# SWAN VALLEY BEAR NEWS

SPRING 2008

## Black cottonwoods make perfect dens

*By Liza Ward*

I should have known when I saw the big cottonwood with the ring of dirt around the trunk. It was the second of April, early evening with the sun painting the Swans a blazing white and gold. They reared up, stark and snow-loaded against the sky—and then plunged behind the old growth ponderosas as we slid down the bank below the trail I'd been skiing all winter. We kept our eyes on the ground, tracing tiny tracks to a pile of decimated pinecone, our border collie pogo-ing across pockets of snow—rapturously sniffing the odor ghosts of creatures that had recently passed.

Black bear sow in cottonwood den: *Tonya Chilton, MFWP*

Funny all the things you miss when you're tracking the elusive red squirrel through the brush. The trees had opened up. Shocks of blue broke the crowns. Without realizing it, we had come to stand in the shadows of an enormous cottonwood.

I'm embarrassed to say I believed the melt had caused the bark to run. "I don't think so," my husband said. The border collie tried to peer around the tree without coming any closer—I stepped down and began to circle the trunk. There was a gaping hole in the root ball, a wide dirt trail running down-slope through a river of snow between the trees. And then the bear thrust its head out of the den like a jack-in-the-box and huffed at me.

Last fall, I had run into a grizzly and done everything perfectly. My heart hadn't even skipped a beat as I backed away, eyes averted, and the grizzly turned around and ran off into the sun-flecked grass from which it had come. But this time I shrieked. Cackled. Turned my

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## Bugs and Bears at McDonald Peak

*By Steve Lamar*

The high rocky alpine zone of the McDonald Peak area has long been a magnet for certain insects in such great numbers that grizzly bears have annually made the pilgrimage to this massive hulk of rock and snow to feed on this important food source**.**

As early as 1932, Jack Romer recorded up to twelve grizzly bears turning over scree rock in a high basin just below the summit of McDonald Peak. He could see that the bears were feeding on something, but what he couldn't say until the bears moved on, allowing him to investigate. What he found on and under the scree rock was literally hundreds of ladybird beetles (lady bugs).

That same summer, Swan Valley resident John Stark witnessed essentially the same thing on the rockslide areas of McDonald Peak.

Twenty years later, John Chapman teamed with Romer and Stark to investigate whether the bears were still utilizing the ladybird beetles as a food source. They collected a number of bear scats for analysis and were surprised to find the samples consisted almost entirely of army cutworm moth. No ladybird beetle remains were present in those samples.

Finding the army cutworm moths (ACM) in such huge numbers was surprising because these insects originate in the Great Plains and Intermountain West. In 1952, the ACM (Euxoa auxiliaries) was thought to be strictly a plains insect. They later found out that these insects migrate in mid-summer to the high elevation areas of mountains such as McDonald Peak. They congregate in certain locations in the mountains of Montana and Wyoming. The ACM feed at night on the nectar of alpine flowers

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# Spring Wake-up Social a success

Over 100 Swan Valley residents packed the Condon Community Hall on March 6 to attend a "Spring Wake-up Social" hosted by Swan Ecosystem Center and Northwest Connections, celebrating the emergence of bears from the den. The William H. Donner Foundation graciously funded the event. Free wine and beer accompanied an array of delectable hors d'oeuvres from Vicki Voegelin of Littlebird's Schoolhouse Café in Seeley Lake.

Following a skit performed by mama bears Kellie Auchenbach and Melanie Parker, and cubs Sierra, Cheyenne, Serena, and Levi Newby, Chris Servheen, U.S. Fish and Wildlife Service, gave a presentation on grizzly bear research in the Northern Continental Divide Ecosystem. Due to new technology, captured bears are now outfitted with Defense Department radio collars that transmit a signal every hour. Servheen has been able to track the precise movements of 24 bears in our valley, and has arrived at what he describes as a "whole new revelation" concerning the habits of grizzlies. The audience saw proof of grizzlies' preferred habitat in a snarl of yellow lines crossing a topographical image of the valley, evidence that bears in our ecosystem are spending most of their time below 5,200 feet, essentially among us, on the valley floor. They like to be here, but they don't last long, Servheen went on to say. There is a 42% death rate for grizzlies in the Swan, which research suggests is mostly human caused.

