

[Valerie] When we picture cities, we think of skyscrapers and high-rises, loud noises, bumper-to-bumper traffic, and lots of people. These urban elements can be really detrimental to wildlife.

In today's episode, we look at how cities can be important pieces of the conservation puzzle, and how urban wildlife habitats are part of the ecological landscape, serving as links not only from place to place, but also from people to each other and the outdoors.

I'm Valerie Fellows bringing you today's episode of a Talk on the Wild Side.

[Intro Music]

[Valerie] Known as the Windy City, Chicago is the third most populous city in the country – home to 2.7 million people and 8 million birds from over 250 species that migrate through Chicago yearly.

Chicago is situated along the Mississippi flyway – a large migration route that birds use to travel between Southern U.S., Central and South America for the winter and North America for summer. But building density and its location along this flyway makes Chicago a dangerous obstacle for these migrating birds. Chicago is just one of many cities that has recognized the impact they're having on birds and is taking action.

[Louise]: So we have an Urban Bird treaty program with our cities who are important partners in bird conservation

[Valerie]: Louise Clemency is from our Chicago Ecological Services Field Office and works to implement the Urban Bird Treaty Program. Since 1999, the program has worked with cities to conserve urban habitats for birds, reduce hazards, and engage urban communities in bird appreciation and conservation. Chicago was among the first of the urban bird treaty cities, joining in 2000,

[Louise]: At the time that we signed our treaty with the City of Chicago, there was already a lot of bird conservation energy going on in Chicago, and a lot of networks of volunteers.

[Valerie]: As part of becoming an urban bird treaty city – Chicago made a lot of commitments to conservation as well. One of the first projects was a "lights out program" which the mayor had a large role in.

[Louise]: Asking building managers in the high rises downtown to dim their lights during spring and fall migration. Because bright lights can confuse birds, especially on nights with just the right, or I should say, wrong weather conditions,

lights can confuse migrating birds and they can circle the building and become exhausted and there's pretty high mortality of birds. Dimming the lights during bird migration can make a really big difference for bird conservation.

[Valerie]: Another project put a green roof on the downtown convention center for more habitat along the shores of Lake Michigan, and corporate campuses and large land-owners have converted their open spaces to include native plants for prairies and natural areas. But individuals can help too:

[Louise] People in cities have a real opportunity to help bird conservation. They really rely on having native plants and shrubs so that they can find food and a little shelter while they rest up. Converting your, even a small back yard from turf grass to some native shrubs and native trees that will have the little bugs associated with them that the birds need to eat in the spring or the berries that they'll need in the fall on their way back down can really make all the difference in birds successful healthy journey where they need to go.

[Valerie] Just as birds migrate - so do fish. Fish need to move, a lot, to be healthy and have robust populations. Fish need to move in their water systems to feed and reproduce. But there are things we've built that can limit their movement and cause big problems. Fish passage is when we remove barriers or replace them with fish-friendly designs.

[Tim] The national fish passage program and fish passage in general, is a restoration effort that restores aquatic connectivity. If you don't have aquatic connectivity species can't move in their various life stages. If you don't have that connectivity, then the species suffers and eventually becomes extinct.

[Valerie] Tim Loux is the senior fishery biologist for the Lahontan National Fish Hatchery Complex in Nevada, and the region's national fish passage coordinator. Aging infrastructure, like dams, culverts, and bridges change the water quality in an ecosystem, causing big problems for fish. and they can be a major concern for people, too. Big storms can amplify the issue of aging infrastructure for the public.

[Tim] and a lot of times it washes out the roads and prevents emergency vehicles getting to where they need to get to.

[Valerie] So the fish passage program works to meet the needs of people and fish –

[Tim] As far as the fish habitat and restoration conservation, it's a balancing act. And we have to be able to meet the needs of the people that need the water as well as try to restore the habitat and the, one of the biggest challenges is being able to show how important this project is or this restoration is for the species, but also be able to feed into that, we're also improving your infrastructure.

[Valerie] Lahontan National fish Hatchery is situated about an hour south of Reno, Nevada known as the biggest little city in the world – and habitat restoration in the west isn't easy – especially when it comes to water.

[Tim] In the west, water is gold. Very rarely is there an opportunity for us to go in and remove a barrier, especially a dam, that's providing water for some reason, whether it's agriculture, or whether it's supplying water to the public for drinking water, so it's very important when you're doing some sort of habitat restoration project, you're not impacting the water users.

[Valerie] There was an opportunity to address infrastructure with the Glendale Water Supply improvement project. The cooperative project between the US Fish and Wildlife Service and the Truckee Meadows water authority addressed safety concerns for recreational users, the fish passage issue, and water quality.

[Tim] The Truckee Meadows water authority supplies water to about 500,000 people.

[Valerie] So Tim worked with the Truckee Meadows Water Authority to create a plan: A permanent, and reliable structure was designed that would divert water to the Glendale Treatment Plant, while preserving the natural environment and wildlife habitat - and removed existing rock and concrete diversions that blocked fish passage.

