>> Let's make sure we're all– all wired here. Alright and– oh, our– one of the ways that species in the United States are protected is through a series of what are called wildlife refuges throughout the United States. And so, in wildlife refuges in the United States what we have are areas set aside that protect the habitats, because what did we say? We said one of the main reasons– in fact, the main reason that species become depleted is when their habitats are destroyed or fragmented or polluted, and so these are areas in the United States where that habitat has been set aside, and it's been aside just as a living area, but also as breeding grounds for organisms that are endangered or threatened. And it's any organism, but a lot of wildlife refuge system is in place to assist with migratory fowl, migratory birds. So, lots of different organisms but definitely migratory waterfowl. So, when we're looking at that, those migratory waterfowl, we're also talking about– we'll talk about some of these as well that depending on the size of the refuge some of these refuges are also protecting large mammalian game species. And so game species means hunting, species that are hunted, and what we're going to talk about in a few minutes is this idea that we just kind of threw it out [inaudible], but the idea that if hunting and fishing is regulated, if there are laws in place to regulate that that actually is a way to manage species and their numbers don't become depleted. So large game– game mammals. So, with this series of refuges, it's called the National Wildlife Refuge System. That is our– our in-place system. And currently we have 560 of these wildlife refuges in the United States and there's at least one in every state. So, wildlife refuge, area set aside, habitat, breeding areas, and every major ecosystem of the United States is represented in this– this system of wildlife refuges. So quite a bit of land, most of it though is in Alaska. So about– if we just look at area in terms of square miles, most of the area, 85%, is in Alaska. So– so it goes back to that idea of large large large treks of land for big game animals and that's what we see in Alaska. We don't necessarily see large large large areas of land in the other 49 states when we only have 15% of the remaining area, one in each state. So, one that I want you to be aware of in Alaska is called the Arctic National Wildlife Refuge, Arctic National Wildlife Refuge; it's called ANWR. And the Arctic National Wildlife Refuge is important and interesting because this particular wildlife refuge is continually, on again, off again, being proposed to open it up to oil and gas exploration. And it's right next to an area in Alaska, the northern coast of Alaska, just on the coast of Alaska, Prudhoe Bay, where oil and gas exploration is already taking place. But this is right next to that oil and gas exploration area and it is in the– it's part of the wildlife refuge and it is kind of continuously being proposed as a new place to do some oil and gas drilling. So, it's just interesting to see when that kind of comes up and who's interested in opening– opening that up. Bless you. And up until now, it's been protected. There hasn't been any exploration going on, but it's interesting because usually it's the congress people from Alaska that are interested in opening up this wildlife refuge to– to exploration because of course that would be bringing in more income into their area. So, whereas you think you might think that the– the congress people in Alaska would be opposed to that, they actually usually are open to that. But, most of the rest of congress

