



Fall 2011



# Wild

# Times

*The Habitat Connection*

## THE BUILDING BLOCKS OF HEALTHY WILDLIFE

**W**hat do you have in common with a moose, bald eagle, or trout? Each of you need good habitat to live and grow. Good habitat has the four elements we all need in our home areas to survive— food, water, shelter, and space all in the right arrangement. You might consider pizza, drink, and a comfortable bed good habitat because you have food, water, shelter and space. But a moose needs grasses and leaves to eat and water from a stream to drink as well as mountains to roam. A bald eagle needs open space to fly so it can see prey below to catch. A trout needs water to breathe, eat, and live. All wildlife needs to have the elements of habitat to survive. For example, if Wyoming was in a drought and the prairies didn't have a lot of water for pronghorn antelope to drink; it wouldn't make for good habitat. And don't forget, a fish needs water too! But no matter what kind of wildlife you are, habitat is home.

**W**yoming has many different types of habitat. We have mountains where elk, moose, bears, pika, and golden trout live. We have prairies where you can find pronghorn antelope, sage grouse, snakes, horned lizards, and meadowlarks. And we have rivers and lakes that support rainbow trout, catfish, muskrat, beaver, and bullfrogs. Such a variety of wildlife is one of the things that make Wyoming such a special place to live.

**F**ood, water, shelter, and space are the building blocks of habitat. Healthy habitat is important for healthy fish and wildlife. And keeping Wyoming's fish and wildlife healthy for hunting, fishing, or just for watching is the most important goal of the Wyoming Game and Fish Department. You can help us keep habitat healthy for wildlife too.

You can always treat the land with respect, pack out all your trash, and stay on designated roads while in a vehicle.



### Wyoming Wildlife

A Free Publication of the Wyoming Game & Fish Department

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# FIELD Wildlife Journal

## Kim Frazier

### FORENSIC SPECIALIST

Have you ever seen or heard about the television show CSI: Crime Scene Investigation? It is a show where law enforcement personnel and scientists use their scientific knowledge to solve crimes. But have you heard about the team of forensic scientists in Laramie, Wyoming that use the same skills and techniques to solve crimes committed against wildlife?

Well, Kim Frazier is a forensic specialist for the Wyoming Game and Fish Department at the Game and Fish Laboratory in Laramie. Her job is all



about forensics, which are scientific tests or techniques used in the investigation of crimes. Kim spends her time in the lab, working with game wardens, wildlife investigators, and other law enforcement officers to help solve poaching cases.

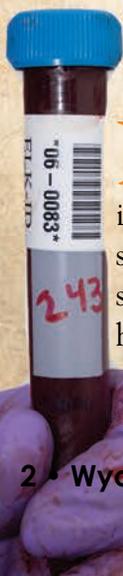
Poaching is when someone kills wildlife without a license or even in the wrong time of year or wrong hunt area. Sometime poaching can be an accident, but most of the time it isn't.

Kim and other scientists in the lab comb through hair, bones, and even guts found in the field to gather evidence. The forensic scientists then use the scientific tests to help solve the crimes. For example, they can connect hair found in the back of a pickup truck to the place the animals was illegally killed by

using DNA testing. This is a complicated test, but Kim likes using strong science to catch poachers.

Kim knows so much about wildlife forensics, she is considered a national expert. Sometimes Kim has to go to court to testify with her evidence. Usually though, poachers know when they've been caught and plead guilty. Many times, Kim helped find that key piece of evidence that helps catch the crook.

Kim went to college and took special classes to do her job. She has degrees in molecular biology, forensic DNA, and serology, which is the study of blood serum. She uses the knowledge from her classes and lessons learned from nine years on the job to help keep Wyoming's wildlife safe. So even if poachers shoot an animal in what seems like the middle of nowhere, when no one is looking, there are experts like Kim have the knowledge and passion to track them down and close the case.



