



Muskox: Capture and Handling

Wildlife managers put radio and satellite collars on animals to learn more about their behavior. Tracking muskox with satellite collars helps managers count population sizes and learn about where muskox spend time in different seasons of the year. Collars have been used in studies of wolves, polar bears, muskox and barren-ground caribou to show long range movements and important habitat needs that would be otherwise impossible to measure.

For the welfare of the animal and the safety of the handlers, it is best that the animal be relaxed and unaware of what is going on around it while the collar is being put on. Using drugs to put an animal into sleep-like state is the most widely accepted humane way of handling large, powerful animals.

The Process of Capture and Handling

Animals are treated with respect and great care during the process of capture and handling. To select the right animal and inject the drugs, it is necessary to get very close. It is best to be within 30 feet of the animal and stay close while the drug starts to take effect. This usually takes about 5 minutes. Because of this need for speed and agility, a helicopter is used when capturing the muskox. The darting itself is done by biologists who have extensive large animal capture experience and special training in wildlife handling and immobilization.

Until recently, the drugs most commonly used on animals such as muskox, bison and moose were a combination of Carfentanil and the sedative Xyzaline. But because Carfentanil is a very potent and dangerous drug to humans, biologists in the Yukon are attempting to switch to



safer drugs for use in wildlife captures. A different combination of drugs- Medetomidine and Ketamine- is now being recommended for use. These are the drugs recently used to immobilize muskox on the Yukon North Slope. When animals are captured using Medetomidine and Ketamine, another drug, Antisedan, is used to wake them up. The captured animals will usually get up and walk or run away in minutes.

Only rarely do animals die from drug or capture complications. These deaths are difficult to prevent as they are usually a result of poor body condition, adverse reaction to the drug or stress. Every effort is made to keep handling time to a minimum. The latest technology is used to monitor the animal's condition (heart rate, breathing rate and circulation) while it is under the drug's influence.

If a dart misses the animal or falls out, every effort is made to find it. In most cases the drug is probably discharged into the ground or air and the dart is empty except for some residue. If you find a dart, **DO NOT TOUCH IT**. Mark the location and contact the nearest Wildlife office.

The Effects of Capture Drugs

The drug combination of Medetomidine and Ketamine appears to be safer than Carfentanil for humans and animals. It is not easily absorbed through the skin and a person would have to be directly injected with the drug to cause serious effects. None of these drugs last or build up in the environment in any way. If a drugged animal were to die soon after handling and be eaten by predators or scavengers, the predator or scavenger might become sedated for a few hours, but would be unlikely to ingest enough to kill or seriously injure it.

Work done in the United States has shown that the levels of the drug in the animal's meat decrease rapidly within a few days after the animal is handled. The U.S.'s Food Animal Residue Avoidance Database (FARAD) recommends people should avoid eating the meat of a wild animal for 30 days after it has been given these drugs to be conservative. In Canada this research has not yet been done, so we must advise even more conservatively that the animal never be eaten. Collars are often removed from animals after the study is finished. Muskox handled with immobilization drugs are left with an ear tag or a visible collar so that hunters can avoid shooting them.

Animals that wear or have worn collars are very important. They give us information that helps us to understand animals, the way they use the land, their relationship with other species and how human activity affects them. These animals should be protected and deserve our respect for the information they have provided and continue to provide about themselves and their species.

The Government of Yukon, Department of Environment, can provide more information about the capture and handling of muskox. Contact Philip Merchant at (867) 667-5285, the Regional Biologist in your area or veterinarian Dr. Michelle Oakley at (867) 634 -2110 (toll free 1-800-661-0408)

Photo by Ken Madsen

For more information, visit the Wildlife Management Advisory Council (North Slope) web site on muskox of the Yukon and Alaska North Slope at www.taiga.net/wmac/species/muskox.