

# Of Politics and Plants

*BSU professors ponder, tap and probe the West's natural resources.*

## **FREEMUTH EXPLORES LANDS MANAGEMENT**

John Freemuth doesn't mince words when it comes to public lands. Even if he steps on a few toes.

"I'm a real believer in applying one's knowledge to the world, not pontificating from an ivory tower," says the Boise State political scientist.

"That doesn't mean we have all the answers, that we're always right," he adds. "But we need to be engaged."

For more than a decade, Freemuth has done just that, adding his voice and expertise to the debates raging in Idaho and the West about managing public lands.

Freemuth is the author of *Islands Under Siege: National Parks and the Politics of External Threats*, and is now at work on a new book, *Reinventing the Gospel: The Politics of Ecosystems Management*, to be published in 1998.

Freemuth's latest book examines the new partnerships being forged by land managers and user groups under an interdisciplinary approach to lands management. He explores whether ecosystem management is "living up to its PR" as a superior way to manage lands or whether the turf wars between government agencies still remain.

"We're on the cutting edge of this issue, because it's being played out in our neck of the

woods," adds Freemuth, referring to the Interior Columbia Basin Ecosystem Management Project which is headquartered in Boise.

The controversies surrounding public lands management aren't going to disappear, says Freemuth, and neither are the politics.

"Science is a necessary but insufficient condition for public policy," he says. "We make decisions based on societal values."

## **PROFESSORS LEAD STUDENTS TO WATER**

To help their students learn important construction principles, Charlie Gains and David Small have gone to the well.

It's not much to look at, just a 35-foot, 8-inch diameter pipe sticking a foot or two out of the ground near a parking lot. "But 6 feet below is a pool of groundwater," explains Gains, "and what this well gives us is a model to illustrate the importance of water conductivity and the motivating forces of water in soil."

Gains, a BSU professor of construction management, and Small, an adjunct engineering instructor, wanted to illustrate the critical need to gauge water tables at construction sites. It's one thing, they say, to teach soil mechanics as it relates to foundation and earthwork construction with lectures,



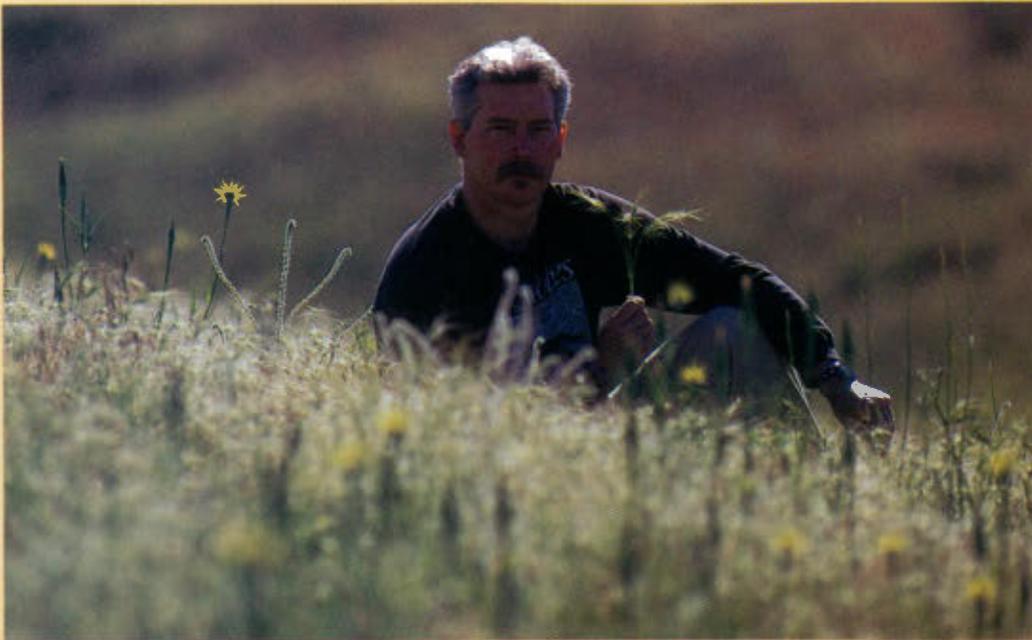
books and illustrations; it's another to demonstrate such concepts with the real thing.