Tim Manley of Montana Fish, Wildlife and Parks followed with a presentation on how quickly cubs learn good or bad habits from their mothers, and the different methods our community might employ in preventing itself from becoming a "biological sinkhole" for bears. Manley effectively illustrated the intelligence and lively personalities of these creatures, instilling empathy in those who attended.

With so many colliding viewpoints in the valley that often seem as similar as they are disparate, the spring wake-up social proved a successful event, a true moment when the valley came together to learn about the astounding bruins with whom we share this wild country.

## Black Bear Season: Advice from the Bear Ranger

Spring bear season runs from April 14-May 31st. Bears reproduce at exceptionally low rates, and any mortality for an endangered species is damaging to populations. An average of one grizzly per year is killed due mistaken identity. While every hunter attempts to behave in a safe, ethical manner, there are several important issues pertaining to black bear hunting even experienced bear hunters should be reminded of:

*Black bear crossing road. Notice lack of shoulder hump and straight facial profile*

- **Know your bear**: Grizzlies have a shoulder hump as well as a dished facial profile, long front claws (2-4'), and short round ears. Black bears can be distinguished by a lack of a shoulder hump, straight facial profile, taller pointed ears, and shorter claws (1.5-2'). Color can be misleading.

- **Practice your identification:** In order to hold a black bear tag, hunters must pass the MTFWP bear identification test and present a certificate at purchase. Even hunters who have passed this test are urged to visit the website at www.fwp.mt.gov/bearid/default.html to hone their bear identification skills. Informational pamphlets are available at MTFWP headquarters, ranger stations, and Swan Ecosystem Center.

- **Make sure your target doesn't have cubs:** Hunters are prohibited from taking cubs or sows with cubs. A cub is defined as any bear under the age of one year. Take the time to make sure your target doesn't have cubs somewhere close by. If you're not sure, don't fire.

- **Carry pepper spray:** Pepper spray is a non-lethal deterrent, and is endorsed for self-defense from a conservation standpoint. Pepper spray has also been proven to be a more effective means of self-defense than firearms. The majority of bear attacks are due to surprise encounters. In two separate bear studies conducted in Alaska, scientists found that using pepper spray in bear attacks resulted in human injury far less than a hasty shot from a firearm.

*Foraging grizzly bear with prominent shoulder hump, dished facial profile and rounded ears*

# Radio collars provide data on bear mortality

Almost 50 years ago, Frank and John Craighead developed the first VHF telemetry device for tracking wildlife—a radio collar to monitor grizzly bears in Yellowstone National Park. The Craighead brothers constructed these collars themselves out of battery packs dipped in silastic rubber, and terminals soldered and coated with orthodontic acrylic and then wrapped in brightly colored tape. All this without knowing whether or not such a powerful carnivore would even tolerate a collar.

But in most cases, it worked—as long as the Craighead brothers were on the ground and in range of the pulse. What followed was nearly ten years of tracking ear-tagged, tattooed and collared grizzlies on foot through snow and pitch black nights, a large receiver with a looped antenna held out to pick up the signal.

There were several frustrations along the way: drowned collars, and bears that faded into oblivion by crossing mountains or digging dens the brothers couldn't locate. But the Craigheads were able to come to several invaluable conclusions about the habits of bears, including important data on bear age relative to mortality.

In 1970, just before politics put an end to their study, the Craighead brothers collaborated with NASA to monitor bear hibernation by Nimbus satellite—the satellite picked up den temperatures every 12 hours and transmitted data to a computer in Washington, which was then printed out and sent to the brothers by mail.

