



Wild Sheep Health Surveillance: A Hunter's Field Guide

Hunters and harvesters serve as the primary early warning system for monitoring wildlife health as critical disease signals typically originate in the field. This guide covers how to identify health issues in wild sheep populations and submit data or biological samples to wildlife managers.

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1. What to Watch For (Signs of Illness)

When scouting or harvesting, monitor both individual animals and groups for anomalies:

In Individual Animals

- **Respiratory Issues:** Frequent coughing or visible nasal discharge.
- **Poor Body Condition:** Visible ribs, spine, lack of fat deposits or emaciated hips (low body condition score).
- **Skin and Coat Abnormalities:** Rough, missing hair, patchy coats, or lesions around the face, presence of ticks/fleas/lice.
- **Internal Organs or structures:** Cysts or tumours on internal organs, odd colouration or shape, internal or intestinal worms, broken bones or large amounts of scar tissue, swollen lymph nodes or other organs, pockets of pus or bodily fluids.
- **Unusual Behaviour:** Loss of fear, lethargy, staggering, tremors, or foaming at the mouth.
- **Domestic Proximity:** Wild sheep mingling near domestic sheep or goats, which elevates the risk of respiratory pathogens.
- **Found dead:** Carcasses that are found dead with no obvious cause of death. Animals that are predated upon can also be informative as it is possible that less healthy animals are more susceptible to predation.

In Herds

- **Demographic Shifting:** Major drops in specific age classes (e.g., very few lambs or low lamb:ewe ratios; changes in ram:ewe ratios).
- **Herd Sizes:** Changes in total animal counts within known resident herds.
- **Unusual Mortality or Cluster Events:** Spotting multi-animal die-offs or numerous sick animals in a localized area can indicate a cluster event, which is abnormal. Identifying fresh carcasses with no obvious cause of death can also be informative for health monitoring..

2. Taking Accurate Field Notes

Documenting observations precisely allows remote experts to properly evaluate threats.

- **Be Objective:** Detail exactly what you see rather than writing a guess.

- *Correct*: "Sheep was thin, ribs visible, staggering while walking."
- *Incorrect*: "It looked poisoned."
- **Engage All Senses**: Note unexpected sounds (coughing) or unusual smells.
- **Include Context**: Note the surrounding ecosystem activity, such as an "unusual number of ravens circling overhead", or "the sheep appeared to be concentrating use around a wet site that looked as though it was a man-made mineral lick, and smelled like a barnyard with algae and feces present in it".

3. Mastering Field Photography

Good photos provide critical evidence that words cannot describe, helping pathologists confirm species, lesions, and symptoms.

<u>Best Practices (Do This)</u>	<u>Common Mistakes (Avoid This)</u>
Take broad context shots showing the whole animal and its habitat and include a photo of the GPS location if possible.	Taking blurry photos from too far away with no geographic context.
Capture multiple angles of any abnormalities or lesions.	Photographing a single angle without scale reference.
Place a physical object (e.g., knife, pencil, or coin) next to a wound or horn for size scale.	Shooting into harsh glare or poor lighting that obscures features.

4. Sampling and Surveillance Programs

Wildlife managers use two surveillance models to turn field discoveries into direct conservation actions:

[Field Observation / Harvest] → [Report & Sample Submission] → [Lab Diagnostic Testing] → [Management Response]

Passive Surveillance

If you stumble upon an unusual mortality event or a sick animal, collect physical samples if you have appropriate tools and safety gear:

- **Tissues**: Lung tissue, liver tissue, scabs, or lesions.
- **Swabs**: Nasal cavity swabs.
- **Other**: Feces, ectoparasites (lice/ticks), or the entire head.

Targeted Surveillance (Hunter Kits)

When participating in structured sampling programs, utilize standard **Hunter Kits** to submit tissues from your harvested sheep. Check boxes on the collection form for each element preserved:

- Nasal Swabs & Filter Paper Blood Tabs (dry thoroughly before sealing)
- Hair & Feces
- Organ Biopsies (Liver, Kidney, Muscle, Lung)
- Hind leg long bone or ear tips

⚠ Sample Storage Notice: Keep collected samples cool (in a refrigerator or packed in a cooler with ice packs) on the day of collection. Freeze completely if you cannot deliver them to wildlife authorities within **24 to 48 hours**.

5. Submitting Your Report

To make a report useful to biologists, always collect and share the following data points:

1. **Your Contact Information:** Name and phone number/email.
 2. **Animal Identification:** Animal tag or ID number (if applicable).
 3. **Location Details:** Precise GPS coordinates, grid cells, or descriptive landmarks.
 4. **Temporal Info:** Exact date and time of the observation.
 5. **Demographics:** Target species and the number of individual animals affected.
 6. **Abnormalities:** Specific notes regarding injuries, strange behavior, or bodily lesions.
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If you plan to harvest or scout soon, please be sure to keep notes and plan ahead. If you see something and report it, wildlife managers and health teams may need this information to be able to follow-up in the field:

- Which **province or territory** and also, what watershed or local landmark is closest?
- **Record groups sizes** of sheep observed and a rough estimation of the numbers of ewes, lambs, younger and mature rams. Consider uploading info into the B.C. Mountain Goat and Wild Sheep Natal App: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-conservation/wildlife-health/wild-sheep-health/bc-goat-sheep-natal-app>
- Volunteer and get access to an official **hunter sampling kit**. This will contain specific information and instructions to help you collect the most useful information.

Check in with your jurisdiction about these things. We have also provided an example of the B.C. sampling procedure used by provincial biologists and veterinarians.

For more information about reporting Sick or Dead Animals, see:

- Alaska - <https://www.adfg.alaska.gov/index.cfm?adfg=disease.vet>
- British Columbia - <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-conservation/wildlife-health>
- North West Territories - <https://www.gov.nt.ca/ecc/en/services/wildlife-diseases>
- Yukon - <https://yukon.ca/en/wildlife-health>