is not open to that and so it's usually voted down. So, the most recent, I just want you to be aware of this, the name of this, because it's in the news right now, and it was actually proposed again in 2017 to open it up to oil exploration and this is how these things usually happen. It was part of the 2017 tax reform bill. So as part of the 2017 tax reform bill this was added as a provision to the tax reform bill and it has nothing to do with tax reform, it has to do with opening up the area to oil and gas drilling that that's how thing– how bills that aren't very popular often get passed unbeknownst to people is that they're added to another bill that sounded good, tax reform, and was added into that one somewhere deep in the bill. Okay, let's now open this area to gas and oil exploration. So, it was passed, the tax reform bill was passed, so opening it up was passed. But then, just as leases were about to be taken in, bids for leases, congress voted to take out this provision out of the tax reform bill, and that happened just this month, September of 2019. So right now– so it was going to be open, now it's not going to be open. We'll see what happens with that. It's like that's what– it kind of goes back and forth and back and forth to see if something like that is going to happen. So, right now, it's been like not going to happen. Well, we're kind of waiting to see what happens with this tax reform bill. So, this is the area we're talking about. This area, this northern coast of Alaska is currently where a lot of oil and gas drilling takes place, and this is the Arctic National Wildlife Refuge, and this is the area that was proposed, right on that– that coastal plain for doing some of that oil and gas exploration, very very interesting. So, right when Ala– it's so large. This is why 85% of wildlife refuges area is in Alaska, and it is absolutely wild and beautiful and open. Lots of organisms there that are found nowhere else in the world and current– and still as of today, in a way, still protected from that. What else? We have what are called seed banks, also called– we can use these two terms interchangeably; seed banks are also called gene banks. I just want you to know that the two terms mean the same thing and that is where you store plant seeds. And you store plant seeds because you're worrying, right, most of our food comes from plants and you want to make sure that if there's some major catastrophe and the plants that we eat get wiped out that you have some seeds left to replant. And so, we actually store seeds of all types, but mostly agricultural seeds. So, if there's a major major incident that would destroy agricultural and then you have the seeds to start over again. We also have plants that are called botanical gardens. And a botanical garden doesn't store the seeds, it actually has living plants that are growing with lots of diversity in the types of plants that would be found there, so that, again, you're preserving plants in case there's a catastrophe and you want to make sure that you have the plants. It's almost like a– like a zoo for plants, a– a botanical garden. So, there are currently 900,000 species of plants that are being preserved in 1500 botanical gardens around the world. So very large. Most of the plants that would be found in the wild on earth are growing somewhere in botanical gardens. Again, the idea of preserving them in case there's some catastrophe that we actually have living genetic information for all of those plants. You know, of course, a seed. What's a seed? A seed is the genetic information for a plant. So, preserving seeds. Plants are ultimately

the most important– one of the most important groups or organisms for reasons we talked about. They provide food to all other organisms. They provide oxygen into the air. So, we really do need to preserve and be careful with any plants that might be– might be in danger. So, they have to be hermetically sealed, alright, so you seal them up real tight to get all the air out so that they don't start to biodegrade. Seal them up in glass containers and then store them at an extremely cold temperature. And so, this is this Svalbard Seed Repository in Norway. It's actually built into the side of a glacier so that it's at sub-zero temperatures and the seeds are protected in there. Seeds will last for quite a long time at this temperature. If you're ever– for your gardens, I know some of you are gardeners, for your gardens if you collect seeds for one year and want to save them until the next year you– you need to keep them in the freezer so that they don't biodegrade and so they will last quite a long time, but not forever. So, they– right, they're all stamped with the date that they were preserved and at a certain point they're replaced so that you always use these viable seeds in the– in the repository. This place is pretty interesting. It was actually– I don't know; you may have seen this. The outside of this building was in a James Bond movie. So, you know, James Bond– so like the beginning of a James Bond movie. There's always some like big chase scene and somebody's shooting and chasing and killing somebody else and they're usually coming out of like helicopters and jumping onto, right, to the sides of glaciers and flying down the side of– and they ended up in one of those at the front of this particular building because it's just so interesting that it's built in the side– side of the glacier. So, check it out. I don't remember which one it was. Botanical Garden, this one is very near us. Some of you may have been– this is at the Huntington Library in Pasadena, this particular– particular botanical garden. So botanical gardens, we have several in Southern California, actually, so this is the closest to us and are about equal distance to the L.A. Zoo. All of the plants at the L.A. Zoo are part of a botanical garden, so they are all marked and registered there on Catalina Island. The Wrigley E. Estate is a botanical garden. So, we have quite a few botanical gardens in Southern California. What is part of a species approach? Zoos and animal research centers. We've mentioned a little bit already. And so, what happens there? We can't keep all the organisms, right, in a zoo or research center. So, there's a represented number of organisms that are endangered or threatened at a zoo or a research center. And usually if it's an endangered or threatened organism and they are there for that very reason, two techniques are usually used to help bring the numbers up and it would either be egg pulling or captive breeding. And so, we talked about captive breeding a little bit already. We'll define it and mention again. And egg pulling, just what it sounds like, taking the eggs from out in nature, taking them into a research center and trying to hatch them there and raise the organisms in a research center. So, let's talk about egg pulling first. Very controversial. Any time you do this, when you bring animals, other types of organisms that are highly endangered or their eggs from nature and hatch them in a research facility because you don't know how it's going to go. So, it has to be pretty pretty pretty pretty highly endangered to do that. Because if