Grizzly struck on the highway last fall was outfitted with an Argos satellite collar *Photo: Melanie Parker*

To this day, radio collars are used to obtain similar information about survival rates of grizzlies in our ecosystem, and conventional VHF devices are still quite popular for tracking wildlife on foot or by air.

While DNA studies prove effective in determining overall population numbers, there is no way to ascertain survival rate and causes of mortality without employing updated versions of the Craighead invention, known among wildlife biologists today as "collar and foller." Chilton and Mace used this technology in their black bear study in the Swan (see story p.1).

"Collar and foller" technology seems rudimentary when compared with some of the latest updates being used here in the Northern Continental Divide Ecosystem

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# Swan welcomes new biologist

*By, Mark Ruby*

John Vore began his tenure as the new area wildlife biologist for MT Fish, Wildlife and Parks—Kalispell, in early April. His area consists of the South Fork, Middle Fork, Management Unit #120 west of Kalispell, and the Swan Valley. The scope of the position involves classifying, surveying, and inventorying everything from "bugs to buffalo." Management and conservation of habitat is also an important component of the job.

"In western Montana, development is the biggest threat to habitat and impacts movement corridors and linkage zones," says Vore.

Movement corridors and linkage zones are land tracts that allow wild animals to move from one patch of suitable habitat to the next. In terms of development, Vore's previous position on a MTFWP management team in the Bitterroot may have groomed him well for the land use challenges that are developing locally.

Remarking on the importance of cooperation with interest groups and landowners for conserving wildlife habitat Vore says, "You can't do much without working with other people… Anytime you work for wildlife, you have to work with people."

Vore isn't exactly new to the area. Before working in the Bitterroot, he was employed for the state in Kalispell, doing elk research in the South Fork for 8 years. "It's like coming back home," Vore says.

Outside the office, Vore does a bit of shooting to satisfy his keen interest in firearms, passed down from his father who worked as a gunsmith. John hikes, cross-country skies and dabbles a bit in music. Before he left Kalispell he sang with the Community Choir, a predecessor to the Glacier Symphony.

## Cottonwoods, continued

back. Ran at my husband who was so surprised he fell over. No more than thirty feet up-slope from the den, we huddled with the dog to discuss the situation.

To me, it seemed the bear had hissed or stuck out its tongue, when what it had really done was blow air, something bears do when nervous—even cubs—startled by humans or when they scare themselves by almost falling out of trees.

During a study on black bear survival in the Swan Valley completed in 2006, Tonya Chilton and Rick Mace of Montana Fish, Wildlife and Parks stumbled across an important relationship between bears and cottonwoods they still don't entirely understand. They tracked several collared bears to dens in mature cottonwoods just like the one I found. While it is common for eastern bears to make use of trees, this denning practice in western bears came as a complete surprise to Chilton and Mace. They would follow radio signals of collared bears though tight conifer forests on foot or by plane, breaking out into open stands of black cottonwood whose trunks bore the scars of lion claws and bobcats, and any number of species that make pilgrimages to these trees for shelter in leaves, or the nutrient-rich bark native tribes used to feed their mustangs.

Often, Chilton couldn't find a den hole on the ground to crawl through and take measurements on the anesthetized bear. Sometimes the tree wouldn't even appear to be hollow. But then halfway up, as high as eighty feet off the ground, she'd catch sight of a hole winking in the sun through which the bear had crawled and then shimmied down inside the trunk like some fur-clad Santa Claus.

The data on these high altitude hibernators remained unrecorded; scaling a cottonwood is nearly impossible, Chilton says. The bark breaks beneath your boots like shale. "And some of us are even rock climbers."

