

WMU prof wins \$471,000 grant to study wetlands



Carla
Koretsky

Gazette Staff Reports

A young Western Michigan University professor has won a career-maker grant from the National Science Foundation that will fund five years of research on U.S. coastal and inland wetland areas.

Carla M. Koretsky, assistant professor of geosciences, was awarded the \$471,000 grant.

She plans to include area high school students and already has a doctoral student and three WMU undergraduates doing preliminary laboratory work on the project, which started in late summer.

"It was one of the most exciting things that has happened to me," said Koretsky, 33.

The research melds her scholarly interests in geochemistry and biology.

This project focuses on the interaction between organisms such as marsh grasses, shrimp, crabs and worms, and metals like cadmium, lead or copper that are introduced into the saltwater marshes of a pristine Georgia barrier island as well as local freshwater wetlands such as Kalamazoo's Kleinstuck Preserve.

Growing human populations, she says, typically mean increased metal and nutrient loading in such areas, along with significant changes to wetland hydrology and the areas' plants and wildlife.

The NSF grant was made through the agency's Faculty Early Career Development Program, known as the CAREER Program.

"The idea behind a CAREER grant, they are supposed to act as kind of

foundation for your career. The idea is that you can build on some of the various things in your proposal and make a career out of that," Koretsky said.

CAREER grants recognize and support the early career work of teacher-scholars who are expected to become the academic leaders.

Koretsky is working with the Kalamazoo Area Math and Science Center to recruit promising high school students for the work, and she says she also will recruit students for her team from nearby colleges that don't have graduate programs as well as those with significant minority enrollments.

Koretsky says she's looking forward to exposing the young students to an authentic scientific environment.

"I think it's such a great opportunity if they can come into a classroom and a real research setting and see what it is scientists do," she said.

In all, she expects about 15 to 20 students to become part of her research team at some point during the five-year effort.

Up to 15 additional students are likely to become involved in an educational field course related to the grant.

For the first two years, the work will focus on laboratory work and the theory behind the ways metals can impact an environment on a small scale.

Koretsky says the team will undertake sophisticated laboratory work to determine how metals interact with mineral surfaces and build predictive models of how metals and minerals bond.