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## Live bear feed: Real-time video in the den sheds light on bruin behavior

By JOHN CRAMER of the Missoulian



*Erik Wenum, a Montana Fish, Wildlife and Parks biologist, hauls a young sedated black bear to its new den for the winter in the Swan Valley near Condon. The bear's den is equipped with motion-activated video cameras to record its every movement.  
Photo by MICHAEL GALLACHER/Missoulian*

SWAN VALLEY - When a young black bear awoke in his new den in a cottonwood grove along Rumble Creek last week, he probably thought he was alone. He was wrong.

The orphaned bruin was released by Montana Fish, Wildlife and Parks into an artificial den containing four real-time video cameras.

It is the first time the agency has been involved in an effort that uses live streaming Web video to monitor wildlife in Montana.

The remote camera system is not part of a FWP research study - the interactive satellite images are only available online to the private landowner who is financing the project - but Ryan Alter hopes the technology prompts interest from scientists and the general public.

"Think of it as your own personal 'Animal Planet,'" said Alter, owner of Alter Enterprise in Missoula, which installed the remote viewing system. "This kind of technology instills a connection with nature."

Using remote cameras to monitor wildlife isn't new in the United States, where researchers started using motion-sensitive still and video cameras nearly two decades ago, said Kerry Foresman, a professor of wildlife biology at the University of Montana.

The Alaska Department of Fish and Game, National Geographic Society and other organizations have been using real-time satellite images for several years to observe and study sea lions, polar bears and other animals in remote areas.

An industry leader is Alaska's SeeMore Wildlife Systems, which has installed hundreds of real-time wildlife viewing cameras across the world as part of government, nonprofit and corporate research projects.

But the technology is new in Montana, where Alter hopes to expand his fledgling company by working with government agencies, universities, conservation groups and private landowners.

"You have to have the skills of a teacher, a biologist and a businessman to pull this off," he said.

Alter, 32, an Ohio native, received a bachelor's degree in environmental science from Youngstown State University.

He quit his job as the University of Montana's director of academic information technology nearly two years ago to start his one-man company, which combines his interests in technology and the environment.

"I had a dream, but no business plan," he said.

So he started looking for investors to finance his "conservation technology concept."

He soon found one in a wealthy Eastern businessman, who supports habitat conservation and wanted a way to observe wildlife on his 200 acres in the Swan Valley while he was back East.

Alter installed a real-time video camera that gave 360-degree views of the landscape. Then he built dozens of birdboxes, where songbirds come and go under the gaze of tiny cameras.

Next came the bear den, which Alter built at the base of two toppled cottonwood trees. He also installed the cameras, fiber optic lines and other equipment in the wooded grove near Rumble Creek.

"It's fascinating and addictive," Alter said. "The more you think about it, the more applications there are" for viewing wildlife, from birds and fish to ungulates and predators.

The Swan Valley businessman also has hired Mark Vander Meer, a forester; Giles Thelen, a botanist and invasive weed specialist; and Philip Ramsey, an ecologist and water quality specialist, to improve the wildlife habitat on his land.

Alter also has real-time video cameras monitoring prairie dogs in eastern Montana, a project financed by the World Wildlife Fund.

In the summer, he plans to install streaming video cameras to monitor fish in Rumble Creek on the same Swan Valley property where the bear den is located.

The cost of remote wildlife viewing isn't cheap. The price varies widely depending on a site's remoteness, existing technology infrastructure, wildlife viewing goals and other factors.

A project like the Swan Valley bear den can cost up to \$35,000, while a single backyard birdbox camera may cost at least several thousand dollars, Alter said.

The FWP agreed to release a black bear into Alter's artificial den if it met FWP requirements.

The agency routinely releases into the wild bears that have been orphaned or captured after getting into trouble.

Alter's artificial den is made of wood planks and insulated with wood chips, plastic tarps and pine boughs. It has three interior cameras and one exterior camera.

Erik Wenum, an FWP black bear and mountain lion biologist, and Tim Manley, an FWP grizzly bear biologist, brought the cinnamon-colored bear to the site last week. The 2-year-old bruin had been captured twice in its life.

They carried the tranquilized bear on a sled across the snow. They laid him on a bed of straw in the den and covered up the entrance with pine boughs.

A few minutes later, Alter's laptop showed the bear sleeping soundly in his new home.

He awakened a short time later, looked around his new home and settled back to sleep.

Bears are not true hibernators, but their heart rate and other body functions slow down as they hole up in dens to conserve energy when food is scarce in the winter.

There's no guarantee the little black bear will stay put for the winter or that other bears will use the artificial den in the future.

It's also not certain that FWP will become a paying customer for Alter, but he deemed the project a success.

He hopes the state will consider using his cameras in a research project.

Foresman and Manley said real-time wildlife viewing can be educational and entertaining for the general public, but for scientists it has to have a specific benefit - such as monitoring population levels, behavior and breeding cycles of an animal that is difficult to observe - to justify the equipment's high cost.

Alter hopes the FWP agrees to release several orphaned bear cubs into a second den he has built on the property.

"This kind of technology is the classroom of the future," he said.

More information is available at <http://www.alterenterprise.com/>

Reporter John Cramer can be reached at 523-5259 or [johncramer@missoulia.com](mailto:johncramer@missoulia.com)

**Watch a video report on the Swan Valley bear's high-tech den:**  
<http://videos.missoulia.com/p/video?id=1676445>