

Technical Paper No. 500

Report on Proposed Changes to the Fairbanks Nonsubsistence Area, March 2024

by
Caroline L. Brown
and
David Koster

March 2024

Alaska Department of Fish and Game

Division of Subsistence



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the reports by the Division of Subsistence. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Mathematics, statistics		
centimeter	cm	Alaska Administrative Code	AAC	all standard mathematical signs, symbols and abbreviations		
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		coefficient of variation	CV	
kilometer	km	professional titles	e.g., Dr., Ph.D., R.N., etc.	common test statistics	(F, t, χ^2 , etc.)	
liter	L			confidence interval	CI	
meter	m	at	@	correlation coefficient (multiple)	R	
milliliter	mL	compass directions:		correlation coefficient (simple)	r	
millimeter	mm	east	E	covariance	cov	
Weights and measures (English)		north	N	degree (angular)	°	
	cubic feet per second	ft ³ /s	south	S	degrees of freedom	df
	foot	ft	west	W	expected value	E
	gallon	gal	copyright	©	greater than	>
	inch	in	corporate suffixes:		greater than or equal to	≥
	mile	mi	Company	Co.	harvest per unit effort	HPUE
	nautical mile	nmi	Corporation	Corp.	less than	<
	ounce	oz	Incorporated	Inc.	less than or equal to	≤
	pound	lb	Limited	Ltd.	logarithm (natural)	ln
	quart	qt	District of Columbia	D.C.	logarithm (base 10)	log
yard	yd	et alii (and others)	et al.	logarithm (specify base)	log ₂ , etc.	
Time and temperature		et cetera (and so forth)	etc.	minute (angular)	'	
		exempli gratia (for example)	e.g.	not significant	NS	
	day	d	Federal Information Code	FIC	null hypothesis	H ₀
	degrees Celsius	°C	id est (that is)	i.e.	percent	%
	degrees Fahrenheit	°F	latitude or longitude	lat. or long.	probability	p
	degrees kelvin	K	monetary symbols (U.S.)	\$, ¢	probability of a type I error (rejection of the null hypothesis when true)	α
	hour	h	months (tables and figures)		probability of a type II error (acceptance of the null hypothesis when false)	β
	minute	min	first three letters	(Jan,...,Dec)	second (angular)	"
	second	s	registered trademark	®	standard deviation	SD
	Physics and chemistry		trademark	™	standard error	SE
		United States (adjective)	U.S.			
		United States of America (noun)	USA			
alternating current		AC	U.S.C.	United States Code	variance:	
ampere		A	U.S. state	two-letter abbreviations	population	Var
calorie		cal		(e.g., AK, WA)	sample	var
direct current		DC				
hertz Hz			Measures (fisheries)			
horsepower		hp	fork length	FL		
hydrogen ion activity (negative log of)		pH	mideye-to-fork	MEF		
parts per million	ppm	mideye-to-tail-fork	METF			
parts per thousand	ppt, ‰	standard length	SL			
volts	V	total length	TL			
watts	W					

TECHNICAL PAPER NO. 500

**REPORT ON PROPOSED CHANGES TO THE FAIRBANKS
NONSUBSISTENCE AREA, MARCH 2024**

by

Caroline L. Brown

Alaska Department of Fish and Game Division of Subsistence, Fairbanks

and

David Koster

Alaska Department of Fish and Game Division of Subsistence, Anchorage

Alaska Department of Fish and Game
Division of Subsistence
1300 College Road
Anchorage, AK 99701

March 2024

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.

Technical Paper series reports are available through the Alaska Resources Library and Information Services (ARLIS), the Alaska State Library, and on the Internet: <http://www.adfg.alaska.gov/sf/publications/>. This publication has undergone editorial and professional review.

Caroline L. Brown
Alaska Department of Fish and Game Division of Subsistence
1300 College Road, Fairbanks, AK 99701-1551 USA

and
David Koster
Alaska Department of Fish and Game Division of Subsistence
333 Raspberry Road, Anchorage, AK 99518-1565 USA

This document should be cited as:

Brown, C. L. and D. Koster. 2024. Report on Proposed Changes to the Fairbanks Nonsubsistence Area, March 2024. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 500, Fairbanks.

The Alaska Department of Fish and Game (ADF&G) administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act (ADA) of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility please write:

ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK, 99811-5526

U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA, 22203

Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW, MS 5230, Washington, D.C. 20240

The department's ADA Coordinator can be reached via phone at the following numbers:

(Voice) 907-465-6077, (Statewide Telecommunication Device for the Deaf) 1-800-478-3648, (Juneau TDD) 907-465-3646, or (Fax) 907-465-6078

For information on alternative formats and questions on this publication, please contact:

ADF&G Division of Subsistence at <http://www.adfg.alaska.gov/index.cfm?adfg=contacts.anchorage>

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	iii
LIST OF FIGURES	iii
LIST OF APPENDICES	v
ABSTRACT.....	vi
EXECUTIVE SUMMARY	vii
ACKNOWLEDGMENTS.....	viii
1. INTRODUCTION.....	1
STATUTES AND JOINT BOARD REGULATIONS.....	1
CURRENT NONSUBSISTENCE AREAS	2
THE CURRENT REPORT.....	4
FEATURES OF THE “REMOTE RURAL ECONOMY OF ALASKA”	5
THE FEDERAL RURAL/NONRURAL PROCESS.....	6
DATA SOURCES	6
2. PROPOSAL 19: REDUCE THE SIZE OF THE FAIRBANKS NONSUBSISTENCE AREA.....	8
FAIRBANKS NONSUBSISTENCE AREA.....	8
Background.....	8
Demography.....	12
THE 12 SOCIOECONOMIC FACTORS.....	16
1. The social and economic structure.....	16
2. The stability of the economy.....	17
3. Extent and kinds of employment for wages, including full-time, part-time, temporary, and seasonal employment.	17
4. The amount and distribution of cash income among those domiciled in the area or community.	25
5. The cost and availability of goods and services to those domiciled in the area or community.	26
6. The variety of fish and game species used by those domiciled in the area or community. ...	27
7. The seasonal cycle of economic activity.....	27

TABLE OF CONTENTS CONTINUED

	Page
8. The percentage of those domiciled in the area or community participating in hunting and fishing activities and using wild fish and game.	28
9. The harvest levels of fish and game by those domiciled in the area or community.	30
10. The cultural, social, and economic values associated with taking and use of fish and game.	31
11. The geographic locations where those domiciled in the area or community hunt and fish.	31
12. The extent of sharing and exchange of fish and game by those domiciled in the area or community.	39
PROPOSAL SUMMARY	41
REFERENCES	42

LIST OF TABLES

Table	Page
2-1.—Total and Alaska Native population of Fairbanks Nonsubsistence Area, by area, 1960–2022.	13
2-2.—ACS unemployment estimates, by area, 2011–2022.	19
2-3.—Comparison of the average (2011–2022) number of licenses issued and relative percentage of the population, by area.	29
2-4.—Comparison of the average (2011–2022) harvest from sport fishing and subsistence/personal use methods, by area.	29

LIST OF FIGURES

Figure	Page
1-1.—Map of five Alaska nonsubsistence areas and borough/census areas.	3
2-1.—Map of Fairbanks Nonsubsistence Area.	9
2-2.—Map of the Fairbanks Nonsubsistence Area, Fairbanks North Star Borough, and Fairbanks Management Area, representing the proposed nonsubsistence area.	10
2-3.—Map of grouped census designated places within the Fairbanks Nonsubsistence Area for data comparison.	11
2-4.—Population of the Fairbanks Nonsubsistence Area, by area, 2000–2022.	12
2-5.—Average (2011–2022) annual population change, by area, within the Fairbanks Nonsubsistence Area.	14
2-6.—Average percent (2011–2022) Alaska Native population, by area.	15
2-7.—Proportion of total population that is Alaska Native, by area, 2011–2022.	15
2-8.—Estimated annual employment from nonfarm wage and salary jobs, Fairbanks North Star Borough, 2011–2022.	17
2-9.—Comparison of the 2011–2022 average percentage of the civilian labor workforce unemployed, by area.	20
2-10.—Comparison of civilian employment by industry, FNSB – Fairbanks, 2011 and 2022.	21
2-11.—Comparison of civilian employment by industry, FNSB – Outside Fairbanks, 2011 and 2022.	22
2-12.—Comparison of civilian employment by industry, Delta Junction Area, 2011 and 2022.	23
2-13.—Comparison of civilian employment by industry, Denali Park and Healy Area, 2011 and 2022.	24
2-14.—Average (2011–2022) per capita income, by area.	25

LIST OF FIGURES CONTINUED

Figure	Page
2-15.—Average (2012–2022) estimated percentage of the population living at 125% of the poverty level or below, by area.	26
2-16.—Comparison of estimated per capita harvests of the Fairbanks Nonsubsistence Area, by area, and other regions of the state of Alaska.	30
2-17.—Hunting density by residents of FNSB – Fairbanks, 2011–2022.	33
2-18.—Hunting density by residents of FNSB – Outside Fairbanks, 2011–2022.	34
2-19.—Hunting density by residents of Delta Junction Area, 2011–2022.	35
2-20.—Hunting density by residents of Denali Park and Healy Area, 2011–2022.	36
2-21.—Search and harvest areas, all resources, Nenana, 2015.	37
2-22.—Search and harvest areas, all resources, Nulato, 2010.	38
2-23.—Inflow of resources and services to surveyed households, Nenana, 2015.	40

LIST OF APPENDICES

Appendix	Page
A—Proposal 19	43
B—Sources and Methods	47
C—Joint Board Nonsubsistence Areas	50
D—Joint Board Finding in 1992: Fairbanks Nonsubsistence Area	56

ABSTRACT

Alaska Statute (AS 16.05.258(c)) directs the Alaska Joint Board of Fisheries and Game (Joint Board) to identify nonsubsistence areas in Alaska where “subsistence is not a principal characteristic of the economy, culture, and way of life” by considering 12 socioeconomic characteristics of the areas. In 1992 and 1993, the Joint Board identified five such areas: Anchorage-Matsu-Kenai, Fairbanks, Valdez, Juneau, and Ketchikan. In October 2013, the Joint Board re-evaluated and confirmed the five existing nonsubsistence areas. In March 2024, the Joint Board will again evaluate the boundary of the Fairbanks Nonsubsistence Area (FNSA) based on Proposal 19. This report provides background information organized around the 12 statutory characteristics to assist the Joint Board in evaluating this proposal.

Key words: Subsistence hunting, subsistence fishing, nonsubsistence areas, Fairbanks North Star Borough, Delta Junction, Denali Park, Healy, Joint Board of Fisheries and Game

EXECUTIVE SUMMARY

Alaska Statute (AS) 16.05.258(c) directs the Alaska Joint Board of Fisheries and Game (Joint Board) to identify nonsubsistence areas where “dependence upon subsistence [harvests and uses of fish and wildlife] is not a principal characteristic of the economy, culture, and way of life of the area or community” by considering the relative importance of subsistence in the context of the totality of 12 socioeconomic characteristics (or “factors”). The Alaska Board of Fisheries and the Alaska Board of Game may not permit subsistence hunts or fisheries in nonsubsistence areas, but residents of these areas may participate in any authorized subsistence fishery or hunt. In 1992 and 1993, the Joint Board defined five nonsubsistence areas: Anchorage-Matsu-Kenai, Fairbanks, Valdez, Juneau, and Ketchikan (5 AAC 99.015). In October 2013, the Joint Board re-evaluated and confirmed the five existing nonsubsistence areas. In March 2024, the Joint Board will again evaluate the boundary of the Fairbanks Nonsubsistence Area (FNSA) in Proposal 19. The Alaska Department of Law has advised the Joint Board to focus on new information when considering changes to nonsubsistence areas. Therefore, modeling the 1992 staff report, this report updates information (since 2011) on the 12 factors for the Joint Board’s consideration and also features the findings from the 1992 and 1993 meetings and information from the Joint Board’s 2013 deliberations.

Proposal 19 would modify the boundary of the FNSA to be more similar to that of the Fairbanks Management Area (FMA). This is a smaller area compared to the existing FNSA boundary and would omit much of the current nonsubsistence use area outside of the immediate area around Fairbanks. To facilitate the Joint Board’s evaluation of the 12 socioeconomic characteristics defined in AS 16.05.258(c), this report provides updated data by component areas of the FNSA, which comprises the Fairbanks North Star Borough (FNSB) and portions of neighboring census areas: the area immediately around the city of Fairbanks (FNSB – Fairbanks), the area outside of Fairbanks around Salcha and Chena Hot Springs Road (FNSB – Outside of Fairbanks), the area around Delta Junction, and the area around Healy and Denali Park.

Population changes often reflect economic trends in areas and communities. The population of the FNSA has remained relatively stable from 2013 until 2022 except for 2020, when there was a small decline during the pandemic year, suggesting little change since the Joint Board’s last evaluation.

In 1992 and 1993, the Joint Board found that “industrial capitalism” characterized the social and economic structure of the FNSA, with relatively stable cash sectors, diverse employment, and cash incomes at or above state averages (i.e., factors 1–4, 7). Updated data for the component parts of the FNSA show a continuation of this diversity of employment opportunities in multiple sectors of the cash economy. On average from 2011–2022, per capita incomes in the component parts of the FNSA more closely approximated the state average of \$33,062 rather than resembling the average per capita income outside the nonsubsistence areas in the Yukon-Koyukuk Census Area of \$19,245. Further, unemployment levels in 2022 remained low in all component parts of the FNSA (1.3%–6.8%), comparable to the statewide level (6.4%), and dissimilar to the Yukon-Koyukuk Census Area outside of the FNSA (11.1%%).

Regarding fish and wildlife harvests and uses by residents of the FNSA (i.e., factors 6, 8–12), for the 12-year period 2011–2022, annual per capita harvests for the component areas of the FNSA ranged from 14.7 lb for the area immediately around the city of Fairbanks to 48.1 lb in the Healy and Denali Park area, compared to a much higher harvest of 322.9 lb per person by residents of rural Interior Alaska.

From 2011–2022, the areas used by residents of nonsubsistence areas to hunt and harvest big game did not change notably compared to those areas used from 1986–1991 (i.e., Factor 11), which were the areas used to define the current nonsubsistence areas.

ACKNOWLEDGMENTS

We thank staff from the divisions of Commercial Fisheries, Sport Fish, Subsistence, and Wildlife Conservation for providing the data upon which many of the tables and figures in this report are based. We are grateful to the Alaska Department of Fish and Game staff who commented on drafts of the report. We also thank Jim Fall, the previous Statewide Research Director for Subsistence, for his valuable insight and guidance in developing this report and Mary Lamb, Division of Subsistence Publications Technician, for guiding this report to completion.

1. INTRODUCTION

STATUTES AND JOINT BOARD REGULATIONS

At its meeting in March 2024, the Alaska Joint Board of Fisheries and Game (Joint Board) will discuss one proposal that addresses the Fairbanks Nonsubsistence Area (FNSA). Proposal 19 would modify the boundaries of the existing FNSA (Appendix A).

Under Alaska Statute (AS) 16.05.258(c):

... The boards, acting jointly, shall identify by regulation the boundaries of nonsubsistence areas. A nonsubsistence area is an area or community where dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the area or community. In determining whether dependence upon subsistence is a principal characteristic of the economy, culture, and way of life of an area or community under this subsection, the boards shall jointly consider the relative importance of subsistence in the context of the totality of the following socioeconomic characteristics of the area or community:

1. the social and economic structure;
2. the stability of the economy;
3. the extent and kinds of employment for wages, including full-time, part-time, temporary, and seasonal employment;
4. the amount and distribution of cash income among those domiciled in the area or community;
5. the cost and availability of goods and services to those domiciled in the area or community;
6. the variety of fish and game species used by those domiciled in the area or community;
7. the seasonal cycle of economic activity;
8. the percentage of those domiciled in the area or community participating in hunting and fishing activities and using wild fish and game;
9. the harvest levels of fish and game by those domiciled in the area or community;
10. the cultural, social, and economic values associated with the taking and use of fish and game;
11. the geographic locations where those domiciled in the area or community hunt and fish;
12. the extent of sharing and exchange of fish and game by those domiciled in the area or community;
13. additional similar factors the boards establish by regulation to be relevant to their determinations under this subsection.

The Joint Board has not established by regulation any additional factors to examine. Therefore, there are currently 12 characteristics (also called “factors”) upon which the Joint Board bases its nonsubsistence area findings. The 12 characteristics will be referred to as the 12 factors throughout this report, and also referenced individually by associated number.

The Alaska Board of Fisheries and the Alaska Board of Game (boards) may not permit subsistence fishing or hunting in nonsubsistence areas (AS 16.05.258(c)). Also, the boards do not identify fish stocks or game populations with customary and traditional (C&T) uses in nonsubsistence areas (AS 16.05.258(a)).

The Joint Board has adopted the following regulation, which clarifies in the Alaska Administrative Code (AAC) the kinds of harvest opportunities that each board (Fisheries or Game) may provide to Alaska residents within nonsubsistence areas:

5 AAC 99.016. ACTIVITIES PERMITTED IN A NONSUBSISTENCE AREA.

(a) A nonsubsistence area is an area or community where dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the area or community. In a nonsubsistence area, the following activities will be permitted if so provided by the appropriate board by regulation:

- (1) general hunting, including drawing and registration permit hunts;
- (2) personal use, sport, guided sport, commercial fishing, and other fishing authorized by permit.

(b) Subsistence hunting and fishing regulations will not be adopted by a board for a nonsubsistence area and the subsistence priority does not apply in a nonsubsistence area.

While defining where subsistence hunting and fishing may and may not occur, the identification of nonsubsistence areas does not limit the eligibility of Alaska residents to participate in any authorized subsistence fisheries or subsistence hunts. In other words, Alaska residents residing in nonsubsistence areas may participate in any authorized subsistence activity outside of the nonsubsistence areas, unless participation in a particular hunt or fishery is restricted. In those cases, place of residence may not be used to limit who may obtain a permit under Tier II¹ procedures.

In *State v. Kenaitze Indian Tribe et al.* 894 P.2d 632 (Alaska 1995), the Alaska Supreme Court ruled that AS 16.05.258(c), which requires the Joint Board to identify nonsubsistence areas, does not violate sections 3, 15, and 17 of Article VIII (the equal access clauses) of the Alaska Constitution.

CURRENT NONSUBSISTENCE AREAS

Figure 1-1 shows the locations of the five existing nonsubsistence areas along with Alaska census areas for which demographic and economic data are available from federal and state sources. For an overview of the primary data sources used for this report, see Appendix B.

In November 1992 and March 1993, the Joint Board defined the following five nonsubsistence areas: Anchorage-Matsu-Kenai, Fairbanks, Juneau, Ketchikan, and Valdez (5 AAC 99.015). The establishment of each nonsubsistence area was supported by a written finding that drew upon a report prepared by the Alaska Department of Fish and Game (ADF&G 1992). The Joint Board findings and maps pertaining to the nonsubsistence areas from the meetings in November 1992 and March 1993 appear in full in Appendix C.

In 1986 and 1987, following the passage of the amended 1986 state subsistence statute, the Joint Board identified “nonrural” areas using a set of 12 factors that were subsequently adopted in statute in 1992 to identify nonsubsistence areas (AS 16.05.258(c)). During its November 1992 and March 1993 meetings, the Joint Board applied the 12 factors to each of the previously identified nonrural areas as a first step toward defining nonsubsistence areas. In most cases, small adjustments to the boundaries of the earlier nonrural areas were made. One previous nonrural area, Whittier, was not retained as a nonsubsistence area.

In 2007, the Joint Board considered changes to the boundaries of two nonsubsistence areas. Proposal 37 from that meeting would have removed the Funtier Bay area (Admiralty Island) from the Juneau Nonsubsistence Area; Proposal 38 would have added most of the Copper River Basin (Game Management Unit [GMU] 13) to the existing Anchorage-Matsu-Kenai Nonsubsistence Area. Neither proposal was adopted and no

1. State Tier II hunts are held when there is not enough of a game population with customary and traditional uses to provide a reasonable opportunity for subsistence uses. Hunters must answer questions on an application concerning their dependence on the game for their livelihood and availability of alternative resources. Applications are scored based on responses to the questionnaire and permits are issued to those with the highest scores.

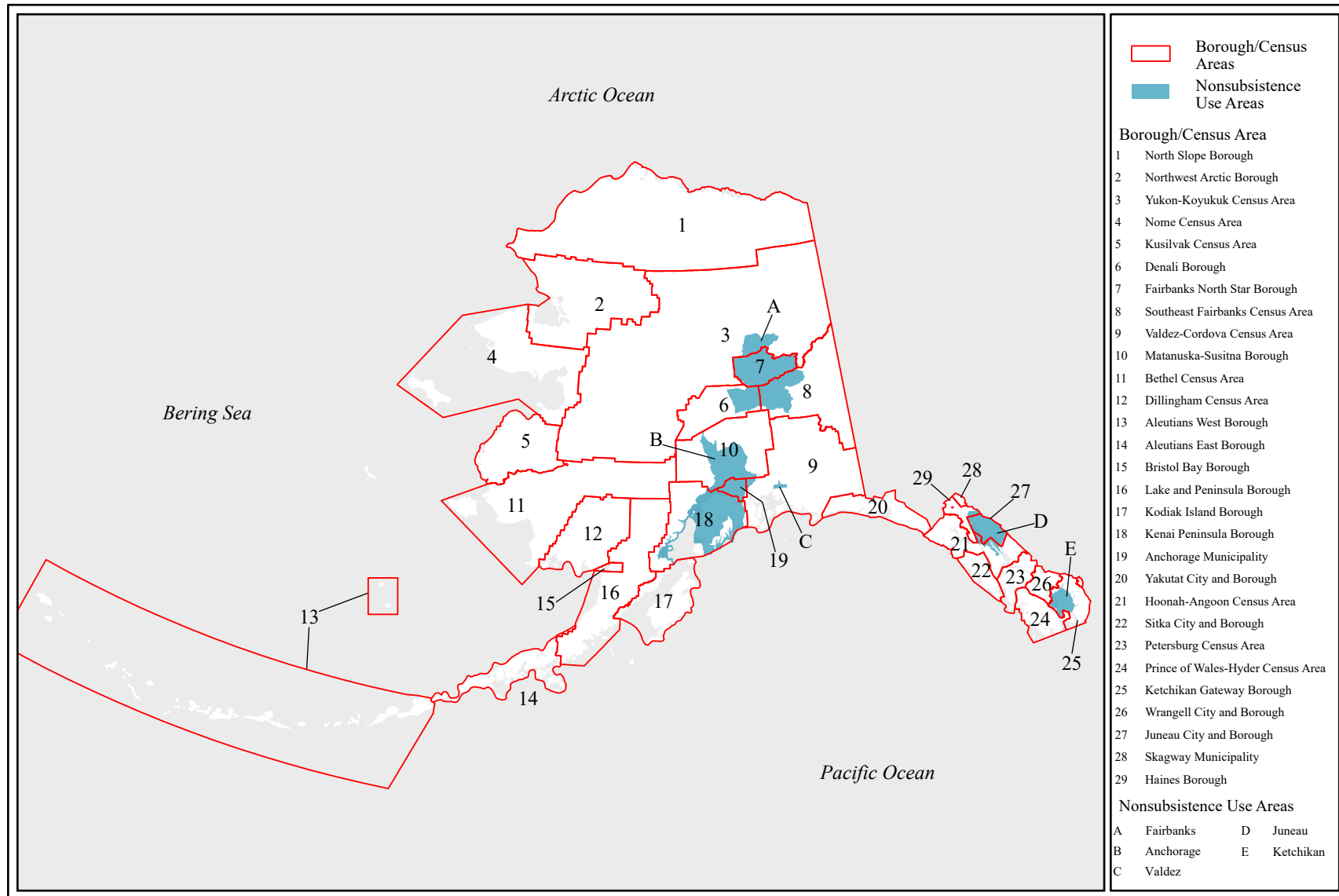


Figure 1-1.—Map of five Alaska nonsubsistence areas and borough/census areas.

changes to nonsubsistence areas resulted from that meeting. Background information on both areas was summarized by the Alaska Department of Fish and Game (department) in a report to the Joint Board, which was later incorporated without changes into the Technical Paper (TP) Series as Technical Paper No. 336 (ADF&G 2011).

In 2013, the Joint Board considered four proposals that addressed nonsubsistence areas. Proposal 38 would have repealed the five existing nonsubsistence areas; Proposal 39 would have modified the boundaries of the existing FNSA; Proposal 40 would have created a Kodiak Nonsubsistence Area; and Proposal 41 would have created a Bethel Nonsubsistence Area. None of the proposals were adopted and no changes to existing nonsubsistence areas resulted from that meeting. Background information on these proposals and best available data were summarized by the department in a report to the Joint Board, which was later incorporated without changes into the TP Series as Technical Paper No. 386 (Fall 2013).

THE CURRENT REPORT

The department's Division of Subsistence prepared this report to summarize available information for the 12 factors and modeled it after the reports the department prepared for the 1992, 2007, and 2013 Joint Board meetings. When the Joint Board last considered changes to nonsubsistence areas at its October 2013 meeting, the Department of Law reiterated its advice from 2007 that the Joint Board review reports and public testimony to identify new information to determine if significant changes relevant to the 12 factors had occurred (Nelson 2007).

Therefore, this report focuses on updating the data the department provided to the Joint Board in 2013 to facilitate discussions about changes to the socioeconomic characteristics of the FNSA since 2013. This report includes the formal finding regarding each of the 12 factors from 1992/1993 when the Joint Board made the original finding (Appendix D), followed by updated information about the data cited in the finding. This report does not repeat or update all the information that was presented in previous reports, but rather is focused on the kinds of data the Joint Board found useful when making past determinations.

