



State of Change episode 1 “Saving Beach Nesting Birds” transcript

David Wheeler: New Jersey has more people per-square mile than any other state by far. It's not an easy place for wildlife to survive. Yet countless wildlife species from bald eagles to bobcats are doing just that. But what happens when you inject climate change into the mix? Superstorms and sea level rise, coastal erosion and saltwater intrusion, invasive species, disrupted life cycles, wildlife disease. It's a tough world out there for wildlife in New Jersey. This series will explore how climate change is affecting wildlife in our state. Each episode will highlight a different climate change

issue, but every story will help paint the bigger picture of what's going on in our changing world.

Our first story reveals an uneasy balance between human development and coastal birds. A balance that is now at risk because of climate change. Both humans and beach nesting birds need their homes to stay free of flood waters but what's best for humans and what's best for the birds isn't always the same thing.

David Wheeler: If you've ever visited the Jersey Shore on a Summer weekend, you know how hectic it can get. Huge crowds stroll the boardwalk, sunbathers line the beaches, fishing boats and local crabbers vie with jet skiers and pleasure boats for choice spots on the bay. Dusk brings families out for dinner and day trippers out for a fun night of bars and clubs. For decades, millions of people have made treasured vacation memories here at the Jersey shore. This is the image that comes to most people's minds when they think about the coast of New Jersey. Yet tucked between the beach homes and boardwalks are a few surviving remnants of what our coast looked like before the widespread development took over.

We're going to look at two species of birds that are trying to hang on in our coastal area. They look and behave very differently than each other, but both share the challenge of fighting to survive along our rapidly changing coast.

Indeed, while thousands of gamblers everyday travel to Atlantic City to try their luck at the slot machines or card tables, one species of bird that lives just north of the city's lights migrates back every year to make a much riskier wager.

That's the sound of the piping plover, a sound that we're at great risk of losing.

Todd Pover: The Piping plover likes extremely low-lying, sparsely vegetated areas. They are not up in the dunes higher up. They want to be out in the open. If they're nesting in low-lying areas that could potentially put them at higher risk. And you ask why would they nest in those low-lying areas? They're what we call a high risk species, almost like a gambler, they take a chance.

David Wheeler: That's Todd Pover, a senior wildlife biologist for the Conserve Wildlife Foundation of New Jersey. He has spent 20 years managing, researching and monitoring beach nesting birds.

Todd Pover: They want to be closer to foraging those wet areas, closer to the water line for when their chicks hatch. They sort of gamble that if they're closer to those areas and they do hatch they'll have a higher success of producing young. And that is the case, but it also puts them at a higher risk for flooding.

David Wheeler: The piping plover is a species that many people know in name but not in sight. Its body is white and gray with a black band around its throat. A fully grown adult is small enough to fit in the palm of your hand.

This elusive bird is not only small, it chooses nesting locations that make them even more difficult to spot. 72 percent of New Jersey's piping plovers nest on wildlife preserves, many of which have restricted access to researchers and wildlife managers during the nesting season.

Todd Pover: Plovers are a tough one. It's a hard to see species. It blends into the beach. You see the fenced in area and sometimes you don't get to see the bird, so it's hard to have that emotional connection.

It's interesting, the American Oystercatcher, it's a bigger bird, its black, it's got an orange beak, its loud and people really love that species and I think again that goes back to they can see it more easily.

David Wheeler: The inimitable call of the American Oystercatcher, nearly as recognizable as the bird itself.

The Oystercatcher, the other species we're looking at nests on beaches and in salt marshes. They spend their days doing just what their name describes, catching oysters and other marine invertebrates.

Mary Lenahan: I've always been a nature buff so I'm constantly observing what's going on. I noticed this really unusual bird that we never had when I grew up in the Poconos of Pennsylvania, that had this big, long, orange beak and black body, black head, white belly and it would always nest along these little tiny beaches and marsh areas that was right along Wellington Avenue.

David Wheeler: Mary is an elementary school teacher, She's clearly a nature lover. Her classroom is full of native plants and wildlife displays. A small container filled with milkweed and monarch caterpillars sits on each student's desk.

The area where she describes observing the Oystercatchers nesting is much different than the nesting grounds of the piping plover, even though the two are only 13 miles apart.

Absecon Island, the location of Atlantic City and other towns, is almost completely developed. Nearly every inch of the island has either homes or businesses built on it.

Mary Lenahan: I moved here in 1990 and I drive that way every day, so I see varying tides on a daily basis. I see both big highs and big lows. Back in 1990 the high tides, even the full moon tides or the spring tides or the king tides, even these tides didn't seem like they were taking up or totally encroaching

over the beaches and marsh there. Around 2005 was when I really noticed the difference and it was visible. At the high tides there was no remaining beach. And at low tides the beach was about the same size it was back in 1990 during a high tide.

