



# LINE ENTANGLEMENTS, KILLER WHALE BITES, AND SHIP STRIKES ON WESTERN ARCTIC BOWHEAD WHALES

J. Craig George<sup>1</sup>, Gay Sheffield<sup>2</sup>, D. J. Reed<sup>3</sup>, Robert Suydam<sup>1</sup>, and Barb Tudor<sup>1</sup>

<sup>1</sup>North Slope Borough, <sup>2</sup>UA Marine Advisory Program, <sup>3</sup>Alaska Department of Fish and Game



*Bowhead whale harvested at Barrow with white entanglement scars made by a large diameter rope (2003)*

Documenting scar types on bowhead whales provides evidence as to what injured the whale, such as: ropes (entanglement), large ships (strike), and killer whales (bites). When injured, the black skin of the bowhead whale heals pure white leaving a permanent record of past injuries. Working collaboratively with Alaska Native whalers in the Beaufort, Chukchi, and Bering seas, we analyzed scars on bowhead whales harvested since the 1990's to determine the frequency of these injuries.



*Commercial crab pot gear taken off an entangled bowhead in Kotzebue Sound (2010)*



*Scars caused by a large ship propeller on a bowhead whale harvested at Point Hope (1970's)*

## WHAT WE FOUND

### Rope / Line Entanglements

About 50% of landed whales over 55 feet had scars from a large rope at one time entangled on the whale. Males had entanglement scars more often than females but we do not know why yet. Scars were seen less often on small whales.

### Ship Strikes

Scars from ship injuries (strikes) are low on western arctic bowhead whales. Only about 1% of the examined whales had scars from injuries caused by ship strikes and/or their propellers.

### Killer Whale Bites

Most bowheads over 55 feet show scars from killer whale attacks. Killer whale scars were seen more often in the last decade than the previous decade. Reasons for this may include: better reporting, higher predation rates or some combination of these factors.



*Killer whale bite scars on the fluke of a bowhead whale (2003)*

## Acknowledgements:

We thank all bowhead whaling communities for allowing us to examine their animals and document the different scars for over 30 years. Work was conducted under NMFS permits: #782-1694, #932-1489, #1009, #814-1899, and #17350. Funding was provided by the NSB-DWM and the NSB-Shell Baseline Studies Program.

## Please help us!

Make sure to note any scars or unusual injuries on your Bowhead Harvest Form and take photos if possible!