Furthermore, as part of the demographic background for the FNSA, data are included on the percentage of the population that reported being of Alaska Native descent in federal decennial censuses. This information is not directly related to the Joint Board's identification of nonsubsistence areas. Nevertheless, the importance of subsistence fishing, hunting, and gathering in the culture and way of life of an area or community is central to the Joint Board's nonsubsistence area findings. When the Alaska Legislature adopted the current subsistence statute in 1992, it found that "customary and traditional uses of Alaska's fish and game originated with Alaska Natives, and have been adopted and supplemented by many non-Native Alaskans as well."² Because traditional uses were established by Alaska Natives, when identifying the contemporary role of subsistence in an area or community, it is appropriate to consider the presence and relative size of the Alaska Native population in that area or community as part of a thorough discussion of the 12 factors. For example, trends in population size and ethnic composition can signal important changes to the economic structure of an area or community (i.e., Factor 1, Factor 2). Knowledge of the presence of an Alaska Native population in an area assists with identifying cultural values associated with subsistence use (i.e., Factor 10). Further, Wolfe and Walker (1987) found that the percentage of a community's population that is Alaska Native is a strong predictor of fish and wildlife harvest levels. Harvest levels, levels of participation, diversity of uses, and sharing of subsistence resources are all key factors for identifying nonsubsistence areas (i.e., Factor 6, Factor 8, Factor 9, Factor 12).

Finally, the 1992 department report to the Joint Board provided demographic and other information on Alaska Native communities and enclaves within proposed nonsubsistence areas. This information was an important consideration, along with other socioeconomic and resource use data, used by the Joint Board in establishing the current nonsubsistence area boundaries.

2. See 17th (1991–1992) Legislature Bills and Resolutions, House Bill 552, Section 1. Findings, Purpose, and Intent (a)(3).

FEATURES OF THE “REMOTE RURAL ECONOMY OF ALASKA”

Goldsmith (2007) describes features of the “remote rural economy of Alaska” that are instructive for the Joint Board’s process of identifying nonsubsistence areas, which focuses on the significance of subsistence fishing and hunting within a broader socioeconomic context. Goldsmith (2007:3–4) defines “remote rural Alaska” as “the part of the state generally off the road and marine highway system in Northern and Western Alaska,” including eight census divisions: the Kusilvak, Bethel, Nome, Dillingham, and Yukon-Koyukuk census areas; and the North Slope, Northwest Arctic, and Lake and Peninsula boroughs. All of these areas are outside the nonsubsistence areas identified by the Joint Board.

Goldsmith (2007:37–38) found that a key feature of Alaska’s rural economy is “the central place of subsistence in the culture, economy, and way of life” of its residents, as reflected in high levels of participation in subsistence hunting, fishing, and gathering; high harvests producing a large portion of the local food supply; sharing of subsistence products through kinship and other networks; and large investments of time and money in subsistence activities, equipment, and supplies. Goldsmith (2007:45) also notes that “the existing economic indicators are inappropriate for remote rural Alaska” because “the subsistence and informal sectors [of the economy] are nowhere captured by the indicators which are designed only to measure activity in the cash sector.” An example is that employment data ignore the time spent conducting subsistence activities. Thus, Goldsmith (2007) concluded that the significance of subsistence activities to rural Alaska and the well-being of its residents is “undervalued” by standard economic measures.

Goldsmith’s (2007) analysis found that the following economic characteristics are associated with the central role of subsistence harvests in the economy of “remote rural Alaska.”

- The cash economy varies significantly with the seasons (page 14).
- The federal government is the largest source of cash that flows into remote rural Alaska (page 16).
- State government spending, especially for education, is a significant source of jobs and income (page 19).
- Government transfers are a significant portion of cash income, as is the Alaska Permanent Fund dividend program (page 24).
- Most cash income can be traced to government spending and more than half of all wage employment is in government and services (pages 25 and 27).
- A smaller share of the adult population is in the labor force than in urban Alaska (page 32).
- Seasonal and part-time work are important elements in the labor market, in contrast to urban Alaska where the majority of resident workers are employed year-round (page 32).
- There are higher official unemployment rates than in urban Alaska, and these rates underestimate the true employment situation (page 33).
- Most remote rural households have income from earnings (page 35). The economy is mixed in rural places and has cash and subsistence sectors.
- Cash incomes are about three-quarters of those of urban Alaska households, although regional centers have higher mean incomes (page 36).
- The official poverty measure is higher in remote rural areas (page 37).
- Household consumption patterns—how money is used—are different in rural places from urban places. A larger percentage of income is invested in subsistence gear and supplies (page 40).
- The cost of goods and services are higher than in urban Alaska (page 41).
- Infrastructure in rural Alaska (such as schools, health care facilities, electric, water, sewer and solid waste facilities, transportation, and telecommunications) has improved but is still inferior to urban areas (page 42).

These characteristics identified by Goldsmith (2007) remain true throughout rural Alaska and confirm the basis of some of the factors used by the Joint Board in its original findings on Alaska’s nonsubsistence areas.

THE FEDERAL RURAL/NONRURAL PROCESS

Consistent with the provisions of Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), the Federal Subsistence Board (FSB) identifies rural and nonrural areas in Alaska. Only qualified residents of rural areas may participate in subsistence fisheries and subsistence hunts authorized by the FSB on federal public lands. Originally, the FSB applied a set of factors that was different from those that guide Joint Board nonsubsistence area determinations. In 2015, the U.S. Department of the Interior revised the regulations governing the FSB rural determination process after a lengthy public process.^{3,4} Specifically, the revision removed specific rural determination guidelines and criteria, such as the requirements regarding population data, the aggregation of communities, and a decennial review; the final federal regulations allowed the FSB to use a comprehensive approach that considered a variety of factors such as economic indicators, population size and density, degree of remoteness, use of fish and wildlife, military presence, and other relevant data to guide its determinations instead of set guidelines. The FSB considers this process to be more flexible, providing for greater input by regional organizations, and better accommodates regional differences. Also in 2015, the FSB published a list of communities, or census designated places (CDPs), considered to be nonrural and therefore not subject to the federal subsistence priority directed in ANILCA. This list includes the Fairbanks North Star Borough (see 30 CFR 242.23).⁵

DATA SOURCES

The following are the primary data sources used for this report (for more background on these sources, see Appendix B):

- For demographic data, and employment and income data: federal decennial census and American Community Survey by the U.S. Census Bureau, and Alaska Department of Labor and Workforce Development;
- For costs of living data: cost differential study completed for the State of Alaska by McDowell Group (2009) and University of Alaska Fairbanks Cooperative Extension Service; and
- For harvest data, sources include annual harvest monitoring programs by the department and community household survey data collected primarily by the Division of Subsistence. The report prepared by the department for the 1992 Joint Board discussion of nonsubsistence areas (ADF&G 1992) also included estimates of fish and wildlife harvests for proposed nonsubsistence areas based on annual harvest programs, including big game harvest records for 1986–1991, sport fish surveys for 1989–1991, and noncommercial (subsistence and personal use) salmon harvest records for 1990–1991. These were the basis of an average annual harvest estimate for each area. In this current report, these estimates are called “1992 estimates.”

Because of the geographic granularity of the comparisons needed to evaluate Proposal 19, the department determined the sample sizes for estimates obtained from the American Community Survey to be too small

3. Direct final rule, “Subsistence Management Regulations for Public Lands in Alaska; Rural Determinations, Nonrural list,” *Federal Register* 80, no. 213 (November 4, 2015): 68245–68248, accessed March 2024, <https://www.federalregister.gov/documents/2015/11/04/2015-27996/subsistence-management-regulations-for-public-lands-in-alaska-rural-determinations-nonrural-list>
4. U.S. Department of the Interior, 2017, “Policy on Nonrural Determinations,” Federal Subsistence Board, accessed March 2024, <https://www.doi.gov/media/document/nonrural-policy-revised-20200804-final-pdf>
5. Final rule, “Subsistence Management Regulations for Public Lands in Alaska-2021-2022 and 2022-2023 Subsistence Taking of Fish Regulations,” *Federal Register* 86, no. 64 (April 6, 2021): 17713–17726, accessed March 2024, <https://www.federalregister.gov/documents/2021/04/06/2021-07016/subsistence-management-regulations-for-public-lands-in-alaska-2021-2022-and-2022-2023-subsistence>

relative to the population to effectively indicate annual trends or patterns for some areas and metrics, such as poverty and unemployment. Variability in each five-year average estimate is the product of sample sizes designed for reporting at larger geographic scales, including state, borough, and census area. Where possible, estimates for each geographic area were consolidated as an average estimate over the period of 2011–2022 with error bars depicting the highest and lowest estimates.

2. PROPOSAL 19: REDUCE THE SIZE OF THE FAIRBANKS NONSUBSISTENCE AREA

FAIRBANKS NONSUBSISTENCE AREA

Background

The Fairbanks Nonsubsistence Area (FNSA) includes the entire Fairbanks North Star Borough (FNSB) and portions of the Denali Borough (including Healy, Ferry, and Denali Park [formerly McKinley Park], and portions of the Southeast Fairbanks Census Area [including Delta Junction and the census designated places of Big Delta, Deltana, Whitestone, and Fort Greely]) (Figure 2-1). The regulatory definition of this nonsubsistence area is as follows:

5 AAC 99.015 (a) (4) The Fairbanks Nonsubsistence Area is comprised of the following: within Unit 20(A), as defined by 5 AAC 92.450(20)(A), east of the Wood River drainage and south of the Rex Trail but including the upper Wood River drainage south of its confluence with Chicken Creek; within Unit 20(B), as defined by 5 AAC 92.450(20)(B), the North Star Borough and that portion of the Washington Creek drainage east of the Elliot Highway, within Unit 20(D) as defined by 5 AAC 92.450(20)(D), west of the Tanana River between its confluences with the Johnson and Delta Rivers, west of the west bank of the Johnson River, and north and west of the Volkmar drainage, including the Goodpaster River drainage; and within Unit 25(C), as defined by 5 AAC 92.450(25)(C), the Preacher and Beaver Creek drainages.

If adopted, Proposal 19 would reduce the size of the FNSA from 17,862.53 sq. miles to the 298.55 sq. miles of the Fairbanks Management Area (FMA). In short, Proposal 19 would eliminate 98.3% of the total current FNSA. This reduction would exclude from the current boundaries of the FNSA all of the areas and communities outside of the FMA, with some possible exceptions (see Figure 2-2). As a result, the areas around Delta Junction and Fort Greely in the southern part of the current FNSA, Denali Park and Healy and the surrounding area in the southwestern part of the FNSA, Eielson Air Force Base, Moose Creek and Salcha in the central part, and Chatanika and potentially Two Rivers in the northern part of the FNSA would all be excluded from the new boundaries of the FNSA and all hunts and fisheries in these respective areas would be subject to Alaska's subsistence priority.

In essence, the proposal asks the Joint Board to consider the differences and similarities among areas *within* the FNSA in order to determine if these sub-areas are consistent or inconsistent with the 12 factors that characterize nonsubsistence areas. As such, this report presents available data pertaining to the 12 factors separated into four areas: the FNSB – Fairbanks (represented in blue in Figure 2-3), an area that roughly overlaps the FMA, which is the area suggested by the proponent to be the new FNSA; FNSB – Outside Fairbanks (represented in orange), which encompasses the area along the Richardson Highway north and south of Salcha as well as some of the area around Chena Hot Springs Road; the Delta Junction Area (represented in green) in the southeast portion of the FNSA; and finally, the Denali Park and Healy Area (represented in red) along the southwestern portion of the FNSA. This report will also provide comparative data from areas fully outside of the FNSA. These comparisons will provide the relevant data for the Joint Board to determine whether the current FNSA boundary meets the requirements of the 12 factors.

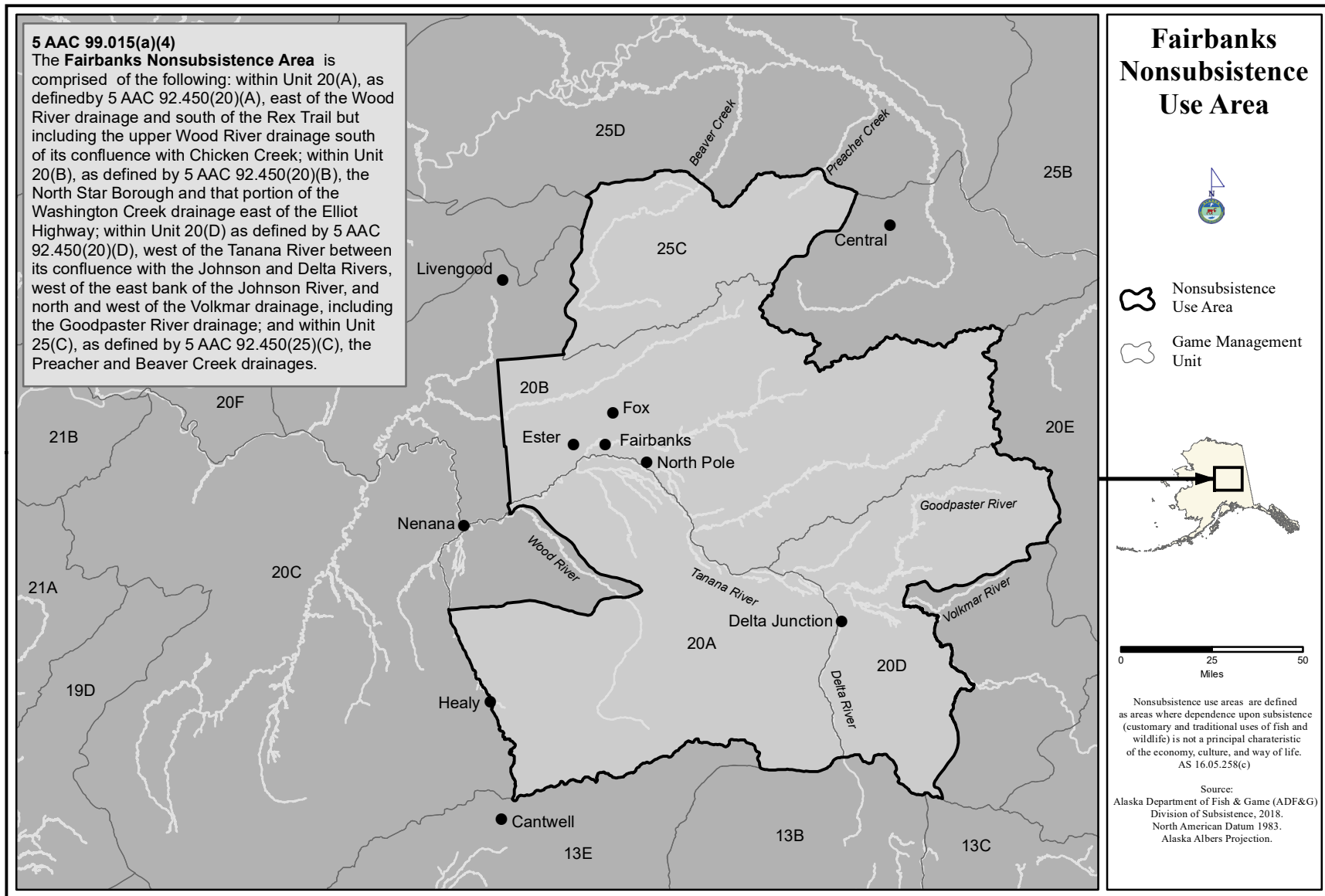


Figure 2-1.—Map of Fairbanks Nonsubsistence Area.

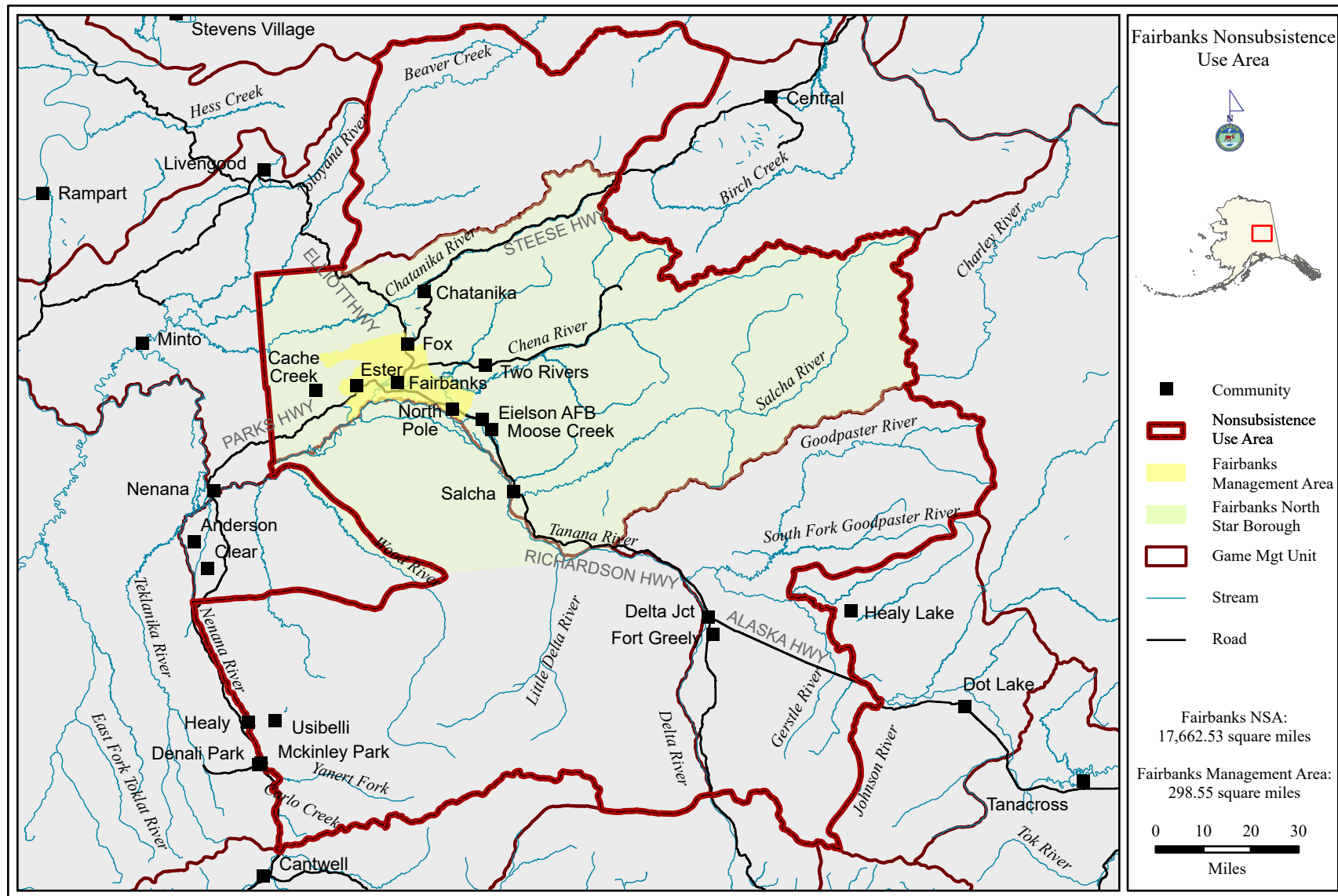


Figure 2-2.—Map of the Fairbanks Nonsubsistence Area, Fairbanks North Star Borough, and Fairbanks Management Area, representing the proposed nonsubsistence area.

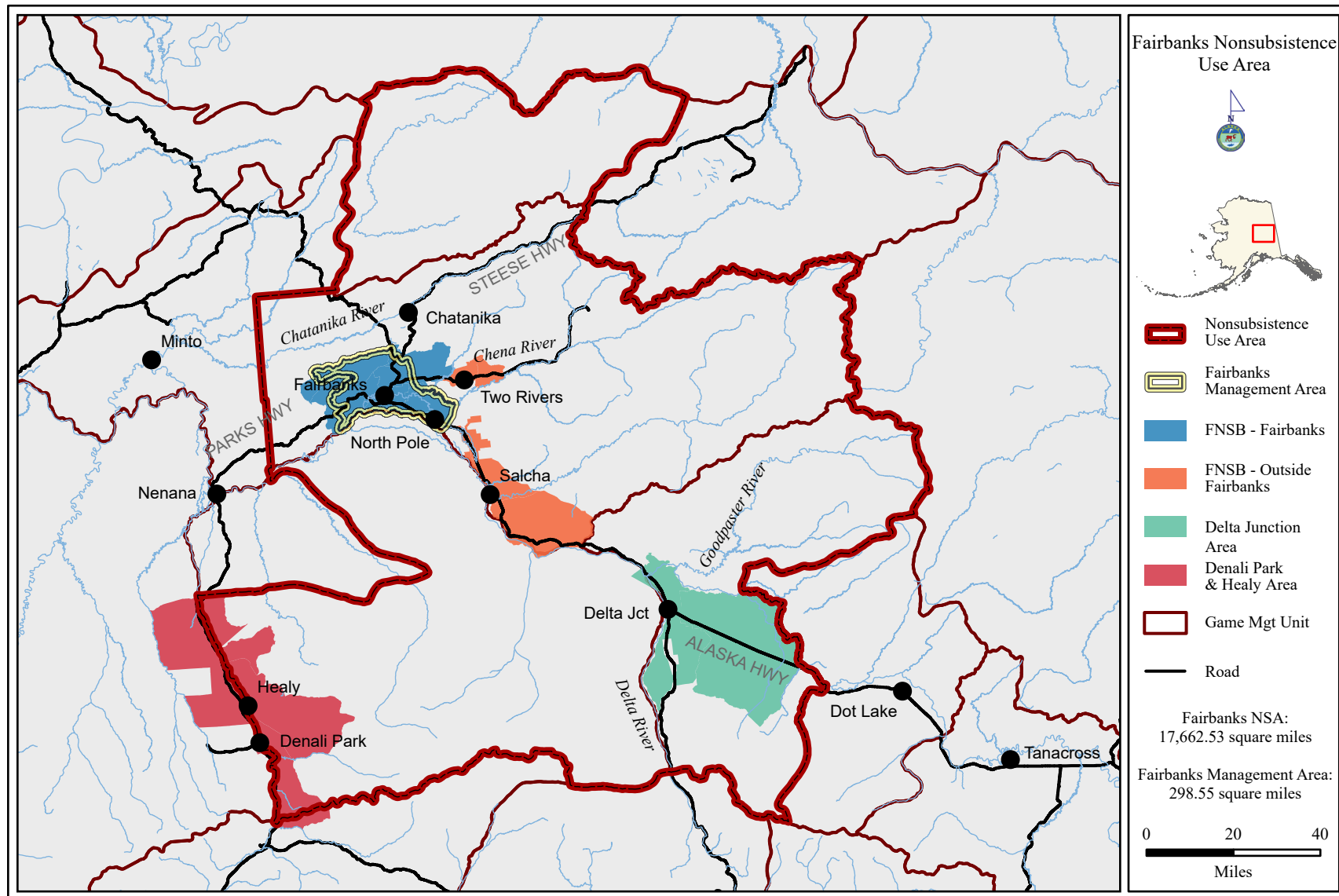


Figure 2-3.—Map of grouped census designated places within the Fairbanks Nonsubsistence Area for data comparison.

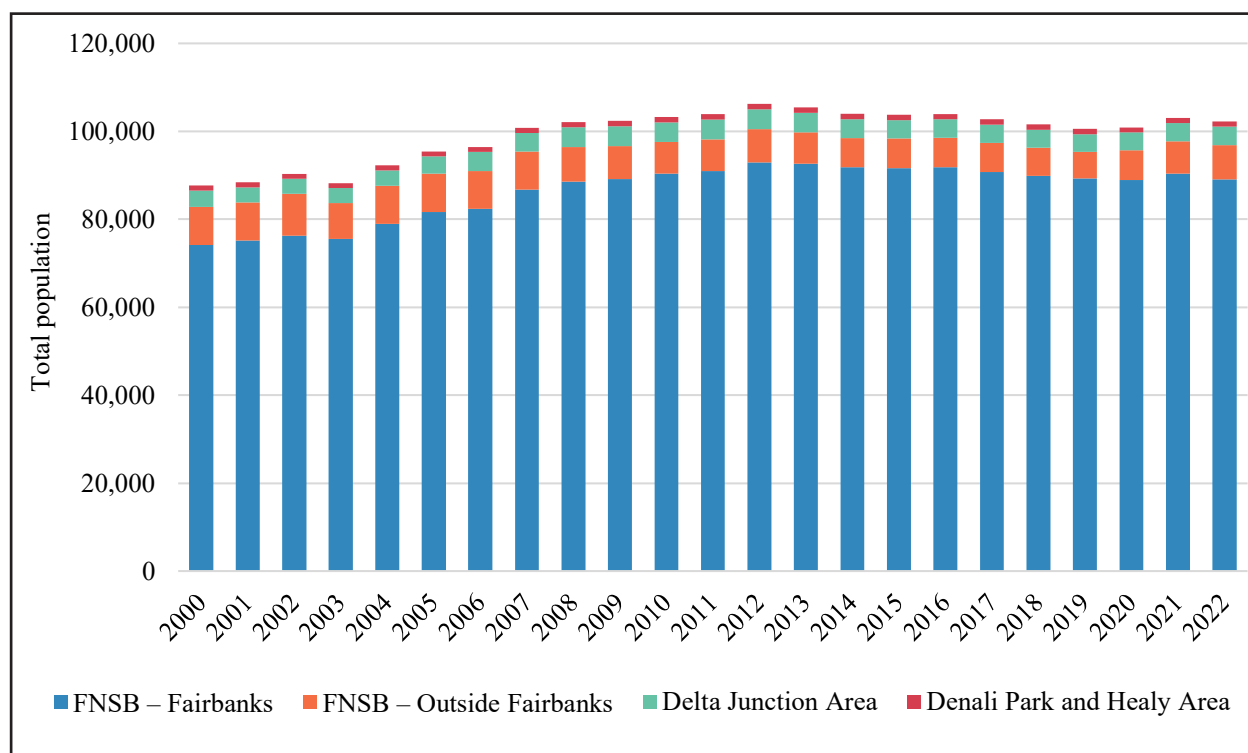


Figure 2-4.—Population of the Fairbanks Nonsubsistence Area, by area, 2000–2022.

