

SawSearch

A global sawfish project is underway involving museums across the globe, including Poole Museum. Scientists are collecting tissue samples from old sawfish rostra, then extracting DNA. They can compare the genetic diversity of these historic populations to that of sawfish populations today.

The Project is led by Dr Nicole Philips, Assistant professor of Biology at the University of Southern Mississippi and shows how museums and laboratory-based science can work in partnership to assist current conservation efforts. Much of our understanding of the decline in sawfish populations comes from saws collected over the last few centuries. Museums have a unique opportunity to get involved and make a difference by taking part in the SawSearch project, providing measurements and tissue samples to enable this crucial research to continue.

In 2018 Nicole, along with her SawSearch colleagues AnnMarie Fearing and Kelcee Smith hopped across the pond to see what the UK had to offer.

Populations that have suffered from drastic declines, such as sawfish, are at risk of having reduced levels of genetic diversity, which can negatively impact fitness and hinder their ability to adapt to a changing environment and resist disease.

We are collecting tissue samples from old sawfish saws and extracting the DNA to assess whether sawfishes were genetically compromised after severe population declines.



Photo credit AnnMarie Fearing

DNA from old sawfish saws provides us with a snapshot of what sawfish populations were once like, before they were heavily exploited. We can compare the genetic diversity of these historic populations to the DNA from sawfish populations today.

After a year of intense planning, we spent a total of 30 days in the UK in 2018. We travelled a total of 12,000 miles, visited 31 collections, collected data and samples for 528 sawfish specimens, and held 11 outreach events.

We were enthusiastically welcomed at every museum we visited during SawSearch UK and everyone was excited about our research. After long days of sampling, traveling, and conducting outreach, these interactions with the museum staff really kept our energy up.



Photo credit Kelcee Smith

You never really know what you are about to discover in the collections and behind the scenes of museums until you open the cabinets. We have seen sawfish specimen from the 1700's, saws that stood taller than us, and saws elaborately painted with gold leaf or turned into artistic pieces.

Written by Nicole Phillips and Anmarie Fearing (MS student), SawSearch Project, University of Southern Mississippi. Their research is funded by the Save Our Seas Foundation and the Shark Conservation Fund. Kelcee Smith (PhD student) is from Louisiana State University and her research is funded by the Curtis & Edith Munson Foundation.

For more information, visit the projects webpage: <https://saveourseas.com/project/sawfish-gene-pool/>