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**Customary and Traditional Use Worksheet:
Snowy Owl, Game Management Units 17, 18, 22, 23, and 26**

Prepared by

**Alaska Department of Fish and Game, Division of Subsistence
for the March 2016 Board of Game meeting**

March 2016

Alaska Department of Fish and Game

Division of Subsistence



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly-accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g			base of natural logarithm	e
hectare	ha			catch per unit effort	CPUE
kilogram	kg	all commonly-accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV
kilometer	km			confidence interval	CI
liter	L	at	@	correlation coefficient (multiple)	R
meter	m	compass directions:		correlation coefficient (simple)	r
milliliter	mL	east	E	covariance	cov
millimeter	mm	north	N	degree (angular)	$^{\circ}$
		south	S	degrees of freedom	df
Weights and measures (English)		west	W	expected value	E
cubic feet per second	ft ³ /s	copyright	©	greater than	>
foot	ft	corporate suffixes:		greater than or equal to	≥
gallon	gal	Company	Co.	harvest per unit effort	HPUE
inch	in	Corporation	Corp.	less than	<
mile	mi	Incorporated	Inc.	less than or equal to	≤
nautical mile	nmi	Limited	Ltd.	logarithm (natural)	ln
ounce	oz	District of Columbia	D.C.	logarithm (base 10)	log
pound	lb	et alii (and others)	et al.	logarithm (specify base)	log ₂ , etc.
quart	qt	et cetera (and so forth)	etc.	minute (angular)	'
yard	yd	exempli gratia (for example)	e.g.	not significant	NS
		Federal Information Code	FIC	null hypothesis	H_0
Time and temperature		id est (that is)	i.e.	percent	%
day	d	latitude or longitude	lat. or long.	probability	P
degrees Celsius	°C	monetary symbols (U.S.)	\$, ¢	probability of a type I error (rejection of the null hypothesis when true)	α
degrees Fahrenheit	°F	months (tables and figures)	first three letters (Jan, ..., Dec)	probability of a type II error (acceptance of the null hypothesis when false)	β
degrees kelvin	K	registered trademark	®	second (angular)	"
hour	h	trademark	™	standard deviation	SD
minute	min	United States (adjective)	U.S.	standard error	SE
second	s	United States of America (noun)	USA	variance	
		U.S.C.	United States Code	population	Var
Physics and chemistry		U.S. state	two-letter abbreviations (e.g., AK, WA)	sample	var
<i>all atomic symbols</i>					
alternating current	AC	Measures (fisheries)			
ampere	A	fork length	FL		
calorie	cal	mideye-to-fork	MEF		
direct current	DC	mideye-to-tail-fork	METF		
hertz	Hz	standard length	SL		
horsepower	hp	total length	TL		
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

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The Division of Subsistence Technical Paper series was established in 1979 and represents the most complete collection of information about customary and traditional uses of fish and wildlife resources in Alaska. The papers cover all regions of the state. Some papers were written in response to specific fish and game management issues. Others provide detailed, basic information on the subsistence uses of particular communities which pertain to a large number of scientific and policy questions.

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INTRODUCTION

Proposal 132, submitted by the Alaska Department of Fish and Game (ADF&G) for the Alaska Board of Game's (BOG) March 2016 Statewide meeting, would modify the state hunting season for snowy owls *Bubo scandiaca*. The BOG has not made a customary and traditional use determination for snowy owl populations under the provisions of AS 16.05.258. This worksheet provides background information for a determination, organized by the Joint Board of Fisheries and Game eight criteria as listed in 5 AAC 99.010(b).

Snowy owls are among the 91 species of birds eligible for subsistence hunting in Alaska under the terms of the Amended Migratory Bird Treaty Act of 1997. Federal regulations governing spring and summer subsistence hunting of migratory birds came into effect in 2003 (U.S. National Archives and Records Administration 2015).

Currently, there are state and federal open hunting seasons for snowy owls. Snowy owls can be found seasonally anywhere in Alaska, but the breeding distribution is more restricted. The highest breeding densities occur in the North Slope, but breeding also occurs more irregularly along the western coast of Alaska south to Bristol Bay (Holt et al. 2015).

Some Alaska Native names for snowy owls include:

Central Yup'ik: *anipa* (Jacobsen 1984:732);

Dena'ina Athabascan: *yesvu* (Kari and West 2003:101);

Aleut: *awayax* (Bergsland 1994:720);

Siberian Yupik: *anipagllak* (Jacobson 1987); and

Inupiaq: *ukpik* (Uhl and Uhl 1977).

THE EIGHT CRITERIA

CRITERION 1: LENGTH AND CONSISTENCY OF USE

A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns.

For the Northwest Alaska Inupiat, Ray (1984:289; see also Ray 1992:177) noted that, historically, “the people also ate seagulls, hawks, and owls.”