Demography

The population of the FNSA, most of which live within the Fairbanks North Star Borough, exhibited steady growth until about 2010 (Figure 2-4). In 1990, 82,655 people lived in this area; the population was 103,256 in 2010, which was an increase of 24.9% over the prior 20 years (Table 2-1). However, the population stabilized around 2010 and by 2020 the population was 100,902, representing a 2.3% decrease in population since the last census in 2010.

Breaking the population of the FNSA into its component parts shows similar stability. The area immediately around Fairbanks (FNSB – Fairbanks) shows a 1.6% decrease in population from 2010 to 2020. The borough area outside of Fairbanks (FNSB – Outside Fairbanks) shows a 6.5% decrease in population. The area around Delta Junction went from 4,436 to 4,101 people, representing an 7.6% decrease, and finally the area around Denali Park and Healy decreased from 1,239 to 1,146 people, a decrease of 7.5%. Comparatively, the overall state population has increased by about 3.3% during the same time period; this increase appears to be largely driven by the 20.3% population increase in the Matanuska-Susitna Borough between 2010 and 2020 (U.S. Census Bureau n.d.).¹

1. The decennial census provides total population in table “P1: Total Population” or “P1: Race” for 2010 and 2020 for Alaska and the Matanuska-Susitna Borough.

Table 2-1.—Total and Alaska Native population of Fairbanks Nonsubsistence Area, by area, 1960–2022.

Year	Fairbanks North Star Borough			Delta Junction Area ^a	Denali Park and Healy Area ^b	Fairbanks Nonsubsistence Area (FNSA)	FNSA population change by decade	Alaska Native population	
	Fairbanks	Outside Fairbanks	Total					Number	Percentage of total population
1960	—	—	42,863	—	—	42,863		—	—
1970	—	—	45,864	—	—	49,543	15.6%	—	—
1980	—	—	53,983	—	—	58,754	18.6%	3,164	5.4%
1990	—	—	77,720	—	—	82,655	40.7%	5,460	6.6%
2000	74,151	8,689	82,840	3,665	1,171	87,809	6.2%	8,384	9.5%
2010	90,358	7,223	97,581	4,436	1,239	103,256	17.7%	10,916	10.6%
2020	88,901	6,754	95,655	4,101	1,146	100,902	-2.3%	11,382	11.3%
2022	89,050	7,766	96,816	4,265	1,095	102,176	1.3%	11,893	11.6%

Sources U.S. Census Bureau (1960–2020); Alaska Department of Labor and Workforce Development (2023).

Note "—" indicates data are not available.

a. The Delta Junction Area within the nonsubsistence area includes the incorporated city of Delta Junction and the census designated places of Whitestone, Big Delta, Deltana, and Fort Greely.

b. The FNSA includes the census designated places of Healy, Denali Park, and Ferry, which are part of the Denali Borough.

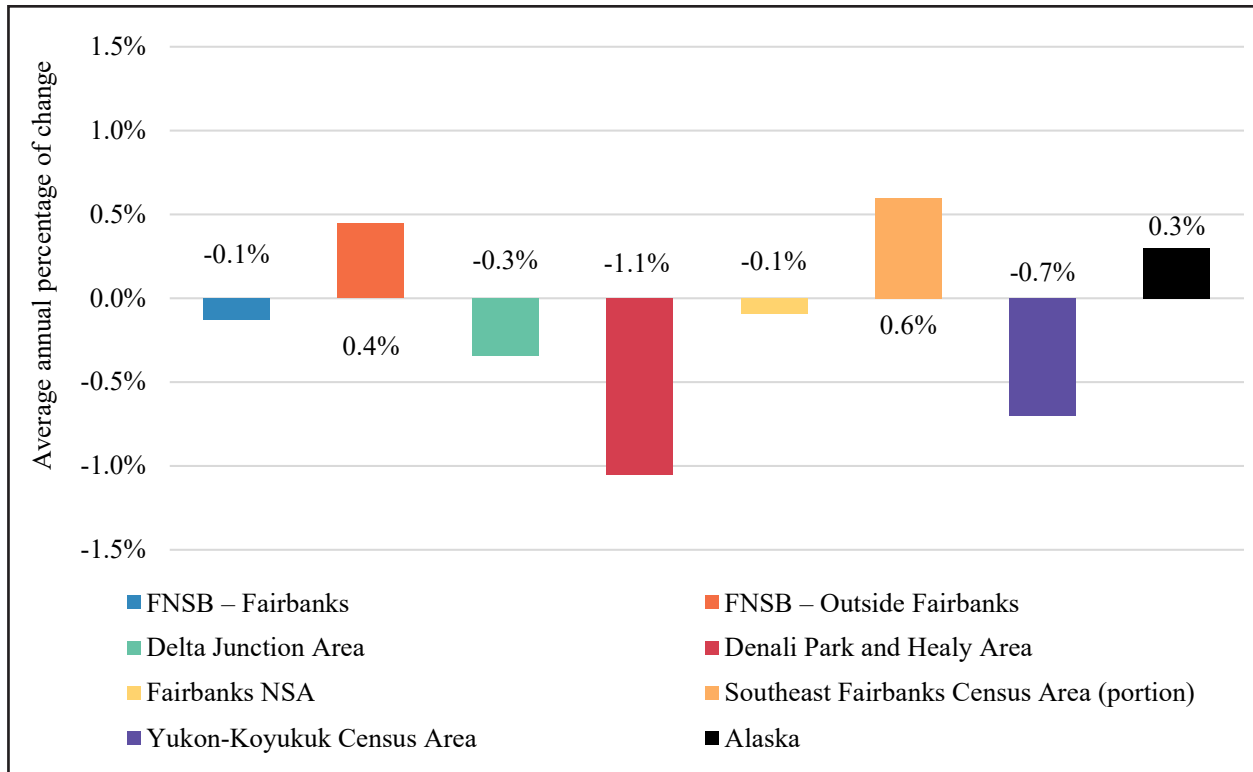


Figure 2-5.—Average (2011–2022) annual population change, by area, within the Fairbanks Nonsubsistence Area.

The average annual population change for the component areas of Delta Junction and Denali Park and Healy between 2011 and 2022 was very small. Denali Park and Healy decreased by approximately 1.1% per year during this time and the Delta Junction Area decreased by approximately 0.3% per year (Figure 2-5). Overall, there has been minimal change since 2013 when the Joint Board last determined that these areas constitute a nonsubsistence area.

As noted earlier, the importance of subsistence fishing, hunting, and gathering in the culture and way of life of an area or community is central to the Joint Board’s nonsubsistence area findings. Since customary and traditional uses of Alaska’s fish and game originated with Alaska Natives, the percentage of a community’s population that is Alaska Native is a strong predictor of fish and wildlife harvest levels (Wolfe and Walker 1987). As a result, it is appropriate to consider the presence and relative size of an Alaska Native population in an area or community as part of a thorough discussion of the 12 factors. Figure 2-6 shows the proportion of the population of Alaska Native descent within each component area of the current FNSA compared to the entirety of the FNSA, the Yukon-Koyukuk Census Area, which is entirely outside of the FNSA, and to Alaska as a whole. There is a clear pattern of the Alaska Native population in all parts of the FNSA being less than 20%. Comparatively, the percentage of Alaska Native people in the neighboring Yukon-Koyukuk Census Area is 75.7%, indicating a much larger proportion of the population that is Alaska Native. Further, this low Alaska Native population pattern has been stable over time since the last consideration of nonsubsistence areas by the Joint Board (Figure 2-7).

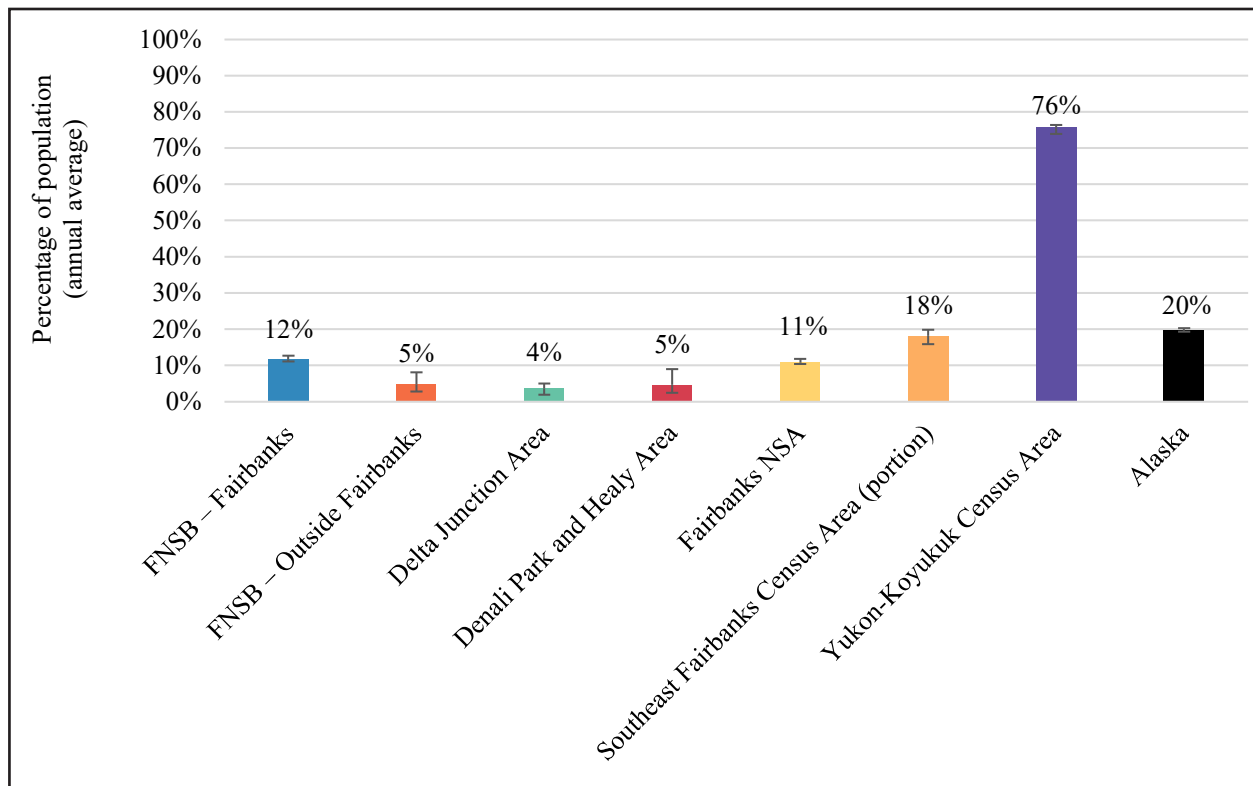


Figure 2-6.—Average percent (2011–2022) Alaska Native population, by area.

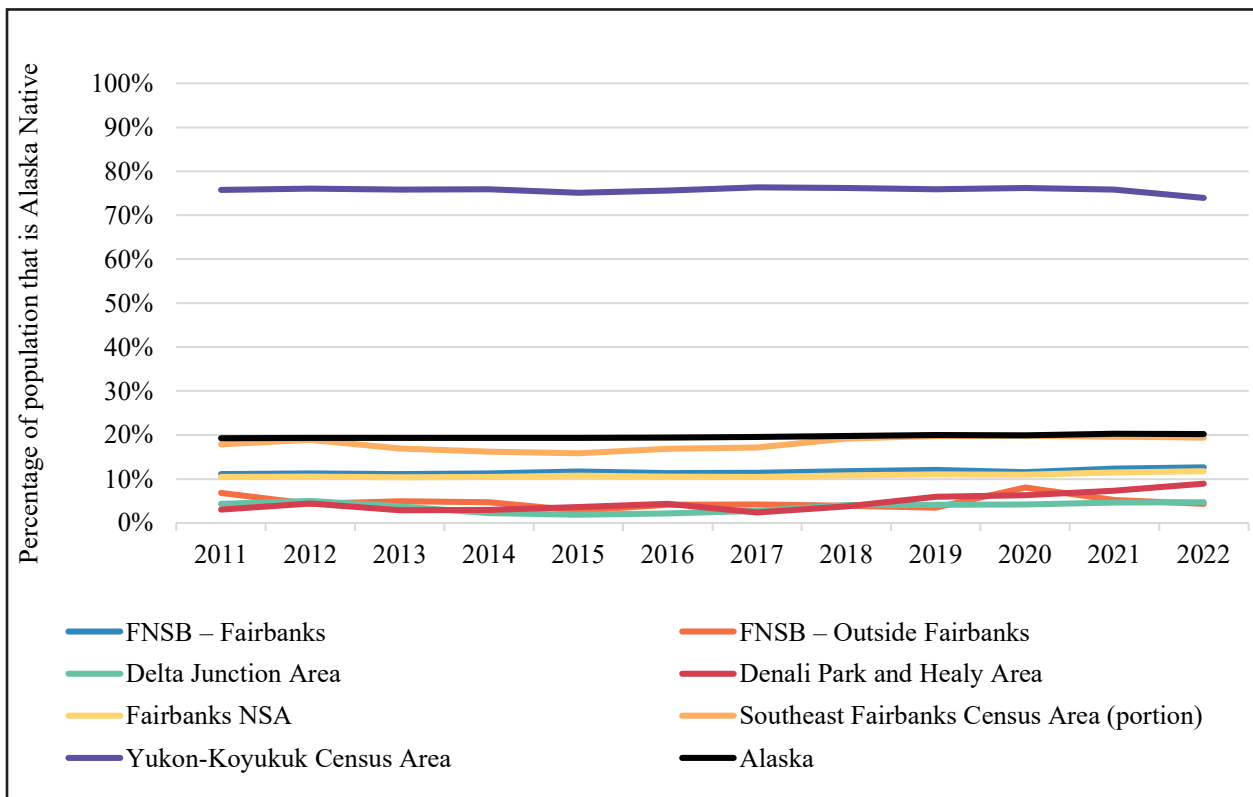


Figure 2-7.—Proportion of total population that is Alaska Native, by area, 2011–2022.

THE 12 SOCIOECONOMIC FACTORS

1. The social and economic structure.

In November 1992, the Joint Board concluded the following regarding Factor 1 and the FNSA:

The socio-economic structure of this area is consistent with the information provided by the ADF&G in no. 1 of the nonsubsistence area report for proposal no. 1. The Board recognizes that most segments of the population within the area support an industrial-capitalism economy. However, there is a mixture of lifestyles and a high percent of the residents obtain food by hunting and fishing. Evidence supplied by Board members from the area support the department's information indicating that Fairbanks typifies the type of cash economy envisioned by the legislature as a nonsubsistence area. Based on the information presented and the Board's discussion, the Board found that subsistence was not a principal characteristic of the socio-economic structure.

The department report for 1992 noted the following:

The social and economic structure of the Fairbanks area has been characterized as a type of "industrial-capitalism," a socioeconomic system common in the lower 48 that has developed in Alaska. This social and economic structure is distinct from another type of socioeconomic system in Alaska, called a "mixed, subsistence-cash economy," where the domestic household sector is a major producer and distributor of food. Industrial-capital systems generally have large wage sectors, which provide the major means of livelihood to residents. In an industrial-capital system, households are not major producers or distributors of an area's food supply. Food production by households provides a very small portion of the community's food, but may be of economic significance to those households actively involved in hunting and fishing. Most [of the area's] food and other goods and services are provided by businesses organized and financed separately from the household unit. Production and distribution of goods and services are organized by market forces or by government. Fishing and hunting by residents are primarily conducted as part of recreational or commercial industries. (ADF&G 1992:2-3)

The following information pertaining to the remaining factors may be applied to assess if important changes for Factor 1 have taken place since 2013. Key information includes a steady increase in the number of available jobs in the borough (Factor 2), jobs in a variety of industries and a relatively low unemployment rate (i.e., Factor 3), cash incomes at the state average (i.e., Factor 4), and poverty rates below the state average (i.e., Factor 4).

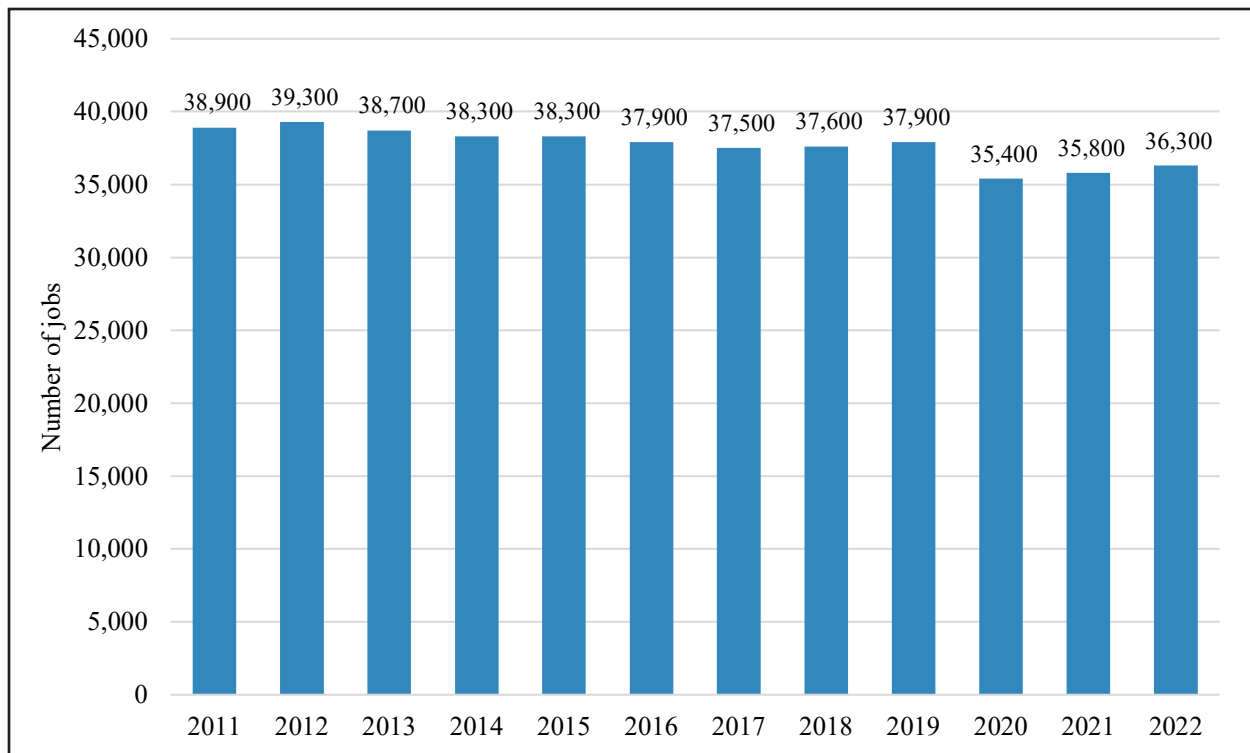


Figure 2-8.—Estimated annual employment from nonfarm wage and salary jobs, Fairbanks North Star Borough, 2011–2022.

2. The stability of the economy.

In November 1992, the Joint Board concluded the following regarding Factor 2 and the FNSA:

The Board found that the information presented in Section 2 of the ADF&G staff report indicates that the Fairbanks area’s economy is heavily dependent on government, military, and services jobs. Unemployment is low, 10.7 percent, compared to remote isolated Alaskan communities where unemployment is above 30 percent and the state average of 9.7%. Overall wages are higher than most areas of the state, unemployment is low, and the numbers of jobs are expanding. The board concludes the area has a relatively stable industrial-capitalism economy and subsistence is not a principal characteristic of the economy.

In 2013, the Joint Board determined that the economy of the FNSA as a whole continued to reflect a relatively stable economy in terms of the number of available nonfarm and salary wage jobs in the FNSB, which steadily increased from 2001 to 2012 (Fall 2013). Beginning in 2013, these FNSB estimates remained relatively stable until 2020, which may reflect a pandemic effect (Figure 2-8). The two years since 2020 have shown increases in wage jobs in the FNSB. These data are not available for the composite parts of the FNSA, so the department cannot provide additional granularity to compare between the areas.

3. Extent and kinds of employment for wages, including full-time, part-time, temporary, and seasonal employment.

In November 1992, the Joint Board concluded the following regarding Factor 3 and the FNSA:

Department of Labor statistics for 1991 have 27,800 jobs in Fairbanks of which 7,650 are in military, 9,950 in government, 6,250 in services, 6,400 in trade, and 600 in manufacturing. This indicates the heavy dependence in Fairbanks on

government and military employment. The Board also explored the Department of Labor statistics for Healy and McKinley Village communities within the proposed area. Based on percent of households having employed members (1987), Healy has 53 percent employed in mining, 20 percent in transportation / utilities / communications, 19 percent in services, and 29 percent in government (local, state, & federal). McKinley Village's percent of households having employed members for 1987 were 10 percent in mining, 18 percent for transportation / utilities / communications, 13 percent services, and 74 percent in government (local, state, & federal). Reviewing Fairbanks and McKinley Village labor statistics reveals a capital-industrial economy. Reliance on subsistence is not a principal characteristic of the area.

As noted above, key pieces of information for evaluating the stability of the economy are relatively low unemployment rates and jobs in a variety of industries. The Alaska Department of Labor² notes:

The official definition of unemployment excludes anyone who has not made an active attempt to find work in the four-week period up to and including the week that includes the 12th of the reference month. Many in rural Alaska do not meet the definition because they have not conducted an active job search due to the scarcity of employment opportunities.

In 1992, the unemployment rate was 10.7% in the FNSB compared to 9.2% for the state (Fall 2013:4). In 2013, the FNSB unemployment rate was 7.9% compared to 8.8% for the state (Table 2-2). In 2022, the annual unemployment rate for the FNSB was 5.5%, compared to 6.4% for the state. Between 2011–2022, unemployment levels remained low in all component parts of the FNSA, comparable to the statewide level, and especially compared to the Yukon-Koyukuk Census Area outside of the FNSA (Figure 2-9). For example, the unemployment rates in FNSB – Fairbanks, FNSB – Outside Fairbanks, and in the Delta Junction and Denali Park and Healy areas were all less than 8%, while the Yukon-Koyukuk Census Area measured around 19%.

The department's 2013 Joint Board report noted that in 2011 the largest number of jobs in the FNSB – Fairbanks area were in several categories including trade, transportation, and utilities; government (called public administration); education and health services; and arts, leisure, and hospitality, among others (Fall 2013:54). To consider Proposal 19, figures 2-10 through 2-13 present pie charts that compare the same data from 2011 (on the top) to 2022 (on the bottom) for the component areas of the current FNSA. In 2022, trade; transportation and utilities; government; education and health services; and arts, leisure, and hospitality remained the primary forms of employment in the area around Fairbanks itself (Figure 2-10).

For the FNSB – Outside Fairbanks, the major sources of jobs in 2011 were education and health services, government, retail trade, and professional services, among others (Figure 2-11, top). In 2022, many of the same industries remained the primary form of employment: education and health services, government, and financial activities; transportation and utilities contributed a higher proportion of employment in 2022 (Figure 2-11, bottom).

In 2011, available forms of employment around the Delta Junction Area were characterized by government, education and health services, construction, and professional services, among others (Figure 2-12, top). In 2022, the same sources of employment existed and in similar percentages (Figure 2-12, bottom).

For the area around Healy and Denali Park in the southwest portion of the FNSA, the major sources of jobs in 2011 were arts, leisure, and hospitality; transportation and utilities; government; retail trade; natural resources and mining; and manufacturing (Figure 2-13, top). In 2022, the primary source of employment switched from hospitality to mining, but all other categories of employment still existed (Figure 2-13, bottom).

2. State of Alaska Department of Labor and Workforce Development, "Unemployment rate at 5.9 percent in May," press release, June 21, 2013, accessed March 2024, <https://labor.alaska.gov/news/2013/news13-30.pdf>

Table 2-2.—ACS unemployment estimates, by area, 2011–2022.

Area	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Avg
FNSB – Fairbanks	6.6%	6.7%	7.9%	8.2%	8.0%	8.5%	8.1%	7.0%	6.5%	7.0%	6.1%	5.2%	7.3%
FNSB – Outside Fairbanks	9.2%	8.5%	9.1%	8.5%	8.0%	7.8%	6.7%	4.7%	4.2%	6.5%	4.8%	5.6%	7.1%
Delta Junction Area	9.2%	8.0%	6.5%	5.4%	5.7%	6.6%	10.0%	8.7%	9.9%	11.1%	11.6%	6.5%	8.4%
Denali Park and Healy Area	1.6%	1.9%	1.7%	2.3%	2.6%	1.1%	1.8%	2.2%	0.4%	2.6%	1.5%	1.3%	1.8%
Fairbanks North Star Borough	6.7%	6.7%	7.9%	8.2%	7.9%	8.5%	8.0%	7.0%	6.5%	7.1%	6.3%	5.5%	7.4%
Denali Borough (portion)	5.1%	5.6%	4.9%	4.8%	1.1%	1.7%	2.3%	9.5%	10.5%	12.4%	12.9%	6.5%	6.4%
Yukon-Koyukuk Census Area	23.9%	22.6%	21.9%	20.3%	18.2%	18.4%	19.7%	18.8%	17.0%	15.0%	12.8%	11.1%	19.0%
Southeast Fairbanks Census Area (portion)	12.1%	11.6%	13.7%	13.3%	15.0%	14.2%	16.4%	12.9%	12.9%	9.7%	8.3%	6.8%	12.7%
Alaska	8.4%	8.4%	8.8%	8.4%	8.2%	7.8%	7.7%	7.4%	7.2%	7.2%	6.9%	6.4%	7.9%

Source American Community Survey (2011–2023).

