

[Kayt]: Hi – I’m Kayt Jonsson from the U.S. Fish and Wildlife Service - I’m so excited to introduce you to our new podcast, A Talk on the Wild Side. We can’t wait to share our stories about wild life and wild places with you.

[Intro Music SFX]

And now, our first episode of A Talk on the Wild Side!

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V: I’m Valerie Fellows from the U.S. Fish and Wildlife Service, and I work for the Ecological Services program, which helps put our conservation laws into action. One of those laws plays a pretty significant role in our show today. For over 4 decades, the Endangered Species Act has provided a framework for species conservation. But how did it come to be?

Across the world, plant and animal species were disappearing from the landscape. It was a time when the Beatles were taking over and the Vietnam War was escalating.

The Cuyahoga River in Ohio caught fire -- again.

The damage humans had caused to the environment couldn’t be ignored any longer.

In 1962 Rachel Carson’s Silent Spring was published.

[Rachel Carson]: Public reaction to Silent Spring was reflected first in a tidal wave of letters, letter to congressmen, letters to government agencies, to newspapers and to the author.

V: It shocked the nation about the effects of unregulated pesticides on both human and wildlife health.

[Craig Koppe]: Okay well DDT was used in the 40's and early 50's and it's use was wide-spread, used for agricultural practices, farm animals, you name it – it was a way to control insects.

V: That's Craig Koppie who works at our Chesapeake Bay Field Office in Annapolis, Maryland and co-author of the children's book "Inside a Bald Eagles Nest." Developed in the 1940's, DDT was used to combat diseases like malaria and typhus – but it had unintended consequences.

[Craig]: Where it was over applied, it had a residual effect of running into the river systems, of which, in our case the bald eagle is where it's primary foraging area is. By accumulating this chemical in the reproductive system, or the fatty tissues in birds, or people, it tends to have an ill effect on eggshell development. Either we had no embryos developing, or eggshells were so thin that when adults were placing their weight on the eggs to incubate, they would crack. And there's a normal gas exchange through the shell, which is vital for the survival of an embryo. So once you have an outside crack or fracture that pretty much eliminates a chick from developing.

V: And this was happening all over the country. Bald Eagles nearly disappeared from our landscape in the lower 48 – DDT was a main cause, habitat loss and historic hunting of eagles were others.

It wasn't just Bald eagles that were at risk – other plant and animal species were vanishing --- The passenger pigeon, Carolina parakeet, blue pike, and Xerces blue butterfly were gone forever. Other animals were heading down the same path, with no protections in place – yet.

[Craig]: Bald eagle in the lower 48 was listed in 1967, when we were really suffering with this population and nearly lost it.

V: In 1966, the Endangered Species Preservation Act was passed, and became the first piece of endangered species legislation.

Referred to as the “class of ’67,” the list included 78 of some of our most charismatic species: the grizzly bear, bald eagle, American alligator, Florida manatee.

A few years after the Endangered Species Preservation Act, President Nixon signed the law we know today – the Endangered species act on December 28<sup>th</sup>, 1973.

The bald eagle, like many of these, were representatives of an entire ecosystem that was crumbling.

DDT didn’t only impact bald eagles – the effects were far reaching.

[Cat Darst]: Island foxes on the Northern Channel Islands their populations plummeted to near catastrophic levels and it was primary due to predation by golden eagles.

V; On the other side of the United States Cat Darst works out of our field office in Ventura, California. I mentioned earlier the class of ’67 had a lot of charismatic, well-known species that needed protection. The island fox is a species you may have never heard of.

[Cat]: The island fox is an endemic species...

Endemic is the scientific term we use to say that something is found only there and no where else on Earth.

[Cat]: ...that inhabits the Channel Islands of the coast of southern California. So it inhabits San Miguel Island, Santa Rosa Island, Santa Cruz Island, San Nicolas Island, Santa Catalina Island, and San Clemente Island. They're closely related to mainland grey foxes, but they're smaller, they only weigh like 3-5 pounds, they're basically the size of a house cat. Like their mainland grey fox relatives, they're primarily nocturnal, but they're also most active during the day than their mainland relatives, and this might be because of the historical absence of large predators on the islands where they live.

