

## Spring 2009 E-Raven: A newsletter of the Oregon Chapter of The Wildlife Society

### Tagging Bears - I Get Paid for This? *by Bruce Campbell*

Leaning out of the helicopter door with a foot on the skid, I watch the prop-wash caused sinusoidal flight of the capture dart as it heads toward the large loping rump of an Alaska brown bear. It strikes the bear and I see the tell tale signs of another successful "darting" of a bear on the Copper River Delta in Alaska. The helicopter lands on a slough bank to save fuel and flying time and we notify the spotter plane of a successful hit. They take over tracking the bear for the 5-10 minutes before it goes down as a result of the anesthetizing drug.



*Tagging brown bears consists of long periods of boredom interrupted by short periods of adrenalin rush.*

It is early May and we are capturing brown bears as part of a 3 year study of their impacts on nesting Dusky Canada geese. This subspecies of Canada goose, which breeds on the Copper River Delta and winters in the Willamette Valley, has never been very numerous. Peak population estimates during the 1970's were 25,000 – 30,000 birds. By the early-'80s goose numbers had declined to below 20,000. This decline was attributed to poor production, primarily because of nest predation. While several predators including Glaucous gulls, parasitic yeagers, and coyotes destroyed nest, brown bears were the major culprit. Nesting studies showed that bears were annually destroying up to 80% of the nests. Consequently, this study was initiated to find out the characteristics of the bear population on the Copper River Delta during spring and summer. Results would be used to develop a bear management plan for the Delta.

Each Spring of the three year study, the local Alaska Department of Fish and Game biologist from Cordova searched the Copper River Delta by air looking for bears or sign of recent activity. Once bears were seen on the Delta, the capture and radio tagging operation began.

Once capture crews, helicopter, jet fuel, spotter aircraft, and spotters are in place at the Cordova airport, the operation begins. Spotter planes scoured the Delta looking for brown bears while the tagging team, consisting of the helicopter pilot, a "trigger man" (usually me) and tagging assistant, stand by at the Federal Aviation Administration (FAA) station waiting for a bear to be spotted.

Bear tagging consists of long periods of boredom, waiting for the spotter aircraft to find a bear, interrupted by short periods of adrenalin rush. During the long wait we on the capture crew keep our selves busy by inventorying the tagging kit, loading darts with anesthetic, double checking capture guns, and consuming copious amounts of government coffee. In short order we've read all of the available reading material and

resorted to reading FAA weather reports, technical manuals, and labels on the coffee, sugar and creamer! We rapidly realized that only so many hours in a day can be passed by napping.

Finally, word comes in from a search plane that they are on a bear. It is scramble time at the airport with the pilot warming up the helicopter and my assistant and I loading and once again checking gear. By now you are probably wondering why so much time is spent going over the capture gear. The answer is, besides killing time while waiting, it costs an average of \$1,000 to tag a bear. Plenty of reason to make sure everything is in working order.



*The subject of our efforts. View of big male bear from capture helicopter as we start our darting "run."*

We lift off and head toward the search plane with the wind from the open door of the helicopter blowing in my face and adrenalin pumping in my veins. The spotter in the super cub circling at several thousand feet above the bear guides us in to the target. Aahh, there she is. Of course at the time we don't realize that she is a she but we will find out soon enough. I reach for the capture gun resting between my legs as the tagging assistant yells out the estimated dosage necessary to anesthetize the bear. A preloaded dart with the proper dosage is selected from the capture kit, I shove it into the chamber of the capture gun, place a charge in the gun, and take a deep breath. As I swivel around in the seat, attached to the helicopter by my umbilical chord of a series of webbed belts, the adrenalin is really pumping. There are very few things in life that are more of a rush than being half outside of a low flying and crabbing helicopter with the wind in your face and a huge animal looping along in your sights only 30-40 feet from of you. The pilot brings us in close. He is very experienced at capturing wildlife and needs little direction from me or my assistant. I pick up the rhythm of the bear's undulating rump and pull the trigger. Now we are back to the beginning of this story.



