

**FEDERAL AID  
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF WILDLIFE CONSERVATION  
PO Box 115526  
Juneau, AK 99811-5526

**Alaska Department of Fish and Game  
State Wildlife Grant**

**Grant Number:** T-1 **Segment Number:** 16  
**Project Number:** 3  
**Project Title:** Bowhead Whale Diet Investigation: St. Lawrence Island, Bering Sea  
**Project Duration:** May 20, 2005 – December 31, 2008  
**Report Period:** May 20, 2007 – May 19, 2008  
**Report Due Date:** August 20, 2008

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**Project Objectives:**

**Objective 1:** Collect stomach contents, harvest data, and other biological tissues from bowhead whales harvested on St. Lawrence Island in 2005-2008 in cooperation with the Gambell Whale Captains Association, Savoonga Boat Captains Association, North Slope Borough Department of Wildlife Management (NSB-DWM), Alaska Eskimo Whaling Commission (AEWC), and Alaska Department of Fish and Game.

**Objective 2:** Analyze the stomach contents of bowhead whales collected during this study and from previous collections to determine the composition of the bowhead diet in the Bering Sea by season, sex, and whale size class.

**Summary of Accomplishments:**

No whales were harvested at St. Lawrence Island during the fall 2007 whaling season but Gay Sheffield was in communication with the St. Lawrence Island AEWC Commissioners, Gambell Boat Captains Association, and the Savoonga Whaling Captains Association as to the status of hunting and was ready to travel to whales that were available for sampling.

St. Lawrence Island harvested two bowhead whales during spring 2008 (Table 1). Gay Sheffield traveled to St. Lawrence Island during the spring whaling season and collected harvest data, stomach contents, and other biological tissues from both bowhead whales during this period (Table 2). Sampling occurred concurrently with the butchering process. Digestive tract contents (from intestines) were obtained from both harvested whales. Most of the internal organs remained inaccessible for both whales (08S1, 08S2) as they were butchered while floating in the ocean. Other biological samples were provided to the NSB-DWM for ongoing studies (Table 2).

Aliquots of intestine samples were thawed, rinsed, and sorted into major taxonomic groups, and examined microscopically at the University of Alaska's Institute of Marine Science for identification. Preliminary results indicate that both bowheads had been feeding prior to their death (Table 3). The stomach of the adult male (08S2) was opened during butchering and a visual examination revealed it contained a substantial amount of blood clots. No prey were observed. Analysis indicated that large calanoid copepods dominated the diet of both whales. A

small amount of other invertebrate remains were too digested to allow identification (Table 3). Of note, copepods were identified in both whales harvested near Gambell during spring 2007.

We will analyze the diet data collected to date as well as that of previous collections to determine the composition of the bowhead diet in the Bering Sea by season, sex, and whale size class.

**Significant Deviations:**

1. Intestinal fecal samples were collected when stomachs were not available for sampling.

Table 1. Summary information for bowhead whales harvested near St. Lawrence Island during the 2008 whaling season.

ID Number	Village	Date	Sex	Total length (meters)
08S1	Savoonga	7-Apr-2008	Female	7.6 m (estimated)
08S2	Savoonga	27-Apr-2008	Male	13.7 m (estimated)

Table 2. Tissues collected from bowhead whales harvested near St. Lawrence Island during 2008 and the recipient of those tissues.

	Stomach cont.	Intestine cont.	Eyeball	Skin	Muscle	Blubber	Kidney	Testis	Baleen
08S1	-	ADF&G	NSB	NSB	NSB	NSB	-	-	NSB
08S2	-	ADF&G	NSB	NSB	NSB	NSB	NSB	NSB	NSB

ADF&G = Alaska Department of Fish and Game (Fairbanks)

NSB = North Slope Borough, Department of Wildlife Management (Barrow)

Table 3. Prey items from bowhead whales harvested near St. Lawrence Island during 2008.

Prey Items	08S1	08S2
<b>Copepods</b>		
Calanoid	X	X
<b>Other</b>		
Non-copepod parts (too digested for identification)	X	X

**Project Leader:** John “Craig” George (NSB-DWM) / Gay Sheffield (ADF&G)

**Additional Information:**

Presentations of fieldwork and research results were made to the Gambell and Savoonga IRA Tribal Councils, Sivuqaq Native Corporation, and the Savoonga Whale Captains Association. Reports of work accomplished are provided to the St. Lawrence Island AEWG Commissioners, Gambell Boat Captains Association, and the Savoonga Whaling Captains Association. One of the most important aspects of the work that Sheffield has conducted on St. Lawrence Island has been to update and include the Native community in the objectives and progress of the scientific work.

Results of this project will compliment the ongoing National Marine Mammal Laboratory’s study near Barrow, Alaska entitled “Bowhead whale feeding in the western Beaufort Sea”. The objectives of this Minerals Management Service funded study include documenting patterns and variability in the timing and locations of bowhead whales feeding and documenting bowhead whale prey distributions in the western Beaufort Sea.