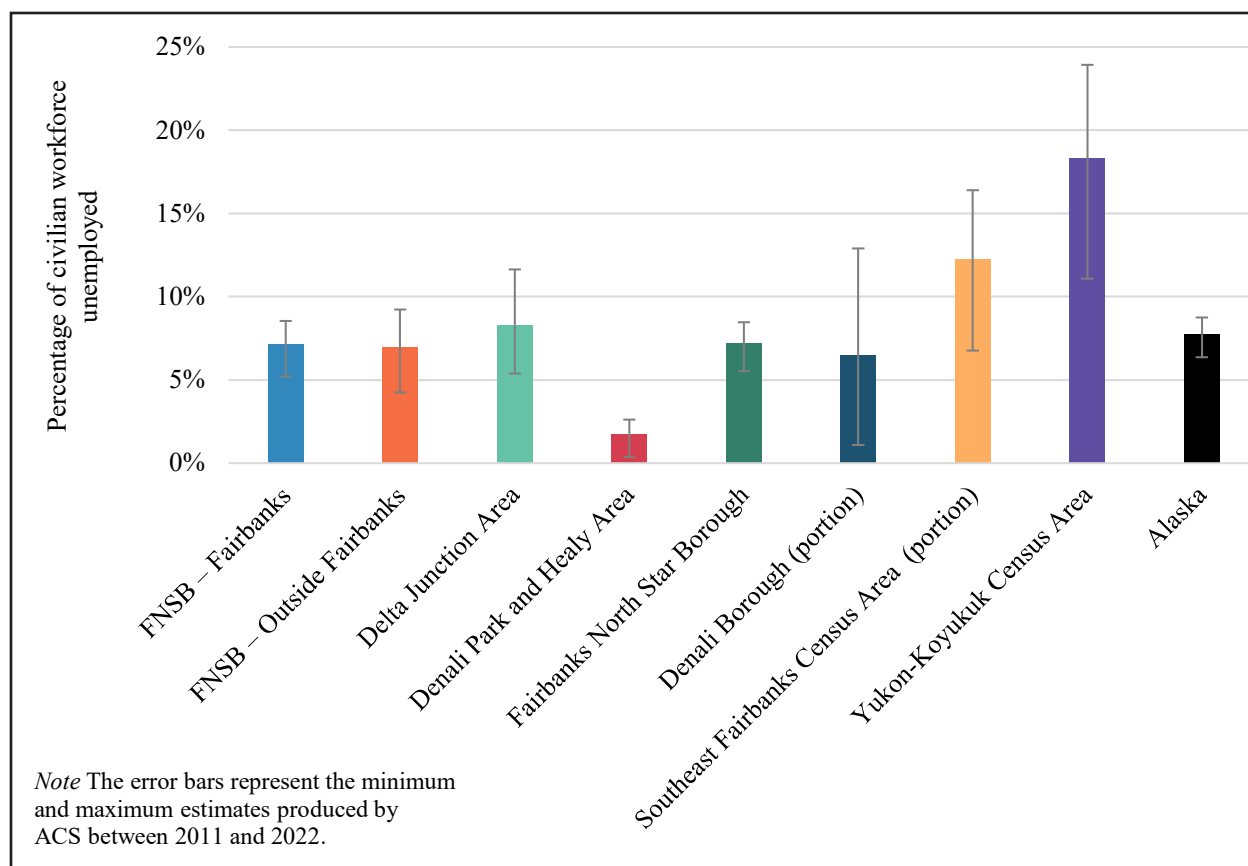


Figure 2-9.—Comparison of the 2011–2022 average percentage of the civilian labor workforce unemployed, by area.

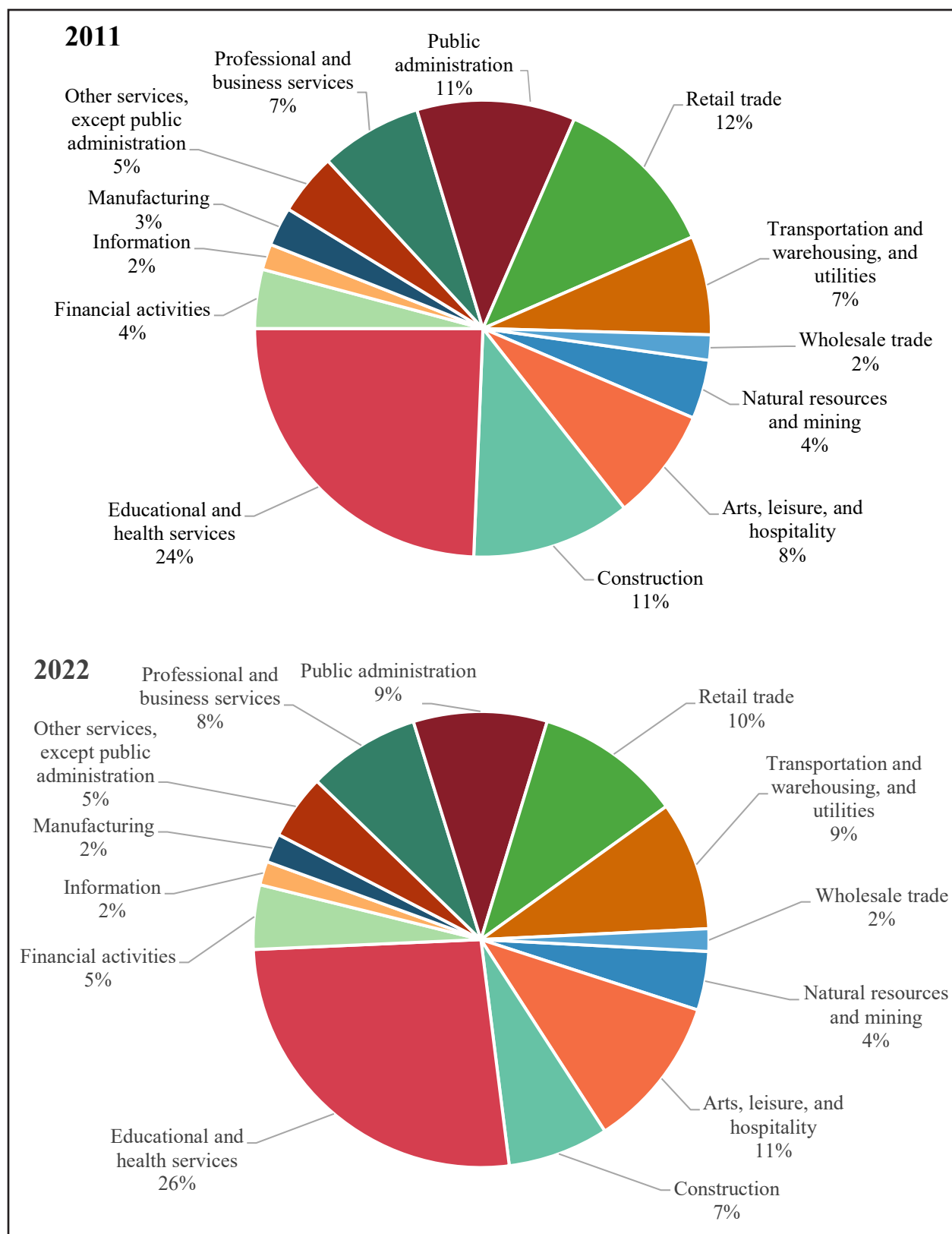


Figure 2-10.—Comparison of civilian employment by industry, FNSB – Fairbanks, 2011 and 2022.

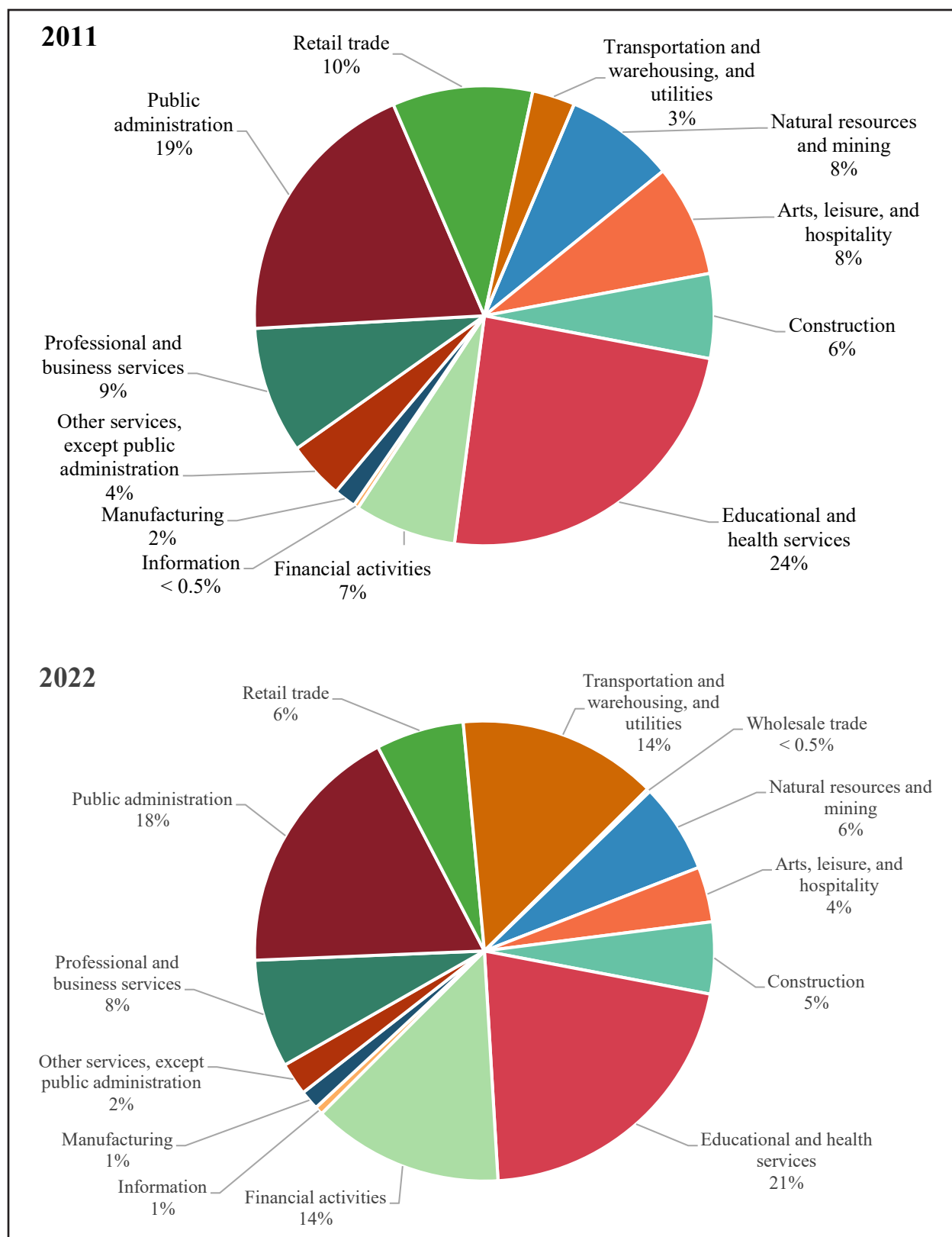


Figure 2-11.—Comparison of civilian employment by industry, FNSB – Outside Fairbanks, 2011 and 2022.

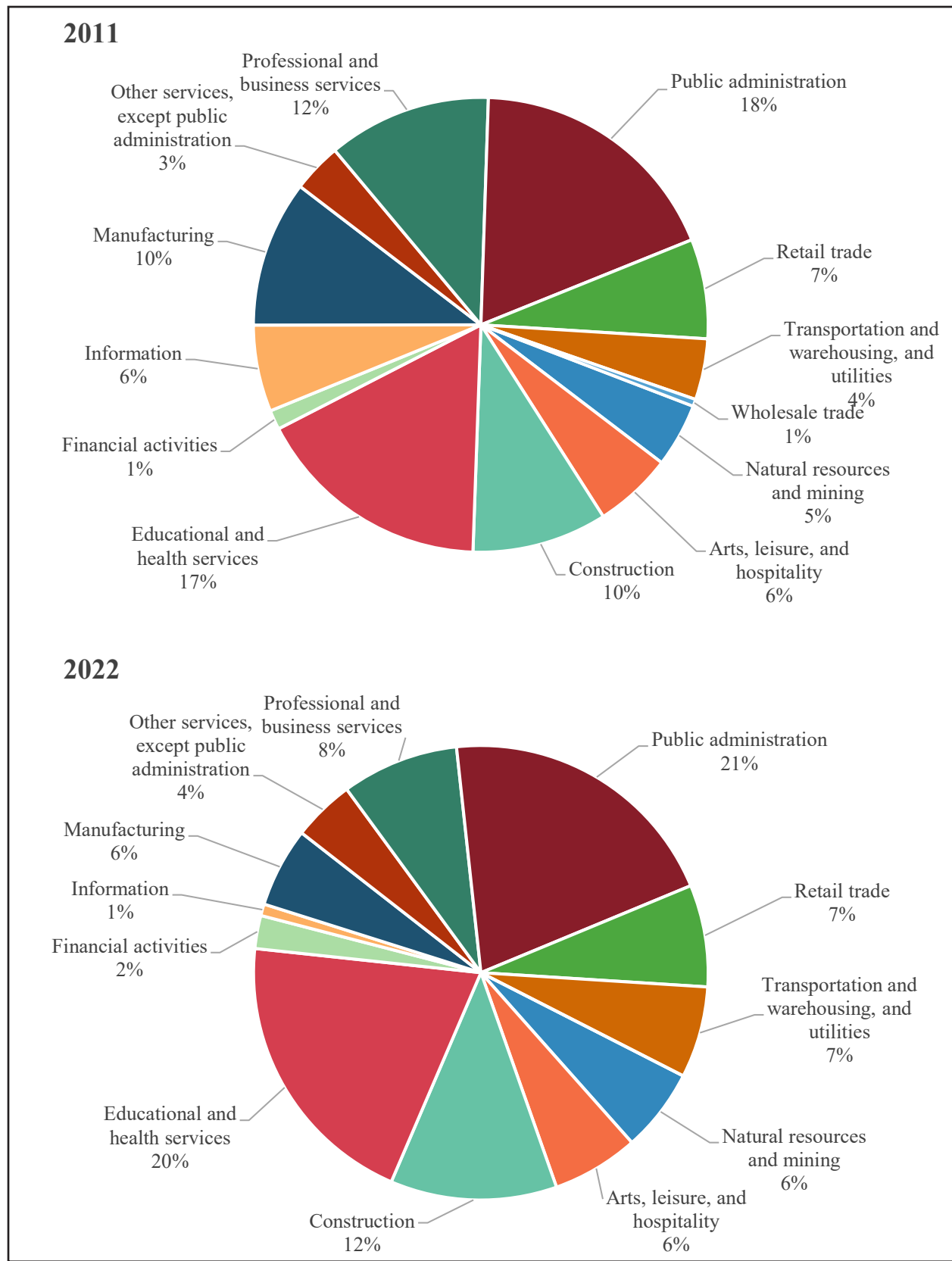


Figure 2-12.—Comparison of civilian employment by industry, Delta Junction Area, 2011 and 2022.

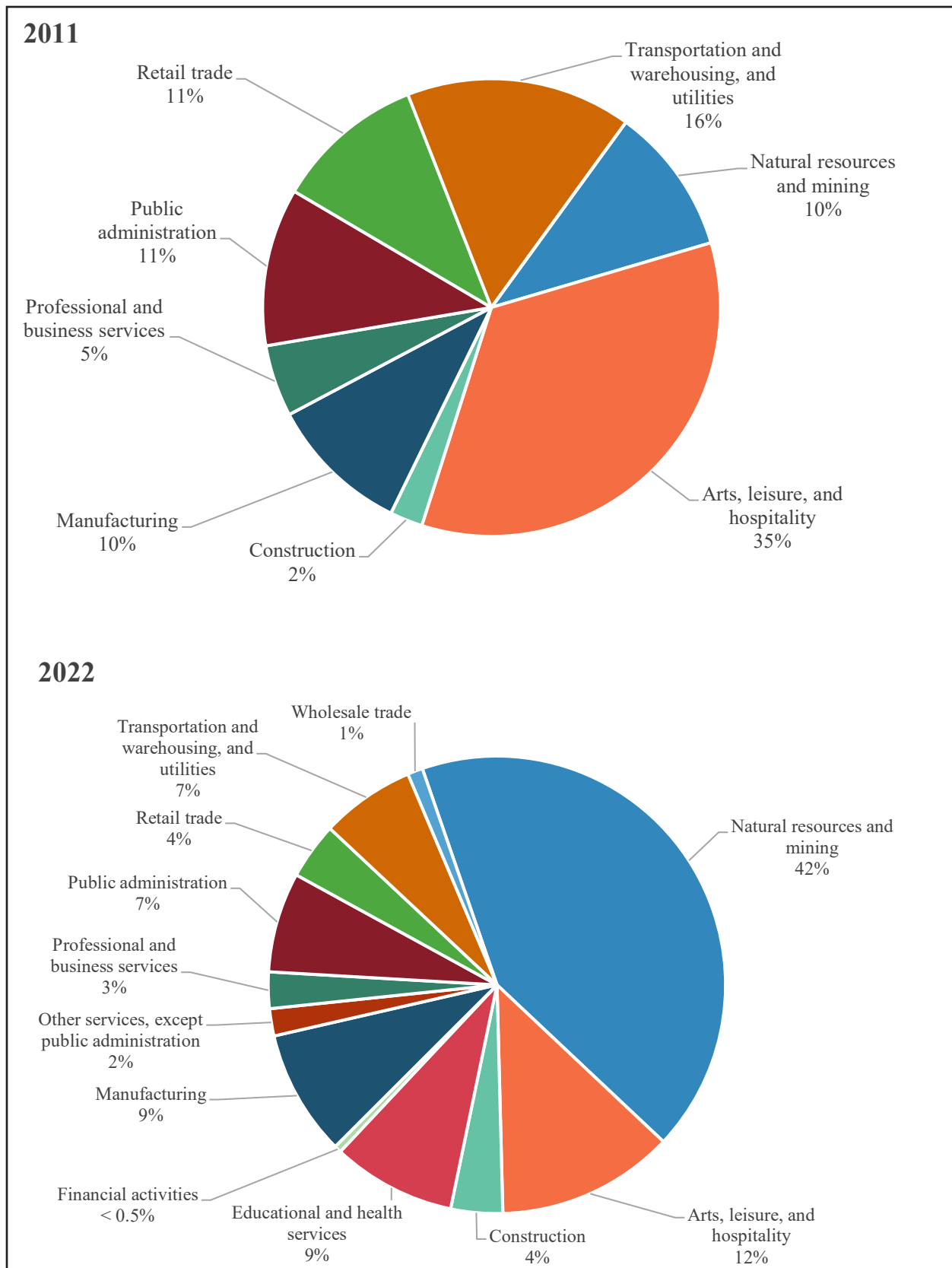


Figure 2-13.—Comparison of civilian employment by industry, Denali Park and Healy Area, 2011 and 2022.

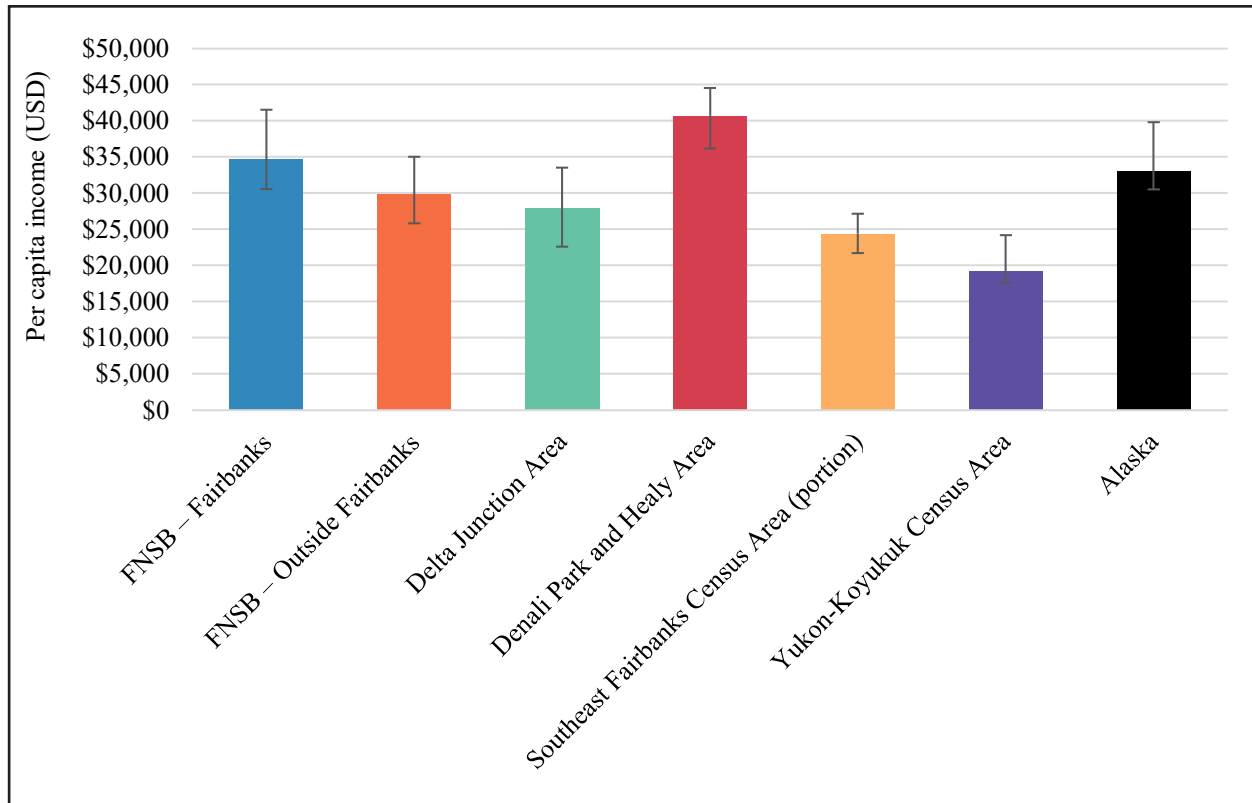


Figure 2-14.–Average (2011–2022) per capita income, by area.

4. The amount and distribution of cash income among those domiciled in the area or community.

In November 1992, the Joint Board concluded the following regarding Factor 4 and the FNSA:

In 1989 the average per capita income for the Fairbanks North Star Borough was \$15,914, slightly below Alaska’s average of \$17,610. The average income in 1989 for McKinley Park Village was \$20,917, in Healy \$18,160. Board members summarized the economic data for Delta Junction and Fort Greely based on personal knowledge and information provided the Board by ADF&G. The average household incomes discussed in Delta Junction and Fort Greely were \$35 - 40,000 for Delta Junction and \$20 - 30,000 for Fort Greely. 11.5 percent of the households earning less than the federal poverty standards (1989) were in Fairbanks. The Board recognized that distribution of cash income varies among the residents within the proposed nonsubsistence area but is consistent with an urban environment in Alaska.

For the period of 2007–2011 reported in the 2013 department analysis for the Joint Board, the annual per capita income for FNSB residents was \$31,532 (\pm \$1,084) (Fall 2013:55). This was about the same as the state’s average of \$31,944 (\pm \$423) per person at that time (Fried 2012; U.S. Census Bureau n.d.).³ This was true for most of the nonsubsistence areas during that period.

3. The American Community Survey provides per capita income in table “B19301: Per capita income in the past 12 months (in 2011 inflation-adjusted dollars)” for 2007–2011 in “2011: ACS 5-year Estimates Detailed Tables.”