you pull all of the remaining eggs from nature, take them to a research facility and they don't make it, it doesn't look good, not a good look. And so that's only done in instances where the organisms are so highly endangered and there are so few eggs that they wouldn't make it in nature either. So, it's a very very very controversial. So, you take them out of nature, they hatch them in the zoo or the research center and– and hope that you can increase the numbers of the organism. And so, my fav– my favorite story of egg pulling is a California bird, right, that has a face that maybe only its mother could love, right. Oh no. The California Condor. And the California Condor, in 1987, there were nine birds left in the wild and one egg. Nine birds in the wild and one egg. And that's considered no other choice. Now we need to bring them in, try and hatch this egg and see if we can do some captive breeding. So, then you bring the animals and then do the next step, which is captive breeding. So, the– this– this is amazing bird. Wingspan of 110 inches. It's absolutely beautiful in flight. The underside of the wings are black and white striped, gorgeous. And so, they pulled them out and this project was done at the L.A. Zoo, where they took these animals and this one egg to our– our closest zoo, L.A. Zoo. And so interesting because you have to try and figure out, remember what we said, if you bring animals in from the wild, the hope and the– if I walk away and drag this I apologize. Just [inaudible]. But the– you bring them in and then the ultimate hope is that you can release them offspring in the wild, okay. So, they– you don't– you have to try and raise chicks, if you get any chicks, in a way that they can take care of themselves when they go back out in the wild. And so, what they did was they built this entire– entire unit where they had condor puppets through a glass one way or two way– one-way glass where they scientists could see in but the birds couldn't see out. And they had mommy and daddy condor puppets that raised the chicks when they would hatch and taught them how to– first fed them, then taught them how they would hunt, like a parent condor would do, so that they never came in contact face to face with a human. And so, they– because they're like how do we do this and be able to release them. And so that's how they raised– they did actually then breed and have other eggs. And there are currently 350 condors and 127 have been released back into nature. And so amazing the– what you have to go to to try and save, right, this is one species that is being protected. And again, right, might not be the prettiest bird but it is an important bird, it's a scavenging bird. It's a top of the food chain bird, and it's important out in nature. So, they re-released– when they released these birds, they released them in the [inaudible] area along the California Coast. If you haven't been there please go; absolutely amazing. You'll see California condors in the wild. And at– and at the Grand Canyon. So, they are now in the wild breeding. But some of the problems that brought them down in their numbers are still in the wild, so you still are fighting these kinds of what are the problems out in the wild that are still taking place. But they are still highly critically in danger. That's not a very big number. But definitely making a comeback. Such a great story. Love the California condor. So, you take some or all of the individuals, we talked about this with the black footed ferret, right, that are critically endangered. You bring them into a zoo or

research center to breed in captivity. So, this– our example in this we already talked about was the black footed ferret. So here's the thing with long– long– captive breeding. You have to have a long– this has to be– you can't just say we're going to do it this year and next year and we'll be good. This is long term planning. These– some of these programs started in the mid-1980s, so 30 plus years at this point with the condor and ferret. That's a long-range plan, you have to be committed to it. So, you have to have a long-range plan. And the problem is there's only so much space– space and money. There are only so many zoos and research centers. So, you kind of have to pick and choose unfortunately which animals, if it's an animal we're talking about that you're going to help protect, because there just isn't enough money or space to save all animals in a research center or zoo. So, then you have to think, okay, how do you decide which ones are most critical in their habitat. Which ones do people like because they're cute and furry, right, because that, going back to our first report, one of the questions I asked you was why do you think they chose these animals? And so– and this is absolutely correct. Most of you wrote, well, they are critical in their habitat and other organisms depend on them, and that's absolutely correct. But the other reason is because people like those animals because they're cute and furry and people will give money to cute and furry animals. So that's the other reason they choose those kind of animals to– to highlight on their site. And a few of you, excellent, said that. And the other thing is, right, we're talking about large mammalian species. You need a lot of space and a lot of money. And then let's write this down. We talked earlier about in a species approach, the last thing we said was there's a critical number that if you drop below it's hard to rebound. And with large mammalian species, if you don't have at least 100 organisms to cross breed that is below a critical number because now there's not enough genetic material to keep that species healthy. So, the number of large mammalian species, 100. If you're below 100, you start to think this may never happen just because there isn't enough genetic material and because large mammalian species take a long time to get to reproductive age and may have one or two offspring far apart. So, then that's kind of the magic number that's probably not good for large mammalian species. So, this is a local captive breeding facility. Who has been to the exotic feline breeding compound in Rosemond? What's closer than Yosemite?