So this spring with funds from the BSU department of construction management, Gains and Small had a well dug less than 100 yards from the construction management offices and classrooms in BSU's Engineering Technology Building.

The decision to drill the well was driven by construction industry needs. "Whether a construction project is a

building foundation, the side slopes to a canal or a trench for a pipeline, it's critical to know the amount of moisture in the ground," says Gains. "The primary goal is to avoid catastrophic failures at construction sites, in deep trenches, cofferdams, tunnels, etc."

"By using this well, our students can learn how to ascertain how much water is going to be in the soil and predict where the groundwater table is going to be."



SCOTT HERRICK/STUDIO

*BSU professors work with Idaho's natural resources in a number of ways. Far left, College of Engineering's David Small (white beard) and Charles Gains. Left, biologist Stephen Novak. Below, biologist Marcia Wicklow-Howard.*

### **NON-NATIVE GRASSES THREATEN ECOSYSTEM**

A biological invasion is going on in Idaho, but only those with a scientific eye know what it is and the devastating effects it could have.

The invader? Medusahead Rye, a non-native plant that's thriving on Idaho's ranges and fueling summer range fires. It grows so well here that it potentially could overtake cheatgrass, another non-native plant, as the most common plant in the Intermountain West, says BSU biology professor Stephen Novak. He is collaborating with Dean Marsh, a Nyssa (Ore.) High School science teacher to study a variety of Medusahead Rye species in Idaho.

"Medusahead doesn't get as big as cheatgrass, but there are more individuals per unit area so it gets really packed into a thick mat," Novak says. "It has the potential for building up more fuel for fire than cheatgrass population."

Research indicates that Medusahead Rye and other unwanted annual grasses are blossoming across the 485,000 acres of the Snake River Birds of Prey National Conservation Area. The problem, says Novak, is that these grasses burn easily and could cause an "ecosystem collapse" by wiping out the birds' food source — jackrabbits and ground

squirrels that depend on native vegetation.

### **RESTORING CRUST MAY STOP CHEATGRASS**

There's a lot more to moss than its association with rolling stones. It could be a key factor in helping to restore native plants on land that has succumbed to cheatgrass, the non-native plant that dominates

much of Idaho's rangelands and fuels wildfires.

BSU biologist Marcia Wicklow-Howard is conducting two research projects, funded by the U.S. Bureau of Land Management and the U.S. Air Force, that relate to moss' role in preventing cheatgrass from growing on land degraded by dry, hot weather and the hard, sharp hooves of cattle.



Moss is important because it is one of several components needed to establish a microbiotic crust that forms on the surface of the soil. The crust prevents soil erosion, helps water retention and water penetration in the soil, and holds and protects native seedlings in its crevices. The microbiotic crust on some Idaho lands has disappeared because of fires and other disturbances. For native plants to return and survive, a microbiotic crust has to recover first, Wicklow-Howard says.

Finding an effective solution to rid rangelands of cheatgrass is critical to restoring an important piece of the ecosystem. "Unless you get rid of the cheatgrass, there's not a lot you can do otherwise," Wicklow-Howard says.

### **STUDENTS TURN DETECTIVES**

In the charred lava flows north of Idaho Falls, Mark Plew and a team of BSU students scrutinized the landscape for evidence. It wasn't a crime scene. Rather, they were searching for rock alignments, fissures and other archaeological clues as part of a five-year agreement Plew has reached with the Idaho National Guard to survey the artillery ranges and tank training areas in the deserts and forests across the state.

The survey will require intensive study of 25-30 sites that reach from the desert sands of the south to the heavily forested mountains of the north.

"Because these lands are scattered all over the state, it will allow us to look at sites in a variety of contexts," says Plew.

In most cases, the sites have yet to be systematically surveyed, he says. Workers will search for resources and then document their findings in order to build baseline data for the Guard to develop a long-range management plan. □