V: The historical absence of large predators. Cat mentioned predation by golden eagles a moment ago as the leading cause of island fox populations plummeting. And the reason golden eagles moved to the Channel Islands in the first place?

[Cat]: So bald eagles are actually what is native on the Channel Islands, and bald eagles disappeared from their historic territories on the Channel Islands basically in the early 60's, mostly due to DDT poisoning. So the bald eagles that live out there, they primarily prey on fish, smaller birds so they really didn't pose any predation threat to island foxes. Then the presence of bald eagles also was discouraging any other large things like golden eagles from living on the islands, so when the bald eagles were extirpated, golden eagles created territories out there, and they had never bred historically on the island.

V: The Endangered Species Act provides protection, conservation, and enforcement. It provides a critical safety net for imperiled species and their habitats.

[Cat]: Really the island fox recovery is a story of ecosystem restoration.

There are many ways we work to prevent species from going extinct and put them on the road to recovery. Habitat protection, captive breeding programs and working with our partners to reduce the threats to their survival are some of those ways.

[Cat]: So basically as soon as the island fox population really started to tank, which was the late 1990's, our conservation partners started to take really intensive and fortunately successful management. One of the things they did was a captive breeding program for island foxes, so the few remaining island foxes were brought into captivity and were bred there, so while the island foxes were off the island in captive breeding program, they did golden eagle management where they removed the golden eagles, and this mostly manually. So helicopters and nets, and they relocated the eagles to eastern California where they are native, and just over time, with constant vigilant monitoring and movement of eagles off the island, they were able to basically keep them away. So the island foxes claim to fame, in terms of the Endangered Species Act, is that it was the fastest recovered mammal we've ever listed.

V: Island foxes may have been a fast recovery, but the bald eagle population took decades to recover.

[Craig]: Even though it was the removal of DDT in 1972, it took 50 years of watching these populations grow, but a close inspection, there were a number of addled eggs that we collected even in the 90's and maybe probably turning to the 2000's – they were still showing thinning of egg shells, yet they were thick enough that they passed the muster as they say, and we were able to have birds that actually incubated viable eggs, and they produced embryos into hatchlings and they moved on, and that species graduated...

V: When Craig said graduated – the bald eagle status was changed from endangered to the less critical category of threatened. Ultimately it completely recovered and was removed from Endangered Species Act protection in 2007. To this day it is one of the greatest conservation success stories of all time.

[Craig]: It's just been a remarkable story and people have played a large role in this, the Service gets lots of credit every day on the fact that bald eagles are common. And if you live anywhere within a couple miles of water, you will see a bald eagle, and that just isn't what it used to be.

V: The example of DDT affected, animals, plant, and people all over the country. It was complex and took lots of time, resources and regulations to fix.

On the other end of the spectrum, sea turtles face big problems, some of which we can easily fix.

[Jackie Sablan]: So for sea turtles, they're on the Endangered Species list, and this is mostly due to human caused pressures on the species, and fortunately for us there's many things we can do such as sea turtle friendly lighting or removing your

beach chairs and trash from the beach every night that we can do to protect the species. And really our ultimate goal with any species that is listed under the Endangered Species Act is to someday see it removed from that list. To have them reproducing with a healthy population that can be sustained over time. So that's the ultimate goal for these sea turtles and it is fortunate for us that we know some things we can do to protect them.

V: Jackie Sablan is a biologist with Bon Secour NWR in Gulf Shores, Alabama. She knows first hand the issues effecting sea turtles on our shores.