[Inaudible Response]

Is it what what what?

[Inaudible Response]

>> It's far less than that actually. Let me tell you. So, the exotic feline breeding compound in Rosemond is a breeding facility for endangered large cats. They have over 70 threatened endangered species there that they actively do captive breeding with. Certainly, they don't have enough of any organism to captive breed amongst the organisms they have, but this is how research centers work. They borrow animals from another research center, bring them in for captive breeding and do this kind of tray so that the genetic material stays healthy.

And so, it is six dollars a person to go to the exotic feline breeding compound and that is a donation only. You don't have to donate to them but they run entirely on donations. They do not take any state or federal funding at all. So, this is one of the– I told you last week I put up extra credit locations. This is on your extra credit location. And what I said to you was if you go there all I need from you is– they can't get you– they can't get you. You will be safe. I know what you're thinking already. They cannot get to you. And so, it's never happened there, so it's okay. You just don't– if you take your children though, don't let them get too close to the edge of the cage, right, there are bars up. So, because they are hunters and if they see small children here's what they start to do, they start to do the pace, right. They start to do the pace when they're looking at your child like this.

[Inaudible Response]

>> It cannot happen. Well I guess depends on your children. I don't know your children but I'm going to say it hasn't happened yet, right. So, they are– I put the information up with our extra credit locations and here's all I need from you. When you go in and pay your six-dollar donation they– ask for a receipt and ask them to stamp it and they stamp it with their exotic feline breeding compound stamp and you just bring that back to me. And they're closed on Wednesdays and the best time to go is late afternoon when they're getting ready to– when they're getting ready to be fed because during the day, like all cats, they're sleeping and so you don't want to go in the middle of the day because you won't see anything. Like what the heck, where are the cats? They're sleeping, in the shade somewhere. But in the late afternoon when they're about to be fed they know when they're about to be fed, like your pets at home, and they come out and then you can see them. So, I highly encourage if you haven't gone, they do wonderful work there at the exotic– and beautiful cats, beautiful cats. What else? So, everything we talked about up to there was species approach. So, ecosystem approach then, we said, protecting species by protecting the entire ecosystem. And so now this is establishing a world-wide system of parks, national parks, protected areas that all ecosystems of the world would be represented. And the idea behind this is that it would require about 10% of the world land area so that each of those ecosystems could be represented. And so we've already seen that there are certainly some places around the world that are already doing this, that are already– including the United States, that have areas, for instance the Wildlife Refuge System where we said each of the ecosystems are represented in the United States, our national parks are protected areas. So, we do have that and this idea of all of the world putting aside land to protect species. So, one of the ways is called the world conservation strategy. A long-range plan to conserve biological resources, which we defined the first day we were talking about this. And again, these same three groups are behind this effort called the World Conservation Strategy, the IUCN, the United Nations Environmental Branch, World Wildlife Fund and TRAFFIC, it's branch called TRAFFIC, are working with regions, countries around the world to set up these areas of ecosystem