She describes flying in an airplane over a cottonwood where she believed herself mistaken in thinking a particular bear had denned. They'd gone to the tree many times, could find no hole, and ascertained that the tree wasn't even hollow. Chilton had chocked this up to a misfire in her telemetry until the pilot dipped his wings right over the tree and the bear began to move. They could see him denned at the very top, where the trunk spread apart to make a "v"—tucked up tight in a sheet of snow.

Why a bear would have chosen to hibernate in such a precarious position remains a mystery. Perhaps it has something to do with the fact that bears have been known to forage on the tender spring leaves and catkins of cottonwoods. Come spring, this high wire hibernator would essentially be taking his first breakfast in bed.

Chilton and Mace came away from their research with much left unanswered about bears and cottonwoods. That's the nature of a study, Chilton says. You're funded for one thing and inevitably come away with pressing questions about something else: How do bears find hollow trees in the first place? How do the tiny cubs make the eighty foot journey down the trunk to the valley floor? But one thing is certain; cottonwoods are beacons for all kinds of wildlife. What happens as these stands diminish due to drought and the overtaking of faster-growing more shade-tolerant species remains to be seen.

For now, I'll make a wide berth around any cottonwood. It's April 25th—still snowing, and each gray trunk disguises a potential den. As I took the familiar ski path this morning, I could see that magical tree in the distance, rising up between the pines, a craggy spindle disguising

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## Bears and Bugs, continued

and find shelter during the heat of the day under the scree rock found on the mountain slopes. The ACM grow to the size of a jellybean and contain over 70% fat. In a 30-day period, a grizzly bear feeding extensively on ACM can consume 47% of its annual energy needs. By late September and early October, the ACM migrate back to the plains to lay their eggs.

During the 1970s and early 1980s, the increased recreational use in the McDonald Peak area resulted in the abandonment of grizzly bears from these preferred feeding sites. Factoring in the importance of this food source, starting in 1981, the Confederated Salish and Kootenai Tribes decided to close the McDonald Peak and surrounding areas to human intrusion from July 15th to October 1st each year. By allowing the bears to feed undisturbed, and to gain as much weight as possible, it is hoped that this action will prevent bear-landowner problems in the populated valley outside this area. Keeping the bears in the high country as long as possible may prevent potential problems and be advantageous to both bears and humans. The plan seems to be working. Stacy Courville, CSKT biologist, recently stated that as many as 13 grizzly bears have been sighted during the annual flyovers to monitor the feeding activity on McDonald Peak.

**Radio collars, continued**

to monitor bear survival.

Store-On-Board GPS collars contain a microchip programmed to release at the end of the season. The plastic "C" shaped collars are outfitted with a cotton spacer (as are all collars), that rots off after 2-3 years to prevent harm to the bear . Store-On-Board collars download the bear's location via satellite throughout the season, but this data can only be retrieved once the device has been shed.

Also popular are Spread Spectrum collars whose location data can be queried from a laptop on an airplane as long as the collared animal is visible. The latest invention is the Argos collar biologist Chris Servheen of US Fish and Wildlife Service has been using in his grizzly bear study right here in our ecosystem, and to which we may attribute his startling digital image of grizzlies crossing the valley floor (see story p. 4). These collars are the latest development in satellite telemetry, and the information on the location of various collared grizzlies can be queried from a computer any number of miles away from the actual study. Chilton says she can figure out the precise location of a bear every ten minutes and radio her ground crew with some very precise directions. There is currently one grizzly sow in the Swan wearing this space-age device.

When asked how they know when and where to retrieve a collar, Chilton explains that a mercury switch comes out of its housing after prolonged motionlessness, changing the rate of the pulse a radio collar emits. This might mean anything from a programmed release of a Store-On-Board collar, to a drop due to rapid weight loss, or in the worst cases, a fatality.

