How Much Do You Know About Bighorns?

Wild Sheep Foundation 412 Pronghorn Trail -Bozeman, MT (406) 404-8750
www.wildsheepfoundation.org

Simply read the questions on the front of the page, and then turn the page to read the answers on the back.

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QUESTION:

What is one of the most important and limiting issues affecting bighorn sheep today?

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ANSWER:

Bacteria leading to pneumonia

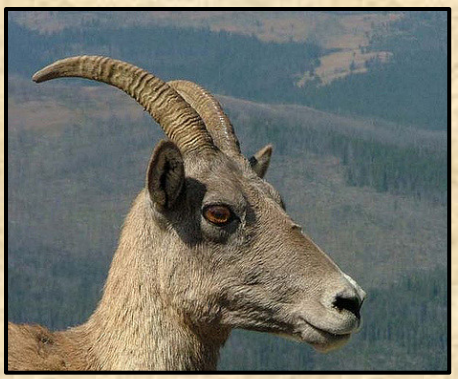
Bacteria of the family Pasteurellaceae (*Pasteurella multocida*, *Mannheimia haemolytica*, *Bibersteinia trehalosi*), and *Mycoplasma ovipneumoniae* are the most common associated with respiratory disease events in bighorn populations. **Domestic sheep** and **goats** commonly carry these organisms and may not exhibit symptoms of disease. These pathogens can be transmitted to bighorn sheep by simply being in the same area and manifest themselves as pneumonia. There is currently no effective treatment once clinical signs are observed. Individual herd losses have ranged from 5% to 95% of the population. During the winter of 2009-2010 alone, 9 separate bighorn sheep pneumonia-related die-offs (about 1,700 sheep in total).

The best current solution is to keep domestic sheep and wild sheep separated. The Wild Sheep Foundation has invested heavily on disease research.

QUESTION:

Do

ewes (females) or rams (males)



wander farther from a herd's home range?

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ANSWER:

Rams

Bighorn rams, which are the most mobile, have been seen nearly 20 miles from a herd's established home range. Rams usually wander farther while looking for mates during the rut (in the fall).

It is because of this far wandering from the herd that efforts have been taken to keep wild sheep herds separate from domestic sheep and goats. Distance between these groups help to reduce the bacteria that can spread from domestic sheep and goats to wild sheep. Distance of separation is determined on an individual herd basis, as each herd is unique regarding terrain and movements the herd takes.

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QUESTION:

What is taking place here?

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ANSWER:

A translocation, also known as a trap and transplant, is occurring.

Wild sheep hit their historically low populations in the 1960s. Efforts led by governmental agencies, organizations such as the Wild Sheep Foundation, and individuals have been increasing populations across the United States by capturing some sheep where populations are high and releasing them in historic ranges. This is known as translocation.

Even involving many volunteers in the effort, the cost can amount to $6,000 a sheep for the move. Some of the main funding involves an $800 net gun capture, $400 diagnostic lab & disease sampling, and $3500 for a GPS collar.

QUESTION:

Camouflage is a great adaptation wild sheep have. How many do you count?