to protect organisms in the entire ecosystem, not just a species approach. So, this– these three groups we've talked about before, their– and their involvement in setting aside habitat for endangered and threatened species. So, we keep seeing these three groups. Another reason that our first report was on this side because of all the work that they do with endangered and threatened species. So, with that in mind, here are their goals. They want to, right, so one of the main things is the ecology of a region; watershed, soil maintenance, oxygen release, pollution control, biodiversity, all of those things are part of the reason to conserve areas around the world. What is the ecology of the area? But of course, preserve species diversity and the– their DNA, right. So, you want to preserve the organisms and their DNA in a world conservation strategy. And because humans– we talked about this before; humans are part of an ecosystem. So, in these ecosystems humans also play a part and part of what the– part of the part that they play has to do with in some way utilizing the resources. So, in these util– utilization of the resources, how can we utilize them and keep them sustainable? Not just take out, take out, take out, but make sure that species are being replaced. So, the world conservation strategy includes those goals of habitat, of the species, and human resources being utilized in all of that. So, with that in mind, another way to approach that– okay everyone. He's waited so patiently and I think we're just going to work through today because we're almost finished, so we're going let Dion come in. Uh-oh. Too late. I've waited– I looked too late. Like taking too long. I'm out of here. Okay. So, wildlife management, we've talked a little bit before how to the word's manipulate wildlife populations, especially those game species, like in the wildlife refuge system and their habitats so that they are protected and, right, underlined, human benefits. So how do we manage wildlife so that their numbers don't deplete but we still get benefit from the species? And in doing that, preserve and protect endangered and threatened species. So, wildlife man– managing wildlife so that they're protected but also that humans do still get benefit from those resources, those wildlife resources. Wildlife management. So how do we do that? We talked about this a little bit before. Hunting and fishing laws. So, let's write down, you have some space there, let's talk about hunting laws first. So, if you are a hunter, what are some laws in place that you have to abide by before you can go hunting, what kinds of things?

>> You've got to get a license.

>> License. You have to get a license. So, right. So, we're going to write some of these ideas down. You have to have a license, so that means you have to pay, and that money that you're paying for the license helps to preserve habitat. So that money just doesn't go away; it's actually used back in, excellent example, to go back and protect the habitat. What else, if you're hunting? You have to have a license. What else are some of the laws? Go ahead.

>> Isn't [inaudible] which season you can actually hunt in?

>> Seasons. There are certain times of the year that you can hunt. And that has a lot to do with that you're not hunting during what season for the animal?

What? Breeding season, mating season. So, you don't– they– you would not be hunting during mating season, right. So that is part of the reason for seasons. What else is part of a hunting law that you would have to abide by? Certain seasons, you have to have a license.

>> Which animal you can [inaudible].

>> Which animals. So, and that has a lot to do with the age of the organism, right. So, this also has to do a little bit with that mating season that you can't kill mothers and their offspring during the season. Excellent. What about the type of weapon you might use during the season? That's limited as well. You can't take– or you're not supposed to take like a rapid repeat rifle into a hunting area, right. I mean this is– that would be against the law, right. Anything else that you can think of that might have to do with hunting laws that would restrict what would be going on?

>> I'm kind of guessing but are there restrictive [inaudible]?

>> Certain places that you can hunt, absolutely. You can't just go– you can't just go out anywhere and hunt. You– there are certain areas. And so, all of these kind of things manage the wildlife. Another one would be how many of the organisms that you could hunt, right. And all of those things. So, then they only give out a certain number of licenses and you can only hunt so many that limits how many would be killed in a season. And all of those things then manage the population so the population never gets completely wiped out; it always is sustainable. What about fishing? Kind of the same lines. If you want to go fishing what kind of things do you have to do or what– what are some of the rules for fishing? Full grown. If they aren't you catch and release, right. So, you can only keep of a certain size organism. What else?

>> How many [inaudible].

>> How many, limits on number.

>> Species.

