

**Special Publication No. BOG 2021-03**

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# **Customary and Traditional Use Worksheet, Unimak Caribou Herd, Game Management Unit 10**

**by**

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**January 2021**

**Alaska Department of Fish and Game**

**Division of Subsistence**



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### Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

### Weights and measures (English)

cubic feet per second	ft <sup>3</sup> /s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

### Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

### Physics and chemistry

*all atomic symbols*

alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

### General

<i>all commonly-accepted abbreviations</i>	
<i>e.g., Mr., Mrs., AM, PM, etc.</i>	
<i>all commonly-accepted professional titles e.g., Dr., Ph.D., R.N., etc.</i>	
Alaska Administrative Code	AAC
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	\$, ¢
months (tables and figures):	first three letters (Jan, ..., Dec)
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

### Measures (fisheries)

fork length	FL
mid-eye-to-fork	MEF
mid-eye-to-tail-fork	METF
standard length	SL
total length	TL

### Mathematics, statistics

*all standard mathematical signs, symbols and abbreviations*

alternate hypothesis	H <sub>A</sub>
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, $\chi^2$ , etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	log <sub>2</sub> , etc.
minute (angular)	'
not significant	NS
null hypothesis	H <sub>0</sub>
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	$\alpha$
probability of a type II error (acceptance of the null hypothesis when false)	$\beta$
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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CARIBOU HERD, GAME MANAGEMENT UNIT 10**

by

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January 2021

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*This document should be cited as:*

*Jones, B., J. M. Van Lanen and J. A. Fall. 2021. Customary and traditional use worksheet, Unimak Caribou Herd, Game Management Unit 10. Alaska Department of Fish and Game Division of Subsistence Special Publication No. BOG 2021-03, Anchorage.*

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# TABLE OF CONTENTS

	Page
<b>LIST OF FIGURES</b> .....	<b>ii</b>
<b>BACKGROUND</b> .....	<b>1</b>
<b>THE EIGHT CRITERIA</b> .....	<b>1</b>
CRITERION 1: LENGTH AND CONSISTENCY OF USE .....	1
CRITERION 2: SEASONALITY .....	2
CRITERION 3: MEANS AND METHODS OF HARVEST .....	2
CRITERION 4: GEOGRAPHIC AREAS.....	2
CRITERION 5: MEANS OF HANDLING, PREPARING, PRESERVING, AND STORING .....	4
CRITERION 6: INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE, SKILLS, VALUES, AND LORE.....	4
CRITERION 7: DISTRIBUTION AND EXCHANGE .....	5
CRITERION 8: DIVERSITY OF RESOURCES IN AN AREA; ECONOMIC, CULTURAL, SOCIAL, AND NUTRITIONAL ELEMENTS.....	5
<b>REFERENCES CITED</b> .....	<b>6</b>

# LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
1.–Game Management Unit 10. ....	2
2.–False Pass caribou hunting areas 1982–1983 (Fall et al. 1990). ....	3
3.–Sand Point caribou hunting areas, 1992 (Fall et al. 1993a). ....	4

# BACKGROUND

The Alaska Board of Game (the board) will consider Proposal 26 regarding a customary and traditional use determination for the Unimak Island caribou herd in Game Management Unit (GMU) 10 at its Central/Southwest regulatory meeting currently scheduled for January 2022. Under AS 16.05.258, the board is required to identify game populations, or portions of populations, that are customarily and traditionally taken or used for subsistence, following a recommendation by the Alaska Department of Fish and Game (ADF&G) regarding the population identification. Historically the Unimak caribou herd (UCH) was considered part of the Southern Alaska Peninsula caribou herd (SAP). Under 5 AAC 99.025, in 1987, the board made a positive customary and traditional use (C&T) finding for caribou on Unimak Island as part of the Southern Alaska Peninsula herd (SAP) with an amount reasonably necessary for subsistence (ANS) of 100–150 caribou. The positive C&T finding was applied to the combined mainland and island portions of the herd. In the last decade, there has been very little movement between these herds, prompting ADF&G to view the caribou population as two separate herds.