Saario and Kessel (1966:1005) provide the following description of hunting snowy owls in the Inupiat community of Kivalina:

Trapping for snowy owls (*Nyctea scandiaca*) begins in the middle of October and continues for about a month. The owls tend to follow the coastline on their southward migration. Traps are set on stumps and piles of driftwood that extend along the coast and lagoon from the landing field to the Kivalik Channel. Fifty traps were set in fall of 1959 by four people, and 98 birds were captured. Traps are checked at irregular intervals. If a northwest wind has been blowing, they are checked more frequently, since the wind tends to bring the owls along the coast. Snowy owls are frequently boiled and made into a tasty soup.

Regarding Point Hope, “waterfowl and migratory birds also provide a source of food for Point Hope residents. Eiders and other ducks, murre, brant, geese, and snowy owls are harvested at various times of the year” (Alaska Consultants 1984:203).

Key respondent interviews conducted in northwest Arctic communities in the late 1990s indicated that although harvests of snowy owls had declined, they persisted in small numbers (Georgette 2000). In 1994, key respondents in Selawik said:

There was more hunting of snowy owls in the past but some people still take them for camp food when they are out camping and running low on other things to eat. (Georgette 2000:201)

White owl is good camp food if you have nothing to eat. Good and fat, makes good soup. I boil it up for [a] long, long time before I eat it. (Georgette 2000:203)

These snow owls were hunted as camp food in the past but not much anymore. (Georgette 2000:204)

Estimated average annual harvests of snowy owls in the late 1960s and early 1970s included 30 owls from the Seward Peninsula and King Island region, 225 owls from the Noatak and Selawik region, and 5 from the Yukon Flats (USFWS 1980:40).

For the early 1970s, Patterson (1974) documented harvests of 223 snowy owls in the 11 communities of the NANA Region (an ANSCA corporation) of northwest Alaska.

Recent harvest data for snowy owls are limited in part because the species often has not been specifically listed on harvest surveys. Also, snowy owls are nomadic, responding to shifts in the location and abundance of prey (Holt et al. 2015). The availability of snowy owls therefore may largely vary from year to year, which may account in part for annual variation in harvest numbers. For example, in 1997, a key respondent in Kivalina explained:

In the fall time, we get snowy owls. This year we haven't seen them. We didn't see any this year. We set a trap. We don't use bait. We put the trap on any log sticking up. They

like to land on logs. You have to check on the trap every day. We make soup with them or bake them. They are here for a while only. I never see a nest.

The available data show that, currently, snowy owls are taken in relatively small numbers, primarily in communities of Northwest Alaska and the North Slope Borough. Table 1 summarizes available harvest estimates from household surveys.

Harvest surveys conducted by the Division of Subsistence in Barrow for 2014 also documented a harvest of 43 snowy owl eggs.

Table 1.–Estimated harvests of snowy owls.

Community	Year	Estimated Harvests	
		Number of birds	Pounds usable weight
Kivalina	1982	15	
Kivalina	1983	26	
Kotzebue	1986	5	15
Kotzebue	1991	16	
Kivalina	1992	29	
Point Hope	1992	58	
Point Hope	1994	9	26
Wales	1994	5	
Noatak	1997	5	
Barrow	2000	2	5
Kotzebue	2002	5	
Kivalina	2007	2	
Stebbins	2013	11	33
Point Hope	2014	5	

Blanks cells indicate data not available

Source: Division of Subsistence, ADF&G, Subsistence Community Information System

CRITERION 2: SEASONALITY

A pattern of taking or use recurring in specific seasons of each year.

The Bering Strait Inupiat harvested “Arctic owls” in April and May (Ray 1984:289). In 1997, a hunter in Noorvik said:

White [snowy] owls come around in springtime. An old woman once asked me to catch her one but she said it was too skinny. She grew up eating them. (Georgette 2000:183)

At Kivalina, harvesting is also documented for October and November as the birds are migrating south (Saario and Kessel 1966:1005). Uhl and Uhl 1977:81 describe hunting for snowy owls in the coastal area of the present-day Cape Krusenstern National Monument in October. In 1999, a Kotzebue key respondent said, “sometimes we hunt or trap snowy owls in the fall time” (Georgette 2000:151). Owls that remain inland in winter if prey species are available are also harvested (Uhl and Uhl 1977:82). A key respondent in Buckland noted:

A few old-time elders want to eat snowy owls but I've never eaten one. We never see them in the summer. Only in the winter. (Georgette 2000:89)

And in Kivalina (Georgette 2000:131,136):

Snowy owls, we eat in fall time. We catch them with a trap. You don't need bait. They just land there on the trap. Old people like them because they were raised with them. Fall time, now, is when snowy owls pass by. In winter time, not too many.

We have snowy owls. We catch them about this time of year (November). Mostly people trap them.