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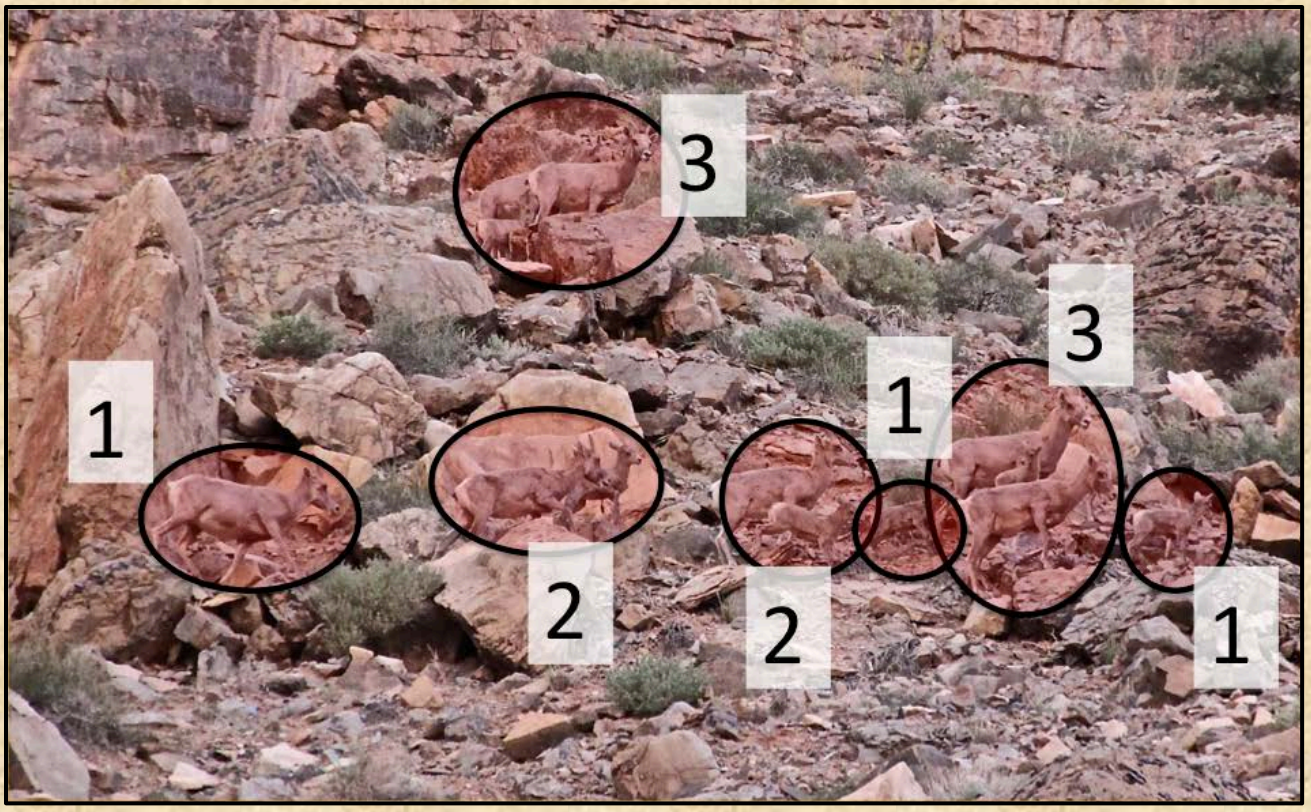
ANSWER:

13 sheep are in the photo!

Adaptations help animals survive in the wild. Being camouflaged help sheep blend into their surroundings so predators such as mountain lions, wolves, and golden eagles (Yes, lambs can be taken by eagles) have a harder time locating them.

Other adaptations include: hollow hairs to help insulate, honey comb structure in skull and under horns to absorb shock as they ram heads, and rough bottom of hooves to help grip rock.



QUESTION:

How many types (species) of wild sheep in North America can you name?

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ANSWER:

There are four main species of wild sheep in North America.

The **Rocky Mountain Bighorn Sheep** is the largest wild sheep inhabitating North America. A large ram (a male sheep) may weigh over 300 pounds and stand over 42 inches tall at the shoulder. Ewes (females) typically weigh 125-150 pounds.

Desert Bighorn Sheep are generally smaller and lighter colored than their cousins, the Rocky Mountain Bighorn Sheep. A large ram is usually not over 220 pounds. They stand 38-42 inches tall at the shoulder. The horns of Desert Bighorns are typically longer and not as massive as those of Rocky Mountain Bighorns. They are usually curled close to the face, but may flare widely outward, showing wide variation in horn structure between individuals. Desert Bighorns also have slightly longer ears and tails than Rocky Mountain Bighorns. Desert Bighorn ewes also typically have longer horns than other North American wild sheep females.

