

# Tyonek Landfill

ADEC Permit: SW3A173-26

## Application for Permit Renewal

Submission Date: March 2, 2026

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Submitted To: Alaska Department of Environmental Conservation  
Division of Environmental Health  
Solid Waste Management Program  
555 Cordova Street  
Anchorage, Alaska 99501

Submitted By: HDR Engineering, Inc.  
582 E 36<sup>th</sup> Ave  
Anchorage, Alaska 99503

On Behalf Of: Kenai Peninsula Borough  
Solid Waste Department  
47140 East Poppy Lane  
Soldotna, Alaska 99669



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March 2, 2026

Ms. Rachel Mills  
Rural Landfill Specialist, Solid Waste Program  
Division of Environmental Health  
Alaska Department of Environmental Conservation  
555 Cordova St  
Anchorage, Alaska 99501

Subject: Tyonek Landfill - Solid Waste Permit No. SW3A173-26  
2026 Class III Community Landfill Permit Renewal Application

Dear Ms. Mills:

The Kenai Peninsula Borough (Borough) is seeking renewal of the municipal solid waste disposal permit for the Tyonek Landfill (TLF) in Tyonek, Alaska, which meets the requirements for a Class III facility as stated in 18 AAC 60.300(c)(3). A complete permit renewal application is enclosed. This permit renewal application is submitted to the Alaska Department of Environmental Conservation (ADEC) in accordance with 18 AAC 60.210 and 250. The current permit expires February 3, 2026.

The TLF is located approximately two miles northwest of the village of Tyonek. The landfill serves Tyonek residents and the surrounding rural community, located on the west side of Cook Inlet. General population served by the TLF is approximately 142 based on 2024 Alaska Division of Community and Regional Affairs (DCRA) data. The landfill serves the community that has a primarily rural subsistence style for its residents.

The TLF has been operational since the 1970s by the community and since the 1980s by the Borough. The landfill currently receives municipal solid waste, construction/demolition debris, junk ATVs and vehicles, and white goods. There is some commercial business activity to support miscellaneous oil and gas exploration firms. The annual burial tonnage was recalculated in 2025, and estimated to be less than 300 tons per year (<1 ton/day). This is the same estimated tonnage as the 2021 application, indicating waste disposal has stayed consistent.

Tyonek Native Corporation (TNC) owns the 605-acre parcel (Borough Parcel #21107018) located northwest of the native village of Tyonek. The community is accessible by air and water.

Based on recent April 2025 topographic survey data (Seward Meridian), community waste generation rates, and population data, the existing disposal area has approximately 5 years of remaining airspace. The landfill is projected to receive waste past 2030; therefore, TNC has proposed a 1.5-acre expansion to the west side of the landfill to provide additional disposal area.

The Borough is aware of all applicable local ordinances and zoning requirements.

Topography

The site topography is relatively level. The area that is not currently cleared for landfilling (6.5 acres identified for landfilling) is well vegetated with a variety of tree species.

Geology

No test holes have been excavated at the site but based on shallow subsurface geology observed during cell excavation in landfill development, the site consists of unconsolidated sediments primarily silty sand and gravel overlain by 12-24 inches of organics.

Climate

The Tyonek area is in a transitional climate zone, influenced by both maritime and continental factors. Mean annual precipitation is estimated at 29 inches. Mean annual temperature is 35.9°F. The maritime influence often causes periods of above-freezing temperatures during the winter months.

Surface Hydrology

The 605-acre parcel includes a variety of surface water features including lakes, streams, and wetlands. These features are not within the existing or proposed disposal areas.

Groundwater Hydrology

Previous cell excavation (estimated at ten feet below current ground level) did not encounter groundwater. Landfill development is now above grade with an inferred minimum separation of ten feet due to previous excavation observations. Movement of groundwater is inferred, but unconfirmed, to flow toward the stream northwest of the landfill footprint. The stream northwest of the landfill flows into Second Lake. No groundwater monitoring wells currently exist at the TLF.

**SUMMARY**

Based on the favorable record of operation of the landfill during the current permit period, and continued success meeting the needs of the communities served, the Borough requests ADEC approve the solid waste disposal permit renewal request and proposed expansion for the TLF.

I certify, under penalty of perjury, that all the information and exhibits in this cover letter and application are true, accurate, and complete.

