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OSPREY

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TRACKING THE TRAVELS OF OSPREYS

BY CHRIS MARTIN

On a humid late July afternoon with sea mist rolling in off the Atlantic, six of us meet at a gravel boat landing at the end of a narrow spit of dry ground reaching out into the salt marsh.

Barely three-quarters of a mile from the crowds at Hampton Beach, we are immersed in a vastly different habitat than the beach-going throng. A nebulous ocean-spawned mist hangs no more than fifty feet above our heads, reducing the normally blazing mid-summer sun to a feeble white disk in the sky – no doubt disappointing hundreds of sun-worshippers on the beach.

Scanning the salt marsh, we find visibility surprisingly good below the thin gray fog ceiling, except for heat waves that continue to radiate off the marsh. Viewed through binoculars, the rising heat triggers mirages – distant beachfront bungalows turn on their roofs, and vacant duck blinds out in the middle of the marsh shimmer and dance. All distant things look like illusions, including a swaying brown shape we see across the way. What is it? ... Maybe an immature bald eagle perched and preening? Or perhaps just a wooden salt hay staddle post that hasn't moved in over a century.

Here on shore, I greet Iain MacLeod, a lifelong osprey enthusiast. Since arriving in the U.S. from Scotland more than 25 years ago, MacLeod has helped N.H. Audubon and the N.H. Fish and Game Department monitor New Hampshire's recovering osprey population. And since 2011, as Executive Director of the Squam Lakes Natural Science Center,

MacLeod has championed Project OspreyTrack, a research and education initiative aimed at learning more about osprey behavior and migration.

Flashing a broad smile, Iain shakes hands with Richard "Rob" Bierregaard, who has just arrived from the previous days' efforts to catch ospreys in Rhode Island. Now a semi-retired biology professor, Bierregaard began studying ospreys on Martha's Vineyard back in 1971. More than four decades later, he's still fascinated by these so-called "fish hawks." In 2000, he began deploying lightweight satellite transmitters on adult ospreys to follow their annual migrations across the Caribbean. A few years later, he started tracking juveniles on their first risk-filled trips south. After 15 years, and more than 80 birds tagged, Rob's work has vastly increased our

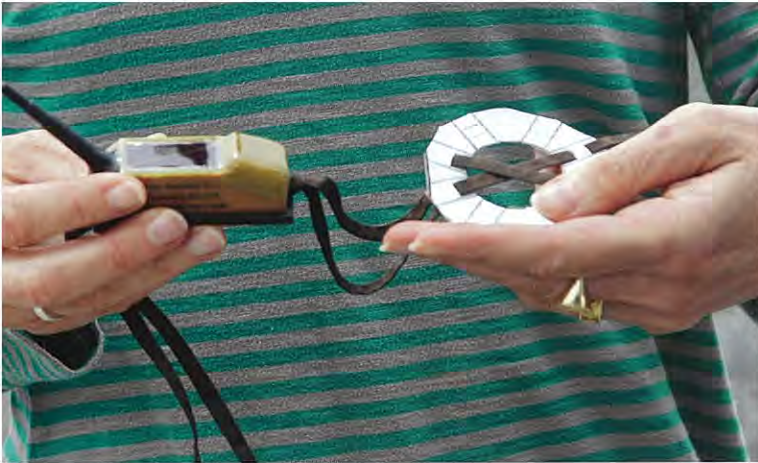
understanding of how ospreys cope with hurricanes over Cuba, gun-toting fish farmers in Guyana, and a host of other potential threats at both ends of their 6,000-mile round trips.

Recently, MacLeod and Bierregaard teamed up to study the local movements of New Hampshire's breeding male ospreys using GPS-enabled transmitters accurate enough to track hourly location, altitude, speed and direction. With this degree of precision, biologists can see which ponds individual birds prefer and how far they range from their nests in order to supply fish to mates and young.



Richard "Rob" Bierregaard (right) explains to photographer Scott Harvell (middle) and guide Dave Weber (left) how the noose carpet trap works.