Because the caribou on Unimak Island are now managed as a herd separate from the SAP, there is no C&T finding specific to the UCH. ADF&G submitted Proposal 26 to provide the board an opportunity to make a C&T determination specifically for the UCH. In preparation for regulatory work on Proposal 26, the department has prepared this C&T worksheet for the board’s consideration at the Central/Southwest Region meeting, currently scheduled for January 2022 in Wasilla. This customary and traditional use summary for the UCH in Unit 10 follows the outline at 5 AAC 99.010, *Boards of Fisheries and Game Subsistence Procedures*, also called the “eight criteria”. This worksheet provides a description of customary and traditional harvest and use practices for UCH caribou from the ethnographic and ethnohistorical literature pertaining to Unimak Island, as well as from Division of Subsistence research projects and household surveys.

The UCH population is currently at a low level (approximately 430 caribou) and has remained closed to hunting under state regulations since 2009. A few federal subsistence permits were issued during the last two years through special action requests to the Federal Subsistence Board (FSB); two caribou were harvested in 2018 and three were harvested in 2019. A population objective of 1,000–1,500 was agreed upon by ADF&G and USFWS in 2008 but not formalized.



Figure 1.—Game Management Unit 10.



# 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.**

Unimak Island is the only island in the Aleutian chain with a native caribou population (ADF&G 2010). There is substantial archaeological evidence of a long tradition of caribou hunting in the lower Alaska Peninsula area, including Unimak Island, dating back at least 3,000 years (Fall et al. 1996:5). In 1925, there were an estimated 2,000 caribou on the mainland of the southern Alaska Peninsula and another 7,000 on Unimak Island. However, caribou herd size declined in the 1930s, and in 1949, the U.S. Fish and Wildlife Service (USFWS) estimated 500 caribou, on the mainland and fewer on Unimak (USFWS 2010). The Unimak segment grew to about 5,000 by 1975, and the next year crashed to about 1,200 due to winter conditions. During the late 1970s and early 1980s, the Unimak segment continued to decline to fewer than 500, while the mainland segment grew to a peak of 10,200 in 1983<sup>1</sup>. ADF&G began to closely monitor the caribou population in this area, and since the mid-1990s, caribou living on Unimak Island have been considered as a separate herd from the SAP herd due to geographic isolation and lack of interaction among the groups (ADF&G 2010).

False Pass (population 42<sup>2</sup>) is located in GMU 10 and is the only community on Unimak Island. Harvest and uses of caribou by False Pass households, both on Unimak Island and on the mainland, were documented by the Division of Subsistence prior to state and federal hunting restrictions and closures. According to the results of a household harvest survey conducted by the Division of Subsistence for study year 1987/88 in False Pass of the 69 residents living in the community at the time, 90% of the households used caribou; one-half of the households attempted to harvest caribou, and 35% were successful harvesters (Fall et al. 1996). Fall et al. (1996) also notes the 1987/88 caribou harvests had declined greatly compared to the early 1980s as a result of severe reductions in the size of the caribou herd and consequent regulatory restrictions. In 2012, a False Pass resident said that he used to harvest two or three caribou each year on Unimak Island to share with multiple households in False Pass, but no longer does this as a result of the low caribou population on the island (Reedy-Maschner and Maschner 2012:126). In addition to False Pass, other lower Alaska Peninsula communities have hunted caribou on Unimak Island in the past (Reedy-Maschner and Maschner 2012). In 1992 residents of Sand Point (estimated 1992 population: 606) and King Cove (estimated 1992 population: 560) reported harvesting caribou on Unimak Island (Fall et al. 1993a; 1993b).

False Pass residents have reported limited hunting activity on both the UCH and SAP in the last two decades when seasons were open. According to False Pass residents, over the past 25 years, there has been a decrease in the number of caribou living on Unimak Island. In 2012, False Pass residents reported seeing fewer caribou near their community than in the past and reported a substantial increase in the number of wolves in the area (Reedy-Maschner and Maschner 2012:182). Although False Pass residents have boat access to, and a history of hunting the SAP, no hunting participation in state hunts was reported by them on the SAP during 2013–2019 when state hunts were open and liberalized. In contrast, an average of 7 and 20 hunters per year from Cold Bay and King Cove, respectively, reported hunting the SAP during that period.

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1. Alaska Board of Game, November 1992 Subsistence Regulation Review Sheet Customary and Traditional Use Regulations Seasons and Bag Limits, Worksheet # 26.

