

Episode 9: The Endangered Species Act in Less Than 20 Minutes

Introduction

Hello, everyone. Welcome back to the Speak Environment podcast. I'm your host, Cierra Dawson. In my work over the past couple of years, I've often visited, studied and collected data on threatened and endangered plant species. And I've realized from conversations with people where I've said this very thing, usually their first question for me is, well, what's an endangered species? Oops. It's so easy when you're working in your daily profession to forget that not everyone shares the lingo, the vocabulary of the field. And so, armed with this epiphany, my experiences over the last couple of years, and a whole university course on endangered species, I decided. For today's episode, I'm going to walk you through a brief explanation of the Endangered Species Act. By the end of this episode, you'll not only know what a threatened or endangered species is, but you'll also have a foundational understanding of five of the main sections of the Act that protect them. So let's begin, shall we?

Part I: Defining a Species Under the ESA

The first question we're going to explore in today's episode is what is the Endangered Species Act? I am going to be referring to it as the ESA for the rest of this episode, because saying Endangered Species Act over and over again gets to be a mouthful. The ESA is a piece of federal legislation in the United States that contains a combination of protection laws. These laws protect hunting animals, which we also call "game," and there's also habitat conservation laws for fish, wildlife, and plants. One thing you'll quickly realize if you do research on your own about the ESA is that it has a long history and it's kind of an ever-evolving piece of legislation. To take it back, the first law that dealt with protecting wildlife at all was the Endangered Species Preservation Act of 1966, and that was signed into law by then President Lyndon B. Johnson. When we're talking about the ESA today, we're usually talking about the Endangered Species Act of 1973, which was signed into law on December 28, 1973 by Richard Nixon. And if you're doing the math, and you happen to be paying attention to what day it is, that makes today, December 28, 2024, the 51st anniversary of the Endangered Species Act as we know it. And yes, I did that on purpose, if you're wondering.

So, in summary, so far we know that the ESA is a federal law that aims to protect certain animal and plant species and habitats naturally. The next question is probably, well, how does it work? To answer this question, we need to start at the very foundation which is to answer another question-- questions on questions. To know how the ESA protects species, we need to first of all define what is a species. For that, the ESA has very specific guidelines, that define the concept of a species. The Act mandates that for anything to be considered a species, and therefore eligible for listing under the law, it has to be part of a population that is both distinct and significant. Distinctness is defined as the species being substantially reproductively isolated, AKA it only reproduces with its same kind. Essentially think of distinctness as a set of barriers that limits a species from creating offspring with another species. In general, reproductive isolation is very important to the process of speciation as a whole. And it actually can occur in many different ways, like geographic barriers, behavioral barriers, genetic barriers, just to name a few. My favorite simple example of how to explain this type of reproductive isolation that can occur via, a geographic barrier is a hypothetical animal that can't cross a river to mate with another population on the other side of a river, or a species that can't traverse over a mountain to get to another population on the other side of the mountain to procreate. The other guideline for defining a species is the concept of significance. Significance means that the proposed species must represent a, quote, important component in the evolutionary legacy of the species. If you've ever done a family tree, or maybe you've heard of or been forced to practice creating phylogenetic trees, if you've taken biology, think of significance as the species contributing to creating a new branch in the tree. And also, if you happen to be a phylogeneticist listening to this episode, I mean no harm. It was just really hard for me personally in biology.

Okay, so when you put those two requirements together, the ESA defines a species as a population of plants or animals or fish that are substantially reproductively isolated and evolutionarily significant. So now the question becomes, how does the ESA protect a species? As I've mentioned, the ESA has a vast history of modifications, additions and amendments that could all be their own episodes entirely. So, to answer this question, we are going to walk through five course sections of the Act that outline its process from start to finish.