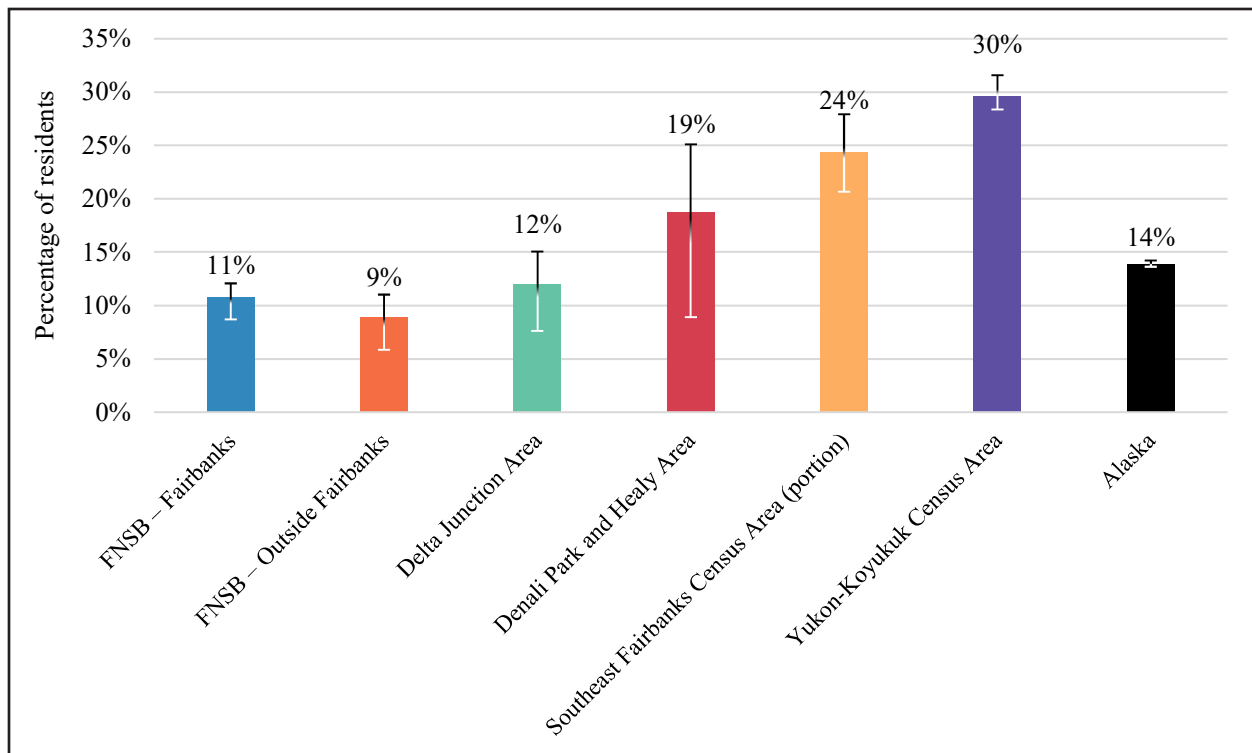


Figure 2-15.—Average (2012–2022) estimated percentage of the population living at 125% of the poverty level or below, by area.

Between 2011–2022, in the component parts of the FNSA, the per capita income for the FNSB – Fairbanks area averaged \$34,686; the FNSB – Outside Fairbanks area averaged \$29,824; the area around Delta Junction averaged \$27,906; and the area around Denali Park and Healy averaged \$40,698 (Figure 2-14). During the same time, the state average was \$33,062, whereas the average per capita income in the Yukon-Koyukuk Census Area was \$19,245.

Poverty rates are the percentage of the population in a given place living in households with cash incomes below an income threshold based on the size and composition of the household. These thresholds are modified annually based on changes in the costs of goods and services.

Figure 2-15 compares poverty rates broken out by the component areas of the FNSA using the most recent data from the American Community Survey (an 11-year average for 2012–2022). During this time, the component parts of the FNSA ranged from a low of a 8.9% poverty rate in the FNSB outside of Fairbanks to 18.7% around Healy and Denali Park, compared to 13.9% for the state population overall and 29.6% in the Yukon-Koyukuk Census Area.

5. The cost and availability of goods and services to those domiciled in the area or community.

In November 1992, the Joint Board concluded the following regarding Factor 5 and the FNSA:

The Fairbanks area has a large range of goods and services available. Fairbanks' cost of food index at 7 percent higher than Anchorage is relatively low for Alaskan communities. The cost of food index for Delta Junction is 33 percent higher than Anchorage and for the Parks Highway area is 56 - 89 percent higher. The communities located along the Parks Highway do most of their shopping in Fairbanks due to road access.

There is no new information available to add to the data cited in the 2013 Joint Board finding for Factor 5 (Fall 2013:55). The University of Alaska Fairbanks Cooperative Extension Service has not produced publicly available cost-of-living updates at a relevant scale since 2008. The Alaska Geographic Differential Study 2008 (McDowell Group 2009) has not been updated since the department's 2013 report about nonsubsistence areas to the Joint Board. The authors found that overall costs of living, the cost of food, and the cost of fuel in the FNSB were about 3% above those of Anchorage. The Delta Junction/Tok area was approximately 4% higher than Anchorage, and the roadless Interior (comparable to the Yukon-Koyukuk Census Area) measured approximately 31% higher than Anchorage.

6. The variety of fish and game species used by those domiciled in the area or community.

In November 1992, the Joint Board concluded the following regarding Factor 6 and the FNSA:

Residents of the proposed area used a wide variety of fish and game resources locally available as well as resources distant from their residence. Primary big game species used in order of importance are moose, caribou, sheep, black and brown bears. Major fish species include salmon, grayling, pike, burbot and white fish. Halibut are also taken in other areas of the state. The Board of Game previously found a positive customary and traditional finding for moose in Game Management Units (GMU) 20A, 20B, 20C & 20D. There were no positive C&Ts for caribou in the area. The Board of Fisheries previously determined positive C&Ts for salmon and other finfish (sheefish, white fish, lamprey, burbot, sucker, grayling, pike, char, and blackfish). Subsistence fishing permits for residents of the nonsubsistence area were used mainly in areas along the Tanana River, outside the proposed area.

The department has updated comprehensive subsistence harvest data for the communities of Healy (2014), Ferry (2015), and Denali Park (2015). Recent annual harvest monitoring programs conducted by the department generally show an overall range of resources harvested similar to that summarized in the 1992 and 2013 Joint Board finding. In 2014, Healy residents harvested 51.7 lb of wild foods per person; Healy households used an average of 5.7 wild resources over the course of the year, including moose, sockeye salmon, blueberries, and Pacific halibut (Brown et al. 2016). In Denali Park, residents harvested an average of 57.2 lb per person in 2015 and households used an average of 7.9 resources (Brown and Kostick 2017). Similarly, Ferry residents harvested an average of 111.1 lb per person in 2015 and households used an average of 10.7 resources, including moose, berries, sockeye salmon, and spruce grouse (Brown and Kostick 2017). Harvest areas for all three communities included the local area as well as areas distant from their residence such as Kenai and Valdez (for Ferry residents); Kodiak, Prince William Sound, and the North Slope (for Denali Park residents); and Cordova, Seward, and the North Slope (for Healy residents). These updated data demonstrate continuity with earlier patterns when the nonsubsistence area was established.

7. The seasonal cycle of economic activity.

In November 1992, the Joint Board concluded the following regarding Factor 7 and the FNSA:

The Fairbanks area has seasonal fluctuations in economic activity related to tourism. The primary types of jobs in the Fairbanks area (government, military, services and trade) are not normally affected by seasonal changes. Residents along the Parks Highway have seasonal cycles of employment associated with Denali National Park tourism. Healy and Anderson residents are not affected as much by seasonal changes because of coal mine and electrical production employment. The Board finds overall economic activity of the proposed area to be representative of an economy where reliance on wage employment is a principal characteristic of the economy.

The department has no new information to add to that cited in the 1992 Joint Board finding for Factor 7.

8. The percentage of those domiciled in the area or community participating in hunting and fishing activities and using wild fish and game.

In November 1992, the Joint Board concluded the following regarding Factor 8 and the FNSA:

Based on a household survey in the Fairbanks North Star Borough, 50 - 59 percent hunted and 74 - 82 percent fished. In McKinley Park Village households, 70 percent fished and 45 percent hunted. The Board notes some individual households within the proposed area may be hunting and fishing for larger amounts for food production, but overall residents of the proposed area hunted and fished for nonsubsistence use.

In 2013, the Joint Board considered data from 2002–2012 provided by the department to evaluate this factor. Between 2002–2012, an estimated 23.9% of residents of the FNSA held fishing⁴ licenses, 13.3% held hunting⁵ licenses, 3.0% held a trapping⁶ license, and an average of 27.3% of FNSA residents held any type of license.⁷

Comparatively, between 2011–2022, an annual average of 19,147 (18.6%) residents of the FNSA held fishing licenses; 11,989 people, or 11.6%, held hunting licenses; and 21,926 residents of the FNSA held any type of license, representing about 21.3% of the total population of the area (Table 2-3). The overall percentage of the population holding these licenses has declined since the Joint Board last considered this metric.

Breaking down these data for the component parts of the FNSA, as done for other factors, illustrates some internal variation between the FNSA component areas. The percentage of residents holding fishing licenses ranged from 14.5% in the FNSB – Outside Fairbanks to 36.0% in the Denali Park and Healy Area. The percentage of the population that held hunting licenses ranged from 8.7% FNSB – Outside Fairbanks to 26.5% in the Delta Junction Area. As noted above, the overall percentages of licensed FNSA residents decreased for every type of license except trapping.

Additionally, regarding fisheries, noncommercial harvests of salmon fall into three categories based on regulations: sport, personal use, and subsistence. In the 2013 report to the Joint Board that considered data from 2007–2011, the department noted that sport fisheries provided 47.5% of the salmon harvested by residents of all nonsubsistence areas (as estimated in usable pounds), followed by personal use fisheries (45.3%) and subsistence fisheries (7.3%) (Fall 2013:22). Looking at these same data from 2011–2022 for the FNSA and its component parts (see Table 2-4), sport and personal use fisheries provided nearly equal amounts (43.0% and 43.4%, respectively) of the overall salmon harvest in the FNSA, followed by subsistence fisheries (13.6%). Since 2011, there has been a slight increase in harvests from subsistence fisheries but an overall stable pattern of the sport and personal use fisheries composing more than 80% of the overall harvest.

Looking at the component parts of the FNSA, personal use and sport fishing contribute the majority of the salmon harvest for residents of all of the component areas of the FNSA. Subsistence fisheries provide a range of 0.6% of the harvest in the FNSB – Outside Fairbanks area to 16.3% for the residents who live in the FNSB – Fairbanks area.

4. Sport fishing license alone, or in combination with hunting and trapping licenses.

5. Hunting license alone, or in combination with fishing and trapping licenses.

6. Trapping license alone, or in combination with hunting and fishing licenses.

7. The data published in Fall (2013) were for 2012 so the data ranging 2002–2012 were newly evaluated for comparison to data for 2011–2022.

Table 2-3.—Comparison of the average (2011–2022) number of licenses issued and relative percentage of the population, by area.

License type	Average (2011–2022)									
	FNSB – Fairbanks		FNSB – Outside Fairbanks		Delta Junction Area		Denali Park and Healy Area		Fairbanks NSA combined	
	Licenses Issued	Percent of population	Issued	Percent of population	Issued	Percent of population	Issued	Percent of population	Issued	Percent of population
Hunting ^a	9,959	11.0%	596	8.7%	1,120	26.5%	313	26.1%	11,989	11.6%
Fishing ^b	16,270	17.9%	995	14.5%	1,449	34.3%	433	36.0%	19,147	18.6%
Trapping ^c	2,985	3.3%	189	2.8%	406	9.6%	108	9.0%	3,688	3.6%
Any license type	18,655	20.5%	1,137	16.5%	1,637	38.7%	497	41.3%	21,926	21.3%

Source ADF&G licensing records, 2011–2022.

a. Hunting alone, or in combination with fishing and trapping.

b. Sport fishing alone, or in combination with hunting and trapping.

c. Trapping alone, or in combination with hunting and fishing.

Table 2-4.—Comparison of the average (2011–2022) harvest from sport fishing and subsistence/personal use methods, by area.

Area	Subsistence		Personal use		Sport fishing		Total
	Per capita	Percent	Per capita	Percent	Per capita	Percent	Per capita
FNSB – Fairbanks	1.1	16.3%	3.7	52.0%	2.2	31.7%	7.0
FNSB – Outside Fairbanks	0.1	0.6%	0.5	3.8%	12.3	95.7%	12.8
Delta Junction Area	1.8	13.7%	8.6	64.3%	3.0	22.0%	13.4
Denali Park and Healy Area ^a	2.2	12.4%	6.9	39.6%	8.4	48.0%	17.5
Fairbanks Nonsubsistence Area	1.2	13.6%	3.7	43.4%	3.7	43.0%	8.6

Sources ADF&G Division of Sport Fish angler survey, 2011–2022; ADF&G Division of Subsistence CSIS, accessed March 2024.

Note The proportion of subsistence versus personal use fisheries have been derived using data from 2011–2020.

Note per capita harvests are in pounds usable weight.

a. Estimates of the proportion of subsistence and personal use harvests derived from annual salmon harvest monitoring efforts.

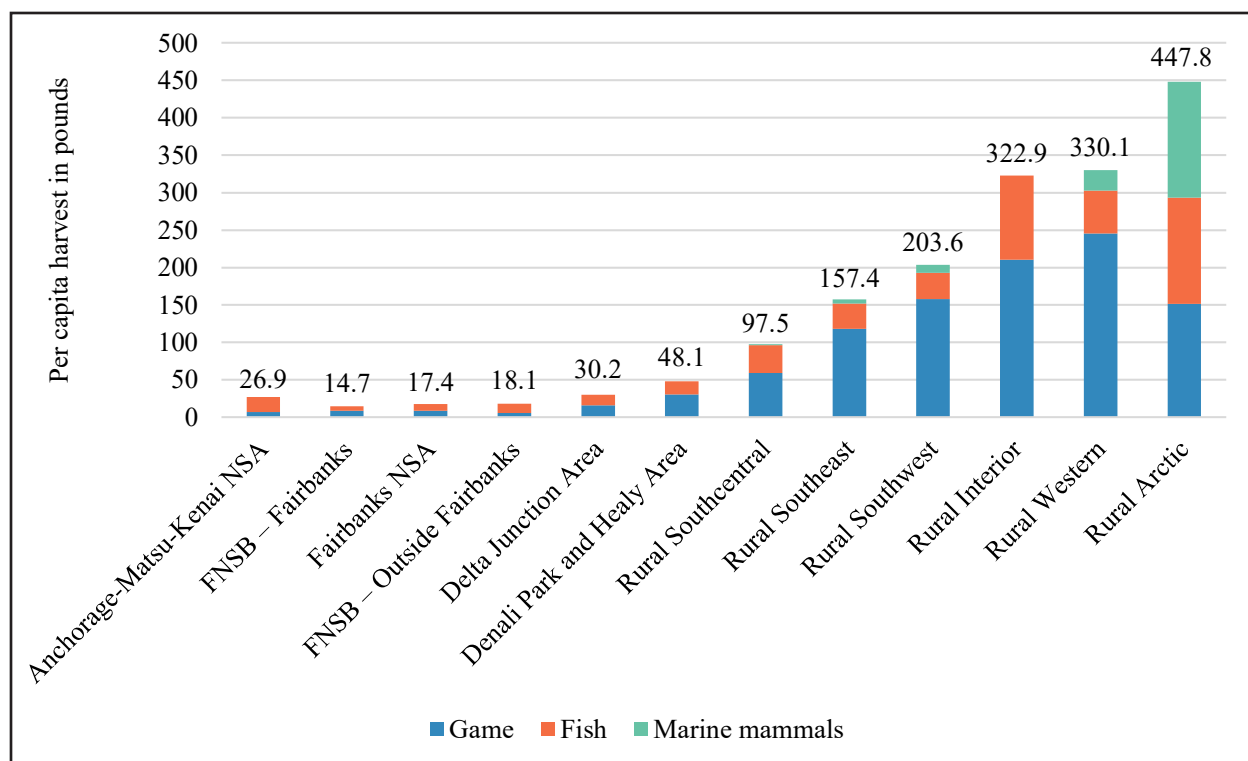


Figure 2-16.—Comparison of estimated per capita harvests of the Fairbanks Nonsubsistence Area, by area, and other regions of the state of Alaska.

9. The harvest levels of fish and game by those domiciled in the area or community.

In November 1992, the Joint Board concluded the following regarding Factor 9 and the FNSA:

The Board considered harvest levels of fish and game species in communities within the proposed area by using department reports and verbal and written comments by the public and Board members. The Board noted the range of pounds per person, per year for communities in the proposed area with Fairbanks at 16 pounds, Healy at 132 pounds and McKinley Village at 242 pounds. The Board finds the overall proposed area the harvest levels are representative of a nonsubsistence area.

In the department's 2013 report to the Joint Board, estimated harvests of fish and wildlife by residents of the FNSA from 2004–2011 ranged from 18 lb per person (in 2008) to 23 lb per person (in 2007) with a five-year average of 20 lb per person (2007–2011) based on annual harvest monitoring programs administered by the department (Fall 2013:57). Further, Wolfe and Fischer (2003) confirmed the component parts of the FNSB as meeting the characteristics of nonrural communities for the federal management system.

Figure 2-16⁸ shows the per capita harvests by residents of the FNSA (17.4 lb) by component area and compared to other regions of the state. Residents of the area around Fairbanks harvested an estimated 14.7 lb, while those outside of the immediate area around Fairbanks harvested 18.1 lb. Residents of the Delta Junction Area harvested an estimated 30.2 lb and residents of Healy and Denali Park harvested approximately

8. Note that the figure depicts estimates that have been derived from 2011–2022 ADF&G Division of Wildlife Conservation harvest tickets, 2011–2022 Division of Sport Fish angler survey estimates, 2011–2022 Division of Subsistence Alaska subsistence and personal use salmon fisheries annual reports (the most recent report was by Brown et al. [2023]), and most recent comprehensive household survey results for all communities available in the Community Subsistence Information System database, 1984–2018.

48.1 lb. The component areas of the FNSA are all within the range of the existing nonsubsistence areas and urban areas throughout the state, which range from approximately 15 lb per person in Anchorage to 38 lb in Valdez (Fall 2018). According to *Subsistence in Alaska: A Year 2017 Update*, the annual wild food harvest is about 276 lb per person per year for residents of rural areas and 19 lb per person per year for urban areas (Fall 2018). Comparatively, residents of the rural Interior area, largely comparable to the Yukon-Koyukuk Census Area, harvested 322.9 lb per person (Figure 2-16).

For the FNSA, the composition of the annual fish and wildlife harvest from 2011–2022 was 8.8 lb per person of land mammals (big game only) and 8.6 lb per person of fish resources (Figure 2-16). Comprehensive harvest estimates of small game, birds and eggs, and wild plants are not available for most communities in the nonsubsistence areas, but these likely represent only a very small portion of the total wild food harvest by residents of these areas, both because these resource categories tend to be harvested at lower levels across Alaska and they do not contribute significant weight to an overall per capita harvest. For this same period in the rural Interior, the composition was 210.4 lb per person of land mammals and 112.5 lb per person of fish resources. Salmon make up the largest portion of rural Interior Alaska communities' harvests of fish and wildlife; however, restrictions to subsistence fishing in the area for Chinook salmon over the last decade and a complete or partial closure of salmon fishing from 2021–2022 likely affect these estimates.

10. The cultural, social, and economic values associated with taking and use of fish and game.

In November 1992, the Joint Board concluded the following regarding Factor 10 and the FNSA:

The Board notes there are subsistence uses outside the proposed area and protected Minto and Nenana subsistence uses when it deleted the proposed addition of the Minto Flats area. The Board determined the area's cultural, social, and economic values represent a nonsubsistence value system.

There is no new information for this factor outside of continued ethnographic studies that document the cultural values associated with subsistence harvest and use of wild resources in the Minto and Nenana areas. For example, in a 2012 study of the harvest and uses of wild resources by residents of Minto, outside of the FNSA, several members of the community talked about the role of sharing as a culturally-based value that connects members of the community, maintains kinship, and provides food security for all households.

[We give them away to] everybody. Start with elders and stuff, pick out your best ones and take 'em to your elders, and then family members, then friends. And then just stop at ... every house and ask if they have freezer space and if they want fish, let them take their pick, take as many as they want. (Brown et al. 2014:116)

Finally, many households in the study emphasized the significance of subsistence practices to their lives by noting that subsistence harvesting “is not a matter of cost, it is a matter of tradition” (Brown et al. 2014:171).

11. The geographic locations where those domiciled in the area or community hunt and fish.

In November 1992, the Joint Board concluded the following regarding Factor 11 and the FNSA:

The Joint Board examined (under factor 11) patterns of hunting and fishing by residents of the proposed nonsubsistence area. The Board finds that area residents hunt and fish throughout the proposed area as well as GMU 13 and other areas of the state. The Board considered including the Minto Flats State Game Refuge and later added the Minto Flats Management Area and Uniform Coding Unit 0100 south of the Tanana River. The additional area was used by residents of the proposed nonsubsistence area for fishing and hunting for moose, waterfowl, and other wildlife uses. The Minto Refuge and Management Area was removed from consideration as a nonsubsistence area based on information submitted by the department from a 1983-84 household survey of Minto residents and wildlife use and consumptive patterns. Specifically there is not a well developed cash economy.

Only 25 percent of the population is employed, primarily in seasonal jobs. 75 percent of the residents were below the poverty level with only a third having motor vehicles. There is a small store but costs are 1.8 times those of Fairbanks. There is a high use of fish and game resources by Minto residents which is consistent with a subsistence lifestyle dependent on the natural resources.

In discussing the area of 20(C) west of the Nenana River, the Board concluded that the land area in the proposed nonsubsistence area was predominantly Denali National Park over which the State has no authority. Hunting is by subsistence permit only and restricted to rural residents as defined by Federal regulations. This area was removed from the proposed nonsubsistence area. **Additionally, the board reviewed fish and game harvest and use patterns of the residents along the Parks Highway in GMU 20(A) between Nenana and Wood Rivers to see if that area should be removed from the nonsubsistence area. In applying the 12 factors, the Board found a mixed social and economic lifestyle that was characterized by average incomes higher than Fairbanks and wildlife use patterns that fluctuated from high to low use. The proximity to Fairbanks, employment at the Usibelli Mine, Clear Air Force Base, Golden Valley Power Plant and Denali National Park and the accompanying service sectors brought many jobs, some seasonal in nature. The use patterns of highway residents showed use of the area, i.e., an average annual moose harvest by Healy residents of 8.3, Denali Park 2.3, Anderson 6.5 and Fairbanks of 155.8; an average annual sheep harvest by Healy residents of 5.7, Denali Park 1.3, Anderson 3, and Fairbanks 45. Based on the totality of the factors, the Board left the area in the proposed nonsubsistence area as it determined it was an area used by a high percentage of the residents of the nonsubsistence area.**

The “heat maps,” Figures 2-17 through 2-20, depict the density of hunting on the game management area subunit level by residents of the component areas of the current FNSA. It is important to note that although the color range from blue (no use) to red (the heaviest use areas) is identical for each map, the actual percentages of hunting differ from map to map for each color.

Residents of the Fairbanks area focused their hunting most heavily in Unit 20 within the FNSA and in the Minto Flats Management Area outside of the FNSA (Figure 2-17). However, Fairbanks residents also hunted in various other locations around the state including the North Slope, Northwest Alaska, Southcentral Alaska, and Kodiak Island. Residents of the FNSB – Outside Fairbanks followed similar patterns although with less presence in Interior Alaska locations and southwestern or northwestern Alaska (Figure 2-18).

Residents of the area around Delta Junction focused their efforts in the lower half of the FNSA, roughly overlapping with the area outside of the FNSB that is still within the FNSA (Figure 2-19). Other areas of use included eastern Alaska and Kodiak.

The heat map for residents of Healy and Denali Park shows the heaviest areas of hunting around the southwestern portion of the FNSA and into the areas west of the Nenana River into Denali National Park, which are available only to federally qualified subsistence users (Figure 2-20). Some of these residents also utilized Kodiak and areas in eastern and northern Alaska.

Taken together, these maps show a concentration of hunting in the component parts of the FNSA by the residents of each of those areas and who combine those practices with a pattern of traveling to more distant areas of the state for specific resources. In 1992 and again in 2013, the Joint Board determined that these areas should remain as part of the FNSA because of this dispersed hunting activity, because of the wildlife use patterns that fluctuated from high to low use (demonstrated through the per capita harvest levels, among other factors), and also because of the socioeconomic characteristics of available employment and income levels.

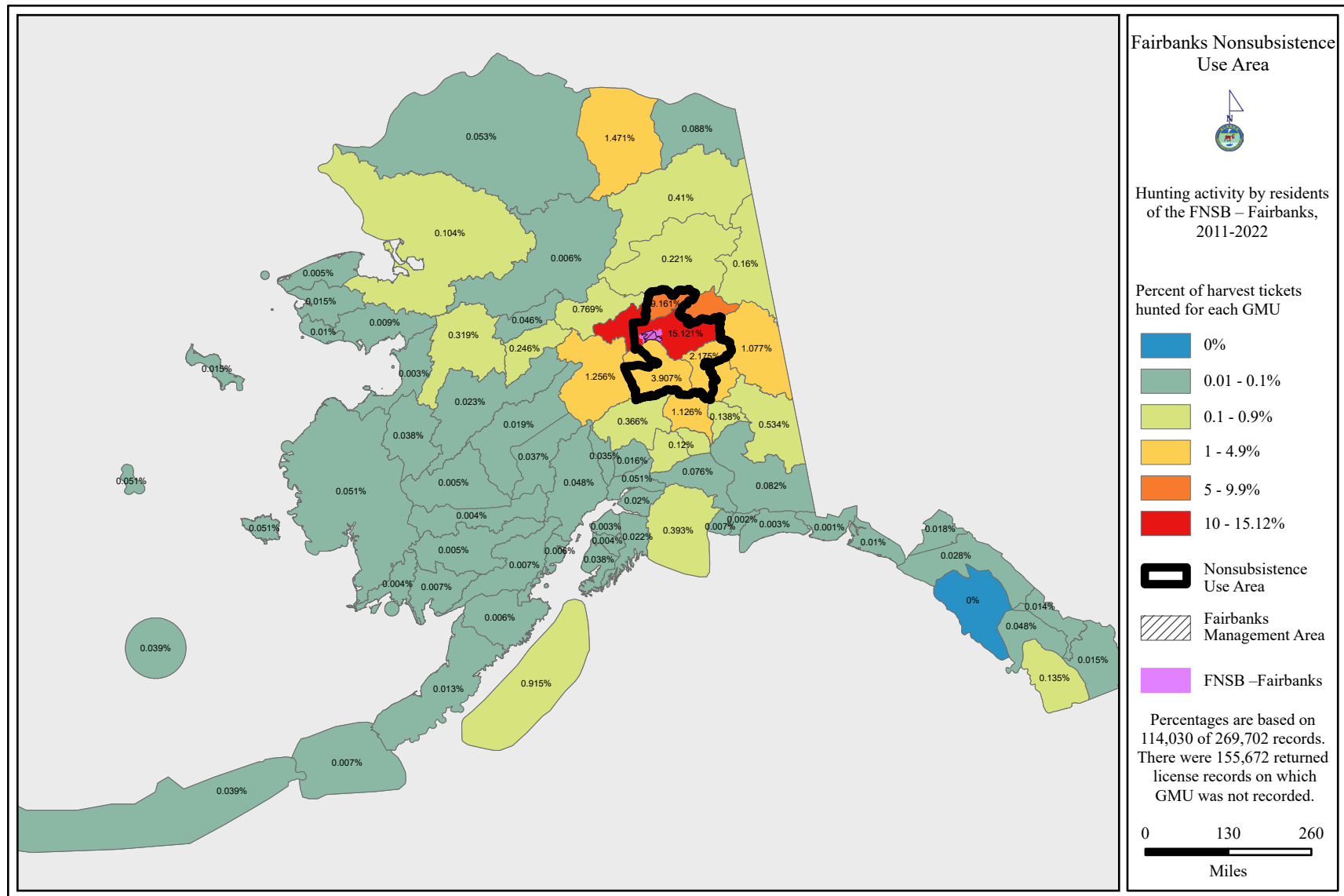


Figure 2-17.—Hunting density by residents of FNSB – Fairbanks, 2011–2022.