2. Alaska Department of Labor and Workforce Development, 2020, Population Estimates: Cities and Census Designated Places (CDPs), 2010 to 2019, State of Alaska Department of Labor and Workforce Development, Research and Analysis Homepage: Population: Juneau, Accessed October 6, 2020, <https://live.laborstats.alaska.gov/pop/>

## **CRITERION 2: SEASONALITY**

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

There have traditionally been two times of the year when most caribou were taken by residents of False Pass: in the fall and spring. According to Fall et al. (1996) “Caribou live in the area year-round and most are generally taken in small quantities when needed (Fall et al. 1996:32) In the 1980s and 1990s, False Pass households reported harvesting caribou between August and late March (Fall et al. 1996:34). From statehood until 1988, under state regulations, an August 10 to March 31 season was available to subsistence hunters. Beginning in the 1988–1989 season, the dates were restricted to September 1–March 31. Starting in the 1991–1992 season, caribou hunting was split into two seasons, August 1–September 30 and then December 1–March 31. Both state and federal hunts were closed by emergency orders in 1993 when the then-combined SAP and UCH herds declined below 2,500 caribou (Crowley 2020). The federal subsistence season reopened in 2000 when the UCH reached 1,000 animals, and at that time, UCH management was officially separated from the SAP. The state general season reopened in 2001. State and federal UCH hunts were once again closed in 2009 and have remained closed following the most recent decline (Crowley 2020).

## **CRITERION 3: MEANS AND METHODS OF HARVEST**

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

According to the results of an ADF&G questionnaire, local False Pass hunters used commercial fishing boats, all-terrain vehicles (ATVs), and skiffs to access SAP caribou herd hunting locations during the 1985–1986 and 1986–1987 seasons (Fall et al. 1990:28). Multiple short, one to three-day trips were taken throughout the year, rather than one trip to take a large amount of caribou intended to last the year.

## **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.**

Residents of False Pass traditionally use both Unimak Island (GMU 10) and areas of the mainland in GMU 9D for subsistence caribou hunting (Fall et al. 1990; 1996). According to maps prepared by the Division of Subsistence based on interviews with local hunters, in 1982–1983 residents of False Pass hunted caribou on Unimak Island, the Lower Alaska Peninsula south and west of Pavlof Bay, and adjacent islands (Figure 2), and in 1992 residents of Sand Point also hunted caribou on Unimak Island as well as in other areas of the Lower Alaska Peninsula (Figure 3).