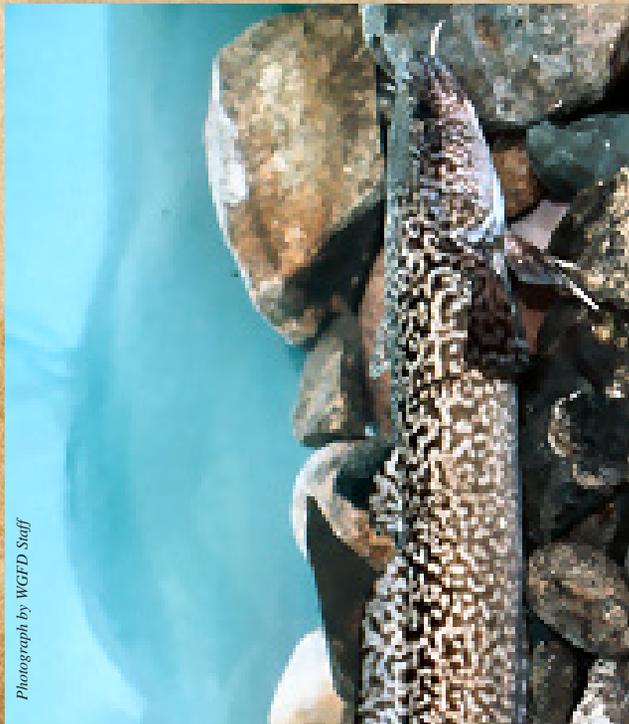
# WILDLIFE PROFILES



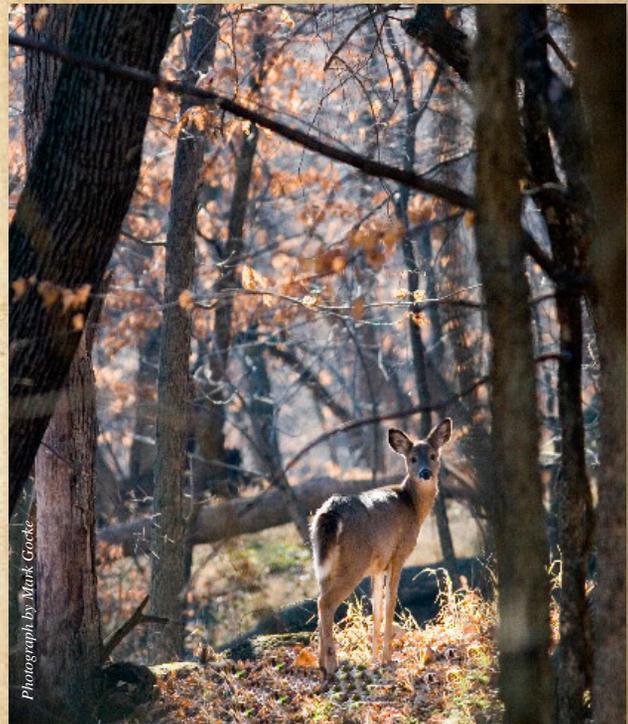
Photograph by WGFED Staff



Photograph by Mark Gocke



Photograph by WGFED Staff



Photograph by Mark Gocke

# WILDLIFE PROFILES

## Mountain Goat

**Size:** 100 to 300 pounds; about 3 feet in height at the shoulders

**Eats:** Grasses, herbs, sedges, ferns, moss, and leaves

**Lives In:** Rocky and Cascade mountain ranges, including northwestern Wyoming

The mountain goat is an even-toed ungulate (hoofed animal) in the same family as gazelles and cattle. They live in high altitude habitats of 13,000 feet or more. Their feet are well-suited for climbing steep, rocky slopes, with two toes that spread wide to improve balance. Rough pads on the bottom of each toe of a mountain goat provide grip like a natural climbing shoe. The mountain goat is powerful and nimble and can jump almost 12 feet in a single bound! The mountain goat has a long, warm, white coat that protects it from Wyoming's cold temperatures and biting winds. The white color also provides good camouflage and helps hide the goats on snowy peaks.