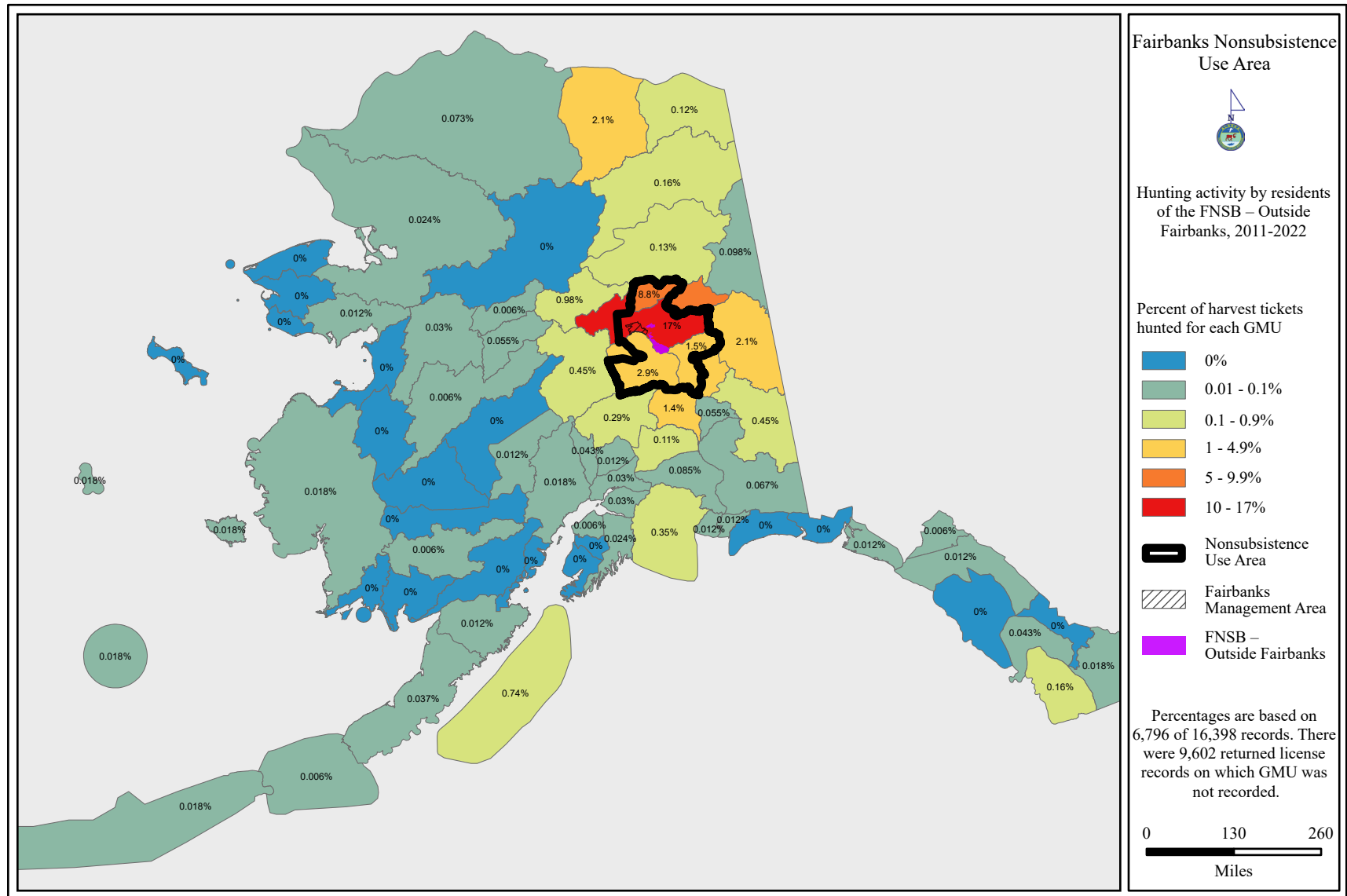


Figure 2-18.—Hunting density by residents of FNSB – Outside Fairbanks, 2011–2022.

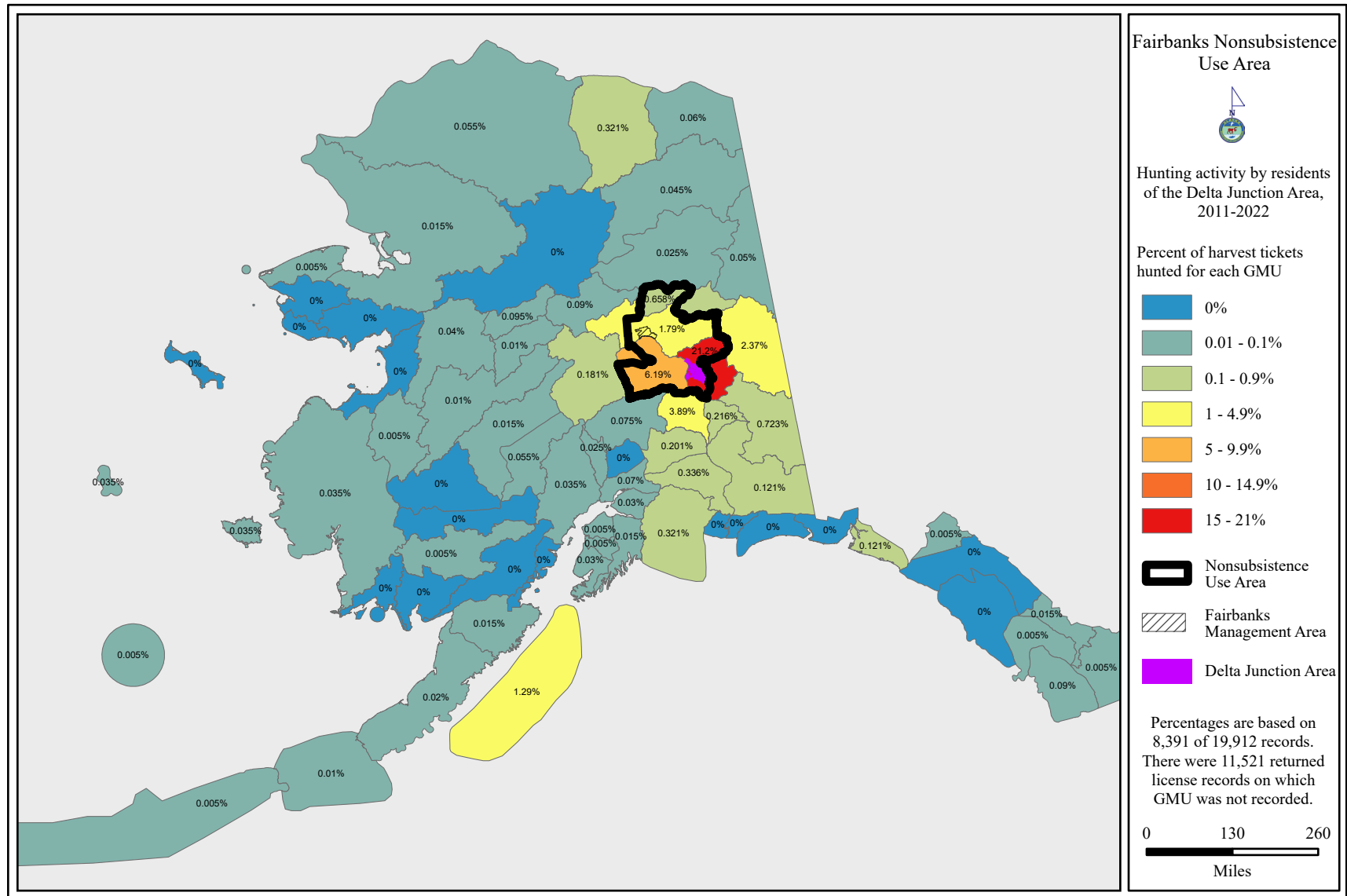


Figure 2-19.—Hunting density by residents of Delta Junction Area, 2011–2022.

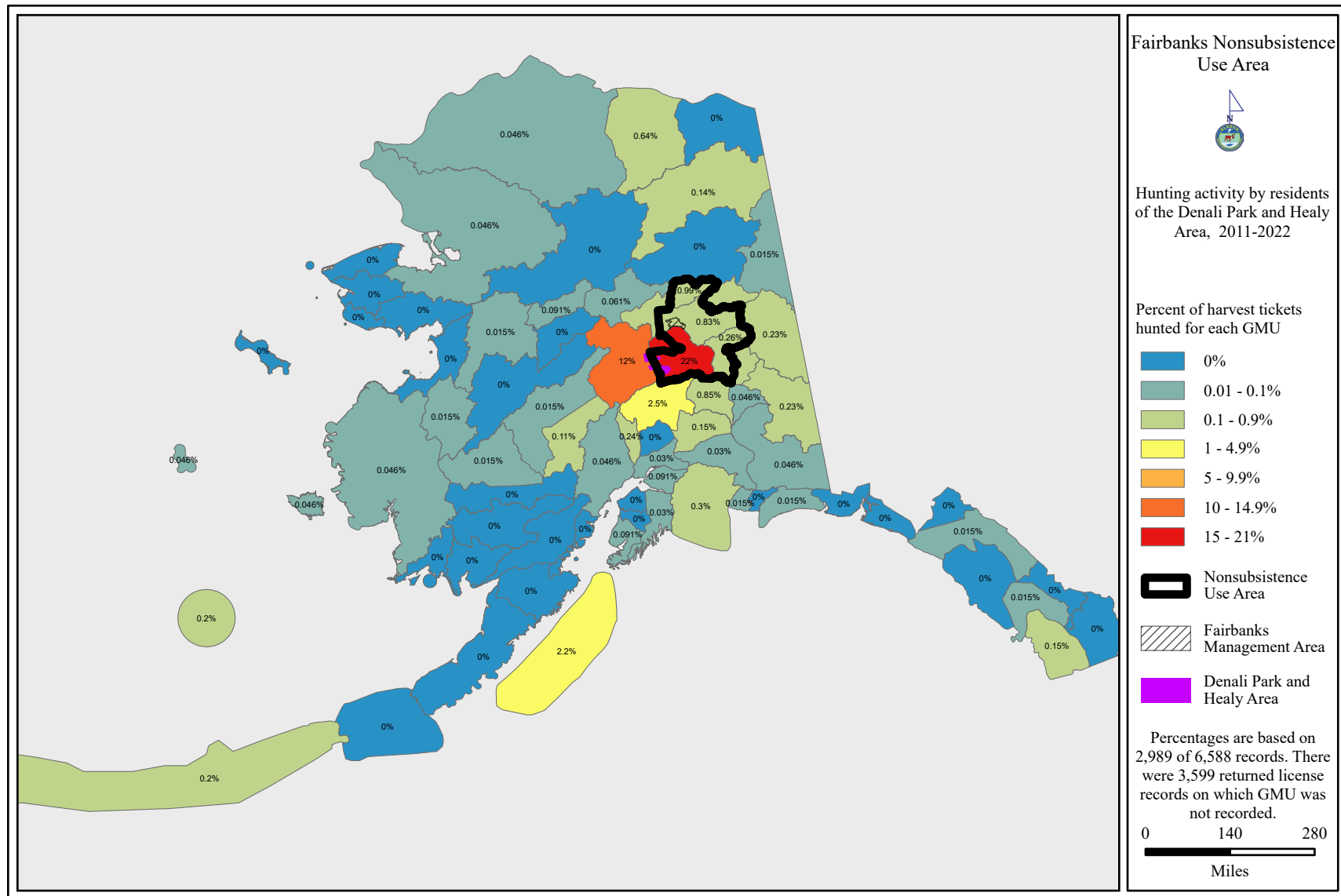


Figure 2-20.—Hunting density by residents of Denali Park and Healy Area, 2011–2022.

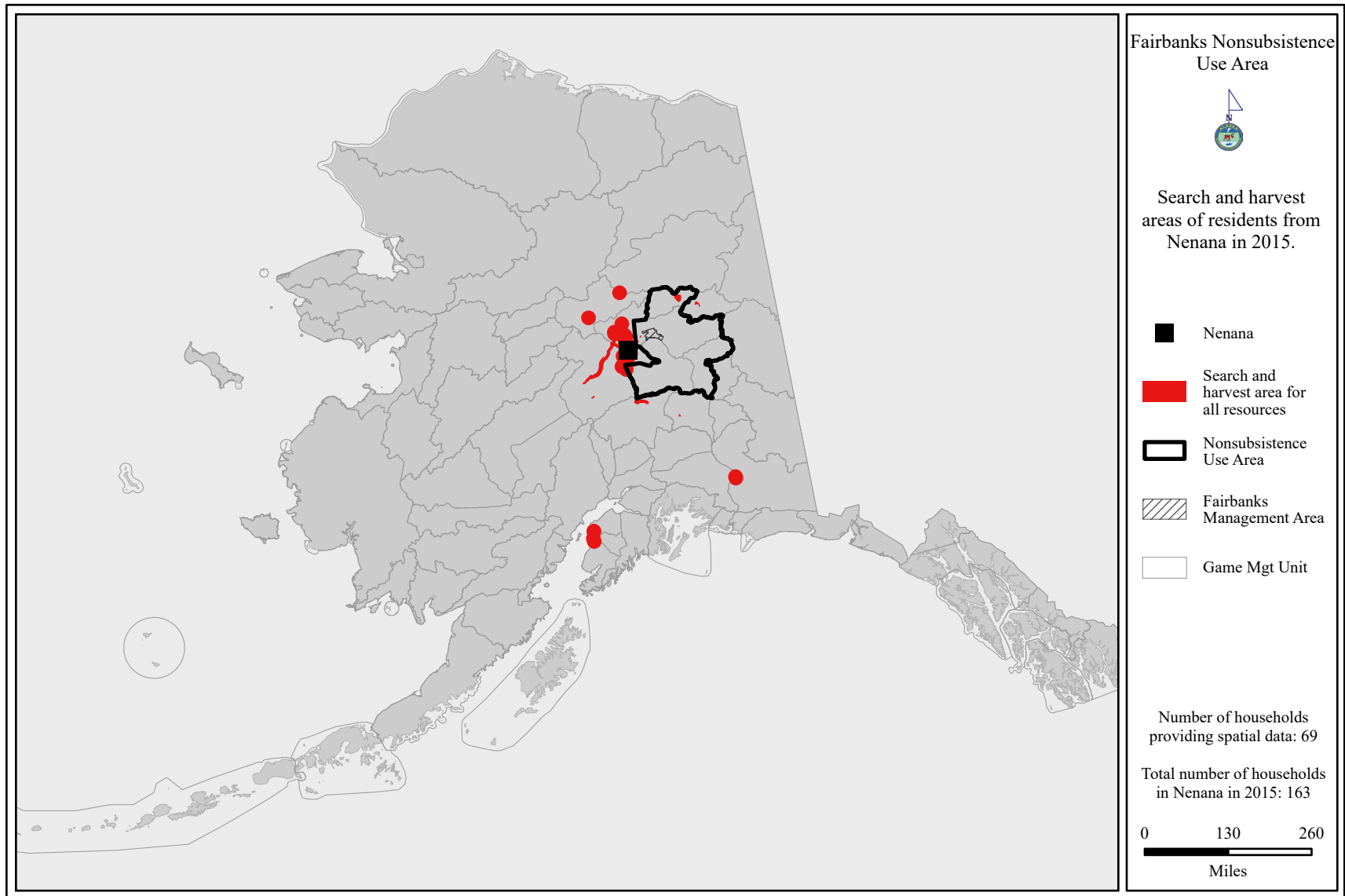


Figure 2-21.—Search and harvest areas, all resources, Nenana, 2015.

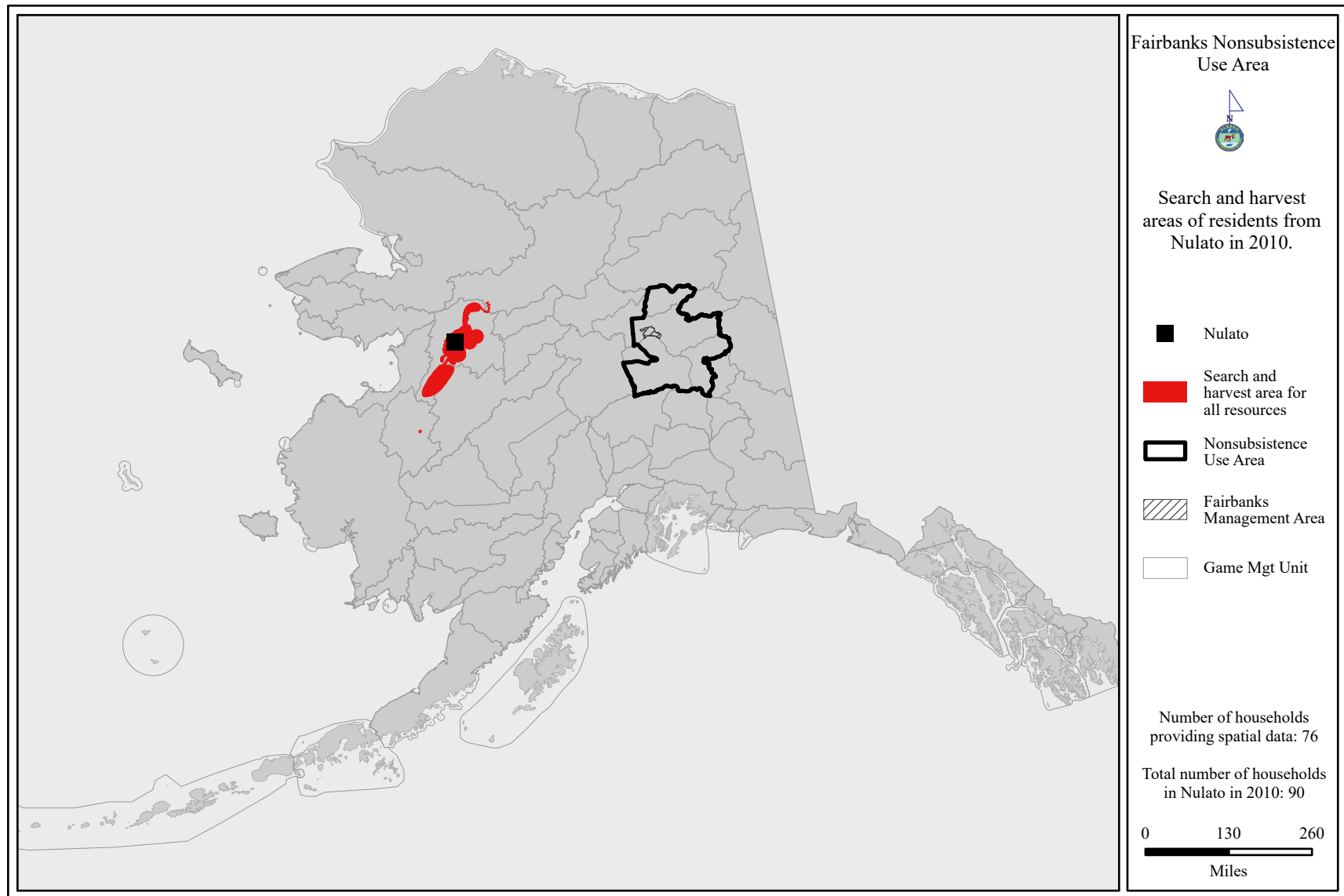


Figure 2-22.—Search and harvest areas, all resources, Nulato, 2010.

In contrast, Figure 2-21 and Figure 2-22 depict the subsistence use areas of the rural communities of Nenana, just outside of the FNSA, and Nulato, in the Yukon-Koyukuk Census Area. These data are derived from comprehensive subsistence surveys and aggregate the search and harvest areas for all subsistence resources combined for a single year. Both maps illustrate smaller use areas immediately around the communities with minimal use of areas distant from the communities; both patterns are consistent with subsistence-based economies.

12. The extent of sharing and exchange of fish and game by those domiciled in the area or community.

In November 1992, the Joint Board concluded the following regarding Factor 12 and the FNSA:

Sharing and exchange of wild fish and game occurs within and between families in and adjacent to the proposed area. The extent of sharing for the proposed area has not been quantified in all communities.

Since 2013, the department has adapted network analysis methods to more accurately quantify and depict sharing patterns within and between communities throughout the state. Although some level of sharing occurs between households within the nonsubsistence areas across the state, the dense sharing networks that characterize communities in the areas outside of nonsubsistence areas are generally understood to exist on a much larger scale both in terms of the number and amount of resources shared and the reach of network to include more households. These sharing networks are often culturally- and kinship-specific and play an important role in distributing resources among all households within rural communities.

As noted earlier, the percentage of the population that reported being of Alaska Native descent is not directly related to the Joint Board's prior identification of nonsubsistence areas. However, as also previously noted, the Alaska Legislature found that "customary and traditional uses of Alaska's fish and game originated with Alaska Natives, and have been adopted and supplemented by many non-Native Alaskans as well."⁹ These customary and traditional uses established by Alaska Natives continue in most rural places. Wolfe and Walker (1987) found that the percentage of a community's population that is Alaska Native is a strong predictor of subsistence harvest levels and other factors such as sharing of subsistence resources, which are key factors for identifying nonsubsistence areas.

Figure 2-23 depicts a sharing network from the rural community of Nenana from 2015. As part of the community's comprehensive subsistence survey research, households provided basic demographic information including self-identification as Alaska Native. In total, approximately 35% of community members identified as Alaska Native (Brown and Kostick 2017:165). Recall that the proportion of the Alaska Native population in the component parts of the FNSA ranged from 4% Alaska Native in the Delta Junction Area to 12% in the FNSB – Fairbanks area. In Figure 2-23, Alaska Native households are depicted as blue squares while non-Native households are shown as yellow squares. The squares, or nodes, representing individual households are scaled to represent levels of subsistence harvest where the larger the node, the greater the household's harvest. The lines between nodes represent sharing events and are weighted to represent multiple flows of resources from one household to another (i.e., the thicker the line the more resources shared). Further, households that are more heavily involved in sharing migrate to the center of the diagram, while households that are less involved populate the perimeter. The preponderance of Alaska Native households are at the center. Although some non-Native households are found in the center of this diagram, suggesting significant involvement in sharing practices, the majority are at the perimeter. Additionally, the vertical line of turquoise blue and yellow squares in the upper left corner are referred to as "isolates," which are households that are not connected to other households through the sharing of subsistence resources. The vast majority of these are non-Native households. Together, these elements suggest that even in rural communities that have significant populations of both Native and non-Native households, the sharing patterns appear much stronger between Native households. This is likely because of the established role of kinship in sharing practices and the traditional and historical relationships that shape these patterns.

9. See 17th (1991–1992) Legislature Bills and Resolutions, House Bill 552, Section 1. Findings, Purpose, and Intent (a)(3).

These data also have a geographic facet outside of the confines of the households that compose the community. Small purple circles represent communities to which households in Nenana sent wild resources. Although many of these nodes are rural communities, it is important to note that Fairbanks features prominently at the center of this diagram with multiple lines leading to it, indicating, again, that Nenana households send a lot of food into Fairbanks. The data do not define the relationships between households in Nenana and Fairbanks, but it is reasonable to assume that many are structured by kinship and other social relationships. These food flows may also provide information about shifting demographics between rural and urban Alaska.

PROPOSAL SUMMARY

Proposal 19 asks the Joint Board to reduce the size of the current FNSA by considering the differences and similarities among areas *within* the FNSA and to determine if these sub-areas are consistent or inconsistent with the 12 factors that characterize nonsubsistence areas. This report has provided data from these component areas, where available, and also provided comparative data from areas fully outside of a nonsubsistence area. In 1992 and 1993, the Joint Board found that “industrial capitalism” characterized the social and economic structures of the FNSA, with relatively stable cash sectors, diverse employment, and cash incomes at or above state averages (i.e., factors 1–4, 7). Updated data for the component parts of the FNSA show a continued diversity of employment opportunities in multiple sectors of the cash economy. On average from 2011–2022, per capita incomes in the component parts of the FNSA more closely approximated the state average of \$33,062 than they did the average per capita income in the Yukon-Koyukuk Census Area (which is outside the nonsubsistence area) of \$19,245. Further, average unemployment levels for 2011–2022 remained low in all component parts of the FNSA, being comparable to the statewide level (7.9%) and dissimilar when compared to that of the Yukon-Koyukuk Census Area outside of the FNSA (19%).