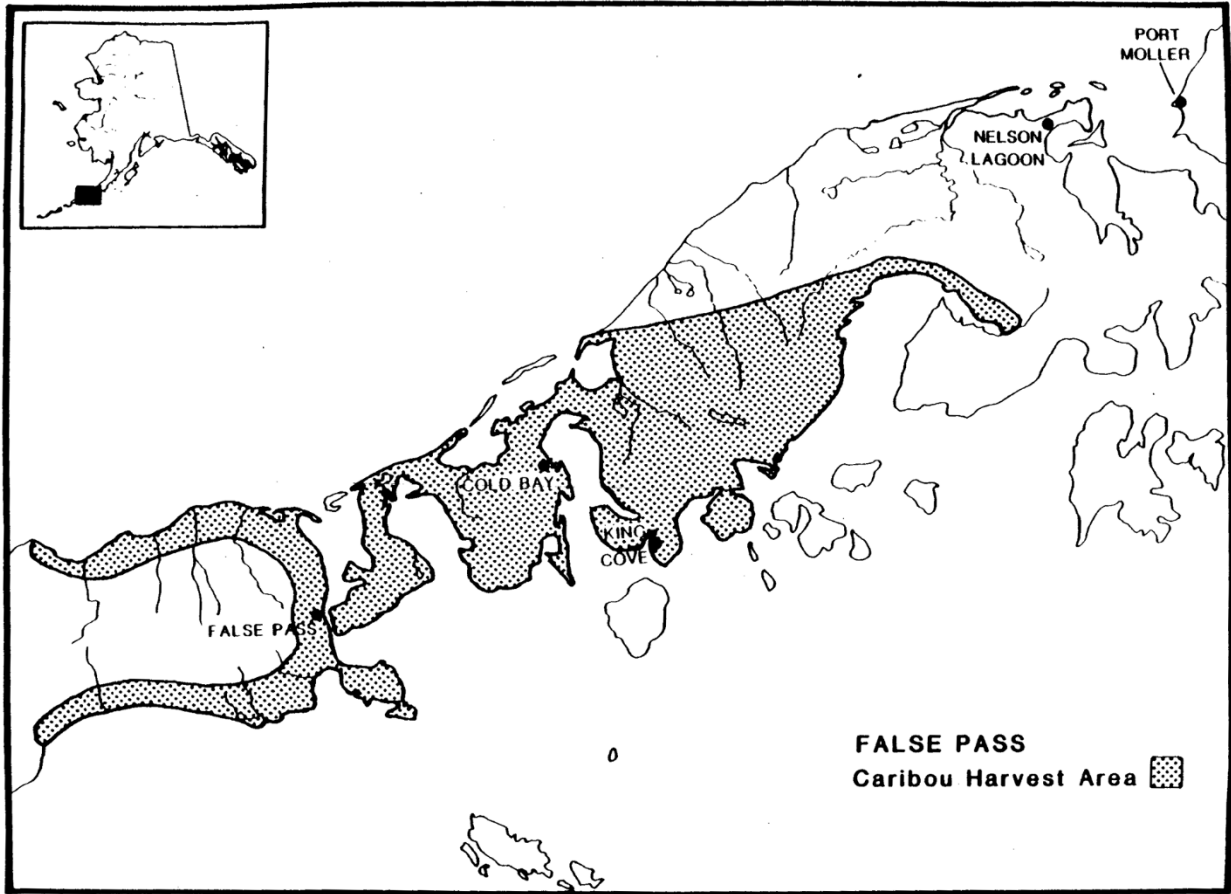


Figure 2.—False Pass caribou hunting areas 1982–1983 (Fall et al. 1990).