*Author attaching radio collar to two year old female brown bear. She was loosely associated with her brother and mother until June when the mother went into estrus and the family group broke up.*

Things don't always go so smoothly as the Alaska Department of Fish and Game Biologist from Kenai Alaska will attest. We'll call him Ted to protect the innocent. He had considerable experience capturing brown bears and was acting as my tagging assistant and tutor. Things went as scripted during the capture and tagging however, things went south with administration of the anesthetic reversing drug.

Before we administered the reversing drug, we signaled the pilot to wind-up the helicopter. This is safety protocol in case the drug that is supposed to be administered intramuscular is administered intravenously by accident. Such an accident would result in the bear waking up immediately. We stowed the capture gear and then administered the reversing drug and moved swiftly to the helicopter. Protocol is to stand by in the helicopter until a bear shows signs of waking up. Consequently, we sat in the helicopter for about 10 minutes ready to take off. All of a sudden Ted lets out a string of expletives over the voice activated intercom and begins to undo his seat belt. "Ted, what's wrong" I ask. He replies that we left the- again expletives-rectal thermometer in the bear. "Well, wait a minute and I'll go with you." I grab the rifle and pile out of the helicopter behind him.

We made a standard approach on the bear with Ted approaching from behind the animal and me at 90 degrees to him so that I could get a clear shot at the bear's front shoulder should things go wrong. Brown bears are known to run several hundred yards after being shot through the heart so breaking down a front shoulder is the best way to stop them. As Ted reached down and removed the thermometer, the bear came straight up and hit the ground in hot pursuit of him, or so we thought. I must say that I've never seen an Olympic sprinter move as fast as Ted as he headed for the helicopter.

I raised the rifle, clicked off the safety, took a bead on the bear's front shoulder and began to squeeze the trigger. At that instant the bear made an abrupt turn as she cleared the willow stringer paralleling all of this action and headed off from us as hard as she could go. We got back into the helicopter and Ted muttered between gasps for breath that what we had done was really stupid—"the thermometer would have fallen out when the bear stood up!!!" Where is a good technician when you need one?



*The anesthetized patriarch of the Copper River Delta. Analysis of the growth rings of a premolar indicated that he was 17 years old. Notice that the author's size 7 7/8 hat. It would not fit over the muzzle of this fellow.*

Besides the technical information we set out to collect such as the seasonal age structure, home ranges, and breeding condition of bears on the Copper River Delta, some interesting anecdotal information was also collected during the study.

Radio tagged brown bears did not enter dens until quite late, remaining active until early – mid January when late salmon runs dwindled. Similar to bears in other regions, they build their dens at high elevations in Krummholz on barren, inaccessible slopes. The theory for denning at higher elevations is that winter conditions are more stable, particularly in maritime climates, and less likely to give a “false alarm” of spring’s arrival. Although, large breeding males were prone to coming out of their dens and wandering around throughout the winter.

Interestingly, all of the tagged females that were in estrus during the summer showed up a year later with yearling cubs disappeared at denning time. What happened to them for a year is anybody’s guess but theory has it that to avoid other bears that can be predators of new born cubs, they moved to remote areas to den.



*Typical brown bear den in a high elevation krummholz overlooking the Copper River Delta.*

One very old (32 year old) female bear failed to read the book on bear hibernation. She not only denned at sea level in a sand dune, but also gave birth to two cubs in that den. Maybe she had the secret to a long, productive life?



*The author and an anesthetized 32 year old female bear that failed to read the book on bear ecology. Notice the signs of old age including the disproportionately small body relative to the head and pearly white claws.*

In reflecting back on my three years working with Alaska brown bears, I realize how fortunate I was. I not only got to do something that we all dreamed of while in school but, I got paid to do it!! I had the opportunity to work with one of nature's most impressive, magnificent animals.

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