The most striking feature of the **Dall Sheep** is their nearly all white color. The Dall Sheep is actually a "thinhorn" sheep. Their horns are longer, thinner and yellowish in color when compared to horns of Bighorn Sheep. Their horns also tend to flare outward, away from the face. Dall rams can weigh 225 pounds and stand 40 inches tall at the shoulder.

The **Stone Sheep** is a darker subspecies of the Dall Sheep, which also is a thinhorn sheep. Stone Sheep rams can weigh up to 250 pounds and stand 40 inches tall at the shoulder. Ewes typically weigh 30-40% less than the rams and stand 36 inches tall at the shoulder. There are many color phases of Stone Sheep, from an almost black charcoal to light gray/brown and "salt & pepper".

QUESTION:

What type of sheep is this?

WILD SHEEP™ Foundation

Answer:

The **Rocky Mountain Bighorn Sheep** is the largest wild sheep inhabitating North America. A large ram (a male sheep) may weigh over 300 pounds and stand over 42 inches tall at the shoulder. They are generally a dark brown to gray/brown color with a white rump patch, muzzle and back of legs. Their coats may appear considerably lighter in spring before the winter coat is shed revealing the darker summer coat beneath. Rams have horns that are massive and tightly curled close to the face. A ewe (a female sheep) will have smaller shorter horns that curve only slightly. Ewes typically weigh 125-150 pounds. Rocky Mountain Bighorns are found in British Columbia and Alberta, Canada and in the western United States south to New Mexico.

Rocky Mountain Bighorn Ewe and Lamb

QUESTION:

What type of sheep is this?

WILD SHEEP™ Foundation

Answer:

Desert Bighorn Sheep are generally smaller and lighter colored than their cousins, the Rocky Mountain Bighorn Sheep. A large ram is usually not over 220 pounds. They stand 38-42 inches tall at the shoulder. Desert Bighorns are found in the southwestern United States, including Utah, Nevada, New Mexico, Arizona and southern California. A significant population is also found in northern Mexico. The horns of Desert Bighorns are typically longer and not as massive as those of Rocky Mountain Bighorns. They are usually curled close to the face, but may flare widely outward, showing wide variation in horn structure between individuals. Desert Bighorns also have slightly longer ears and tails than Rocky Mountain Bighorns. Desert Bighorn ewes also typically have longer horns than other North American wild sheep females.

QUESTION:

What type of sheep is this?

WILD SHEEP™ Foundation

Answer:

The most striking feature of the **Dall Sheep** is their nearly all white color. The Dall Sheep is actually a "thinhorn" sheep. Their horns are longer, thinner and yellowish in color when compared to horns of Bighorn Sheep. Their horns also tend to flare outward, away from the face. Ewes horns are usually not over 12 inches long. Dall rams can weigh 225 pounds and stand 40 inches tall at the shoulder. Dall Sheep primarily inhabit Alaska and the Yukon Territory, but are also found in British Columbia and the Northwest Territories.

QUESTION:

What type of sheep is this?

WILD SHEEP™ Foundation

Answer:

The **Stone Sheep** is a darker subspecies of the Dall Sheep, which also is a thinhorn sheep. Stone Sheep rams can weigh up to 250 pounds and stand 40 inches tall at the shoulder. Ewes typically weigh 30-40% less than the rams and stand 36 inches tall at the shoulder. There are many color phases of Stone Sheep, from an almost black charcoal to light gray/brown and "salt & pepper". They typically have lighter faces, a white rump patch and white on the backs of the legs. Their horns are longer, thinner and more yellow than those of bighorns and tend to flare outward, away from the face like those of Dall Sheep. Stone Sheep are primarily found in southern Yukon Territory and northern British Columbia. In areas where the ranges of Stone Sheep and Dall Sheep may overlap, an intermediate color phase may be found, which is referred to as a "Fannin's Sheep." Technically, an otherwise white sheep with black hairs anywhere except on the tail, is considered a Stone or Fannin's Sheep.

QUESTION:

What is **predation** and how does it impact wild sheep?

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Answer:

Predation is a natural process where a predator (animal that hunts) feeds on prey (animal that is attacked).

