

**Many hunters and trappers** contribute significantly to conservation and wildlife management. Because of their intimate involvement in outdoor pursuits, they are more keenly aware than many regarding the condition of our environment, and most are responsible stewards of our natural heritage. Unfortunately, some do not embrace these values, and will shoot at eagles, poach moose, leave their garbage behind, or partake in other unethical and unacceptable activities. Though rare, this behavior should not be tolerated.



Steel shot found in the skull of Gwaihir, a bald eagle fitted with a satellite transmitter.



# Top of the food chain

Highly visible and at the top of the food chain, bald eagles are good indicators of ecosystem health, particularly in coastal environments. Through the years the Wildlife Division has conducted or supported bald eagle research, including **Eagle Watch**, an opportunity for public eagle monitoring; toxicology and nest site selection studies in partnership with Memorial University; and eagle surveys with support from Natural Resources (DNR), Forest Resources.



**The Wildlife Division** has conducted eagle surveys since 1983, mainly in Placentia Bay, home to one of the largest bald eagle populations in eastern North America. Surveys have provided a long-term dataset that quantifies trends in eagle populations over the last 20+ years. But a number of questions still remain:

- Given that Placentia Bay remains ice-free all year and is also an area of high industrial activity, how important is this bay to bald eagle breeding and wintering populations from across the island?
- Do insular Newfoundland's eagles migrate, or stay put? If eagles do not leave the island, then we may have a unique subpopulation here.

To help answer these and other questions, the Division affixed five eagles with GPS satellite transmitters between 2008 and 2009. GPS satellite technology allows accurate tracking of eagles, giving a clear understanding of location, seasonal movements and habitat preferences.

Catching and tagging a wild adult eagle is not without its challenges and excitement. Through trial and error, researchers determined that an anchored, floating fish booby-trapped with nooses was the most successful capture method, and the technique that raised the least amount of suspicion in eagles.

The eagle swoops down on the bait fish and, with luck, gets its talons caught in the nooses. As the caught eagle tries to swim to shore, researchers rapidly approach by boat. The next trick is getting the eagle out of the water. With a beak designed for ripping and shredding, powerful wings, and locking talons capable of exerting more than 450 lb of pressure per square inch, care and safety are definitely a priority when handling eagles. Once aboard the boat, the bird is hooded to reduce its stress level, and brought to shore for processing.

The first wild eagle tagged was an adult male caught near North Harbour, Placentia Bay. This eagle was affixed with a transmitter and named "Gwaihir," a name chosen in appreciation of the more than two decades of eagle work conducted by retired Wildlife biologist and "Lord of the Rings" fan, Joe Brazil.

A transmitter is attached to a bird like a backpack, with straps around its shoulders and sides. The backpack is designed with a weak point; its stitching will disintegrate after a few years to ensure the transmitter will eventually fall off an eagle and not impede its movements. Once affixed, a transmitter allows monitoring of an eagle's daily movements via satellite downloads.



**It didn't take Gwaihir long** to provide some new insights into the lives of Newfoundland eagles — he left Placentia Bay in the fall of 2008 and traveled all around the island in one month.

Along with data from the four other tagged eagles, the Division now has evidence that adult eagles remain on the island year-round, and that inland sites — likely related to the availability of the remains of hunter-killed big game — are a significant attraction for these birds outside of the breeding season. Though capable hunters, eagles are also opportunistic feeders. As such, eagles fill an important role as scavengers by reducing the amount of carrion other predators leave behind on the landscape.

Once again in the fall of 2009, and coinciding with the opening of the big game hunting season, Gwaihir went inland. This time, he traveled north past Gander. Near the end of October information received by satellite indicated Gwaihir's transmitter had stopped moving. Subsequent investigation revealed that Gwaihir had been shot. Our look into this eagle's life had come to an end.

- Bruce Rodrigues