In Wyoming, hunters need a special license to hunt mountain goats. Because there are so few in the state, the Game and Fish only gives out 20 licenses each year.

## Ferruginous Hawk

**Size:** 20 to 27 inches in length; 48 to 60 inch wingspan

**Eats:** Small to medium-sized mammals, birds, reptiles, and some insects

**Lives in:** Grasslands, sagebrush, and other open shrub country

The ferruginous hawk is a large bird of prey. It is not a true hawk like a sparrowhawk. Instead, it belongs to the group of broad-tailed hawks.

Adult ferruginous hawks have long, broad wings and a broad gray, rusty or white tail. The legs are feathered to the talons, or claws. The name ferruginous comes from the rust-colored leg feathers—the Latin word for iron is ferrum. Iron, when it rusts, is a reddish brown color.

The ferruginous hawk is an adaptable nester, using trees, ledges, rocks, the ground, or even power poles to hold a nest. Back when bison roamed the prairies, ferruginous hawk nesting material often included bison bone, fur, or manure. The male and female hawks work together to build the nest.

## White-tailed deer

**Size:** 130 to 300 pounds; 32 to 40 inches tall at the shoulder

**Eats:** Grasses, legumes, shoots, and leaves

**Lives In:** Forests, river bottoms, and mountain foothills

White-tailed deer are named for the white hair on the underside of their tails. Scare a white-tailed deer and you'll understand—they raise their tail in alarm as they run away, sort of like waving a white flag! Otherwise, the white-tailed deer's coat is reddish brown in spring and summer, turning grey-brown in the fall and winter.

Like a cow, the white-tailed deer is a ruminant, which means it has a four-chambered stomach. Each chamber does a different job. All of these chambers work together to let the deer eat lots of food quickly, then digest the food later in a safer area. This is important to the deer's survival because humans, wolves, cougars, bobcats, bears, coyotes, and even dogs are all predators of white-tailed deer.

## Burbot

**Size:** 15 to 22 inches in length; weighs 1 to 3 pounds

**Eats:** Young fish, aquatic insects, and crayfish

**Lives In:** Wyoming's Big Horn River, Tongue River, and Flaming Gorge Reservoir

Burbot, also known as ling cod, are the only freshwater cod fish. They have thick, white, meaty flesh that some people enjoy eating. In fact, burbot have been called the poor man's lobster because of their great taste!

Burbot may taste excellent, but their looks aren't nearly as good. You might even think they are downright ugly. The burbot has a wide, flat head and fins running down its long body. They look more like an eel than a fish. A burbot also has a whisker, known as a barbel in fish, under its chin. Burbot are tan or brown in color with dark blotches.

Burbot are native to the Big Horn River and Tongue River in Wyoming.

# Our Wildlife Heritage



## HISTORY OF THE WYOMING GAME WARDEN

The settlers who first came to the Americas were amazed at all the different types of wildlife they found in the new land. They used the wildlife they could find for food and clothing for survival. Later, furs and feathers were traded for money or other goods, and some animals were hunted just for fun. It wasn't long before Americans began to overuse wildlife, killing millions of animals every year to make money or for sport. Researchers believe more than 3.7 million buffalo were killed in just two years on the American Frontier!



Even before Wyoming became a state, people in the area started to see the danger in not taking care of our wildlife. In 1869, the first territorial legislature in Wyoming passed laws restricting the sale of wildlife meat, set dates for when birds could be hunted and how trout could be caught. These laws were hard to enforce, but it showed an early concern for wildlife by Wyoming's people.



In 1899, the Wyoming state government named Albert Nelson as the state's first game warden. Warden Nelson was paid by the government to help enforce these new

laws. Nelson was the first in a long line of men and women who dedicated their careers to protecting our wildlife.