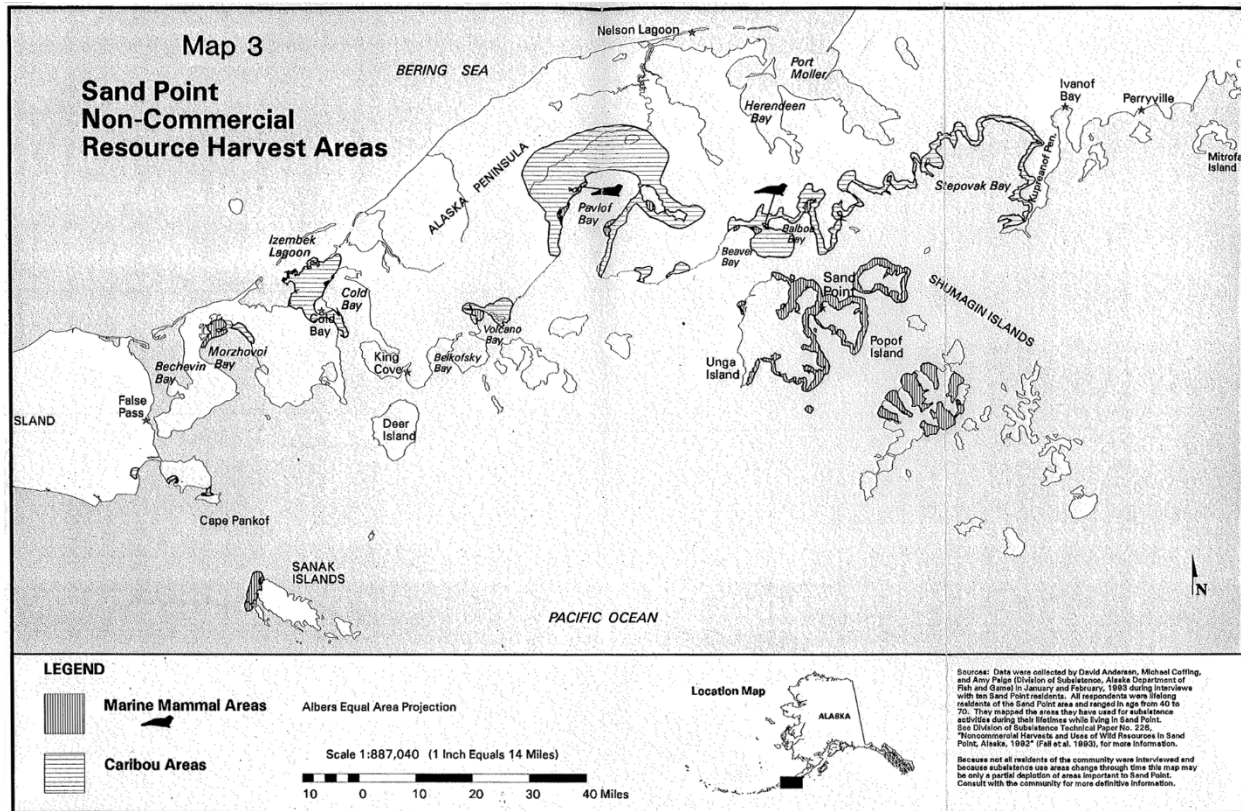


Figure 3.—Sand Point caribou hunting areas, 1992 (Fall et al. 1993a).

## 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.**

In the past, caribou meat was mostly dried or eaten fresh, and smaller portions were frozen when weather conditions allowed; a limited amount of drying was documented in False Pass continuing into the 1980s. During the 1987/88 Division of Subsistence study, at least one household in False Pass reported drying caribou meat indoors. However, researchers documented that most caribou meat was either eaten fresh or was frozen. Caribou meat was kept frozen in a freezer, or if seasonal winter temperatures allowed, meat was hung in sheds or smoke houses for winter storage (Fall et al. 1996:70).

## CRITERION 6: INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE, 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.**

Archaeological evidence informs that caribou on Unimak Island have likely been hunted by human populations for approximately three millennia (Fall et al. 1996:5). Continuing into current times, caribou hunting in this area is considered a specialized activity by local hunters, requiring younger hunters to learn skills from experienced family members (Fall et al. 1990; 1996). The number of hunting licenses issued to False Pass residents has declined since 2015. In 2015 a total of 13 licenses were issued, 12 licenses in 2016, 6 licenses in 2017, 3 licenses in 2018, 4 licenses in 2019, and 3 licenses in 2020.<sup>3</sup>

3. Licensing data from WinfoNet, the ADF&G Division of Wildlife Conservation's intranet website.

## **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.**

Hunting caribou is a fairly specialized activity, with skilled hunters in a portion of the households supplying meat to a much larger segment of the community (Fall et al. 1990:15). Sharing of caribou meat is commonplace among the residents of Unimak Island. In 1987/88, 35% of False Pass households successfully harvested caribou; however, 90% of False Pass households reported using caribou during that study year. Customary trade, barter, and gift-giving provided opportunity for the distribution of caribou throughout False Pass. During the 1987/88 study, all successful caribou harvesting households gave away caribou, and 85% of the households in False Pass received gifts of caribou during the study year (Fall et al. 1996:36).

## **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 fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.**

According to results from the comprehensive wild resources household survey conducted by the Division of Subsistence for study years 1987/88, False Pass households harvested relatively large amounts of subsistence resources. The total weight of all subsistence resources combined harvested by False Pass was 28,586 lb, or 413 lb per capita. Community subsistence harvests for this community are among the most diverse in the state. According to the survey results, False Pass residents used a minimum of 59 kinds of wild resources, and the average household used 22.6 kinds of wild foods in 1987/88, with salmon and caribou the top resources in terms of useable weight (Fall et al. 1996). Other subsistence foods include fish such as cod and halibut, marine invertebrates (crab, calms, octopus), birds such as ducks and geese, marine mammals, and wild plants. In a more recent study, Reedy-Maschner and Maschner (2012) documented similar amounts of diversity in False Pass residents' subsistence harvest and use patterns. This study also documented a large variety of wild resources being harvested. The total weight of all subsistence resources combined harvested by False Pass in 2012 was 23,524 lb or 689 lb per capita. In 2012, caribou hunting on Unimak Island was closed, and as a result some False Pass residents traveled to Sanak Island to harvest domestic cows, though they noted, beef is not viewed as a replacement for caribou: instead it is another resource available to harvest locally and use in a customary and traditional subsistence way (Reedy-Maschner and Maschner 2012).

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