If there are any questions concerning this permit renewal application, please do not hesitate to contact me at (907) 262-9667. We look forward to working with you on this permit renewal.

Sincerely,

Eric Lervig  
Operations Manager - Kenai Peninsula Borough, Solid Waste Department

ADEC - Class III Landfill Permit Application Attachments

- A. Parcel Identification and Legal Forms
- B. General Site Maps and Distances
- C. Landfill Site Plan
- D. Operations Plan and Visual Monitoring Form
- E. Alaska Department of Fish & Game - Community Subsistence Maps



# Class III Community Landfill Permit Application

Alaska Department of Environmental Conservation  
Solid Waste Program

**DEC Office Only:**

Landfill Name: \_\_\_\_\_

Authorization #: \_\_\_\_\_

**Instructions:**

This application is for an **initial permit** for a Class III community landfill. The landfill must accept less than 5 tons of municipal solid waste per day and must be at least 50 road miles from the nearest Class I Landfill.

Please contact the ADEC Solid Waste Program Rural Solid Waste Specialist assigned to the community for assistance with completing the application. <https://dec.alaska.gov/eh/solid-waste/waste-in-rural-alaska/>

**Section 1. Property Information**

Community Name: \_\_\_\_\_

Population: \_\_\_\_\_

Legal Property Description:  
\_\_\_\_\_  
\_\_\_\_\_

Section: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Meridian: \_\_\_\_\_

General Property Description:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Address (If applicable): \_\_\_\_\_

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Landowner: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

**Attach the property deed or other documentation that identifies the landowner.**

If the landowner is not the applicant, please complete the **Landowner Consent Form** available online at <http://dec.alaska.gov/eh/solid-waste/permitapps/>.

**Section 2. Contact Information**

**Permit Applicant** (Co. or Entity):

Contact Name:

Address:	City:	State:	Zip:
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Email:	Phone:
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Type of Entity:	Government	Corporation	Other:
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State of Incorporation or Registration:	Alaska Business License Number:
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IRS Tax ID Number:

**Facility Owner** (if different than applicant):

Contact Name:

Address:	City:	State:	Zip:
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Email:	Phone:
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**Facility Operator** (if different than applicant):

Contact Name:

Address:	City:	State:	Zip:
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Email:	Phone:
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**Agent/Consultant:**

Contact Name:

Address:	City:	State:	Zip:
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Email:	Phone:
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**Section 3. Fees**

A check or money order for the appropriate fees [listed in 18 AAC 60.700(a) Table E-1] must be submitted with the permit application. If not included, the application will be returned to the applicant.

Submit payment for the first year's annual fee of \$250 with the initial application for a facility. Annual fees will be billed each year.

This application is for a:	New Permit	Landfill Expansion	A separate application is available for permit renewal.
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**Section 4. Environmental Information:**

Please provide as much information as possible. Use any available data, historical records, or traditional knowledge as necessary. If any item is not applicable (NA), please indicate on the line provided; if the answer is unknown, leave it blank.

**Prevailing Wind Direction(s):**

<b>Spring:</b>	North	South	East	West	<b>Summer:</b>	North	South	East	West
<b>Fall:</b>	North	South	East	West	<b>Winter:</b>	North	South	East	West

**Distance to Nearest:**

Active Runway:	Feet	Aircraft Serviced:	Piston	Turbine	
Building:	Feet	Type:	Home	Business	School
Active Erosion Area:	Feet	Cause of erosion:			
Subsistence Harvest Area:	Feet	Harvest type:			

**Water Impacts:**

Drinking Water Source:	Feet	Type:	Surface Water	Groundwater
Nearest Surface Water Body:	Feet	Type:	Name:	
Nearest Wetland:	Feet			
Annual Precipitation:	Inches	Depth to groundwater:	Feet	
Has the landfill ever flooded?	Yes	No	If yes, when was the most recent flood?	
Is the landfill located on permafrost?	No	Continuous Permafrost	Discontinuous Permafrost	
How many large storms typically impact the community each year?				
In which months do the worst storms occur?				

**Soil Type:** Check the general types of soil that underlay the landfill (check all that are applicable)

Sand	Silt	Gravel	Clay
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**Section 5. Map:**

Attach a current map or aerial photograph with the following items clearly labeled. For each item, indicate the distance from the landfill. Also provide an arrow indicating North. Contact a Rural Solid Waste Specialist for assistance if needed.