Todd Pover: Climate change is definitely already happening and the models vary quite a bit in the severity and the speed and the levels for instance that sea level may rise but one thing that looks pretty common in the models is that the New York, New Jersey metropolitan area, our coastal area is probably going to be one of the hardest hit in North America. And again, what exactly those effects will be is a little too speculative right now but we're starting to look at what that could mean for our nesting birds on the beach.

All of these birds, if sea level rise happens very quickly, they may lose the habitat that they can even nest in at all. In a shorter time span in an individual breeding season, if the levels are high their nests will flood more frequently and they won't be able to produce chicks. Ultimately, for a species they need to produce chicks to replace them when they die. This is where the risk of endangerment and extinction, not extinction right now, can happen.

David Wheeler: Rising sea level is not the only threat posed to beach nesting birds in New Jersey. Human development has claimed almost all of its coast. While the huge crowds have created a bustling tourism industry, they also make it very difficult for beach nesting birds.

Todd Pover: Our coastal area, in New Jersey in particular, New York, is almost entirely built out and developed. And so, when I was saying that there's only birds at Forsythe National Wildlife Refuge and at Sandy Hook is also we've built on-top of a lot of their other habitat. We've got boardwalks in Atlantic City and buildings where there used to be beach and dunes.

All of that development and infrastructure brings people here. Increasingly people live more at the beach all year round. So, the beaches are heavily used, no secret to that. We love our Jersey shore, but we could love it to death, to some degree at least for the birds.

We do need to fence and protect just about every pair we find to make sure that their nests aren't stepped on, their chicks aren't run over but also to give them a buffer, they are highly vulnerable to human activities.

David Wheeler: The combined threat of sea level rise and expanding development have put our beach nesting birds in a tough spot. Both species we are looking at are at risk of a summer storm flooding their nests, and that risk is multiplied by the tiny amount of land remaining from coastal development.

Todd Pover: We are really concerned about the fact that there are so few birds spread out. It's like don't put all your eggs in one basket that idea.

These are issues, if something were to happen at Sandy Hook or at one of the Forsythe sites, that impacted a large number of plovers, an oil spill for instance, you could lose a large portion of the already very low, vulnerable population quickly. So that's very problematic.

David Wheeler: Interestingly, when it comes to piping plovers, a powerful coastal storm doesn't always fall into the category of a catastrophic event that could damage their population. These birds have actually developed a unique relationship with coastal storms.

Todd Pover: This is not speculative because we can talk about hurricane sandy here. Storms are horrible for homes and people could potentially lose their lives but actually for piping plovers storms can be a good thing.

The type of habitat that they use is what we call an early successional type habitat. On a beach and dune that means an open beach not a dune, not a maritime forest. When we have severe storms, it resets that early successional habitat. So, it can potentially create more habitat for piping plovers.

What we actually had in Hurricane Sandy at Holgate, which is part of the Edwin B. Forsythe National Wildlife Refuge. Which my organization Conserve Wildlife Foundation actually monitors that site for the fish and wildlife service. What happened is there were pretty mature dunes in that habitat and there were only about 12 pairs at the site just before hurricane Sandy. The storm came and really flattened those dunes and then there was what we call overwash habitat for about 3 quarters of a mile of that part of the barrier island. Basically, what that means is from the ocean to the bay it was flat and there was access from both sides, and you could walk right across it and a plover could walk or fly right across it easily. This is actually the best type of habitat for piping plovers.

In just a couple of years the number of pairs doubled from 12 to 24 and this year we have about 25. This is an example of where a storm actually benefits a species like a piping plover.

The risk here is it may create some short term good habitat but if we also as part of climate change have sea level rise, at some point there could be a tipping point. It creates more habitat because of more storms but if the nests all get flooded out because the sea level rises higher, fastly over time, the birds may not be able to adapt to those changes.

David Wheeler: Many New Jersey species are already feeling the effects of rising sea level, including the American Oystercatcher.

Mary Lenahan: As the years progressed, the beach, little by little, started to disappear and the tides were much higher. So, there were years where I know the oystercatchers were nesting on the beach and they lost their nests because the tides seemed much greater every year. To the point where now, there's no beach along wellington avenue, in fact the water floods right across wellington avenue almost every high tide. So I thought the oystercatchers were pretty much done.

David Wheeler: Wellington Avenue runs through Ventnor across one of the only open stretches of marsh left on Absecon Island. A shopping complex lines one side with a bank, a gym and supermarket built right against the marsh. At first glance this would seem like a pretty big detriment to the oystercatchers here. But Mary was about to make a discovery that may say otherwise.

Mary Lenahan: In 2012 I just happened to be at the grocery store which is on Wellington Avenue. It was on a Sunday morning. There was an adult oystercatcher on the roof of the Acme and there was one in the parking lot next to my car. They were very talkative and vocal calling back and forth to each other and I thought this is strange behavior.