Section 4: Listing Requirements

Okay, so let's get our hypothetical chalkboard out and start with Section 4, Listing Procedures. Section 4 of the Act establishes requirements for listing species as either threatened or endangered. It also establishes procedures for identifying and designating critical habitat and for preparing recovery plans for listed species. These are all required elements for a candidate species to be listed. So in other words, you can't just say, I like the species so it should be listed under the ESA. It doesn't work like that. We've already established that a species must be distinct and significant for listing. And then there needs to be evidence that the species is imperiled in some way. Today, most species that are listed under the ESA are imperiled by habitat loss in modern society's ever growing expansion of land development. It's important to note though, that imperiled can be interpreted in different ways. For instance, if you're wondering what the difference between an endangered species versus a threatened species is, it comes down to the significance of threats that the species is facing. So this is where we get into, listing types. For species to be listed as endangered under the Act the species must be in danger of extinction throughout all or a significant portion of its range. Similarly, but not the same, a species is listed as threatened under the Act if the species is likely to become endangered throughout all or a significant portion of its range. So both of these listing types are very significant. But endangered species are at a higher priority for listing because of their imminent risk of extinction without any types of intervention. Okay, so we've made it this far in the process. We know that the species is distinct and significant and it has shown to be imperiled throughout all or a very significant portion of its range. It has now moved from a candidate species that the ESA is reviewing to a proposed species, AKA one that has met these requirements and warrants listing as either threatened or endangered. Once all of those requirements are met, then the next step is to designate something called critical habitat for this species. In its simplest form, critical habitat is an area that is defined by having physical and biological features that is necessary for the conservation of this proposed species. Okay, so that was section four for listing. Now let's move on to Section 7 which is Federal accountability.

Section 7: Consulting the Agencies

Section seven of the Act requires federal agencies that authorize, fund or carry out an action to consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service to ensure that their actions do not jeopardize the continued existence of listed species. In other

words, the purpose of Section 7 is to essentially hold federal agencies accountable to the Act. It's basically saying, "If you're going to do something to fund a major project that involves listed species, you got to check with us first." "Us" being the Fish and Wildlife Service or NOAA. If you want to imagine this as a flowchart, at the very top would be the proposed action, which is usually some type of development or disturbance. From there, there are two diverging paths. One path is called no effect, and it essentially means that no listed species or critical habitat will be affected by the proposed action. The other path is called "may affect," and it states that the proposed action has the potential to affect a listed species. If an action is determined to fall under this path, the agency that wants to do the action must conduct further consultations with the US Fish and Wildlife Service or NOAA to make sure that there is no negative impact to listed species. This is a very simple summary. I'm not even going to try to explain all the moving parts associated with the "may affect" path. This section of the Act simply requires federal agencies to at least acknowledge the ESA.

Sections 9, 10, & 11: Prohibiting Take, Exemptions, Penalties

Moving on, the next section of the Act is section 9, prohibiting take. Section 9 of the Act prohibits any person from taking or engaging in commerce with endangered species. Okay, new question. What is take? Take is defined as actions that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect or attempt to engage in any of the above actions regarding endangered or threatened species. That was a long list of verbs, but essentially this section of the Act just says no touching listed species, period. This section of the Act particularly is important for species that are listed but legally hunted or collected for, illicit trade and things like that. The next section of the Act is Section 10. And Section 10 provides exemptions for Section 9's prohibited take for private landowners. Private land is land owned by a particular person or family and is not open to the public. So if you happen to be a private landowner that has listed species on your property and alarm bell started ringing because you're like, wait, am I in violation of the ESA because I'm doing things on my property that may affect these species?

That is the purpose of section 10 to provide you with some exemptions from any type of penalties that Section 9 might impose. Now, that being said, that does not mean that if you're a private landowner and you have listed species on your property that you're able to just do whatever you want with them, there are still restrictions and requirements in place to ensure

the conservation and persistence of these species. So, if a private landowner happens to have listed species on their property, they must create and propose what is called a Habitat Conservation Plan, or an HCP for short. The HCP requires a landowner to do four things. Number one, they need to describe the impact of the taking activity and what it will do to the species. Two, they need to outline steps to minimize and mitigate such impacts. Three, they need to specify funding that will make these steps possible. And four, they must list possible alternative actions to taking and justify why those actions are not viable options. The HCP is evaluated by the Regional Director of the U.S. Fish and Wildlife Service, who gets to approve, deny or conditionally approve an HCP with additional requirements. Section 10 also carves out exemptions for people who would experience undue financial hardship from inhibiting take of endangered species. Those exemptions are typically for people who would sustain a substantial economic loss due to inability to take a listed species, or for Alaskan native tribes who, for example, fish for subsistence purposes. And finally, with the rules and exceptions laid out, the final section of the Act that I'm going to talk about today is Section 11 which is penalties. Essentially. This section is rather lengthy as it covers many different scenarios, but in short, don't defy the Endangered Species Act if you don't want to face civil fines or in the most egregious examples, jail time. So, there are the five core sections of the Act that kind of govern the process from start to finish when it comes to listing species. If you would like to explore the entire Endangered species Act of 1973 and read all of the sections for yourself, I will leave, a link to the U.S. Fish and Wildlife website where you can read all about the Act in the show Notes.