Predation on the population dynamics of bighorn sheep can be good through regulation of numbers or natural selection. However, it can slow down restoration efforts, reduce numbers below viable population levels under certain conditions, decrease availability of bighorn sheep for translocation purposes, and even lead to localized extermination of a herd.

Mountain lions are the principal predators of bighorn, and in general, are not selective in targeting the weak and old animals in a population.

Coyotes, **bobcats**, and **golden eagles** are also predators for bighorn, particularly on the lambs (young).

Wolves can be a main predator for Rocky Mountain bighorn sheep, and lesser impacts include **lynx**, w**olverines**, **black bears**, and **grizzly bears**.

In some situations, funds and efforts are spent by agencies in efforts to reduce mortality or minimize risk of extinction of a population that are attributed to high rates of predation.

Impacts of predation can be successfully managed through well-planned, science-based programs with specific goals, strategies, and time-frames.

QUESTION:

What animals compete for resources with bighorn sheep?

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Answer:

Competition occurs when two species (animals) utilize a resource that is in short supply (food, water, or shelter) to the extent that use benefits one of those species at the expense of the other.

Despite the unique nature of the habitat in which they live, bighorn sheep share the landscape with other nature ungulates (animals with hooves) and domestic livestock (cattle, sheep, goats), feral horses and burrows, and free-ranging exotic livestock.

Bighorn sheep have been reported to avoid areas that are occupied by **cattle**. Overgrazing by cattle reportedly has changed the structure of rangelands to the detriment of bighorn sheep, and cattle take resources that otherwise would be available to sheep.

Feral **Horses** and **burros** both have the ability to displace bighorns sheep from important resources such as water. By sheer numbers, burrows are also known to out-compete bighorn for water and can also pollute sources of water in desert environments with feces and urine.

Domestic sheep, grazing on high-elevation rangelands can compete for food. Exotic ungulates such as Barbary sheep are behaviorally dominant to bighorn, and compete with resources.

Under certain conditions some native ungulates have the potential to compete with bighorn. **Mule deer** and bighorn generally occupy different terrain, but have been known to compete for water and food in arid environments. **Mountain goats** can displace bighorn sheep or prevent them from using resources. However, **elk**, because they are larger, gather in large numbers in alpine areas, and utilize broader ranges of food have greater potential for competition.

QUESTION:

What is currently impacting bighorn sheep habitat?

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Answer:

Bighorn sheep are uniquely adapted to open habitats with rocky areas for escape and safety, and unobstructed corridors for movement between preferred habitat, seasonal ranges and proximate populations. Because of these specialized requirements, habitat conservation is a cornerstone of sheep management.

Human encroachment is one of the greatest challenges faced by bighorn sheep today. Energy development, mining, building homes and infrastructure development such as roads all can impact sheep. **Intensive recreational uses** can also impact populations through displacement of animals. **Grazing** by domestic animals or feral hoofstock on bighorn ranges can degrade and reduce availability of preferred forage (food) and contribute to the spread of invasive or noxious plant species.

Naturally, **encroachment of woody vegetation** (trees and shrubs) into open areas where sheep feed on grasses and bushes or into movement corridors can impact quality and quantity of food, reduce ability to detect predators, reduce access to escape terrain, and change or restrict traditional movement patterns. Further, establishment of **invasive or exotic plant species** can dramatically alter quantity or quality of forage available to sheep.

QUESTION:

What is meant by Wild Sheep-Safe™?

WILD SHEEP™ Foundation

Answer:

The goal of the Wild Sheep Foundation's Wild Sheep-Safe™ program is to conserve and restore wild sheep on lands where people also live and work. This **voluntary** program will create consumer-driven economic incentives for domestic sheep or goat producers (i.e. private land herds, hobby herds, public land grazers) and retailers, manufacturers, wholesalers, restaurants, abattoirs, etc. who seek this label and are willing to work to conserve wild sheep.

Desert bighorn ram with domestic sheep in Arizona's Dome Valley (Bob Henry, Arizona Game & Fish Department)