[Tim] It opened up 41 miles of habitat for a very iconic species called Lahontan cutthroat trout. They used to migrate from Pyramid Lake all the way to the Tahoe.

[Valerie] Lahontan Cutthroat trout, in the Truckee, Tahoe, Pyramid corridor are the largest inland trout in the nation. Gold Rush settlers in the late 1800s told of 60-pound "monster salmon trout" that were abundant in the river.

[Tim] The fish provided a very important cultural resource for the Pyramid Lake Paiute Tribe, as well as a food resource, and at the time it was one of the largest commercial fisheries in the nation.

[Valerie] But in 1904, Derby Dam was built 41 miles south of Reno Sparks.

[Tim] That essentially cut them off from their spawning habitat,

[Valerie]: This was a fish that had provided food during the gold rush, and the industrial revolution. But by 1940, the fish had vanished from the system, and it was one of the first species protected under the Endangered Species Act.

[Valerie] In the mid-90s, an effort to bring the population back began. Over a fifteen-year period, the Complex where Tim works has carefully created a captive stock of Lahontan Cutthroat Trout from wild fish collected at Pilot Peak- known descendants of the original Truckee Basin fish.

[Tim] And in 2006 the Lahontan National Fish Hatchery Complex started stocking those Lahontan Cutthroat Trout that were native to this area back into Pyramid Lake and in 2014 we saw our first spawning run. And it was a small migration event, about 200 fish. So fast forward to 2019 we had over 800 fish run the river this year out of Pyramid Lake and made it all the way up to Derby Dam, which has fish passage in it. The hope is they'll run all the way to Lake Tahoe.

[Valerie] The Truckee River is the second most used waterway in Nevada for recreation, so there was a major need to balance all the demands on these waterways.

[Tim] It's really important to have public input; you reach other people, like the recreational users. Most of these urban rivers there's recreational components. When you're looking at just the science or the habitat or the species or the water need, you don't get that input. So it increases the likelihood of a species to persist. With the success of that program in Pyramid Lake, the population's on the increase and this project meets all those needs. It's a pretty unique project.

[Tim] We need to get people involved in conservation efforts, involved in nature and wildlife to keep them excited about it, and for Lahontan Cutthroat Trout habitat, it was part of the history of this area, and people know what it is – it's the state fish of Nevada. And so it's important for them to be able to be in touch with the natural resources.

[Valerie] Urban wildlife conservation is about building and growing relationships within the community. These relationships are between people and nature as well as with each other.

[Louise] We've been trying build birding networks in all of parts of the city so that everyone has somewhere to bird in their own neighborhood and birding mentors from their own community. We've gotten to know a few new wonderful birders from diverse backgrounds and what's really helpful is that then they become

leaders in helping us think through how to do better on our next effort as well. A lot of birders have a real joy in seeing birds and learning about their ecology that they just love passing on and sharing with new people.

[Valerie] And Louise is no different. She enjoys getting out with groups and sharing those kinds of experiences with new people.

[Louise] Well my favorite memory was this time I was on one of the bird walks and met a little boy he was like 8 or 10. He had just discovered birds and birding. He shared that he really wanted to see an indigo bunting, and that's a cool bird for Chicago bird walks because it's not really an uncommon bird – it nests in Chicago. But if you aren't a birder and haven't really looked for birds, it's probably a bird you've never seen in Chicago, even if it's in your neighborhood. And so in a forest preserve that's just one square city block, we went over to find it and when the little boy got it in his binoculars and he laid really good eyes on it for the first time, he was so excited he was just jumping up and down. That sort of joy and sharing it with other people, I think is what motivates a lot of us.

[Valerie] Engaging and educating kids and families is a major part of the Urban Bird Treaty Program. Sometimes small moments can be the inspiration for the next generation.

One of the newer ways we're fostering little moments of connection is through a unique partnership in the City of Roses – Portland, Oregon. We've partnered with Zoos and Aquariums for decades – they provide expertise for captive breeding programs, wildlife research and educational activities. We've worked with the Oregon Zoo to help restore populations of many endangered species ranging from the California condor to the quarter-sized Oregon silverspot butterfly. Today, there is a new education center at the Oregon Zoo, and it is home to Leah Schrodtt – a US Fish and Wildlife Service employee.

[Leah] The importance of engaging at a zoo is that it's an audience that we do not otherwise reach. First off it's a lot it's a lot of one on one engagement with a huge reach. The Oregon Zoo is the second most visited site in Oregon and they've had up to 1.7 million visitors per year.

[Valerie] Zoos are incredibly popular destinations for families to spend time together and see animals they may only read about in a book or see on tv.. Leah is an interpretive Specialist who provides zoo visitors with activities, displays, and programs designed to communicate our conservation messages and showcase our work to protect endangered and threatened species and their habitat.

