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FEATURED

# Social Mammals Lab teams with Norwegian Beaver Project

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UW-Eau Claire's Social Mammals Lab has teamed with the Norwegian Beaver Project to further research into what puts stress on beavers.

Staff photo by Gabriel Gibbons

EAU CLAIRE — The Social Mammals Lab at UW-Eau Claire is conducting research into what exactly is stressing out beavers.

The lab, collaborating with the Norwegian Beaver Project (NBP), has employed the help of Marte Stensby Fountain, a doctoral candidate who moved with her family recently to further her research into the subject.

A PhD student from Norway, Fountain's supervisor started NBP in the late 1990s, a project focusing on the large rodent's behavior and ecology.

The collaborative research concerns the examination of beaver's cortisol levels in order to understand the effects of human involvement on their landscape, increased flooding, as well how interaction within their own groups contribute to elevated stress.

The Social Mammals Lab, led by Jenn Smith, an Associate Professor at UW-Eau Claire, teams with Fountain to analyze roughly 16 beaver hair samples a day, all of which were collected between 2001 and 2024. The process takes about eight hours per day, entailing washing, drying, and cutting the samples.

This research effort started with Smith's introduction to NBP through a collaboration with UC Davis. That introduction resulted in the writing of a grant to support Fountain's PhD research, allowing her to travel to the United States last year. With her, she brought hundreds of beaver hair samples.

"I came with the samples in March 25', so then we started figuring out the method, and we processed a few samples to sort of see how we could do it, what worked the best," Fountain said. "Then Jenna's team started processing them, figuring out the final protocol and processing them in the summer."

While Fountain returned to Norway to conduct field research into beaver biology, Smith and her team began working on the method to examine the samples.

Jenn Smith works with undergraduate students in the lab, Katelyn Boche and Jada Wahl. Boche is on the track for pre-med, while Wahl is a biology major, aiming to study ecology in her graduate studies. Wahl is also a Goldwater scholarship recipient, a distinction only offered to three UW-Eau Claire students in 2025.

Smith says that undergrads at UW-Eau Claire are doing what graduate students at other universities are usually tasked with. During UW-Eau Claire's winterim period, students have more opportunity to do research without interference from their class schedules.

Fountain says that she's unsure whether the team can finish analyzing all the samples in the time she has here in the U.S., but the research they can gather now will still be important.

"This is the third week, and we may not, we're definitely not going to finish all 700 this time, but maybe some more will be done during the summer, and even if we just get through, I think we're on around 300 now, that's still pretty good," Fountain said. "Even if we don't get through all of them, that's a lot of information."

Fountain's master's research concerned flooding events, which Smith attests is an issue impacting North American beaver populations.

"We're really starting to understand the value of beavers on the landscape for water management, because they do all the work for us. They're ecosystem engineers, and what that means is, as a technical term in ecology, they are manipulating their environment and engineering it in a way that is transforming it," Smith said.

"From human's perspectives, that can complicate our lives, but they're also providing a service where they're maintaining waterways."

Smith believes the research will shed further light on how climate change directly impacts this ecologically vital mammal.

"Ultimately, with our collaboration, with Blugold undergrads that are helping to extract all the samples, we'll start to understand whether those are a stressful event in the lives of the beavers. We predict that with climate change and more increases in flooding events, that would be a trigger or stress response in the animals, and that we'll see that in the hair."

The Social Mammals Lab is also working on a new collaboration with Timber Wolf Information Network, who the group hopes to present with in April.

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Education reporter