INTO THE SALT MARSH

Our local guide is retired Hampton firefighter Dave Weber, who is already knee-deep in the brackish water. He skillfully un-trailers his 16-foot camouflage-painted outboard and says, "Who's ready to go?" Weber knows this place well, often using his brown and green skiff to get to his favorite fishing spots while navigating an unruly maze of small tidal rivers, shallow bays, and narrow back channels that pump the lifeblood of the Hampton-Seabrook coastal ecosystem.

For more than 20 years, Weber has also volunteered his time to make, install and maintain over 200 birdhouses in the salt marsh that are used by tree swallows and other small insect-eating birds. While it's debatable whether his efforts have reduced the biting insect hordes, there's little doubt that the darting blue-green swallows inhabiting his houses enliven the salt marsh. In addition to delicate boxes for small birds, Weber has built a half-dozen hourglass-shaped osprey nest platforms and anchored them in strategic locations across the salt marsh. Several of these bulky structures have been occupied by ospreys, who now raise their broods on them annually. For his years of dedication to coastal wildlife, Weber received the New Hampshire Fish and Game Commission's 2013 Habitat Stewardship Award of Excellence.

Iain has also invited Sharon and Scott Harvell, two more New Hampshire raptor lovers, to join us in Hampton to observe and photograph the trip. Our team now assembled, it's on to the day's mission, one that seems simple enough: visit one of Weber's active nest platforms, capture a free-flying osprey fledgling, fit it with a 30-gram solar-powered backpack transmitter, and release it unharmed back into the care of its parents. No problem! Anybody could do that! Right?

Luckily for us, Bierregaard has been through this dozens of times, and has brought along various tools of the trade. But he's also the first to admit that every capture attempt is its own unique adventure. We wedge into Weber's skiff, along with oars, life jackets, two gas cans, Rob's bird gear, and a 10-foot aluminum ladder, and set out upriver. Ebb tide reveals crabs, mussels and many other creatures living along the eroded channel and on the mud flats. Herring gulls patrol the oozy edges for exposed crustaceans. Common terns dash back and forth noisily overhead, carrying tiny bait fish in their beaks. A snowy egret arises from a hidden nook and glides across waving beds of Spartina grass toward another secluded hunting spot.