Today, Wyoming game wardens are part police officer, part referee, and part researcher. Wardens help enforce state wildlife laws that deal with everything from moose and elk to pheasants, trout, and even boats. Wardens patrol by truck, boat, ATV, horseback, snowmobile, or on foot, looking for people who are not following Wyoming's hunting and fishing laws. Wardens are around to make sure people follow the rules and are hunting fairly.



Wardens also spend time taking an active role in wildlife management. They collect data on fish and game animals to help other wildlife managers make good decisions on how to take care of wildlife. They also help educate the public. Today there are 60 men and women serving as game wardens in Wyoming. They wear red shirts and badges like a police officer. You might have met a warden in your school or community or while you were out hunting and fishing. The next time you see one of these law enforcement officers, stop and think about the role they've played for more than 100 years in protecting Wyoming's fish and wildlife!



# Around Wyoming

## POACHING: A CRIME AGAINST WILDLIFE AND WYOMING'S CITIZENS

**HAVE YOU EVER WATCHED A CRIME-SOLVING SHOW ON TELEVISION LIKE CSI OR BONES?**

Those programs focus on how police use science to help solve crimes. But did you know that Wyoming has its own team of professionals that help solve crimes against wildlife?

Poaching is the term used when someone kills wildlife illegally. A poacher might have committed a crime by hunting without a license, shooting the wrong species, hunting in the wrong area, or leaving meat to rot. Wardens, wildlife investigators, and scientists at the Wyoming Game and Fish Department Laboratory in Laramie work together to catch poachers that harm Wyoming's wildlife.

Catching a poacher usually begins with an investigation in the field. When wardens or wildlife investigators suspect a crime has been committed, they will go to the scene to collect clues and evidence like blood, hair, antlers, or other items. Then, the samples are sent to the Game and Fish lab where scientists get more information, like DNA, which can match a blood sample to an animal carcass.

While the lab tests evidence, wardens and investigators keep searching for clues. They may interview witnesses for more information.

They may talk to a suspect who is believed to have committed the crime.

Wardens can also get special documents from the courts, called search warrants, which allow

law enforcement to search a person's home or car for evidence. Many times, investigators work with local police, sheriffs, and attorneys to solve a case. Then, all the hard work done by the team is put together to bring charges against the suspect. Once the suspect is proven guilty by a judge, they are sentenced for their crime.

One case Game and Fish solved involved a man from Casper. A Wyoming game warden received information that an abandoned truck

involved in a traffic accident had a lot of blood and deer hair in its bed. The warden and other officers searched the suspect's home and found deer meat in the freezer, several sets of deer antlers and pronghorn horns in the garage, and deer and pronghorn carcasses hidden on the property. Evidence was sent to the Game and Fish lab. The man did have legal hunting licenses for two of the deer found, but not the others. The man was charged

and convicted (found guilty) of killing antlered big game animals without a license and during a closed season. He was also charged with shooting a big game animal from a vehicle and for shooting and killing wildlife from a highway. All of those things are against the law. The suspect had to pay \$30,000 in fines and fees. He had to forfeit his rifle used to poach the mule deer. In addition, he lost all his trapping and hunting privileges for 10 years and cannot even go hunting with friends or family during that time.

Poaching is a serious crime. People that poach take away an opportunity from a legal hunter to harvest that animal or from you and I to enjoy that animal in the wild. The employees of the Wyoming Game and Fish Department will continue to work together to catch these criminals and protect all of Wyoming's wildlife.

# CSI:

**CRIME SCENE INVESTIGATION  
POACHING: A CRIME AGAINST  
WILDLIFE & WYOMING'S CITIZENS**



# Outdoor Classroom

## PLAY PREDATOR AND PREY

**W**ildlife have a lot to deal with on a daily basis...finding food to eat, water to drink, or shelter to provide cover from the weather and predators. Wildlife adapt, or change, to their environment in order to survive. For example, deer and elk fawns have spotted hair that resembles dappled, or spotted, light on the forest floor. Many adaptations occur because animals are trying to hide from predators. Do you think you have what it takes to be a predator and find food to eat? Could you be a wild animal and survive to old age? Try playing "Predator and Prey," a new version of your old hide-and-seek game!