>> Type of species during the time of year, and that has to do with mating and breeding again. You have to have a– right, a permit or a license. Certain places. All of those kinds of things– he's back. All of those kinds of things would be limiting that. So, those laws, again, are in place because we want to continually have those species around. And so, if you have those laws in place it helps to manage the population numbers. That make sense? So, with sport hunting and fishing that wouldn't be a reason that numbers would deplete as long as everyone's following– following the laws and the rules. And the last thing we'll talk about today is not sport hunting fishing but commercial fishing and whaling and kind of history of that and numbers depleting and where are we now. So, with the commercial fishing and whaling industry it's an example of what we'd call the tragedy of the commons with a common property resource. So, please know this term, common property resource. A common property resource means that it's not owned by anyone, but it's wanted by everyone. So,

no one owns it but everyone wants it. And we're talking about no one owns be– we're talking a lot about open ocean organisms because there's no country that has jurisdiction over the open ocean. And so, there are species in the open ocean that are big money makers and if there's no jurisdiction, no laws, no rules, then, right, nobody owns the open ocean, but there are organisms there that make a lot of money and everyone, anyone wants to make money from that. Does that make sense? So, what happens is they get hunted to a point of what's called the tragedy of the commons. An example are many whale species. We're going to talk about the blue whale. And the tragedy of the commons means that, okay, ev– I– everybody wants this. If I don't take as many as I can get somebody else will, so I may as well. Right? If I don't do it somebody else is going to do it so I may as well do it. It may as well be me. And when too many groups or people do that, the numbers drop. The numbers drop, numbers drop, numbers drop until you have the tragedy of the common property resource, meaning the numbers become so small that the organism becomes endangered, threatened, even extinct. So, the blue whale, right, once an estimated 300,000. The current number is– it's hard to know the exact number on blue whale because they are open ocean organisms and they're deep divers, they can stay underwater for a very long time and they're difficult to find, but the current estimate on numbers with the blue whale is somewhere between 10 and 25,000, once an estimated 300. And so, what– what– what do you know about whales and their being hunted? Why were they so– why were they considered a wildlife resource? Remember, humans need or want. Mia.

>> Their blubber?

>> The blubber. Because the blubber was used as an energy source before we had or used, in great amounts, things like coal and oil and gas, right. Blubber is oil. It's an animal oil and it can be used as an energy source and it's exactly what it was used for in lamps and to cook food, etc. etc. etc. And if you take one blue whale, blue whales are enormous. I was going to go back because I wanted to show you. A long blue whale, you could get a lot of blubber off of it. You know what the other thing that whales, including blue whales, were used for in the– remember? Turn of the century, mid to late 1800s, early 1900s is what we're talking about when they were really hunted hunted hunted to drastic reduction. What? Do you know anything else about whales and what else they might be used for besides their blubber? Anything? They have a plate in their mouth. Their mouth– like their mouth [inaudible] big as this room, maybe not quite that big, but almost, and they don't have teeth, they have a plate called baleen and the baleen has little fringes on it and they take in huge amounts of water and then they take– blow water back out and the little fringes collect the organisms that they eat, which are called phytoplankton. And that baleen is kind of like– has the consistency of a plastic. It's not plastic; it's a material in a living organism. But before there was plastic, they used baleen from whales in things like fashion, because during that time women wore hoop skirts. Do you know what a hoop skirt is? Right, that big huge skirt that would hold the dress out like this, that was baleen holding the skirt out. And so, it was used in fashion

