

CONSERVATION

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Perspectives in Conservation

Dr. Jennifer Pramuk is Animal Curator at the Woodland Park Zoo in Seattle, Washington. She has been in this position for seven years. Dr. Pramuk also has served as Curator of Herpetology for the Bronx Zoo in New York, and was the first female to fill this position. She was interviewed by Conservation Section Editor Jennifer Stabile in October 2017.

What does your position entail at Woodland Park Zoo, and how long have you been working for AZA Zoological Institutions?

As an Animal Curator at Woodland Park Zoo, I manage about a third of the animal areas, as well as a conservation project on Western Pond Turtles, which is a Washington State Endangered species. Other aspects of my job include permitting, antivenin acquisition, public engagement, grant writing, and employee management. Prior to my current position, I was the Curator of Herpetology at the Bronx Zoo and a zookeeper at Audubon Zoo. In total, I've worked at these institutions for about 14 years.

How did your dedication to wildlife conservation begin, what sparked your interest in herpetology?

I think I was born this way. I grew up in an area in semi-rural suburbia in northeastern Ohio, and at that time there were lots of toads to discover in the backyard. I also had an uncle and aunt who owned property, a 150-year-old farm, and it was a child's paradise. They had a cave with salamanders and creeks with fossils, as well as abandoned barns and orchards that were the perfect places to find herps. I was lucky that my family encouraged my interests and were amateur naturalists themselves. By the time I was six years old, I knew I wanted to work with reptiles and amphibians. I remember exactly where I was—I had an American Toad in my hand and I was sketching it at my desk. It was like a light went off in my head and I realized that a career with reptiles and amphibians was what I was going to pursue. I immediately ran to tell my mom, and her reaction was one of calm acceptance. I kept that strong conviction throughout my early years and tried to overcome any challenges that came my way.

Did you have any mentors during this time, herpetologists or otherwise, that you looked up to?

There are many people I looked up to: Roger Conant, Isabelle Conant, and of course, Raymond Ditmars. One of the earliest herp books I had was by Mary Dickerson, who wrote *The Frog Book*. It was kind of sacred text to me as it was written by a woman who was a herpetologist in the late 1800s and early 1900s, with great passion for the subject. It made me realize that I could do what she



PHOTO BY JULIE LARSEN WAHER © WCS

FIG. 1. Jennifer Pramuk staff photo from Bronx Zoo/Wildlife Conservation Society in 2009, holding two young Cuvier's Dwarf Caiman (*Paleosuchus palpebrosus*), hatched at the zoo during her tenure as Curator of Herpetology.

did. I went to UC Santa Cruz for my undergraduate degree, where I worked in an insect ecology lab as a research assistant with several other female scientists. That was very influential because I understood that the science profession was tangible for me. After that, I took a couple years off to work as a zookeeper in the reptile house at the Audubon Zoo in New Orleans.



FIG. 2. With colleagues at Association Mitsinjo's Amphibian Survival Assurance Center in Andasibe, Madagascar in 2013. Jenny assisted with initial planning and fundraising efforts for this project, which focuses on conservation breeding for Golden Mantellas (*Mantella aurantiaca*) and other native amphibians. From left to right: Devin Edmonds, Allan Pessier, Jennifer Pramuk, Sam Samina Sidonie, and Mampionona Soamiary.

You mentioned taking a short break from academia to work at the Audubon Zoo in New Orleans. What made you decide to do that and what was your position there?

Throughout high school and college, I had more than a dozen jobs, so I had a rather long list of potential occupations I knew I *didn't* want. I also had been volunteering at zoological institutions (Akron Zoo, Steinhart Aquarium) since I was 15 and knew that I loved working with animals. After I received my Bachelor's degree, I accepted a zookeeper position at Audubon. Mainly, this was because I needed to find a paying job with benefits, and I thought that keeper work would be rewarding. Although I enjoyed being a keeper, I gradually found myself missing the process of science. And, I really wanted to contribute more to conservation, which then led me back to academia. At that time, I read William Duellman and Linda Trueb's *Biology of Amphibians* cover to cover and was greatly impressed by their work. The University of Kansas (KU), where Bill and Linda were professors, was at the top of my list of potential graduate schools. So, I took the GRE, applied to KU's graduate program and was accepted.

Once back in graduate school at the University of Kansas, what were some of the projects you worked on while you were pursuing your Ph.D.?

Most of my research at KU focused on taxonomy and evolutionary biology of amphibians. I had the honor of naming 23 species of amphibians with colleagues, which was a dream come true for me. One of the best parts of graduate school was having the opportunity to travel to several countries in Latin America to conduct biodiversity survey work and to collect specimens for the museum and for my studies. It was just an incredible experience and I would do it again in a heartbeat. The core of my graduate research was on the evolutionary relationships of New World bufonids. You could say that my early love of toads came full circle and my childhood dream was realized. Later, as a postdoctoral fellow with Jack W. Sites, Jr. at Brigham Young University, I researched the evolutionary relationships of xantusiid lizards.

You brought your research experience back into the zoo field, as the first female Curator of Herpetology at the Bronx Zoo. Can you describe that time?

In addition to the multitude of academic appointments that I applied to during my postdoc, one of the positions that caught my eye was the Curator of Herpetology at the Bronx Zoo/Wildlife Conservation Society. The zoo was looking for a curator with a Ph.D., but they also wanted a candidate with a background in amphibian biology and experience in the zoo field. I thought it was a long shot, but I wanted to throw my hat in the ring and see what happened; lo and behold, I received a job offer. In the time I was there, I fundraised for and helped design an amphibian conservation facility and exhibit at the zoo, and was able to travel to Colombia and Tanzania multiple times for conservation work. In short, it was an incredible experience to work in the "House that Ditmars built."