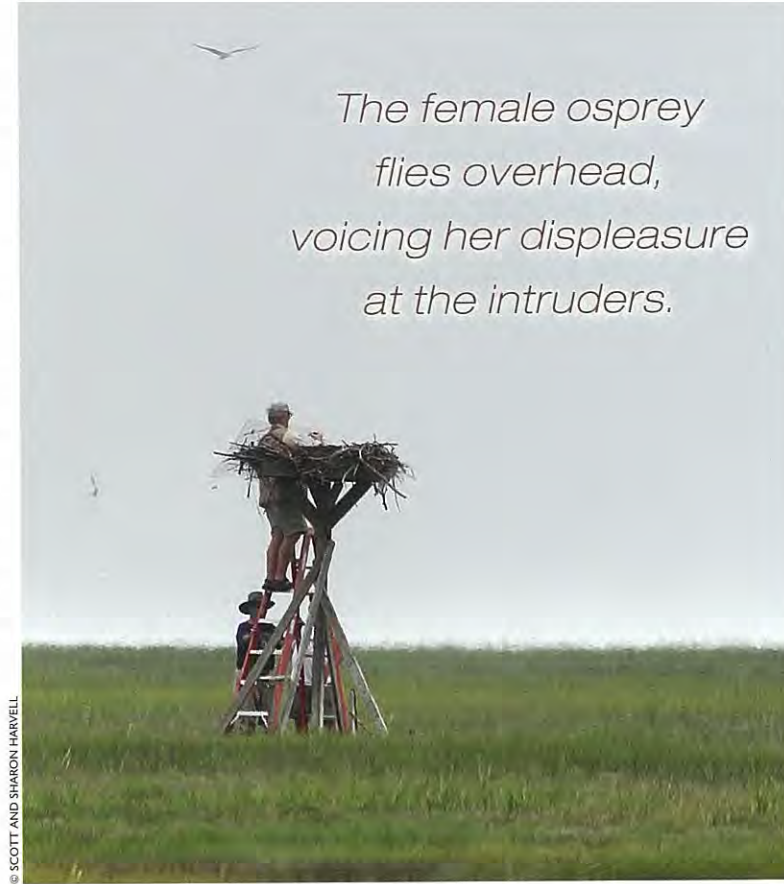
TO CATCH A PREDATOR

It's now more than an hour past low tide, and the slowly rising waters actually speed our forward progress. After about a mile – first up the Hampton River, then up the Taylor – we veer left off the main channel and head up a small tributary. Motor still running full, we angle into a straight and narrow ditch carved deep into the sod by salt hay farmers a very long time ago. This brings us within 50 feet of the nest platform. Our crew hops out and finds walking on the well-drained turf a lot easier than we expected. It's truly amazing to be out here in the middle of this immense wetland; from where we stand, we can see absolutely no other people.

Though this year's two youngsters are not on the nest, Momma Osprey takes great exception to our trespassing. She flies overhead voicing her displeasure. Meanwhile, Dad and the "kids" are perched on separate posts more than a quarter mile away, just taking in the scene. Weber grabs a fresh-caught bass out of his cooler. The ladder goes up quickly next to the platform. Bierregaard scrambles up and lays the huge fish smack in the center of the nest. Over the top of the fish, he places a rectangular carpet of lightweight steel mesh covered with dozens of nearly invisible slip-knot fishing line nooses. He ties the entire contraption firmly to the platform. A young osprey flying off with a noose carpet trap dangling from its feet is definitely NOT what we want to see!

Everything in place, we retreat by boat back across the river channel. There's a derelict waterfowl hunting blind at waters' edge with a great view of the platform and its surroundings. The tide is still coming in, so it's a bit of a scramble up a muddy berm to our relatively dry hiding place behind the blind. I think to myself, how can anyone actually "hide" from a visually oriented bird like an osprey in a wide-open salt marsh?

So we wait. And the tide keeps coming in. At this phase of the moon, there's a six-foot difference between low and high tides. We now find ourselves standing in an ankle-deep pool. Glancing around, we see that the entire cordgrass meadow surrounding us is awash. Weber's skiff, once tied off a couple feet below, now floats right up by our knees.



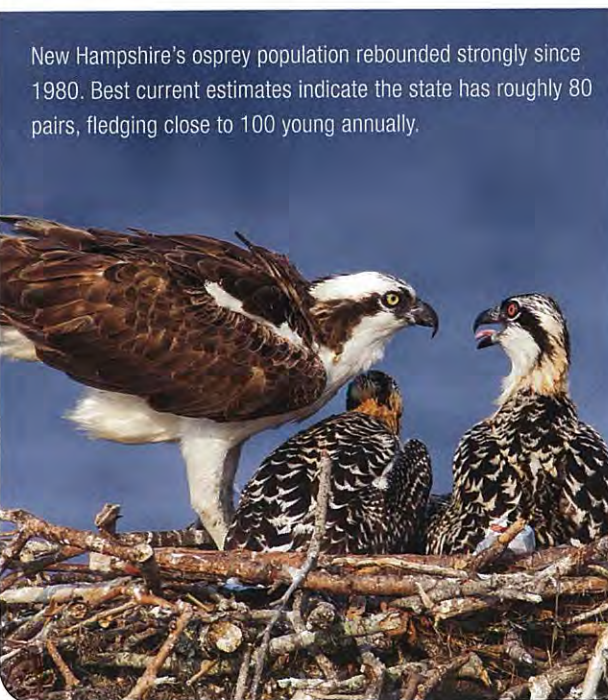
The female osprey flies overhead, voicing her displeasure at the intruders.