Pros and cons of the Endangered Species Act

I wanted to round out today's episode with a short discussion on some of the pros and cons of the ESA. How do people feel about a landmark piece of legislation that governs land use in so many areas of the states, especially here in the west, because we have a lot of federal land? Let's start with the pros. The ESA has been surprisingly successful at achieving its conservation goals. At its best, the Act not only prompts thorough research about the status of species in question, but it also identifies and designates critical habitat areas that will help protect the species. There's also pros in the ESA being an ever-evolving piece of legislation that can be amended or changed throughout time. As society changes, our priorities change and land use priorities change and we're able to respond appropriately. I think the same can

be applied to the scientific method that governs the Act too. The decision to list or delist species is based on the best available scientific research at the time of decision. And we all know that science and the scientific method is a process and it is ever evolving and information changes as time goes on.

There is a misconceived notion that the Endangered Species Act works quickly

So by this same notion, though, that kind of leads us into the cons of the Act The first one I wanted to talk about is that there might be this misconceived notion about the Act that it's what we call A conservation emergency room, in that there are species that are in trouble, we list them under the Endangered Species Act it works as magic. And they're supposed to just be better and not endangered anymore and taken off the list. Right. Those decisions take time. They take years of research, people's time, effort, energy and knowledge. And when we think about it from that perspective, it's probably easier to understand why things seem to take so much longer with the ESA. But I do think there is this misconceived notion that it's supposed to work quickly. And in reality, science is not quick. Another con of the ESA is that there's a lack of economic transparency in the impacts of restricting land use because of the Act For instance, if you're a developer and you're looking to build a new building on a site that has listed species and you're unable to do that, obviously you're going to have a different opinion of the ESA compared to a conservationist or an ecologist.

Not everybody agrees on species listing and delisting decisions under the ESA

And that leads me to the last con of the ESA that usually comes up in conversation, which is the fact that not everybody agrees on species listing and delisting decisions. It can get pretty contentious sometimes when it comes to the interest of different people and organizations. Again, in the example I gave, like, if you're a developer and you can't proceed with your project because of listed species, or you're a wildlife biologist and you're contesting the U.S. Fish and Wildlife Services decision to delist the gray wolf because you do not agree with their biological opinion that their recovery population thresholds have been met, or you're an ecologist working with rare plants and there is a rare plant that gets delisted from the ESA

due to recovery. And in your own research you're like, "hmm, I don't think that's true."

There's a lot of opportunity for people to disagree with the process and to feel like the process is also being rushed because of that notion that it feels like it's taking too long. There's also a healthy amount of conversation and sometimes disagreement about what happens when a good candidate species for listing transcends political boundaries. This conversation and debate usually comes up with migratory species like monarch butterflies and birds. And how do you enforce a federal law in the United States when some of these species migrate out of the country for part of their life cycle? So to summarize our chat today, the ESA is not a perfect piece of legislation. It has its shortfalls and its cons, but it is a very important piece of legislation for the United States. That protects plants and animals and fish species that would otherwise face extinction from a lot of human interference.

Closing

I want to finish off today's episode by reading a short excerpt from a blog post by the Department of Interior that was celebrating the 50th year anniversary of the ESA last year in 2023. It says quote: "Animals, plants, insects and all living things are part of the balance of nature that our world relies on. But today there are still species that are at risk of being lost forever. Plants and wildlife make our lives better and they need our active protection. We have an obligation to protect our planet's biodiversity now and for future generations"

So, there you have it. That is the end of our journey through our brief explanation of the Endangered Species Act of 1973. If you would like to read the Act in its entirety, I will leave a link to the U.S. Fish and Wildlife's website in the show notes along with other resources consulted for today's episode. If you've made it all the way to the end, thank you for listening to the very last episode of the Speak Environment podcast for 2024 and we will reconvene and I'll see you back here for more episodes in 2025.