

## **Curator of Conservation Research and Animal Health Coordinator**

**Shawn Larson, Ph.D., Seattle Aquarium**



### **What do you do?**

I am the animal health and conservation research coordinator for the Seattle Aquarium. I am in charge of our sea otter research. We do research on captive sea otters studying their reproductive cycles. We are currently working towards developing a one-step sea otter pregnancy test so we can anticipate when a new sea otter pup will be born.

I also do research on wild sea otters. The work that I am currently involved with involves studying modern day and ancient sea otter genetics and population relationships. I am interested in genetic relationships of sea otter populations that lived long ago to determine how similar or different sea otter genetic relationships are today. There may be many differences between historic and current sea otter populations because sea otters were almost driven to extinction due to widespread hunting for the sea otter's luxurious fur. Many of the original sea otter populations that were present a couple hundred years ago no longer exist. The remaining sea otter populations we have today started with very few individuals and increased slowly, causing what biologists call a genetic bottleneck. This can result in significant losses of genetic diversity making the populations unable to survive changes in their environment such as shifts in prey availability or introduced diseases. In addition to researching sea otters, the Seattle Aquarium also cares for orphaned and abandoned sea otter pups. We care for these young pups by hand 24 hours a day until they are old enough to eat solid food and groom themselves. Once they can take care of themselves we introduce them to our adult captive sea otters so they can be part of a social group.

### **What education and skills do you need?**

I have a Ph.D. in Aquatic and Fishery Science from the University of Washington, a master's degree in wildlife biology from California Polytechnic State University, San Luis Obispo, and a bachelor's degree in Natural Resources Science from the University of California at Berkeley.

Math and statistical skills are needed to analyze research data. Writing skills are important because researchers have to write grants, papers, and reports. Finally a biologist also must be comfortable with public speaking because they often have to present ideas and research findings at meetings. Most important is to take many classes in wildlife and aquatic biology so you can learn about the animals you may study one day.

**Key work experiences?**

Nothing can replace practical experience especially when working with wild animals. The only way to become good at caring for sea otters is to do it and learn.

**What skills are needed for your job?**

Interpersonal skills are important because I have to work with many people from various backgrounds. In addition, as a researcher interpersonal skills are important if you are going to get support from public and private organizations for your work.

**What do you enjoy the most about your job?**

I enjoy working with the animals directly such as hand raising orphaned sea otters. I also enjoy learning about them through my research. It is always exciting to look at the results of your work because many times you do not find what you expect.

**What do you like least about your job?**

The part of my job I like the least is paperwork. I have to compile several scientific reports and papers each year and most of the time I would rather work directly with the animals and do the research.

**Tell a funny sea otter story.**

I was just beginning my career working with sea otters and I had the opportunity to help transport an Exxon Valdes orphaned sea otter from the aquarium in Vancouver to the aquarium in Seattle. Her name was Annie. After being rescued during the Exxon Valdes oil spill recovery effort as a pup, she was hand raised at the Monterey Aquarium before being moved to her first permanent home at the Vancouver Aquarium. The Seattle Aquarium needed another adult female otter for our breeding program and Vancouver offered us Annie. She was the first sea otter that I ever worked closely with. She was a favorite of the Vancouver Aquarium staff because she was very clever and friendly. I helped transport her from Vancouver to Seattle in our van feeding her ice all the way to keep her happy and cool. She was very relaxed and didn't cry out once. Annie acclimated easily to the Seattle Aquarium and our captive sea otter group. She was very funny and very friendly. Sometimes when the keepers would go into her exhibit to feed the otters, if they sat down on a log, she would climb up into their laps. Of course, because sea otters are wild animals, the keeper would become alarmed and immediately stand up. But Annie never bit anyone; she just liked to interact with people.

**Tell a personally rewarding sea otter story**

The most rewarding and trying time I ever had working with sea otters was the first time I participated in the hand raising of an orphaned sea otter. Her name was Lootas was she was orphaned at 2-3 weeks of age when she and her mother were run over by a boat that killed her mother and gave Lootas a few injuries. Luckily the boater picked Lootas up and brought her to the proper authorities. Lootas was stabilized at the Alaska Sea life Center and then sent to Seattle for long-term care. Lootas had to be bottle-fed special formula (made with heavy cream and squid), bathed and groomed by hand, 24 hours a day every day for months. At first we were feeding her formula almost exclusively. Once she began to eat solid food she decided that she would eat only live and very fresh shellfish. Several hours of the day then became devoted to shucking shellfish. I swore I would never eat clams again! It was the most exhausting work that I have ever done but also the most rewarding because Lootas turned out to be a very beautiful otter and a great mom.

**How did you decide to work with sea otters?**

I decided to work with sea otters because they provided me with a great opportunity to learn about

them and participate in research that had not been done before. When I first started at the aquarium my background was reproductive physiology and mammalian biology. The sea otters were the only mammals at the aquarium that we were actively trying to breed and knew very little about their reproductive cycles. So I decided that my first research project as a marine biologist at the Seattle Aquarium was going to focus on sea otters. That was 11 years ago and I am still working with sea otters today and there is still much to learn about them.

**Why is your job important?**

I believe my job is important because I help to uncover some of the many mysteries surrounding sea otter biology and ecology. The focus of my work is to try to understand sea otter reproduction to better manage captive breeding and understand why some sea otters breed readily and why others don't. I also study ancient sea otters and their genetic relationships to determine what the widespread hunting of sea otters in the 18th and 19th centuries affects sea otter populations today.

**What can someone do if they are interested in your profession and to get involved?**

To get involved with sea otter conservation, you need to start by learning as much as you can about sea otters and their marine environment. A healthy, balanced ocean environment with plenty of natural resources will support a healthy sea otter population. People need to be aware of what they do that can harm sea otter such as point pollution sources like storm drains that can take oil from cars and other pollutants down into the sea otters environment.

**Do you have any favorite web links to visit to learn more about sea otters?**

Well of course the otter project web link is great but kids can also learn about Seattle's otters by going to [www.seattleaquarium.org](http://www.seattleaquarium.org).