as well, the baleen. So, they were a resource that humans used in the late 18 early 1900s. So, they were hunted, hunted, hunted to such low numbers, right. So now I'm– if this is my business, I'm not finding blue whales anymore, and that brought about in 1946 what's called the International Whaling Commission, which is still in place today, the International Whaling Commission. And they are an international organization and they don't have any legal power, but if you're part of the International Whaling Commission then you are meant to abide by any decisions they make about whaling, right. So, the blue whale hasn't been hunted commercially since 1964. So here, this is interesting, we've talked about this before. This is when the commission started, in 46, but nothing was really put in place in terms of probably we shouldn't hunt these at all, not an alright everybody pinky swear that you won't hunt very many of them. Now it's there are so few, no hunting. If we don't stop the hunting of this animal it's going to go extinct, 1964. So, the blue whale hasn't been hunted commercially since 1964. The United States, right, because each country is responsible for their own application of laws, just a treaty like the International Whaling Commission, and so the United States stopped whaling and banned imports of whale in 1970, because again, numbers of all species of whale were dropping so drastically that like this we cannot– we cannot support commercial whaling and we are not going to bring in imports. The only exception to this, because it's not commercial whale– whaling is that Native Americans in Alaska that hunt whale in terms of their, right, subsistence, we talked about subsistence hunting, which has been part of their culture forever, as long as the whale was being used in the community, it wasn't being sold, that's– that's outside of this law, okay; 1970. And a halt on all commercial whaling by the IWC since 1986. So not just the United States now, but everyone that is part of the International Whaling Commission, with these exceptions. So, these four countries are part of the International Whaling Commission but they do not agree with the idea that they should have to not whale. Alright. And in fact, we'll talk about this next time, Japan, this year, left the International Whaling Commission because they don't just do whaling but they also harvest dolphins and porpoises and it's very controversial and they have had a lot of pressure to stop that. But they, no, we're not going to stop it, we're going to leave the commission because we're not in agreement about not collecting dolphins, this dolphin harvest that takes place every year. Okay. So, beautiful, beautiful, beautiful, magnificent, highly intelligent organism, the blue whale, that the United States we do no commercial. I think there's another number I wanted to give to you about that. I think so. So. There's a lot talk– that we've talked about. Well what can I do? What can I do? There are things we can all do, right, to make a difference with something like this. So, let's finish with what can we do? What could we do? So, in general, modify consumption meaning in all things, we talked about this in our second or third lecture like what do I buy, why do I buy it, how much do I buy? Do I want it; do I need it? And that applies to all things, including what might be affected by wildlife, right. So, do I want it, do I need it? Why am I buying this? What's– what's my purpose in buying this? But specifically, here's some things, right. We have our own habitat, wherever we live, so we

can improve our own habitat, right. Whether we're in an apartment or a home, we can plant some plants, put them outside, make sure they're desert dwellers, that they're native, that they attract pollinators like butterflies and bees and that improves our immediate habitat. So that is something that we could do. Don't buy wildlife products. What I mean by that is back to that improving our habitat, something like plants. When we do plant something, we should make sure it's a native desert dweller and that it will do well in the desert and that it will continue to do well year after year and that it doesn't need a lot of water and it doesn't need fertilizer. And again, that it will attract pollinators to our space. Okay, we talked about this one already. Not– you don't have to become vegan; that's not what I'm saying. But reducing how much meat we eat, particularly hoof animals in particular, cattle, improves ecosystems everywhere. And when we do eat meat, know where it's coming from, how it was raised, and if it's been fed any antibiotics or hormones. So, all of those things are important and you– it should say right on the label what you're eating and if it is raised in a way that is conducive to a healthy ecosystem and to your body being healthy after you've eaten it, and we've talked about that before. Dolphin safe tuna. Did you know there was such a thing as dolphin safe tuna? Did you know that? So on a can of tuna, if you're a tuna lover, if you're a tuna eater, canned tuna, on the side of the can, will have a little icon that says dolphin safe if it is dolphin safe, meaning that it was captured in a way that did not include the capture of dolphins, that in a large trolling net are just get caught and then they're just killed and discarded because, right, that's not what was being hunted. And so, look for the little icon that says dolphin safe on the side. This doesn't seem like anything to do with wild animals, but our animals make their way into nature and so if we– here's the thing. Okay, this is my little discussion about spaying and neutering our animals. So, people let their animals have litters, dogs and cats I'm talking about, with no intention of raising the litter. And then those animals either end up in a kill shelter and are euthanized, or they end up in the desert, in our case the desert. And our domesticated animals can give wild animals diseases. And one of the many reasons that the desert tortoise is endangered is because it gets respiratory diseases from dogs that are in the desert. So, right, spay and neuter. Keep your pets in your area and not let them roam where they might encounter a wild organism, right. This doesn't happen so much anymore. When Professor [inaudible] taught growing up in [inaudible] Valley, there used to be tortoises just like everywhere all the time, crossing streets. You'd go out into the desert, tortoises everywhere. We don't– they're endangered now, but every once in a while, you'll still encounter a tortoise. I was driving down L west last year and my husband was driving, I was in the car, and as we were driving here comes a little desert tortoise coming straight across L, busiest time of the day. This is how the little tortoise goes. I go like this. Stop! He slammed on the breaks. I jumped– this is like ridiculous. There's like cars. I jump out of the car and oh my God.