**F**irst, find a large outdoor area with plenty of plants, grasses, and trees. Ask five or more of

your friends or classmates to play along. Start by selecting a "predator," and blindfold that friend. Have the predator slowly count to 20 while the rest of the "prey" hides. Prey must be able to see the predator at all times! If you have a big group of friends, you might even want to select someone to be the game warden to make sure everyone is following the rules and playing fair!

**W**hen 20 seconds are up, the predator takes off the blindfold and looks for prey. The predator can turn around, stand, or squat to look, but cannot walk around or change location. The predator looks for prey, identifying them out loud and describing where they are.

When the prey is located, that friend must come out of hiding and join the predator. The prey shouldn't tell the predator where the rest of the prey is hiding!



**W**hen the original predator can't find any more prey, a new round starts. All the predators should close their eyes and count out loud to 20. The rest

of the prey must hide in new spots, moving at least 10 feet closer to the predator. Then all the predators remove their blindfolds and look for the prey again. Play as many rounds as necessary until only one or two prey are left. Have the final prey stand up...how close were they able to get to the predators without being noticed?

**T**ry playing the game again. What skills made the prey the most successful? Were they quiet? Did they camouflage themselves well? Did they hide behind plants, lay down flat on the ground or even climb a tree? What skills did the good predators use? Were they good listeners? Or did they rely only on their eyesight to spot prey? Did everyone play fairly, or did the game warden have to remind people of the rules?

**N**ow think about animals that use those same skills to adapt and survive. Would you be better as predator or prey? What wild animal would you be?



# ▶ TEST YOUR KNOWLEDGE ◀

*Match these new terms!*

- |              |  |
|--------------|--|
| 1. Poaching  | A. Scientific tests used to investigate crimes |
| 2. Ruminant  | B. The study of blood serum                    |
| 3. Forensics | C. Found guilty of a crime by a court          |
| 4. Convicted | D. Animal with a four-chambered stomach        |
| 5. Barbel    | E. Whisker-like hair on a fish                 |
| 6. Serology  | F. Illegally killing fish or wildlife          |

1, F, 2, D, 3, A, 4, C, 5, E, 6, B

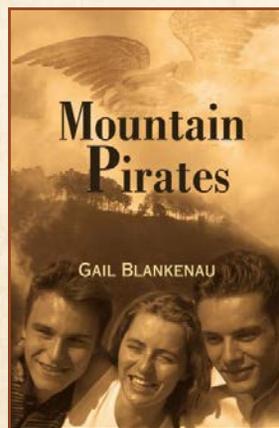


# ▶ LEARNING LINKS ◀



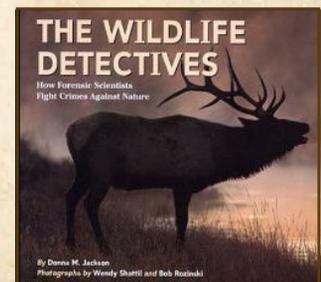
## MOUNTAIN PIRATES BY GAIL BLANKENAU

Want to read a great outdoor adventure? Try this book about two brothers who discover evidence of poaching in the mountains where they bow hunt. A morning hike turns dangerous when brothers Dillon and Chad Townsend stumble onto a poaching ring in their beloved mountains. Will they have to risk their lives to find out who is killing animals for money in the Rocky Mountains?



## THE WILDLIFE DETECTIVES: HOW FORENSIC SCIENTISTS FIGHT CRIMES AGAINST NATURE by Donna M. Jackson

Learn more about how scientists at the U.S. Fish and Wildlife Forensics Laboratory work to solve crimes, such as poaching. The book focuses on the shooting of a bull elk in Yellowstone National Park, and follows the case step-by-step. Learn more about the lab, the scientists, and endangered wildlife protection laws. Try this book if you're interested in wildlife, science, or maybe even a job that combines both!



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