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OSPREY RECOVERY

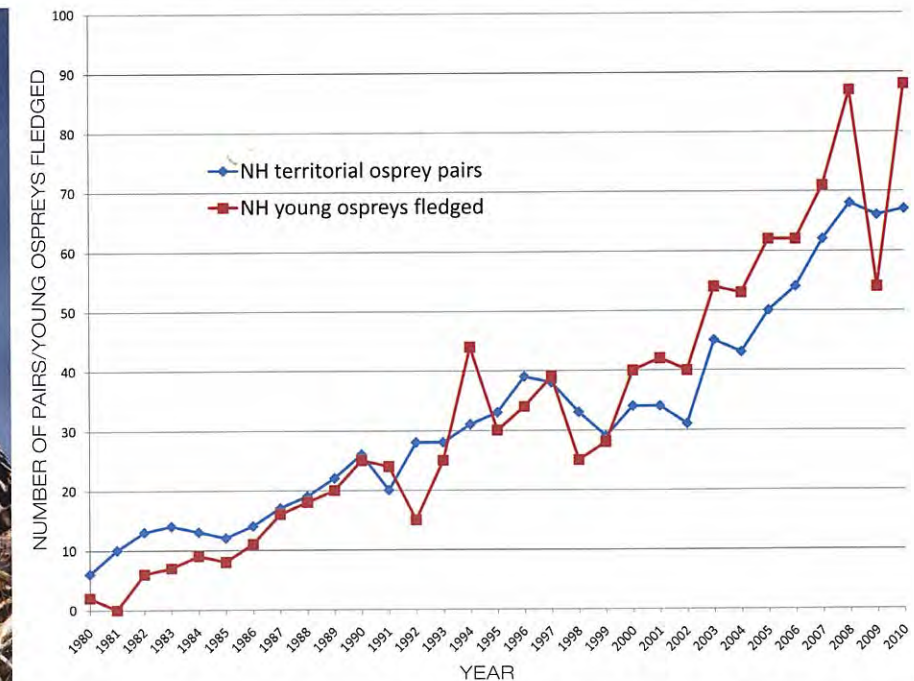
Back in 1980, we knew of only six territorial osprey pairs in the state, all located near the Androscoggin River in far northern Coos County. They were reproducing poorly. New Hampshire's population was listed as state-threatened. Over the next 30 years – thanks to careful monitoring, prudent intervention and the innate resilience of the birds – ospreys have made a strong comeback. Pairs gradually started to nest around Great Bay in the late 1980s, then in the upper

Connecticut River valley and across the Lakes Region in the mid-1990s, and most recently in the Monadnock Region. Because of progress towards full recovery that resulted from the efforts of Fish and Game's Nongame and Endangered Wildlife Program, N.H. Audubon, Public Service of N.H. and numerous partners and volunteers, ospreys were taken off the state's Threatened List in 2008. Monitoring has been scaled back, although some areas still track every known pair intensively.



© JOHN GILL

New Hampshire's osprey population rebounded strongly since 1980. Best current estimates indicate the state has roughly 80 pairs, fledging close to 100 young annually.



Top to bottom: A solar powered GPS-enabled transmitter is used to track the osprey's location, altitude, speed and direction; Dave Weber displays the fresh-caught bass that will be used to attract the osprey to the nest; Equipped with bird gear and a 10-foot ladder, Weber and Bierregaard head upriver to the nest platform.

FEISTY BUNDLE OF FEATHERED ENERGY

The two young ospreys began flying a week earlier. They are well fed and in no apparent rush to check out the monster fish we've offered. But eventually, Momma Osprey circles near the nest, hovers for a few seconds over the fish, and sets down. And sure enough, a juvenile comes in, right on her heels, still expecting to be fed at the nest. Both birds start to stagger around as talons gradually get entangled in multiple nooses. Bierregaard urges us to wait, biding our time until both Momma and Junior flop forward onto their chests with wings outstretched, a sure sign they are well caught. A fast return trip across the channel results in the quick freeing of an angry adult female. But for Junior, it's a boat ride back to the duck blind in a specially designed osprey straightjacket.