Regarding fish and wildlife harvests and uses by residents of the FNSA (i.e., factors 6, 8–12), for the 12-year period of 2011–2022, the estimated harvest of fish and wildlife by residents of the FNSA averaged 17.4 lb per person compared to an average of 20 lb per person found in the earlier five-year period from 2007–2011, identifying a downward trend in harvest over time. The component areas of the FNSA ranged from 14.7 lb for the Fairbanks area to 48.1 lb in the Denali Park and Healy Area—all much smaller harvests compared to 322.9 lb per person by residents of rural Interior Alaska located outside of the FNSA and the statewide average outside nonsubsistence areas of 276 lb per capita. Indeed, per capita harvests in the component areas of the FNSA were more similar to those found in other nonsubsistence areas and urban communities (15 lb per person in Anchorage to 38 lb per person in Valdez).

Trends in the areas used by residents of nonsubsistence areas to hunt and fish (i.e., concentrated hunting around where they live but with distant travel to other areas of the state to obtain other resources) have not changed notably during the recent period of 2011–2022 when compared to the period of 1986–1991 (i.e., Factor 11), which was used to define the current nonsubsistence areas.

Finally, regarding Factor 12, a notable characteristic of subsistence-based economies is the extent and density of sharing practices that are often steeped in cultural values and structured by kinship and other social relationships. New analytical techniques offer methods for visualizing sharing networks in rural communities. Although sharing practices also exist among residents of nonsubsistence areas, the Joint Board determined that these practices are not a defining characteristic of the nonsubsistence areas.

REFERENCES

- ADF&G, (ADF&G Division of Subsistence). 1992. *Report on proposed nonsubsistence areas*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 335: Anchorage. <https://www.adfg.alaska.gov/techpap/TP335.pdf>
- . 2011. *Proposed changes to nonsubsistence areas*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 336: Anchorage. <https://www.adfg.alaska.gov/techpap/TP336.pdf>
- Brown, C.L., T. Bembenic, M. Brown, H. Cold, J. Coleman, E. Donaldson, J. Egelhoff, B. Jones, J.M. Keating, L.A. Sill, M. Urquia, C. Wilcox, and T. Barnett. 2023. *Alaska Subsistence and Personal Use Salmon Fisheries 2020 Annual Report*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 494: Anchorage. <http://www.adfg.alaska.gov/techpap/TP494.pdf>
- Brown, C.L., N.M. Braem, A. Trainor, L.J. Slayton, D.M. Runfola, C. McDevitt, J.J. Simon, and M.L. Kostick. 2016. *Harvests and uses of wild resources in 4 Interior Alaska communities and 3 Arctic Alaska communities, 2014*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 426: Fairbanks. <https://www.adfg.alaska.gov/techpap/TP426.pdf>
- Brown, C.L., H. Cold, L. Hutchinson-Scarborough, B. Jones, J.M. Keating, B.M. McDavid, J. Park, L.A. Sill, M. Urquia, and T. Barnett. 2022. *Alaska Subsistence and Personal Use Salmon Fisheries 2019 Annual Report*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 490: Anchorage. <http://www.adfg.alaska.gov/techpap/TP490.pdf>
- Brown, C.L. and M.L. Kostick. 2017. *Harvest and Use of Subsistence Resources in 4 Communities in the Nenana Basin, 2015*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 429: Fairbanks. <http://www.adfg.alaska.gov/techpap/TP429.pdf>
- Brown, C.L., L.J. Slayton, A. Trainor, D.S. Koster, and M. Kostick. 2014. *Wild resource harvests and uses, land use patterns, and subsistence economies in Manley Hot Springs and Minto, Alaska, 2012*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 400: Fairbanks. <http://www.adfg.alaska.gov/techpap/TP400.pdf>
- Fall, J.A. ed. 2013. *Report on proposed changes to nonsubsistence areas*. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 386: Anchorage. <http://www.adfg.alaska.gov/techpap/TP386.pdf>
- . 2018. *Subsistence in Alaska: a year 2017 update*. Alaska Department of Fish and Game Division of Subsistence: Anchorage. http://www.adfg.alaska.gov/static/home/subsistence/pdfs/subsistence_update_2017.pdf
- Fried, N. 2012. *Household and personal income: recent release covers range of rural areas*. Alaska Economic Trends 32(8), pages 14–15.
- Goldsmith, S. 2007. *The remote rural economy of Alaska*. University of Alaska Anchorage Institute of Social and Economic Research: Anchorage. https://iseralaska.org/static/legacy_publication_links/u_ak/uak_remoterural-economyak.pdf
- McDowell Group. 2009. *Alaska geographic differential study 2008*. State of Alaska Department of Administration: Alaska. <http://doa.alaska.gov/dop/gds/home.html>
- Nelson, L.B. 2007. *Comments on specific proposals for October 5-8, 2007 Joint Boards of Fisheries and Game meeting*. State of Alaska, Department of Law, Memorandum File No. 993-08-0049. <https://www.adfg.alaska.gov/static/regulations/regprocess/PDFs/jbmeetings/2007-10-5/DeptofLaw.pdf>
- U.S. Census Bureau. n.d. *2020 Decennial Census and American Community Survey data*. U.S. Department of Commerce, Bureau of the Census, Explore Census Data Homepage: Washington, D.C. <https://data.census.gov/cedsci/>
- Wolfe, R.J. and V. Fischer. 2003. *Methods for rural/non-rural determinations for federal subsistence management in Alaska*. University of Alaska, Institute of Social and Economic Research: Anchorage. https://scholarworks.alaska.edu/bitstream/handle/11122/12137/Rural_Final_Report2.pdf?sequence=1&isAllowed=y
- Wolfe, R.J. and R.J. Walker. 1987. *Subsistence economies in Alaska: productivity, geography, and development impacts*. Arctic Anthropology 24(2), pages 56–81.

APPENDIX A—PROPOSAL 19

PROPOSAL 19

5 AAC 99.015. Joint Board nonsubsistence areas.

Redefine the boundaries for the Fairbanks Nonsubsistence Area as follows:

Redefining the Fairbanks Nonsubsistence Area (FNSA) boundaries is not difficult and does not require the Joint Boards of Fisheries and Game to start over. I recommend that the qualifying characteristics boundary begins at the (board set) Fairbanks Management Area (FMA). (5 AAC: 92.530(10)). This boundary was developed for managing moose hunting where there are urban land use characteristics. It has a management strategy utilizing public and private lands (private lands with permission of the owner) and has only archery and primitive weapons components. Fishing is catch and release, limited harvest or stocked waters limited. The Tanana River is the southern boundary which fits with characteristics change between rural and nonsubsistence areas. Some rural traplines begin near the outer edges of the FMA but most are more remote but within the existing FNSA.

Other road accessible areas along the Richardson Highway (Salcha) or Chena Hot Springs Road or other roads leading out of the FMA could be reviewed and added to the FMA if the necessary nonsubsistence characteristics are found. The Fairbanks Fish and Game Advisory Committee would be a valuable resource to help with your review and setting new boundaries.

What is the issue you would like the board to address and why? This proposal asks the Joint Boards to review and change the boundaries of the Fairbanks Nonsubsistence Area (FNSA). The FNSA was defined over 30 years ago soon after the authority to create them. Then the characteristics of the "area" were not as important as finding an existing boundary. The Joint Boards started with the Fairbanks North Star Borough boundaries then added extra. The subsistence use characteristics were not differentiated between more urban developed areas and the rural non-developed characteristics of the borough and adjacent lands included. The developed areas within the borough still qualify under the definition (5 AAC: 99.016(a)). That is a nonsubsistence area is an area or community where dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the area or community. The more rural areas within the Fairbanks North Star Borough and the additions do have the characteristics that should remove them from the nonsubsistence area. The boards have consistently approved subsistence hunting and fishing in the nonsubsistence area although they are not supposed to do so.

For most other nonsubsistence areas the boundaries have been set on the change of land use characteristics. I estimate the FNSA is unnecessarily larger than it should be by 65%. In its existing configuration, rural communities like Delta Junction are close to the FNSA where the nonsubsistence "line" is 15 miles away but over 100 miles from urban Fairbanks. The land use characteristics in this southeast direction example are nonsubsistence for 20 to 25 miles from the urban center. The other 75 miles is rural, undeveloped, nearly roadless, and mostly upland fish and wildlife habitat. That area does not meet the codified characteristics for a nonsubsistence area.

South from Fairbanks NSA the urban and community characteristics completely stop at the north bank of the Tanana River. The existing nonsubsistence area extends more than 30 miles south of the river. None of that area has the characteristics of a nonsubsistence area. These examples support a review and a look at new boundaries. The original boundary was set when the boards were figuring out how to map out nonsubsistence areas. Most of the later nonsubsistence areas very closely followed city limit or local community boundaries.

Changing the FNSA boundaries would have several benefits to fish and wildlife users and to those entities who make the regulations to guide them. An example is the codified intent to avoid nonsubsistence areas where hunts have a subsistence component. The Fortymile caribou hunt zones include a large portion of the rural FNSA. Defined only by GPS points that overlap is difficult to impossible to find in the field. The zones follow game management subunits or watershed boundaries. Rivers and streams within the FNSA allow some subsistence harvest while most of the fishing activity is directed under sport fishing regulations on stocked waters.

The proposal asks the Joint Boards to consider new boundaries for the Fairbanks Nonsubsistence Area. The following adds a discussion of the 12 characteristics in AS 16.05.258(c). A nonsubsistence area is defined where “dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life”.

1. The social and economic structure. There is a clear difference in the land use patterns between the smaller Fairbanks Management Area and the far flung existing nonsubsistence area. The FMA consists of the urban area of Fairbanks and North Pole plus the suburban subdivisions. Outside this boundary there is very little residential development except along a few roads and the main highways (pointed out in the proposal). The FMA was created to be the type of boundary now defined as nonsubsistence. That is, residents can hunt, trap, and fish without interfering with their neighbors. There is virtually no business development outside the FMA except for natural resources extraction like gold mining, commercial firewood cutting, some timber cutting and some trail-oriented recreation opportunities. A complete change in residential and business land and resource uses.

2. The stability of the economy. The urban and suburban areas of the Fairbanks Management Area plus isolated strips along the Richardson and Steese Highways and Chena Hot Springs road are characterized by stable economies. The remainder of the existing nonsubsistence area’s economy is rural mining and some lumber and firewood cutting. (Mining being less stable and most everything else based on renewable resources).

3. The extent and the kinds of employment for wages, including full-time, part-time, temporary, and seasonal employment. I would estimate that 98% of all employment is within the Fairbanks Management Area plus the road corridors listed. Wood cutting and mining, both small scale are present outside the FMA but are seasonal only. Employment is nearly nonexistent in the area I am recommending to remove from the existing nonsubsistence area.

4. The amount and distribution of cash income among those domiciled in the area or community. As is #3, the urban and suburban areas are mainly a cash economy. The FMA population is near 100,000.

5. The cost and availability of goods and services to those domiciled in the area or community. The goods and services needed to support the Fairbanks community are all found within the areas I am requesting you define as the Fairbanks Nonsubsistence Area.

6. The variety of fish and game species used by those domiciled in the area or community. The Fairbanks community uses almost all of the big and small game resources that have habitat in the Interior. They use all of the fish resources in the Tanana and Chena Rivers and stocked waters close to the community. Because of the transportation systems available, community members annually harvest fish and big game from all over Alaska. The few residents that would live outside the new boundaries also have access to the transportation systems.

7. The seasonal cycle of economic activity. The Fairbanks community has a stable year around population. The economy supports a large nonresident tourist influx in the summer season. The new nonsubsistence area would not be economically changed by any seasonal activity.

8. The percentage of those domiciled in the area or community participating in hunting and fishing activities or using wild fish and game. Nearly every household participates to some degree. The number of hunting, trapping and fishing licenses sold by percentage of the community population far exceeds the percentages found in rural Alaska. Neighbors and families share resources and trappers both use and sell their furs. Taking into consideration the non-household residents (military on base, university staff and students, etc.) I would estimate 75% of the total number of those domiciled participate in some way.

9. The harvest levels of fish and game by those domiciled in the area or community. Making an estimated number is very difficult (one of the reasons the Subsistence Section of the Department of Fish and Game doesn't do it). A large number of big game animals are harvested each year because of the community's ability to reach various parts of Alaska. Small game is harvested locally. Fish, especially salmon, are harvested by the thousands for family household use and sharing. Fairbanks is home to the Chitina Dip Netters Association with thousands of members participating annually. As an example of their mobility, none of those fish are caught in the Fairbanks area or the Fairbanks non subsistence area.

10. The culture, social, and economic values associated with the taking of fish and game. Fairbanks area residents have a close relationship with fish, game and fur resources and many harvest enough to provide the fish and meat protein they eat without going to the market. The community places a high value on fish and game. Most families share with their friends and neighbors and that culture is greatly appreciated. For many families fishing season in summer and hunting season later in the year basically use all of the vacation time they have. Community residents travel long distances to participate in fishing and hunting.

11. The geographic locations where those domiciled in the area or community hunt and fish. Fairbanks and North Pole residents hunt all over the state. There are families with two or more generations who hunt caribou along the Dalton Highway corridor. Hundreds of them use Tier I and drawing tags to hunt a long way from home. Some hunt in the existing nonsubsistence area but outside the Fairbanks Management Area. There are dozens of families who have hunting and fishing cabins or camps along the rivers that are partly in and partly out of the existing nonsubsistence area. An example is Game Management Unit 20A where a significant number of any bull moose tags are available annually. Community hunters apply for those in high number. Unit 20A has no characteristics of a nonsubsistence area. No local economy, a very small number of residents, and eligibility in most hunts for even nonresidents. (Unit 20A should be removed from the FNSA).

12. The extent of sharing and exchange of fish and game by those domiciled in the area or community. Most families who harvest significant fish and or game resources share with their generational family members, not so much with neighbors and the community at large. As in many urban areas there are hunters who give away almost all of the game meat the harvest. The level of sharing and exchange is not as high a percentile as would be found in most rural areas.

Recap: There is a distinct boundary dividing the urban/suburban portions of the Fairbanks and North Pole community and the surrounding area. The nonsubsistence area should not extend for 100 miles through habitat that has no non-subsistence characteristics. That is the case with the existing non subsistence area.

PROPOSED BY: Mike Tinker

(EJ-F23-658)

APPENDIX B—SOURCES AND METHODS

Demographic Information

The federal decennial census, conducted by the U.S. Census Bureau, is the primary source of demographic information for Alaska communities (U.S. Census Bureau n.d.). Population estimates for years between the decennial censuses are developed by the Alaska Department of Labor and Workforce Development, Research and Analysis Section (ADLWD) using annual Permanent Fund dividend applications. The ADLWD website¹ includes detailed results of the federal censuses and state estimates. These sources are cited in tables as U.S. Census Bureau (1960–2020), American Community Survey (2011–2023), and Alaska Department of Labor and Workforce Development (2023).

Economic Data

Through 2000, the federal decennial census collected select social, economic, and housing data from the “long form,” administered to a sample of households. After 2000, the long form was replaced by the American Community Survey (ACS), also administered by the U.S. Census Bureau. The ACS is a nationwide, continuous survey that provides demographic, housing, social, and economic data every year based upon a sample of households. Beginning in 2010, the ACS has provided five-year average estimates of demographic, housing, social, and economic data. These five-year estimates are updated annually by removing the earliest year and replacing it with the latest year. The goal is to monitor social and economic trends in local communities. When this report was prepared, the most recent ACS data covered the period 2018–2022. Estimates of the number of jobs available within the Fairbanks North Star Borough were drawn from the U.S. Bureau of Labor Statistics.² Robust annual estimates and detailed breakdowns of economic information were available from the ADLWD; however, this information lacked the geographic granularity necessary for an area-by-area comparison.

Systematic household surveys conducted by the Alaska Department of Fish and Game Division of Subsistence collect data on employment, earned income, and other sources of income for selected communities. The results are reported in the Community Subsistence Information System (CSIS), an online database found at <http://www.adfg.alaska.gov/sb/CSIS/>. Findings are also reported in volumes of the Division of Subsistence Technical Paper Series.

Costs of Living

The Cooperative Extension Service of the University of Alaska Fairbanks used to conduct quarterly market basket surveys of the costs of food in selected Alaska communities. The findings were reported as an index relative to Anchorage, which was assigned a value of 100. For example, a community with food costs at 50% above those of Anchorage was assigned an index of 150. Due to funding cuts and agency reorganization, results are no longer provided online by the Cooperative Extension Service; however, the Division of Subsistence internally archived results.

In 2009, the McDowell Group (2009) published the findings of the *Alaska Geographic Differential Study 2008*, which it conducted for the Alaska Department of Administration. The study compared the costs of living in 18 “pools” or “sampling blocks” of communities, 12 individual communities, and 19 districts that matched those used in a similar study for 1985. Costs were estimated for six major categories (housing, food, transportation, clothing, medical, and other) and 21 subcategories. A “price differential” for each category was calculated relative to Anchorage, which for each category was assigned a value of 1.00. An overall “geographic cost of living differential” was also calculated.

Fish and Wildlife Harvest and Use Data

Most Alaska personal use and subsistence salmon fisheries require a permit and that a record of harvest be returned to the department. The department produces annual reports that summarize subsistence and

-
1. ADLWD, “Alaska Population Estimates,” <https://live.laborstats.alaska.gov/data-pages/alaska-population-estimates>
 2. U.S. Bureau of Labor Statistics, “Databases, Tables & Calculators by Subject,” https://data.bls.gov/timeseries/SMU022182000000000001?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true

personal use salmon harvests by species, location of harvest, and place of residence of the permit holders.³ For most subsistence salmon fisheries for which permits are not required, such as fisheries in the Kuskokwim Area and most of the Yukon Area, the department conducts post-season harvest surveys.⁴ For this report, harvests reported in numbers of salmon were converted to pounds usable weight using standard Division of Subsistence factors.

The ADF&G Division of Sport Fish conducts an annual mail survey (Statewide Harvest Survey) of a random sample of sport fishing license holders to estimate sport fish harvests by water body and species. The Division of Sport Fish analyzed the angler survey data for 2011–2022 to produce estimates of sport harvests by residents of nonsubsistence areas, the remainder of the state, and nonresidents. Harvests reported in numbers of fish or other units were converted to pounds usable weight using standard Division of Subsistence factors as well as data provided by the Division of Sport Fish on the average weights of sport-caught Pacific halibut.

Most Alaska harvests of big game must be reported to the ADF&G Division of Wildlife Conservation, which compiles the information in the Wildlife Information Network (WinfoNet) database. Reported harvests in the database are not expanded to account for nonreporting. For this report, big game harvests were aggregated by place of residence of the hunter. Harvests reported in numbers of animals were converted into pounds usable weight using standard Division of Subsistence factors.

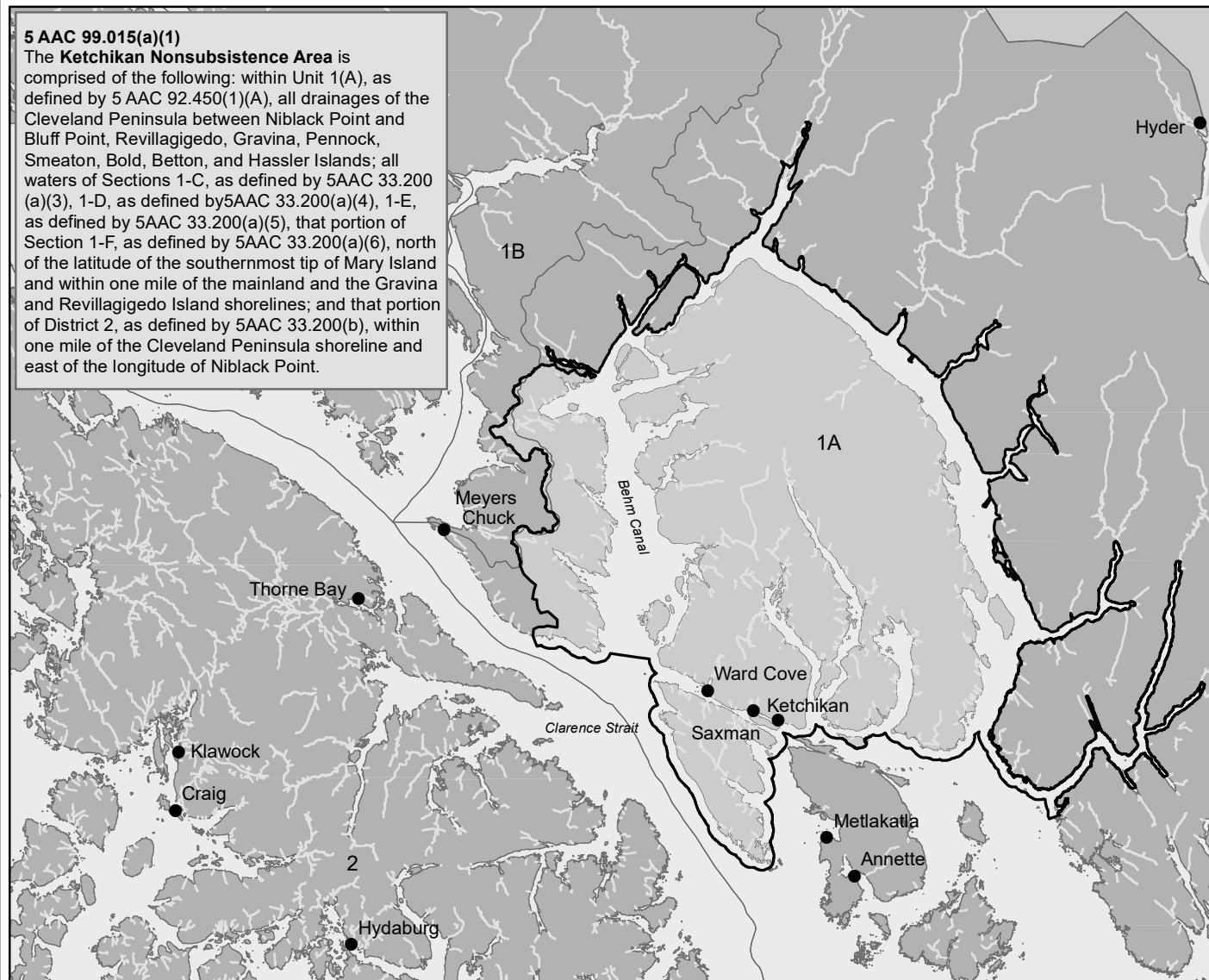
The Division of Subsistence conducts comprehensive household surveys to collect harvest information for all finfish, shellfish, wildlife, and wild plant resources, and to estimate harvests at the community level. Study findings appear in the division's Technical Paper Series and are summarized in the CSIS. The CSIS includes 549 comprehensive datasets for 251 communities. Not all Alaska communities are represented in the CSIS. Most of these studies are supported through special project funding.

-
3. Brown et al. (2023) presents the most recent annual report of subsistence and personal use salmon harvest results from returned permits.
 4. McDevitt and Koster (2022) presents the most recent Kuskokwim Management Area postseason salmon harvest survey results.

APPENDIX C—JOINT BOARD NONSUBSISTENCE AREAS


5 AAC 99.015(a)(1)


The **Ketchikan Nonsubsistence Area** is comprised of the following: within Unit 1(A), as defined by 5 AAC 92.450(1)(A), all drainages of the Cleveland Peninsula between Niblack Point and Bluff Point, Revillagigedo, Gravina, Pennock, Smeaton, Bold, Betton, and Hassler Islands; all waters of Sections 1-C, as defined by 5AAC 33.200(a)(3), 1-D, as defined by 5AAC 33.200(a)(4), 1-E, as defined by 5AAC 33.200(a)(5), that portion of Section 1-F, as defined by 5AAC 33.200(a)(6), north of the latitude of the southernmost tip of Mary Island and within one mile of the mainland and the Gravina and Revillagigedo Island shorelines; and that portion of District 2, as defined by 5AAC 33.200(b), within one mile of the Cleveland Peninsula shoreline and east of the longitude of Niblack Point.