Looking back, what is a conservation program you are most proud of during your time at the Bronx Zoo?

The Bronx Zoo took the lead on the Kihansi Spray Toad Project by bringing back frogs from Tanzania that were in danger of extinction. This project began in the late 1990s, and at the time there was a hydroelectric dam that was under construction at the Kihansi Gorge. The toads were brought to New York (Bronx Zoo) and the first colonies were established in partnership with the Toledo Zoo and others. Soon after I started the position, I had to develop a plan and help guide that project in order to get the toads back to Tanzania, as they had since become extinct in their home country. Project partners built two facilities in Tanzania to house the toads with locally-sourced materials, and trained biologists from Tanzania on husbandry requirements and amphibian biology. We also were able to invite some of the biologists and technicians from Tanzania to attend the Association of Zoos and Aquarium's Amphibian Biology and Management school and send staff over to assist with building the *ex situ* facilities, setting up tanks and filtration and anything else that was needed. In 2010, right before I took the position at Woodland Park Zoo, the first shipment of toads went back to Tanzania, to the new facility in Dar es Salaam. It took a lot of collaborative effort getting to that point. Working with an Extinct-in-the-Wild, CITES species, and watching the toads get on that plane during my last days at the Bronx Zoo was a really proud moment for me.

Although uncommon several decades ago, women are beginning to fill these types of positions. Do you have any advice for young females who aspire to occupy similar roles in conservation science?

When I was a girl keeping reptiles and amphibians at home, some people would raise an eyebrow as my choice of hobbies was a bit unusual. However, this is not the case nowadays, which is fantastic. There also are many more women in academia, pursuing careers that are related to herpetology; however, I think that the road to success for women is still more difficult than it is for men. My advice to young women is that they need to support one other and not hesitate to take on leadership and mentoring roles. And of course, pursue your dream no matter what anyone might say to discourage you.

PHOTO BY JEREMY DWYER-LINDGREN/WOODLAND PARK ZOO



FIG. 3. Jennifer Pramuk releasing head-started Oregon Spotted Frogs (*Rana pretiosa*) into a wetland in western Washington in 2015. Woodland Park Zoo collaborated on this project with WDFW and other partners for eight years.

What do you feel is key to a successful conservation program?

I would say that there are several factors that are crucial for conservation success including creating solid partnerships with stakeholders, having strong communication skills, employing adaptive management and having lots of patience. For example, at Woodland Park Zoo, we are on our 28th year working on Western Pond Turtle recovery. If our zoo and the Washington Department of Fish and Wildlife had not taken action back in 1990, this species likely would have gone extinct in our state. In 1990, we went from a population of 150 turtles in our state to more than 1000 today. We have expanded the number of reintroduction sites to more closely resemble their historical distribution. And today, the project includes wide representation of stakeholders from Washington to Oregon, and even California due to the geographic range of the species complex. Unfortunately, in Washington we have a new threat to Western Pond Turtles, an unidentified shell disease, which we are trying to work through. So, we have included veterinary pathologists and other reptile fungal experts on our team. This long-term project has required all of the aforementioned factors necessary for conservation progress; however, we are not quite ready to label our efforts a “success” yet, as the state’s population still requires headstarting in order to maintain a viable population.

What keeps you motivated to keep pushing forward on these programs?

I think the thing that keeps me going is asking myself “what’s the alternative”? If we are not doing what we can to help save wildlife, if no one steps up to do this sometimes frustrating

and difficult work, the consequences are not what I want for this world. I also would like future generations to see Western Pond Turtles in the waterways of Puget Sound, as opposed to an introduced species such as Red-eared Sliders. I always come back to the core concept that every species has an invaluable role in the ecosystem. And above all, we need to extend every effort to be stewards of wildlife and of the planet and to prevent humankind from ultimately becoming the agent of our own demise.

Continuing with your thoughts on getting kids involved with conservation issues and programs, do you have any concerns that future generations will have less of a connection to the environment?

I was fortunate to be born at a time when the conservation movement was just taking hold and as a result, received the conservation message early on. Many kids do not have that opportunity today. When people become more connected to technology and further removed from nature, nature never stands to benefit. This is concerning to me because research shows that if you have those early formative nature encounters it’s not only good for your mental and physical health, but those experiences remain with you throughout your life. When kids are tied to their smartphone, watching TV, and looking at other electronic media all day, they’re losing that connection. If they don’t value nature, how will they vote as informed citizens to help save it? I think one thing I really like about working at a zoo is that we play a role in helping to connect people with nature. Every year, we have nearly 1.5 million visitors at this one zoo in Seattle. So our animals, urban nature, and messaging are how we can reach children in our city (and beyond) to help with that message.

Having worked multiple roles as a herpetologist, what advice can you give the next generation of conservation scientists?

I would say that if you’re passionate about conservation and/or herpetology you cannot shy away from the challenges. And there certainly will be challenges. Whether it’s taking that advanced calculus course or learning to code, you need to outfit your skillset with as many tools as are available to you. Find heroes and mentors to inspire you during those challenging times. Let any discouraging remarks roll off your back. Reptiles and amphibians are among the underdogs of the animal kingdom and need enthusiastic champions. In particular, they need to have people convey to the public why they’re important and worth saving. For those of you who have chosen this path who are reading this: I wish you luck and the inner strength you will need to get where you need to go.