Respondents in Deering reported only seeing snowy owls in "winter" (Georgette 2000:107). A respondent in Kobuk (Georgette 2000:142) said:

We see snowy owls in winter. They are good eating, but they are hard to catch. You can chase them and chase them but never get them. You can put a pole with a trap on top to catch them.

In Noorvik, a hunter said:

Snowy owls are around all winter. You'll see them in the higher places, mostly in the hills. (Georgette 2000:185)

In Selawik in 1998, a hunter observed that:

Snowy owls don't leave in the wintertime. We see them any time of year. Whenever we travel up that way, we see them. Sometimes they get real fat. They are good eating right then. Ptarmigan and rabbits are up that way. That's why snowy owls are there. They even eat small ducks when they are growing up in summer. They look for them to eat. (Georgette 2000:208)

A hunter in Noatak in 1998 reported that "we see snowy owls all year-round" (Georgette 2000:175).

CRITERION 3: EFFICIENT MEANS AND METHODS OF HARVEST AND ECONOMY OF COST

A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost.

Uhl and Uhl (1977:81) describe the method used to hunt snowy owls by residents of Kotzebue, Noatak, and Kivalina along the coastal areas of the Cape Krusenstern National Monument:

Driftwood posts of varying heights (3' to 7') and diameter (4" to 8") are stood upright, with a steel trap of size 1½ or larger set on the upright end. The trap chain is tied in a groove in the log. When the bird lands on the pole to survey the countryside for prey, as is its habit, it finds its foot caught and tumbles off the pole to await the coming of the trap owner. A real effort is made to check the traps every day, as this bird is much prized and red foxes often run the lines to steal trapped owls.

Where many people live together there is much competition for available migrating *ukpik*. This is worked out in practice by each individual setting large numbers of *innutaq* (the pole rigs) and traveling far from the village.

Uhl and Uhl (1977:82) also report that some snowy owls remain inland if prey species are available in winter, and are taken with firearms during caribou hunts and "are eaten in camp that night as a welcome treat."

CRITERION 4: GEOGRAPHIC AREAS

The area in which the noncommercial long-term and consistent pattern of taking, use, and reliance upon the fish stock or game population has been established.

No maps appear to be available that specifically depict snowy owl hunting areas.

In fall, hunting evidently takes place along coastal areas as the birds migrate south (Saario and Kessel 1966:1005; Uhl and Uhl 1977:81). As noted above, they are also taken inland in winter in areas also used for caribou hunting and other winter subsistence activities.

CRITERION 5: MEANS OF HANDLING, PREPARING, PRESERVING, AND STORING

A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate.

Regarding uses by communities near the Cape Krusenstern National Monument, Uhl and Uhl (1977:81–82) note:

Ukpik is a very good flavored soup bird, but it cannot be described by comparing it to something else. It simply tastes like ukpik, which is a pleasant satisfying flavor when you are hungry, and a real treat in the months of October and November.

In 1998, a Noatak hunter said that the meat of snowy owls “is good when they are fat” (Georgette 2000:170). See also comments under Criterion 1, above, on cooking methods.

CRITERION 6: INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE OF SKILLS, VALUES, AND LORE

A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values, and lore from generation to generation.

Place name data document knowledge of snowy owl distribution. One example can be found in the Inupiaq name for Barrow, *Utqiagvik* or *Ukpiagvik*, meaning “place where we hunt snowy owls.” (Braund and Associates 2011:41).

Georgette (2000) provides several excerpts from key respondent interviews concerning traditional ecological knowledge (TEK) regarding snowy owls, including distribution and diet.

The feathers of snowy owls have been used to manufacture dance fans for traditional performances (Figure 1).

CRITERION 7: DISTRIBUTION AND EXCHANGE

A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving.

Note the example under Criterion 2, above, of a hunter from Noorvik hunting snowy owls at the request of an elder.

CRITERION 8: DIVERSITY OF RESOURCES IN AN AREA; ECONOMIC, CULTURAL, SOCIAL, AND NUTRITIONAL ELEMENTS

A pattern that includes taking, use, and reliance for subsistence purposes upon a wide diversity of the fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.

Where most frequently used today in North Slope and Northwest Alaska communities, harvests and uses of snowy owls occur within diverse, large subsistence harvests. Alaska communities in the subregions that harvest snowy owls have a mixed economy relying on cash as well as harvests of wild resources for

food and to support their ways of life. The total subsistence harvest in Alaska outside the nonsubsistence areas is about 36.9 million edible pounds/year composed of fish (55%), land and marine mammals (22% and 13%), plants (4%), shellfish (3%), and birds and eggs (3%; Fall 2014). Although birds represent a small proportion of total subsistence harvests, bird harvests are culturally and socially important because they occur when other resources are scarce and they contribute to diet diversity.



Figure 1.—A Central Yup'ik example of a man's dance fan on display at the University of Alaska Museum of the North in Fairbanks.

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