So I sat there in my car and I waited for a while. One of the parents kept flying down to the parking lot, talking to the other parent, and then flying back up again. I thought this definitely is strange I need to find out what's going on. Is there a predator? Is there something else going on? And then all of a sudden, a young oystercatcher was at the edge of the roof. Now a roof to a supermarket is pretty high, I don't know exactly how many feet high it is but this young oystercatcher which was obviously their young was at the edge of the roof trying to get down.

Both of the parents were in a panic and the young chick didn't know what to do and it kept circling around going back and forth. So I made a decision as a citizen scientist that I am and as a naturalist. I went home and I got a net and a carrier, and I came back to the store. I went up to the manager and said I observed some birds on your roof, can I please go up there and check because it seems as if the young is in distress.

So the manager was very kind, she took me back into the storage room and showed me where the ladder was to get on the roof. So she and I went up the ladder, I pushed open the latch and she said I'll stay here. So I went with my net and my carrier and I could see where there must be 40 or 50 herring gulls that were also nesting on the roof and they were dive bombing the young chick.

So I walked toward as quickly as I could with my net and scared off the herring gulls. The chick ran about 20 feet and then just dropped down, so I was able to easily net it and I thought, Ok well what do I do now?

At the time it was very low tide and I was very thankful for that because if it had been high tide I didn't really know what I was going to do with the bird. So I went into the marsh, started sinking up to my knees of course and I opened the carrier and I held the chick in my hands. It was soft, super-duper soft, probably one of the softest birds I've ever held. I thought to myself, this has to work.

The next day, I went to school and as I drove home, I thought, I'm going to check for these birds. My heart started to pound because the parents were indeed there with the baby, everybody was noisily calling and they were feeding the baby.

So actually, that summer, every time I came home from school or summer school, I would slowly drive along Wellington Avenue and I watched the baby grow up and fledge. It was a fantastic experience knowing that I helped this bird that was in distress and I helped the parents successfully raise its young on the roof of an Acme.

Todd Pover: One of the cool things about Mary's story of finding the oystercatchers on the roof was little did she know at the time she was actually the first person documenting roof-top nesting for our

coastal shorebirds here in New Jersey. It had been documented in some other states, southeast US, Florida those type of states but it was the first time we knew about it here. And in the last couple years after her we have now documented a small number in Atlantic City and other places and Ventnor too, but this is the only area of New Jersey where that's been documented buts that's one of the cool things about what Mary did here.

I do think they're more, and I hate to use that word adaptable, Oystercatchers are a little bit more adaptable and they have moved up onto roofs, specifically in New Jersey almost all of them are that we're aware of are in the Atlantic City, Ventnor area, Absecon Island and there's a lot of thoughts about why that could happen.

We know that in some cases they were nesting on the marsh and the marsh there seems to be particularly high. I don't know if it's really any higher than elsewhere. The oceanfront beach is narrow, its Atlantic City, it's heavily used, there are some cats that live in a colony under the boardwalk. They could be moving up to the roof for a variety of reasons, to get away from those cats, because there's less beach habitat but we do think at least one of the factors is sea level rise minimizing that amount of habitat available.

Only certain species can sort of, would be able to nest on a roof. A piping plover for instance would not be able to. I already mentioned that on almost the day they're born the chicks have to get to the water's edge to feed, they're not fed by the parents, so that wouldn't be a viable option for a piping plover.

But with oystercatchers and terns, least turns, the parents feed the young so when they choose to nest on a roof for whatever the reason is, ultimately, they can survive because the adults can bring food back to them until they're old enough to fly. Although sometimes they also do fall off the roof before they're able to fly.

It's not a perfect scenario either, I don't think it's a long term, I don't want to say solution, It may be a short term solution and it might stave off extinction or vulnerability for a while but I don't think all of our birds are going to be able to nest on roofs. There's not even that kind of roof everywhere.

David Wheeler: Both the piping plover and the American Oystercatcher have their own mechanisms of survival when faced with dangers brought on by climate change and urban development.

The plover not only can survive in areas seemingly destroyed by storms, but sometimes can even flourish. The oystercatcher may be starting to move into developed areas instead of retreating.

One thing is clear, every species of beach nesting bird may need some kind of adaptability or survival trait to endure on our changing coast.

Todd Pover: There's gonna be changes, again I don't know that I have the crystal ball to make that broad of a prediction but sea level rise in particular is something that any coastal, marsh nesting bird or beach nesting bird is going to have to deal with, so it may come down to how well they can adapt to that.

I just don't want a world where we don't have species like a piping plover, it's not just the piping plover, there's any number of species, I think we can find ways to live with most of these species, we have to make some small sacrifices. Some of them seem minor to me, maybe they're a little bit larger for others but it's possible, we can do it. I just don't want that world that doesn't have a piping plover.

I may not see the most severe consequences of climate change, I will see some I'm sure. It will be the next generation, my son will be the one who will know what's gonna happen.