[Jackie]: Improper lighting can cause nesting and hatchling sea turtles to become disoriented when they're trying to return to the ocean. So if a sea turtle becomes disoriented, they become susceptible to dehydration and predating. There are natural obstacles on the beach, and it is actually natural for sea turtles to false crawl, where the nesting female does not lay a nest, but that only happens 60% of the time, scientists believe, 50-60% and if you add a human caused obstacle in their path you cause that false crawl number to increase, so you're seeing a greater number of false crawls that would have happen in the natural environment. The scary thing about false crawls, if she becomes very disoriented when she hits an obstacle, and possibly even becomes entangled, she can become so distressed that instead of laying those 120 eggs, she can crawl back into the ocean and just drop the eggs in the water and those eggs will never have a chance of hatching.

V: Sea turtles are unique because they spend a large portion of their lives in the oceans, then females come on beaches to nest. They do something called natal homing because they come back to nearly the same place they hatched from.

[Jackie]: Sea turtles have a hard road ahead of them. Even when they're in the sand we have 120 eggs on average per nest, out of a thousand eggs that actually hatch, and that's after they could be predated on by ghost crabs or coyotes or other predators in the environment, scientists think that there is probably 1 out of 1,000 that might make it.

V: As the odds are already stacked against them, there are things we can do to make it easier for them to reach their nesting habitat safely and create an environment that's healthy for them.

[Jackie]: Fortunately for us, it's not really hard to balance beach activities with healthy beaches for sea turtles. For lighting, if you're on beach from property, you can either just turn off your lights at night when sea turtles are primarily hatching or nesting, or you can install sea turtle friendly lighting that shields light from the nesting sea turtle beaches, and it also uses an amber wavelength bulb that is not as destructive to wildlife. Another thing you can do for healthy beaches for sea turtles is just to remove trash before nightfall and that allows for clean beaches for both nesting and hatching sea turtles.

V: It isn't only trash on the beach that we worry about, the trash that makes its way into the oceans also affects turtles.

[Jackie]: Jellyfish are a common food of the leather back sea turtle. The leatherback sea turtles can get over 1000 pounds, they are the largest sea turtle that we have and they're eating jellyfish to get that big and when I talk about jellyfish, think about how a jellyfish could look like a piece of plastic that is floating in the water, so it's so important not only on our nesting beaches that we remove our trash but to also remove

the trash so it doesn't go into our waters and the sea turtles that are using our water don't think it's food, because this can block their digestive systems and cause problems that can ultimately lead to death.

V: The bald eagle, island foxes and sea turtles have all been negatively affected by human activities causing their decline, but just the same, people have played a major role in reversing that decline and putting them on the road to recovery. By working through the Endangered Species Act with our partners we can increase species populations and reduce threats.

[Cat]: It's really where the Endangered Species Act excels – it's the great mobilizer. It brings people together, it brings resources to the table, it can really be a huge help in eventually hopefully getting a species off the list by recovery.

V: Many of the environmental challenges we faced in the 60's are still with us today, and more have appeared. But thanks to the work of people like Craig, Cat, Jackie, and countless others we've made significant progress for many species.

Just recently, the black capped vireo bird, lesser long nosed bat, and hidden lake bluecurls plant all successfully recovered with the help of our partners and were removed from the endangered species list. As we have helped these species, the restoration of nature has given people a boost, too. For example, just this year, biologists said that fish caught in the Cuyahoga River are safe to eat. The Endangered Species Act helps us all.

Conservation isn't a solitary endeavor. By working together in small ways and large, we all can make a difference for species, and protect the lands and water on which we all depend.

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[Kayt]: Thank you so much for joining us for this episode of 'A Talk on the Wild Side.' Special thanks go out to Craig Koppie, Cat Darst, and Jackie Sablan for lending their expertise. Valerie Fellows reported for us today. To learn more about bald eagles, island foxes, and sea turtles, or for notes and a transcript from today's show, visit [www.fws.gov/openspaces](http://www.fws.gov/openspaces).

Music in today's episode includes:

Sunset – By Kai Engle

The Long Good-Bye – By John Pazdan

Endless Story about Sun and Moon by Kai Engle

Hidden Blues – By Pitx

Settling In by Dexter Britain

and

Revelation – By James Joshua Otto

Until next time.

[END]