Landfill property boundaries	Groundwater well(s)
Community	Drinking water source(s)
Surface water (lakes, streams, ponds, etc.)	Subsistence resource areas
Airport (if within 10,000 feet of the landfill)	Residential areas

**How to build an area map:**

1. Locate an aerial photo or a map of the landfill and surrounding area.
2. Copy or PrtScn and paste to a word processing or publishing document.
3. Use text boxes to place labels and insert shapes to identify required features and distances.

**Aerial photos may be found at:**

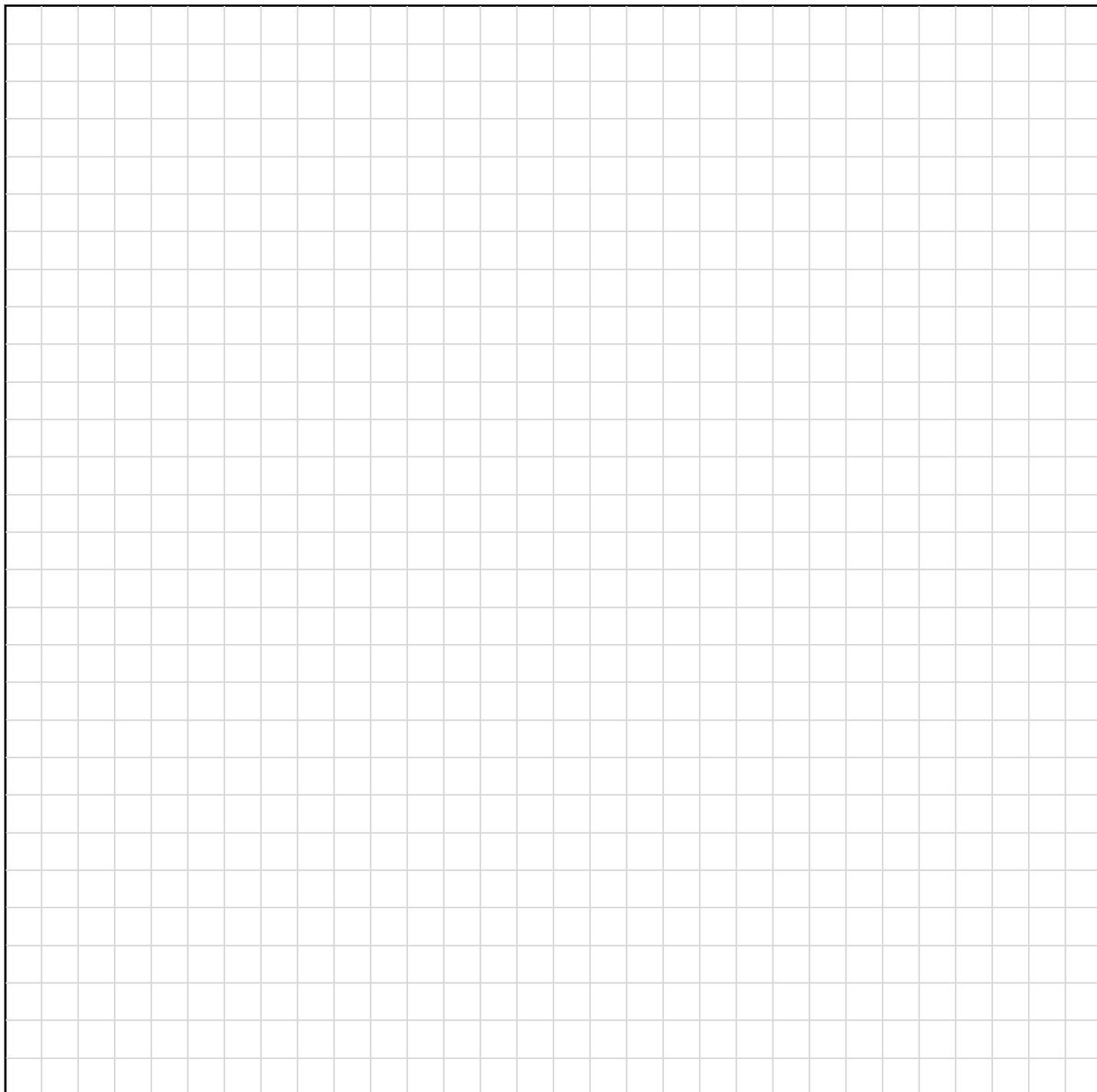
- [maps.google.com/](https://maps.google.com/)
- [www.bing.com/maps](https://www.bing.com/maps)
- <http://dec.alaska.gov/das/gis/apps>
- <https://www.commerce.alaska.gov/web/dcra/>