[Laughter]

And I grab the tortoise, and somebody going the other way [noise], jumped

out. What were you going to do with the tortoise? I said I'm going to take it to the tortoise rescue in Palmdale. We're headed that way. We'll take him. Okay! So, there's a tortoise rescue in Palmdale. Because if you put the tortoise back down, he's just going to make his– he's going to do the same thing. He's going to try and cross the street and somebody's going to hit him. So, right. Leave in the wild or tortoise rescue, in our case, so that they– so that they don't become extinct, they're so cool. Alright, I think its number two that we said that. Maybe number three. And some of you mentioned it in your reports. Alright. Reduce, reuse, recycle, refuse. No. Well we don't– we don't even have much of a chance to refuse anymore. We don't have plastic bags being given out in our stores in the [inaudible] Valley in California. But yeah, we don't need to take– right, if I go in– if I go into CVS, I don't know where you go, and I forgot my reusable bag, no I don't need a bag for a pack of gum. I'm good. I can carry it in my hand. I don't need it. I refuse your bag, right. Don't need it. Definitely don't need plastics of most types and we'll talk about plastic a lot because it's one of my favorite topics, okay. Right. Support efforts, right, World Wildlife Fund. Support efforts that– organizations that are helping with these problems of deforestation and coral reef and wetland destruction and most important, most important, most important, vote vote vote vote vote vote vote vote. Register to vote, because that's how many– and this is true of anything that you feel is important, that you need to– whatever you think is important. I think– I think the environment is important so I check candidates that are going to do good things for the environment. But whatever's important to you, the way to make sure that your voice is heard is to vote, so if you're not registered to vote, register to vote because that is the most powerful thing that you can do is vote, right. So, make sure that you do that soon. Register to vote. Alright this is why we didn't take our break; I knew we'd finish a little early today. Alright everyone, I will see you on Wednesday! I saw you out there. I said, okay, I'm going to let Dian in, because I'm not going to take a break today. Everyone was okay with it. They said okay, you can let him in.

>> I have a question.

>> Of course.

>> So is this the end for the second test.

>> Yes. Everyone. The end– that's the end of our information for our test next week. So, when we pick up with energy sources and we will have that before the test, none of that will be on our test, nothing about energy. Nothing about energy. Thank you. Good question. Yeah. Dian, did you have something for– I'm sorry.

>> No, never mind.

>> Are you sure?

>> Yeah, I was [inaudible].

>> And of course, I'm Podcasting, so you can get those too [inaudible].

>> Yeah.

>> Sure. So, say again.

[Inaudible Response]

>> No, but there are certain types of tuna that when they capture the tuna, they also capture dolphins. And so– and that depends on the nets that they use. So, if you look on the side of a can of tuna it will– if they don't use those kinds of nets it will say dolphin safe. It'll say it on the can. And if it doesn't say that then they are probably capturing dolphins as well as tuna.

>> So, when they catch tuna, they catch the dolphins with it.

>> Accidentally.

>> Yeah. And then–

>> And then they just kill them.

>> Why is that?

>> Because it's– it's– they have this huge net and to try and get the dolphin and the net they'd lose tuna so they just kill it. Yeah.

>> I didn't [inaudible], I was like–

>> That's why it's important. Look for that right on the side. Look. And if you have some even at home check and see. It's right on the side of the can. It says dolphin safe. Yeah. Yeah, isn't that interesting?

>> It is.

>> Things we need to know.

>> I don't know [inaudible].

>> Yes. Of course. Of course. Yeah of course. Yeah. So, check for that. And if it doesn't say that don't buy that brand anymore.

>> Thank you.

>> You're so welcome. See you on Wednesday.

>> Yes.