Today in the Swan Valley, biologists are using similar technology to reach some of the same conclusions the Craighead brothers came to fifty years ago in Yellowstone where bears were feasting on garbage dumps and frequently raiding campsites. Most premature mortalities in grizzlies can still be attributed to humans. And while some circumstances have improved, increased development in prime habitat requires us to be even more vigi-


## Bear Troubles, Who to Call

**Tim Manley**
Grizzly bear management specialist
(Montana Fish, Wildlife and Parks):
Cell phone: (406) 250-1265
Home phone: (406) 892-0802

**Eric Wenum**
Black bear and mountain lion specialist
(Montana Fish, Wildlife and Parks)
Office Phone: (406) 752-5501
Cell Phone: (406) 250-0062
Home Phone: (406) 756-1776

**Emergencies**
Dial **911** if you live in Seeley Lake or Condon
If you live in Swan Lake dial **886-2324**

## Permission for Bear Managers to Enter My Property

Landowner's name(s)_____

Permanent address_____

Local address_____

Telephone number(s)_____email_____

Swan Valley telephone number_____

Permission granted until revoked by landowner(s) (check here)_____

Or time period during which access is permitted (month/day/year through month/day/year)_____

Signature(s)_____

Return this form to: Tim Manley, Montana Fish, Wildlife and Parks, 490 N. Meridian, Kalispell, MT 59901

# How To Prevent Bear Problems

## Each of us is responsible for keeping a clean camp and ensuring that we do not encourage problem behavior among bears. Here are some tips:

- Haul garbage to the dump as often as possible.
- Feed pets inside. If this is not feasible, do not leave uneaten pet food outside, especially overnight.
- Keep coolers, refrigerators, or freezers **inside,** even if empty!
- Clean and securely store barbecue grills.
- Keep pet food, garbage, human food, and all odorous food-like items secure in a sturdy building away from doors and windows, in a bear-proof container or elevated in an Alaska-style cache.
- Do not leave food or garbage in your vehicle.
- It is best not to feed birds in summer or fall. If you must, (bird species that live here do not require feeding) place only a small amount of seed into the feeder each day so that it will be completely consumed before dark.
- Bring hummingbird feeders in at night and while you're away. An alternative to hummingbird feeders is a bright basket of flowers like fuchsias.
- Avoid planting clover. It is not native, and is becoming a favorite among bears.
- Avoid feeding deer grain. Supplemental feeding interferes with a deer's ability to digest natural foods, and deer will attract mountain lions, an additional threat.
- If you have a vegetable garden, especially carrots, consider placing an electric fence around the perimeter, or hang "critter-gitters." Pull carrots by September 15th, a magic carrot hour according to Tim Manley.
- Compost piles are not recommended.
- Avoid using bone meal on gardens.
- Do not leave fish entrails along streams or trails. Puncture the air bladder and sink the entrails in deep water, or pack them out.
- Hang game in a very secure building or Alaska-style cache. Butcher meat as soon as possible. If you must hang meat outside, hang it at least 10 feet off the ground and 4 feet away from tree trunks.
- Pick fruit as it ripens.
- If there is a bear in your yard and it doesn't appear to be just passing through, make noise by banging pots and pans together and shouting to try to encourage the bear to leave. Do not approach the bear.
- A general rule of thumb: anything with an odor, even if it is not food-related can attract bears to your property. Keep anything with an odor in a secure place (bears have been known to get into motor oil, antifreeze, gasoline, paint, and cleaning agents).

The **SWAN VALLEY BEAR NEWS** is published as a cooperative effort of the Living With Wildlife Foundation; Northwest Connections; Swan Ecosystem Center; Swan Valley residents; Montana Fish, Wildlife and Parks; U.S. Fish and Wildlife Service, and Flathead National Forest.

### THE BEARS NEED YOUR HELP

Swan Valley Bear News is funded in large part by private donations. To donate, please send a check earmarked "Bears" to Swan Ecosystem Center, 6887 Highway 83, Condon, MT 59826. To donate by credit card, contact us at 406/754-3137, 406/754-3138.

Visit our Bear Aware web page at SwanEcosystemCenter.com

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