**Section 6. Landfill Site Plan:**

Draw the landfill site plan on the grid below or other format. Include features from the list below as they pertain to your landfill. Check all that apply. See example on the next page.

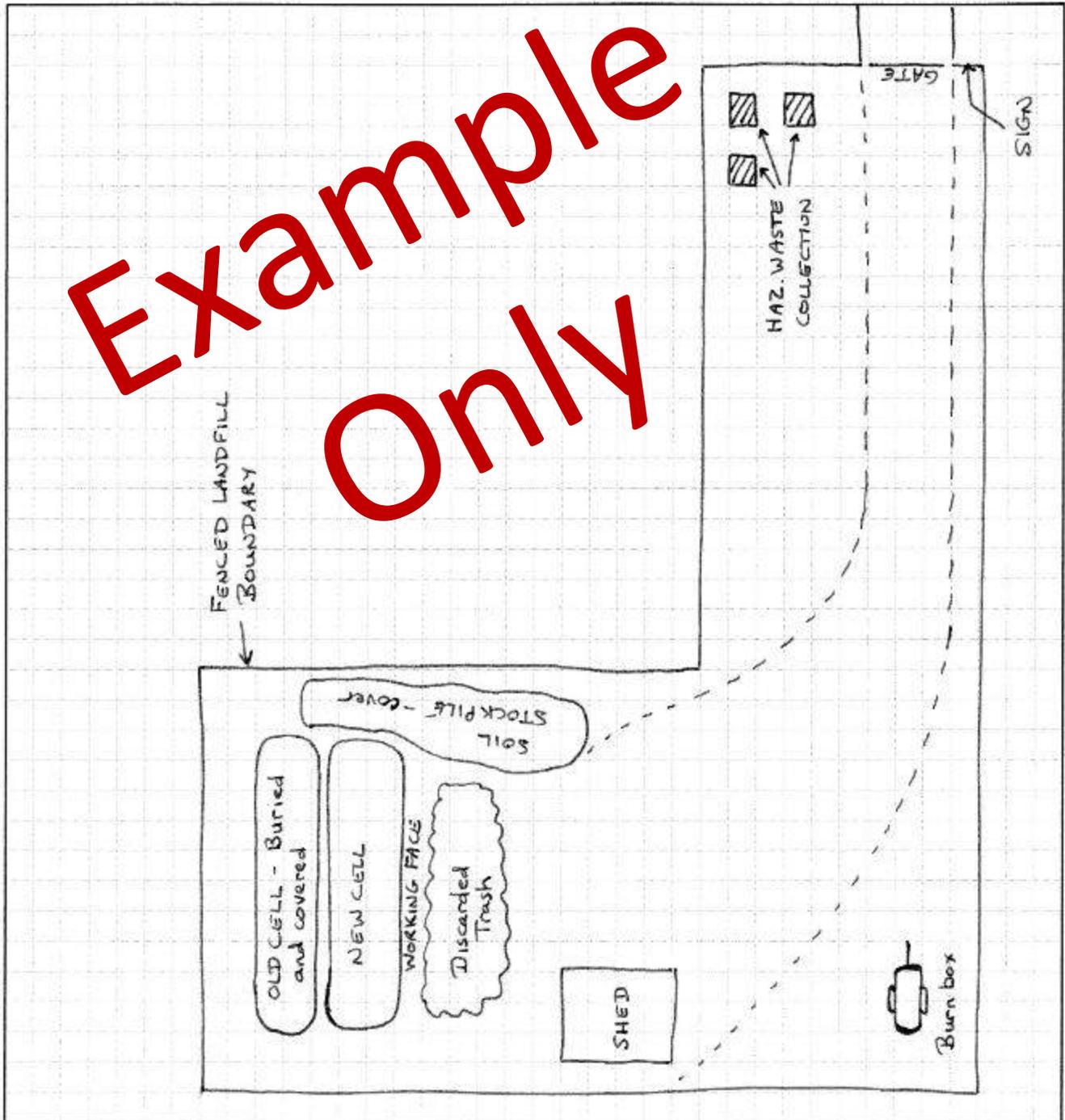
Closed disposal areas	Access roads	Salvage areas
Open disposal areas	Storage area(s)	Construction and demolition debris disposal
Future waste disposal areas	Buildings/sheds	Dead animal disposal
Fences and gates	Berms, ditches, and culverts	Septage disposal
Signs	Cover material source	HHW storage



