PHOTO BY JODI SCHNEIDER MCNAMEE

Charlotte Oakes displays her quilted flag, signed by Gees Bend quilters.

QUILTERS: Many artists come to Sisters for inspiration

Continued from page 1

made by up to four generations of women in the same family.

Bend quilter Charlotte Oakes was excited to sign up for their workshop for a second time.

"I took this class last time these incredibly talented women from Alabama were here in 2011," Oakes explained. "This class excites me because they have a new take on what quilting is all about; they are so brilliant. They have taken something that is utilitarian, like a simple quilt for your bed and have made it into an art form, and they've done it in isolation, a very rural place. They make quilting exciting, and it frees me up! I have no sewing machine or rotary cutter, I can be free to use my scissors and rip material and it's great."

In 2011, during a Gee's Bend workshop, Oakes quilted a flag out of bits of material and had the Gee's Bend quilters sign it, and on her back label is a photo of her and Gee's Bend quilter China Pettway with the quilt. The words on Oakes' label are "In the Company of Americans." She brought it back to the workshop to remind them of how incredibly inspired she was and still is by their heritage and bold improvisational quilts.

"I put the photo of China on my label because she helped me with the quilt. I quilted the top in the class and finished the bottom of it at home. Their way of quilting is a whole new perspective of looking at things," Oakes said. "I'm so glad China is here this time in Sisters so I could show her my finished work with her photo on the label."

Gee's Bend quilter Mary Ann Pettway was on hand helping students in the Friday-morning workshop, and explained to *The Nugget* why she thinks Gee's Bend quilting is special.

"Speaking for me and all of us; we are blessed with a God-given gift that we put it into fabric. Before we start quilting, we always start out with a song and then pray," Pettway said.

"People donate fabric to us. I use a lot of bold colors that I find and cut out a bunch of strips and start from there, with nothing in mind at all, it just comes to me as I quilt.

"Even if I happen to find some scraps on the floor I just pick them up and use them. Sometimes during a class someone may throw out a few scraps and I will get them, its trash-to-treasure for me. It's just stitching three layers together and people just seem to enjoy our quilts. I will say we are so happy to be back in Sisters, we just love it here, and the people make us feel so welcome!"

Fossils show disturbed ecosystem

By David Stauth
Correspondent

CORVALLIS – A collection of fossilized owl pellets in Utah suggests that when the Earth went through a period of rapid warming about 13,000 years ago, the small mammal community was stable and resilient, even as individual species changed along with the habitat and landscape.

By contrast, human-caused changes to the environment since the late 1800s have caused an enormous drop in biomass and "energy flow" in this same community, researchers reported today in *Proceedings of the National Academy of Sciences*.

The dramatic decline in this energy flow — a measurement of the energy needed to sustain the biomass of this group of animals for a given amount of time — shows that modern ecosystems are not adapting as well today as they once did in the past.

While climate change is one part of this problem, researchers at Oregon State University and the University of New Hampshire have found that changes in land cover have been far more important in the last century. A particular concern is the introduction and expansion of invasive, non-native annual grasses at the expense of native shrublands. The end result, they say, is the transformation of the Great Basin into an ecosystem that is distinct from its 13,000-year history.

The study is the first of its type to track an ecosystem-level property, energy flow, over many thousands of years, and is ultimately based on the study of owl vomit – little pellets of undigested bones, hair, and teeth that owls regurgitated over millennia into Homestead Cave near the Great Salt Lake. These pellets contain the remains of owls' prey, mostly mammals that are smaller than a house cat.

"These owl pellets provide a really spectacular fossil record that allows us to track biologic changes continuously through thousands of years," said Rebecca Terry, an assistant professor in the College of Science at Oregon State University.

"They show a dramatic breakdown in ecosystem behavior since the late 1800s, in a way that doesn't parallel what happened when major climatic warming took place at the end of the last Ice Age," she said. "The current state is driven by human impacts to habitat, and these impacts have been a stronger force in shaping the mammal community over the last century than just climate change."

As the last Ice Age ended in this region, vast lakes dried up and vegetation made a transition from forests and sagebrush steppe to desert shrublands. But throughout these major environmental changes, Terry said, the "energy flow" stayed just about constant — as one group of animals would decline, another group would naturally rise and take its place.

Since the late 1800s, another episode of rapid warming is under way, but the reaction of the system has been different.

"Species distributions change over time, and that's not necessarily bad in itself," Terry said. "But this research shows that ecosystem-level properties, which are often assumed to stay relatively stable even when perturbations happen, are now changing as well. The ecosystems are losing their natural resilience, the ability of one group of species to compensate for the loss of another."

A major impact since the late 1800s has been the introduction of invasive cheatgrass that displaces native bunchgrass and desert shrub habitats, while increasing fire frequency, the researchers said. They show this invasion has also caused an observed shift in the composition and structure of the small mammal community, moving it toward small, grass-affiliated species, while larger shrub-affiliated species have declined.

Cheatgrass thrives on disturbance, and much of this region is now affected by this exotic annual grass. Many human activities have facilitated its spread, including livestock grazing which was historically intense, establishment of mining camps and railroads, and an increase in fires, the researchers said. The Great Basin is now one of North America's most threatened ecosystems.

Research that merges both modern and prehistoric data can help inform modern conservation biology, the study's authors said.

"For conservation and management it is important to understand when, how, and why the responses of animals today differ from times of environmental change in the past," said Rebecca Rowe, an assistant professor of natural resources and the environment at the University of New Hampshire. "The fossil record allows us to do just that."

Studies such as these provide a window into natural baselines prior to the onset of human impacts in the last century. The effects of human land use on ecosystems can then be separated from the forces of climate change today.