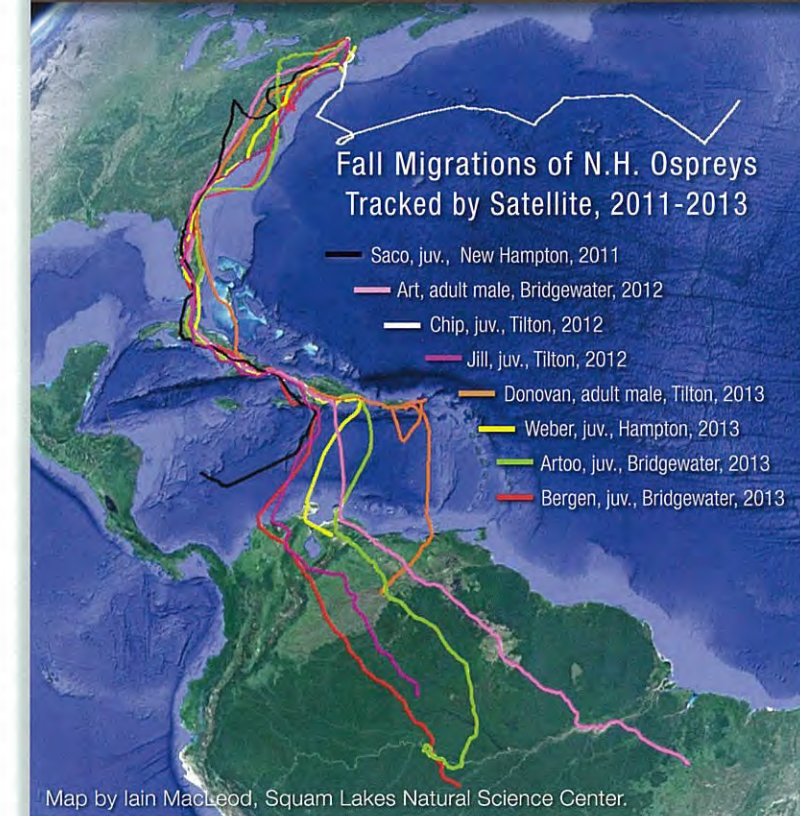
Bierregaard's field skills are on full display as he stands in shallow water and sets up a dry work station on the floor of Weber's boat. He orchestrates our crew in weighing, measuring, banding and properly fitting a transmitter on this feisty bundle of feathered energy. She weighs nearly four pounds and has a fully extended wingspan of 66 inches. Because these transmitter-equipped birds are such website celebrities, they must each have a name. So what to call this one? Much to the simultaneous amusement and consternation of our local guide Dave, we settle on "Weber." After double-checking all the hardware and removing a falconer's hood that has kept her calm, it's time to turn "Weber" loose.

Sharon Harvell does the honors under Bierregaard's watchful eye. "Weber" flies strongly across the channel, past the nest

platform, and eventually alights on a far-off post where she stretches and preens, perhaps pondering what just happened. Over the next month, according to transmitter data, she spends nearly every day within a mile of the nest. Then on the morning of September 6, with no apparent warning, she strikes out to the southwest, flying over both downtown Boston and Providence on her first day away from home. In two weeks, she's reached Cuba. By the end of September, she's in South America, making landfall in Venezuela. What will happen to her next is anybody's guess.

A shaft of late afternoon sun angles down onto the marsh through a small blue gap in the mist. Then we hear it ... an ominous long low rumble. Looking up through the hole in the fog, we see towering layers of bright white cumulous clouds billowing up in the west. It's clear that a cleansing thunderstorm is on the way soon. So, while the ospreys will stay, it's time for us humans to get out of this marsh.

A raptor biologist for New Hampshire Audubon, Chris Martin has documented the Granite State's osprey population resurgence for the past 24 years. He notes many mileposts on the way to osprey recovery – installing nest tree predator guards, hosting Osprey Weekend in Errol, N.H., partnering with Public Service of New Hampshire to erect platforms, encouraging volunteer stewardship – as key steps on a path that now finds us watching ospreys make their epic journeys to and from South America.



Fall migration routes used by eight New Hampshire ospreys during Project OspreyTrack. Most ospreys follow similar island-hopping paths across the Caribbean. Some juveniles stray far off course, with disastrous results.

To see the entire journeys of these ospreys and follow ospreys tagged in 2014, go to: nhnature.org/programs/project_ospreytrack/osprey_maps.php

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Top to bottom: Once the ospreys are caught in the trap, Rob Bierregaard apprehends the juvenile and releases the adult female; Bierregaard measures, bands and weighs the osprey; Sharon Harvell holds the bird as it is fitted with the transmitter.