# Sample Landfill Site Plan

Check all that apply:

- Closed disposal areas
- Open disposal areas
- Future waste disposal areas
- Fences and gates
- Signs
- Access roads
- Storage area(s)
- Buildings/sheds
- Berms, ditches, and culverts
- Cover material source
- Salvage areas
- Construction and Demolition Debris disposal
- Dead Animal disposal
- Septage disposal
- Hazardous waste storage



**Section 7. Operations Plan:**

You must attach a copy of the operations plan for your landfill which describes in sufficient detail how the landfill is operated day-to-day and throughout the year.

If you don't already have an operations plan, you can use our Class III Landfill Operations Plan to easily create one. <http://dec.alaska.gov/eh/solid-waste/permitapps>

If you need help in preparing the operations plan or have questions, please call your ADEC Solid Waste contact for assistance. <https://dec.alaska.gov/eh/solid-waste/waste-in-rural-alaska/rural-contacts/>

**Section 8. Closure Requirements**

Once the landfill has reached capacity, the following steps must be taken to close the landfill to minimize the potential risk to human health and the environment.

The final cover will be completed within 90 days after the last waste is placed in the landfill.

Final cover will consist of at least 24 inches of soil, will be graded to promote drainage without erosion, and will be re-vegetated. (Note: If soil is not available, another material may be used with prior approval from ADEC.)

Written notification that closure has been completed will be submitted to ADEC within 90 days after completing the final cover.

Permanent markers or survey monuments will be established from which the exact location of the closed landfill can be determined.

**Section 9. Post-Closure Requirements:**

The post-closure period is a 5-year monitoring phase where any necessary maintenance and repairs are completed and final records are established before the landfill may be retired.

Visual inspections will be completed at least once per year for 5 years.

A notation will be recorded on the deed to the property (or some other instrument that is routinely examined during a title search) within the 5-year post-closure period.

Notification will be submitted to ADEC and the landowner that the notation on the deed has been recorded and that a copy has been placed in the operating record of the landfill.

After the 5-year post-closure period, a report will be submitted to ADEC that contains photographs of the closed landfill, a description of any problems detected during visual monitoring, and any water monitoring data that was collected.

**Section 10. Closure and Post-Closure Cost Estimate:**

It is important in planning for the life of the landfill to understand the costs to close the facility.

Is the landfill closing in the next 5 years?      Yes      No

Have you calculated closure/post-closure costs for the landfill?      Yes      No

Closure Cost:	Post-Closure Cost:	Total:
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**If closure/post closure cost is unknown, please complete the following section:**

Check all equipment available in the community:      Dump Truck      Bulldozer      Loader/Backhoe

Area of the landfill (in acres)?	Cost of cover soil <u>per cubic yard</u> in village (if known):
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Are you currently conducting water monitoring at the landfill?      Yes      No

If Yes, what is the cost per year?	If cost is unknown, how many water sampling sites?
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**DEC office will complete the following section with the information provided above:**

Closure Cost:	Post-Closure Cost:	Total:
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**Section 11. Signature:**

**I certify, under penalty of perjury, that all of the information and exhibits in this application are true, accurate, and complete.**

Printed Name:

Title:

Signature:

Date:

All applications must be signed as follows per 18 AAC 15.030:

- **Corporations:** A principal executive officer, an officer that is no lower than the level of vice president, or a duly authorized representative who is responsible for the overall management of the project or operation.
- **Municipal, state, federal, or other public entity:** A principal executive officer, ranking elected official, or duly authorized employee.
- **Partnerships:** A general partner.
- **Sole proprietorship:** The proprietor.

