limpet attached to another animal and splashed to the leaders or other adults to ask, "What is this?" These teachable moments added a one-one component to this group program.

At each program children spent about a half hour hunting for sea creatures in the tide pools and then met as a group to share their discoveries and learn more about them from their leaders. Inevitably when called to come in to share, the tidepoolers were reluctant to leave the pools, a good sign that the event had been a success. Once on the beach, the kids shared with enthusiasm, teaching each other animals' names and learning a few "fabulous facts" from their leaders. Finally and sometimes reluctantly, the children said goodbye to their treasures, and returned them to their tide pool homes!

Crabs are always among the most prized finds during the course of a tide pool discovery program.

Connecting with nature in a Plum Island tide pool!

2013 Parker River NWR
Nature & Wildlife Photography Contest Winners!

The year's photo contest was a huge success, with 162 matted prints submitted. Needless to say, the panel of four judges had a difficult time determining this year's winners. Each print that finished in the top three will be on display in the Refuge visitor center for the next year. This year's contest was sponsored jointly by the Refuge, the Photographic Society of Parker River NWR, and Hunt's Photo. While we only have room enough in this issue of The Wrack Line to showcase the images that were awarded first place, all contest winners can be seen on the refuge web site here: http://www.fws.gov/uploadedFiles/2013%20Photo%20Contest%20Winners(1).pdf .

Best of Show &
First Place—Landscape / Point & Shoot
Lysa Burns

First Place — Landscape / DSLR
Sandra Burke

First Place — Wildlife / DSLR
Rachel Bellenoit

First Place — Wildlife / DSLR
John Geesink

First Place — Youth / Wildlife
Sam Mroz

First Place — Landscape / Youth
Lily Anderson

Fall Coast Sweep a Big Success!

By Jean Adams, Outdoor Recreation Planner

Question: When is it a good thing to say there is a lot of trash?
Answer : When it is in a dumpster at the end of a beach clean-up day.

This year's fall beach clean-up was held on September 14 in conjunction with Coast Sweep. As in the past, the Refuge worked cooperatively with MA Audubon. Joppa Flat's Bill Gette and Dave Larsen manned parking lot 1, directing the volunteers to different sections of the beach, handing out trash bags trash survey forms, and litter picks.

Although the weather started out less than ideal with drizzle and overcast skies, the clouds cleared mid- day and the sun peaked out. With the sun's arrival, the volunteers came out in droves, with over 100 volunteers participating throughout the day. A half dozen large groups came out to participate as well, including local boy scout and girl scout troops and employees from a local bank and a manufacturing business.

Refuge Volunteer Janet Hickey came out to ride shotgun with me and together we loaded up the ATV with the trash bags filled by many volunteers. Driving back and forth along the beach, we hauled roughly 1.5 tons of trash from the beach. The overwhelming trash was comprised of plastics: bottles, coolers, milk crates, pvc pipes, and kids' toys. We noted that there was a large amount of home debris- most commonly wood . This, no doubt, came from the homes destroyed by the late winter/early spring storms. There was even a large section of decking , an aluminum boat, and many many mounds of burlap sacking (likely broken sand bagging) .

Photo: FWS

Janet Hickey and Jean Adams staff the "garbage mobile!"

As we drove the beach, we were amazed by the enthusiasm and gratefulness of the volunteer coast sweepers. People seemed genuinely happy to be helping out. "We love doing this, we love this beach" was a sentiment repeated by the volunteers we encountered. It was great to see such a demonstration of public stewardship towards the Refuge.

All and all, two tons of trash was picked up from the beach –potential hazards to wildlife and definitely unsightly and unhealthy to the habitat. It was a great day spent doing a worthy job with caring and enthusiastic volunteers. Many thanks to all that pitched in to help *and* into the dumpster!

Take the bus and leave the driving to us!

The refuge recently took ownership of its new, long awaited for passenger bus. The new diesel-powered vehicle will be used for a host of visitor services programs, not the least on which will be our popular Behind the Scenes tours!

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

Here is our contact information:

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Newburyport, Massachusetts 01950
Phone: (978) 465-5753
On the Web: http://www.fws.gov/northeast/parkerriver/