[Leah] One of the most powerful roles zoos play is around empathy building. There's really nothing like looking into an animal's eyes, seeing it's behavior and forming a connection, which is what happens at a zoo.

[Valerie] One of the more challenging aspects of reaching zoo visitors is how different they all are. At any time you might have a group with toddlers and seniors, or international visitors or people who don't have much experience with nature outside of a zoo.

[Leah] There are a lot of forces vying for one's attention at a zoo. It's hard to compete with a tiger and an elephant. Everything we create has to be fun, engaging, hands-on and compelling enough for a visitor to want to spend time with us, and then hopefully take that experience home with them beyond their zoo visit.

[Valerie] So to make the connections, and tell the stories of conservation efforts happening, Leah has created a number of interactive conservation toolkits for visitors to learn from.

[Leah] So we've developed 27 different education toolkits to tell strategic conservation stories in a fun, hands-on format. So those kits form the backbone for programming, including special events – like endangered species day and world wetlands day.

They're also incorporated throughout the camp program. One of the exciting new partnerships around that is our wildlife CSI curriculum, which I worked closely with one of our special agents to co-create, the curriculum takes kids through the entire investigative process of how our law enforcement program works to address the trade in illegal wildlife trafficking, so they're actually transformed into special agents.

[Valerie] It's all about connections – people connecting with the animals they're seeing and connecting with visitors to teach them about the natural world and their important role in it.

[Leah] So in my work, I love being able to give voice to the species that many portions of our populations don't know about. We've co-created two displays to tell the stories of our work – one is focused on the importance of salmon as a species that connects us all throughout their lifecycle. And the other is an amazing collaboration between regional tribes that tells the story of the pacific lamprey – it's known as the lost fish because of how few people know about it, nor do they understand the incredibly important role it plays ecologically as well as culturally and spiritually for many of our tribes.

[Valerie] – If you've never seen a lamprey – they look a little like an eel – long thin fish with a sucker mouth. Honestly they look a little like a creature from a

science fiction movie. While working at the exhibit, Leah had a conversation with a father and son.

[Leah] And I started talking with them and his Dad said my son is obsessed with pacific lamprey. And I asked him where his son had learned about it. And he said well, it's been everything that the zoo's been doing, this is where we learned about them, he's absolutely obsessed. And he says hey, my son's has a question for you, and so I kneel down and look at his little boy, and the boy says in this really innocent beautiful little voice, 'do lamprey have blow holes?' And my head spins and I was like a blowhole? I looked at him and I said you mean like a whale or a dolphin? And he shook his head and he said 'yup!' And what he saw on the pacific lamprey was the scent pore they don't actually use it to breathe because they have 7 gills to do that. But he had refined his observational skills to actually spot that pore and was trying to figure out what it was and it just blew my mind and it just at that moment I was like mission accomplished – what an amazing thing we've done with our work.

[Valerie] These kinds of connections are so important for reconnecting people and wildlife, especially in urban settings. And nature brings people together, too.

[Louise] We had a very exciting event in Chicago last summer when two endangered Great Lakes piping plovers decided to nest for the first time in over 50 years on one of our busiest Chicago beaches.

Valerie]: Oh wow, they couldn't have picked a secluded, quiet beach, could they. Nope- this pair decided to nest in the most popular spot on the beach – near volleyball courts and a bar, up against dunes that were in the process of being restored.

[Louise] And we'd done no planning for such an event because it was so unexpected, but we were really lucky to have our whole urban bird conservation community spring into action. They used Facebook posts and Twitter posts and by the second day that the birds were out there our bird clubs had dawn to dusk shifts of plover, volunteer plover monitors. We had over 200 people throughout the summer taking turns.

[Music Outro]

[Valerie] Chicago is celebrating its 20th year in the Urban Bird Treaty Program which now includes 30 cities across the country.

The Derby Dam fish passage project opened 41 miles in Nevada, adding to the nearly 60,000 miles of habitat reopened for fish and other aquatic species throughout the country since 1999.

80% of the nation's population now lives in urban areas, and we're finding new ways to introduce them to wildlife and conservation. Leah hopes the model in Portland will be replicated at other zoos in the United States.

In spite of the noise, buildings and hustle and bustle of cities, wildlife still finds a way - from a peregrine falcon that nests on the 33rd floor of a building in downtown Baltimore, to a raccoon that captured the hearts of America when it scaled a skyscraper in Minneapolis.

Thanks for joining us for this episode of A Talk on the Wild Side.

[Kayt] Thank you so much for joining us for today's episode of A Talk on the Wild Side. Special thanks to Louise Clemency, Tim Loux, and Leah Schrodtt for lending their expertise. Valerie Fellows reported for us today.

To learn more about the Urban Bird Treaty Program, fish passage, or our partnership with the Oregon Zoo, or for notes and a transcript of today's show, visit www.fws.gov/openspaces.

Music in this episode is from Audioblocks. Our theme music is Settling In by Dexter Britain.

Until next time.