Ketchikan Nonsubsistence Use Area



 Nonsubsistence
Use Area

 Game Management
Unit



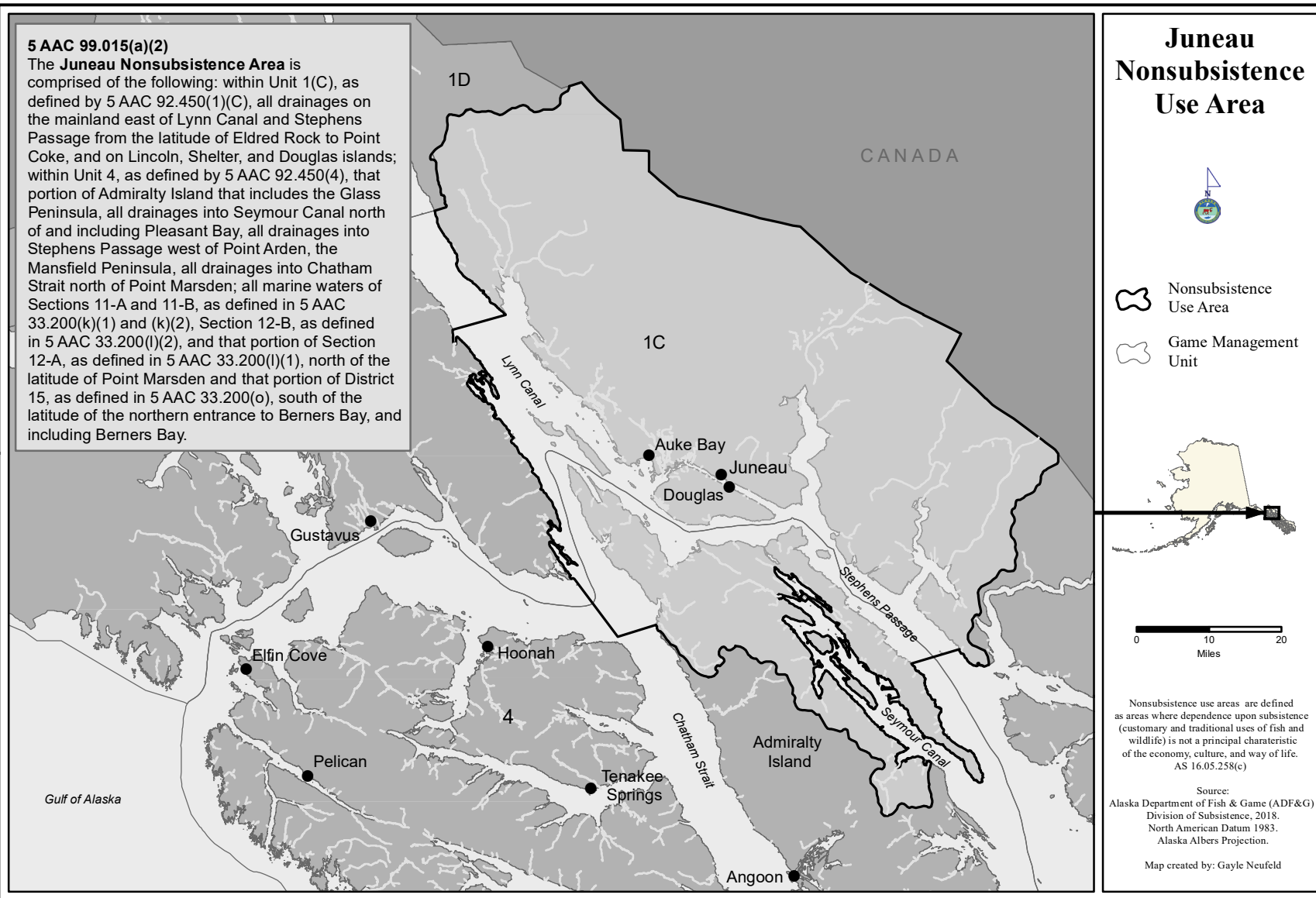
0 10 20
Miles

Nonsubsistence use areas are defined as areas where dependence upon subsistence (customary and traditional uses of fish and wildlife) is not a principal characteristic of the economy, culture, and way of life.
AS 16.05.258(c)

Source:
Alaska Department of Fish & Game (ADF&G)
Division of Subsistence, 2018.
North American Datum 1983.
Alaska Albers Projection.

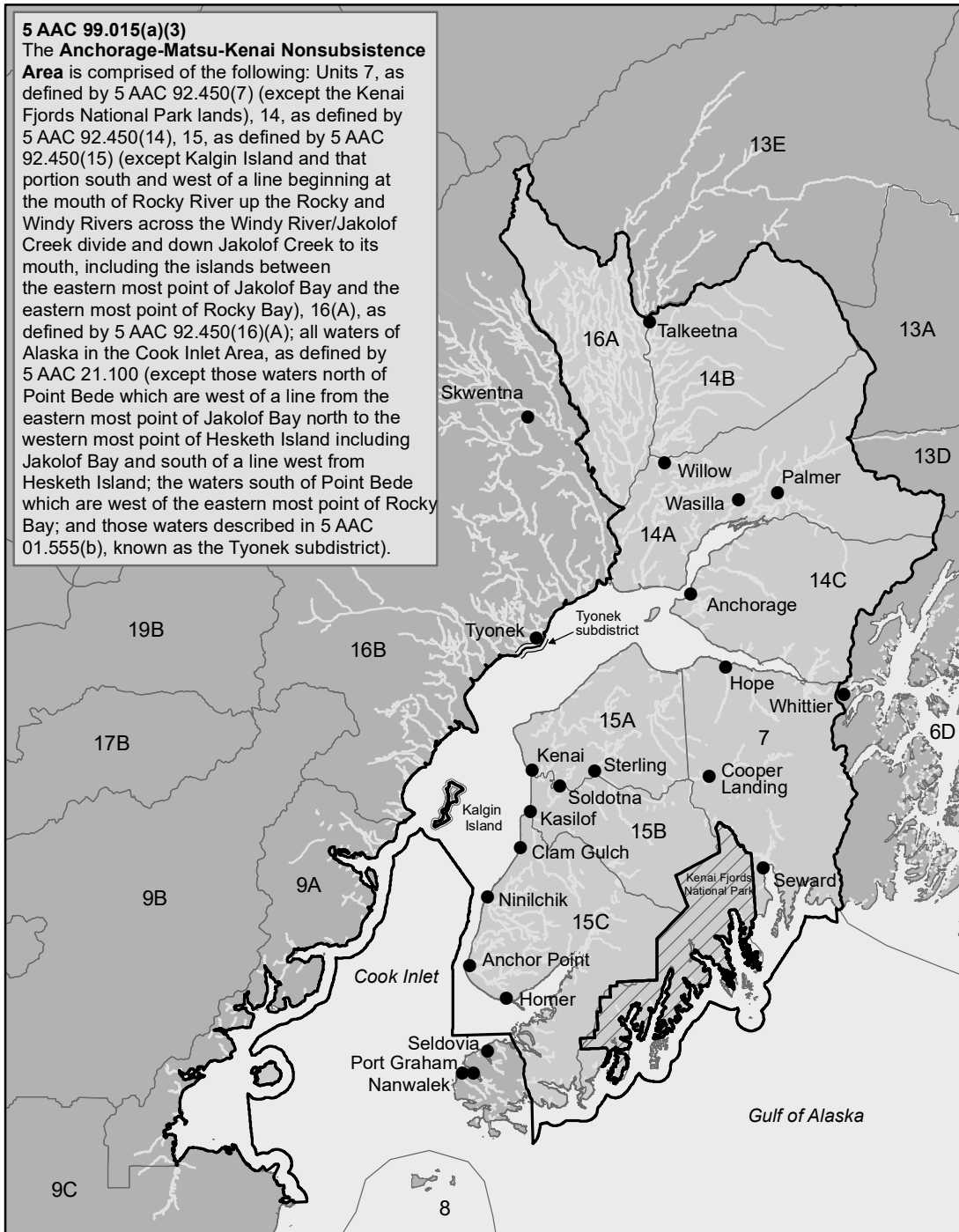
5 AAC 99.015(a)(2)

The **Juneau Nonsubsistence Area** is comprised of the following: within Unit 1(C), as defined by 5 AAC 92.450(1)(C), all drainages on the mainland east of Lynn Canal and Stephens Passage from the latitude of Eldred Rock to Point Coke, and on Lincoln, Shelter, and Douglas islands; within Unit 4, as defined by 5 AAC 92.450(4), that portion of Admiralty Island that includes the Glass Peninsula, all drainages into Seymour Canal north of and including Pleasant Bay, all drainages into Stephens Passage west of Point Arden, the Mansfield Peninsula, all drainages into Chatham Strait north of Point Marsden; all marine waters of Sections 11-A and 11-B, as defined in 5 AAC 33.200(k)(1) and (k)(2), Section 12-B, as defined in 5 AAC 33.200(l)(2), and that portion of Section 12-A, as defined in 5 AAC 33.200(l)(1), north of the latitude of Point Marsden and that portion of District 15, as defined in 5 AAC 33.200(o), south of the latitude of the northern entrance to Berners Bay, and including Berners Bay.



5 AAC 99.015(a)(3)

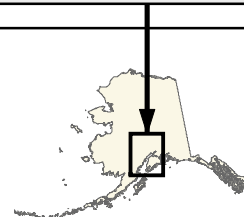
The **Anchorage-Matsu-Kenai Nonsubsistence Area** is comprised of the following: Units 7, as defined by 5 AAC 92.450(7) (except the Kenai Fjords National Park lands), 14, as defined by 5 AAC 92.450(14), 15, as defined by 5 AAC 92.450(15) (except Kalgin Island and that portion south and west of a line beginning at the mouth of Rocky River up the Rocky and Windy Rivers across the Windy River/Jakolof Creek divide and down Jakolof Creek to its mouth, including the islands between the eastern most point of Jakolof Bay and the eastern most point of Rocky Bay), 16(A), as defined by 5 AAC 92.450(16)(A); all waters of Alaska in the Cook Inlet Area, as defined by 5 AAC 21.100 (except those waters north of Point Bede which are west of a line from the eastern most point of Jakolof Bay north to the western most point of Hesketh Island including Jakolof Bay and south of a line west from Hesketh Island; the waters south of Point Bede which are west of the eastern most point of Rocky Bay; and those waters described in 5 AAC 01.555(b), known as the Tyonek subdistrict).



**Anchorage-Matsu-Kenai
Nonsubsistence Use
Area**

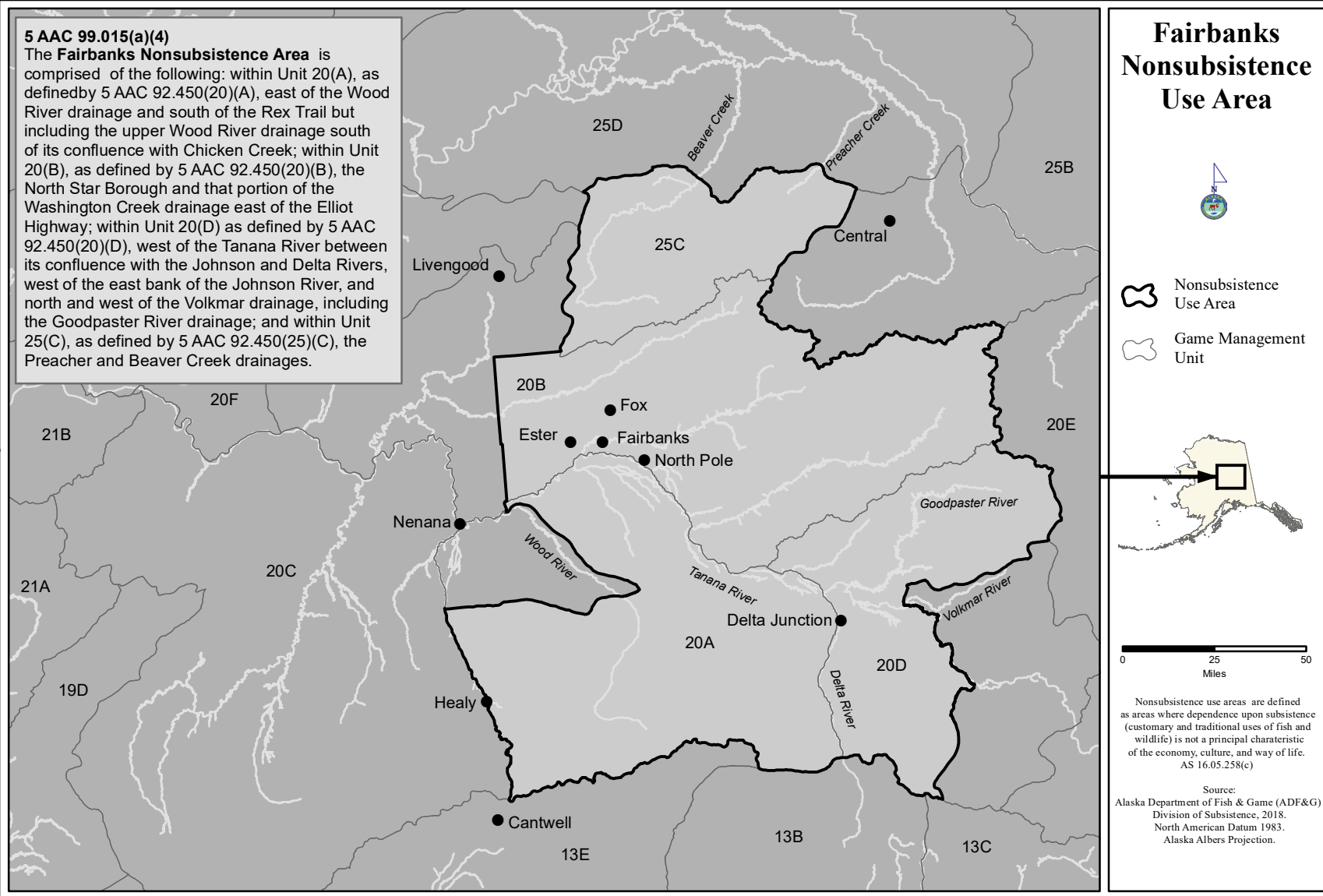


- Tyonek Subdistrict
- Nonsubsistence Use Area
- Game Management Unit
- Kalgin Island: Open to subsistence use
- Kenai Fjords Nat'l Pk (closed to all subsistence use)



5 AAC 99.015(a)(4)

The **Fairbanks Nonsubsistence Area** is comprised of the following: within Unit 20(A), as defined by 5 AAC 92.450(20)(A), east of the Wood River drainage and south of the Rex Trail but including the upper Wood River drainage south of its confluence with Chicken Creek; within Unit 20(B), as defined by 5 AAC 92.450(20)(B), the North Star Borough and that portion of the Washington Creek drainage east of the Elliot Highway; within Unit 20(D) as defined by 5 AAC 92.450(20)(D), west of the Tanana River between its confluence with the Johnson and Delta Rivers, west of the east bank of the Johnson River, and north and west of the Volkmar drainage, including the Goodpaster River drainage; and within Unit 25(C), as defined by 5 AAC 92.450(25)(C), the Preacher and Beaver Creek drainages.





5 AAC 99.015(a)(5)

The **Valdez Nonsubsistence Area** is comprised of the following: within Unit 6(D), as defined by 5 AAC 92.450(6)(D), and all waters of Alaska in the Prince William Sound Area as defined by 5 AAC 24.100, within the March 1993 Valdez City limits.

Valdez Nonsubsistence Use Area



 Nonsubsistence
Use Area

 Game Management
Unit



0 9 18
Miles

Nonsubsistence use areas are defined as areas where dependence upon subsistence (customary and traditional uses of fish and wildlife) is not a principal characteristic of the economy, culture, and way of life.
AS 16.05.258(c)

Source:
Alaska Department of Fish & Game (ADF&G)
Division of Subsistence, 2018.
North American Datum 1983.
Alaska Albers Projection.

13D

14A

14C

6D

Valdez

Valdez
Arm

Tatitlek

College
Fjord

Prince William Sound

Orca
Bay

6C

Cordova

**APPENDIX D—JOINT BOARD FINDING IN
1992: FAIRBANKS NONSUSTINENCE AREA**

**FAIRBANKS NONSUBSISTENCE AREA
FINDINGS
#92-24-JB**

A. Introduction to Written Findings: During the publicly convened board meeting on November 1 - 7, 1992, the Joint Boards of Fisheries and Game (Joint Board) heard and considered public testimony, ADF&G staff reports and advisory committee reports, and deliberated on the information in relation to the totality of the twelve socio-economic characteristics in the 1992 subsistence law at AS 16.05.258(c). Based on the information and deliberations the Joint Board found that in the Fairbanks-Denali area described in Section B below, subsistence is not a principal characteristic of the economy, culture, and way of life. The Joint Board incorporates by reference the information provided by ADF&G in the worksheets included in the Joint Board Workbook. Additionally the board found the following:

Geographic locations where those domiciled in the area or community hunt and fish: The Joint Board examined (under factor 11) patterns of hunting and fishing by residents of the proposed nonsubsistence area. The Board finds that area residents hunt and fish throughout the proposed area as well as GMU 13 and other areas of the state. The Board considered including the Minto Flats State Game Refuge and later added the Minto Flats Management Area and Uniform Coding Unit 0100 south of the Tanana River. The additional area was used by residents of the proposed nonsubsistence area for fishing and hunting for moose, waterfowl, and other wildlife uses. The Minto Refuge and Management Area was removed from consideration as a nonsubsistence area based on information submitted by the department from a 1983-84 household survey of Minto residents and wildlife use and consumptive patterns. Specifically there is not a well developed cash economy. Only 25 percent of the population is employed, primarily in seasonal jobs. 75 percent of the residents were below the poverty level with only a third having motor vehicles. There is a small store but costs are 1.8 times those of Fairbanks. There is a high use of fish and game resources by Minto residents which is consistent with a subsistence lifestyle dependent on the natural resources.

In discussing the area of 20(C) west of the Nenana River, the Board concluded that the land area in the proposed nonsubsistence area was predominantly Denali National Park over which the State has no authority. Hunting is by subsistence permit only and restricted to rural residents as defined by Federal regulations. This area was removed from the proposed nonsubsistence area. Additionally, the board reviewed fish and game harvest and use patterns of the residents along the Parks Highway in GMU 20(A) between Nenana and Wood Rivers to see if that area should be removed from the nonsubsistence area. In applying the 12 factors, the Board found a mixed social and economic lifestyle that was characterized by

average incomes higher than Fairbanks and wildlife use patterns that fluctuated from high to low use. The proximity to Fairbanks, employment at the Usibelli Mine, Clear Air Force Base, Golden Valley Power Plant and Denali National Park and the accompanying service sectors brought many jobs, some seasonal in nature. The use patterns of highway residents showed use of the area, i.e., an average annual moose harvest by Healy residents of 8.3, Denali Park 2.3, Anderson 6.5 and Fairbanks of 155.8; an average annual sheep harvest by Healy residents of 5.7, Denali Park 1.3, Anderson 3, and Fairbanks 45. Based on the totality of the factors, the Board left the area in the proposed nonsubsistence area as it determined it was an area used by a high percentage of the residents of the nonsubsistence area.

1. The socio-economic structure: The socio-economic structure of this area is consistent with the information provided by the ADF&G in no. 1 of the nonsubsistence area report for proposal no. 1. The Board recognizes that most segments of the population within the area support an industrial-capitalism economy. However, there is a mixture of lifestyles and a high percent of the residents obtain food by hunting and fishing. Evidence supplied by Board members from the area support the department's information indicating that Fairbanks typifies the type of cash economy envisioned by the legislature as a nonsubsistence area. Based on the information presented and the Board's discussion, the Board found that subsistence was not a principal characteristic of the socio-economic structure.

2. The stability of the economy: The Board found that the information presented in Section 2 of the ADF&G staff report indicates that the Fairbanks area's economy is heavily dependent on government, military, and services jobs. Unemployment is low, 10.7 percent, compared to remote isolated Alaskan communities where unemployment is above 30 percent and the state average of 9.7%. Overall wages are higher than most areas of the state, unemployment is low, and the numbers of jobs are expanding. The board concludes the area has a relatively stable industrial-capitalism economy and subsistence is not a principal characteristic of the economy.

3. Extent and kinds of employment for wages, including full time, part time, temporary, and seasonal employment: Department of Labor statistics for 1991 have 27,800 jobs in Fairbanks of which 7,650 are in military, 9,950 in government, 6,250 in services, 6,400 in trade, and 600 in manufacturing. This indicates the heavy dependence in Fairbanks on government and military employment. The Board also explored the Department of Labor statistics for Healy and McKinley Village communities within the proposed area. Based on percent of households having employed members (1987), Healy has 53 percent employed in mining, 20 percent in transportation/utilities/communications, 19 percent in services,

and 29 percent in government (local, state, & federal). McKinley Village's percent of households having employed members for 1987 were 10 percent in mining, 18 percent for transportation/utilities/communications, 13 percent services, and 74 percent in government (local, state, & federal). Reviewing Fairbanks and McKinley Village labor statistics, reveals a capital-industrial economy. Reliance on subsistence is not a principal characteristic of the area.

4. The amount and distribution of cash income among those domiciled in the area or community: In 1989 the average per capita income for the Fairbanks North Star Borough was \$15,914, slightly below Alaska's average of \$17,610. The average income in 1989 for McKinley Park Village was \$20,917, in Healy \$18,160. Board members summarized the economic data for Delta Junction and Fort Greely based on personal knowledge and information provided the Board by ADF&G. The average household incomes discussed in Delta Junction and Fort Greely were \$35 - 40,000 for Delta Junction and \$20 - 30,000 for Fort Greely. 11.5 percent of the households earning less than the federal poverty standards (1989) were in Fairbanks. The Board recognized that distribution of cash income varies among the residents within the proposed nonsubsistence area but is consistent with an urban environment in Alaska.

5. The cost and availability of goods and services to those domiciled in the area or community: The Fairbanks area has a large range of goods and services available. Fairbanks' cost of food index at 7 percent higher than Anchorage is relatively low for Alaskan communities. The cost of food index for Delta Junction is 33 percent higher than Anchorage and for the Parks Highway area is 56 - 89 percent higher. The communities located along the Parks Highway do most of their shopping in Fairbanks due to road access.

6. The variety of fish and game species used by those domiciled in the area or community: Residents of the proposed area used a wide variety of fish and game resources locally available as well as resources distant from their residence. Primary big game species used in order of importance are moose, caribou, sheep, black and brown bears. Major fish species include salmon, grayling, pike, burbot and white fish. Halibut are also taken in other areas of the state. The Board of Game previously found a positive customary and traditional finding for moose in Game Management Units (GMU) 20A, 20B, 20C & 20D. There were no findings for GMU 25C. There are also no findings for black and brown bears. There are negative findings for sheep in GMUs 20D and 25C, and negative findings for bison in GMU 20D. There were no positive C&Ts for caribou in the area. The Board of Fisheries previously determined positive C&Ts for salmon and other finfish (sheefish, white fish, lamprey, burbot, sucker, grayling, pike,

char, and blackfish). Subsistence fishing permits for residents of the nonsubsistence area were used mainly in areas along the Tanana River, outside the proposed area.

7. The seasonal cycle of economic activity: The Fairbanks area has seasonal fluctuations in economic activity related to tourism. The primary types of jobs in the Fairbanks area (government, military, services and trade) are not normally affected by seasonal changes. Residents along the Parks Highway have seasonal cycles of employment associated with Denali National Park tourism. Healy and Anderson residents are not affected as much by seasonal changes because of coal mine and electrical production employment. The Board finds overall economic activity of the proposed area to be representative of an economy where reliance on wage employment is a principal characteristic of the economy.

8. The percentage of those domiciled in the area or community participating in hunting and fishing activities or using wild fish and game: Based on a household survey in the Fairbanks North Star Borough, 50 - 59 percent hunted and 74 - 82 percent fished. In McKinley Park Village households, 70 percent fished and 45 percent hunted. The Board notes some individual households within the proposed area may be hunting and fishing for larger amounts for food production, but overall residents of the proposed area hunted and fished for nonsubsistence use.

9. The harvest levels of fish and game by those domiciled in the area or community: The Board considered harvest levels of fish and game species in communities within the proposed area by using department reports and verbal and written comments by the public and Board members. The Board noted the range of pounds per person, per year for communities in the proposed area with Fairbanks at 16 pounds, Healy at 132 pounds and McKinley Village at 242 pounds. The Board finds the overall proposed area the harvest levels are representative of a nonsubsistence area.

10. The cultural, social, and economic values associated with the taking and use of fish and game: The Board notes there are subsistence uses outside the proposed area and protected Minto and Nenana subsistence uses when it deleted the proposed addition of the Minto Flats area. The Board determined the area's cultural, social, and economic values represent a nonsubsistence value system.

12. The extent of sharing and exchange of fish and game by those domiciled in the area or community: Sharing and exchange of wild fish and game occurs within and between families in and adjacent to the proposed area. The extent of sharing for the proposed area has not been quantified in all communities.

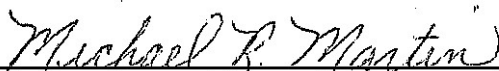
Conclusion: Based on all the information before the Joint Board, deliberations and the finding above, the Board concludes that dependence upon subsistence is not a principal characteristic of the economy, culture, and way of life of the Fairbanks/Denali areas as defined below. In making this determination, the Board noted that Fairbanks is easily defined as a nonsubsistence area when applying the 12 factors. There is a wide variety of uses and a mixture of lifestyles of which subsistence was not a principal characteristics of the area.

B. Area Boundaries

Based on the information provided to the Joint Board and the Board's deliberations, the Joint Board concludes that the boundaries of the Fairbanks Nonsubsistence area are as follows:

The Fairbanks Nonsubsistence Area is comprised of the following: within Unit 20(A) as defined by 5 AAC 92.450(20)(A) east of the Wood River drainage and south of the Rex Trail but including the upper Wood River drainage south of its confluence with Chicken Creek, within Unit 20(B) as defined by 5 AAC 92.450(20)(B) the North Star Borough and that portion of the Washington Creek drainage east of the Elliot Highway, within Unit 20(D) as defined by 5 AAC 92.450(20)(D) west of the Tanana River between its confluences with the Johnson and Delta Rivers, west of the west bank of the Johnson River, and north and west of the Volkmar drainage, including the Goodpaster River drainage, and within Unit 25(C) as defined by 5 AAC 92.450(25)(C) the Preacher and Beaver Creek drainages.

The Joint Board agrees with and incorporates by reference the ADF&G recommendations contained in the worksheets used during this deliberation. Based on examination of the 12 factors the Joint Board concludes that the reduced Fairbanks-Denali area is a nonsubsistence area.


Michael Martin, Chair
Joint Boards of Fisheries and Game

Adopted: November 7, 1992
Anchorage, Alaska