**Additional Information** – Attach or include any additional information regarding the location, construction, or operations of the landfill.

**DEC Office Use Only:**

Is facility located in a Public Water System (PWS) Drinking Water Protection Area (DWPA)?    Yes    No  
If yes, notify Drinking Water Protection staff and include appropriate stipulations in the permit.

PWSID: \_\_\_\_\_ (ex. AK2210906)

State Assigned Source ID: \_\_\_\_\_ (ex. WL001)

DWPA Zone: \_\_\_\_\_ (i.e., A, B, C, E, F, G, or Provisional)



# Attachment A

Property Deed/Owner Identification and Owner Consent Form



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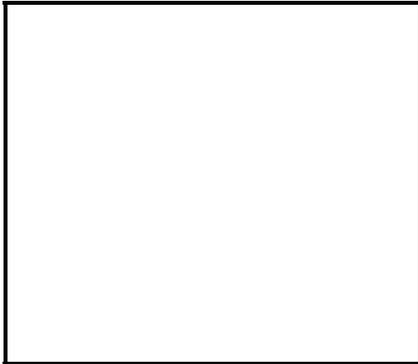
**TOTAL ACREAGE:** 605

**LEGAL DESCRIPTION:**

T 12N R 11W SEC 35 SEWARD MERIDIAN AN US SURVEY 1865 ALL OF SEC 35 LYING WITHIN USS 1865 - MOQUAWKIE INDIAN RESERVATION - EXCLUDING THIRD LAKE & SECOND LAKE

**PHYSICAL ADDRESS(ES):**

NONE



**VALUE INFORMATION:**

Land:	\$317,600
Improvement:	\$
Total Assessed:	\$317,600
<b>Exemption:</b>	<b>\$317,600</b>
Taxable Value:	\$

**OWNERSHIP INFORMATION:**

TYONEK NATIVE CORPORATION  
 880 H ST STE 210  
 ANCHORAGE, AK  
 99501

**BUILDINGS:**

Improvement Type:  
 Building Type:  
 Year Built:  
 Total Sq Ft:

[Return](#)
[New Search](#)
[Tax Info](#)
[Print](#)
[Map It!](#)

Update Mailing Address

### General Information

Property Owner: <b>TYONEK NATIVE CORPORATION</b>	Property ID: <b>21107018</b>	Acreage: <b>605.0000</b>
Mailing Address: <b>880 H ST STE 210 ANCHORAGE AK 99501-3450</b>	Property Address: <b>NOT AVAILABLE</b>	Tax Authority Group: <b>55 - Nikiski Sn.</b>

<b>Legal Description</b>
<b>T 12N R 11W SEC 35 Seward Meridian AN US SURVEY 1865 ALL OF SEC 35 LYING WITHIN USS 1865 - MOQUAWKIE INDIAN RESERVATION - EXCLUDING THIRD LAKE &amp; SECOND LAKE</b>

### Ownership History

Document No.	Date	Grantor	Grantee	Type
	6/1/94		Tyonek Native Corporation	

### Value History

Year	Reason	Land Assessment	Impr. Assessment	Total Assessment
2025	Main Roll Certification	317,600	0	317,600
2024	Main Roll Certification	317,600	0	317,600
2023	Main Roll Certification	302,500	0	302,500
2022	Main Roll Certification	302,500	0	302,500
2021	Main Roll Certification	302,500	0	302,500

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5
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5 items per page
 1 - 5 of 25 items

### Improvements

Building	Code	Description	Grade	Year	Length	Width	Units	Type	Value
No improvements data present.									



## Class III Municipal Solid Waste Landfill Landowner Consent Form

Alaska Department of Environmental Conservation  
Solid Waste Program

This form is being provided to the legal owner of property that is the site of a  proposed or  existing Class III Municipal Solid Waste Landfill. The Alaska Department of Environmental Conservation solid waste permit application requires that the landowner consent to the property being used as a landfill with the conditions below. As the landowner, please complete, sign, and return this form to the permit applicant.

### Facility Information:

Community Name: Tyonek

Permit Applicant: Kenai Peninsula Borough

### Property Information:

Legal Description: include a legal description of the property or attach survey documentation.

**T 12N R 11W SEC 35 Seward Meridian AN US SURVEY 1865 ALL OF SEC 35 LYING WITHIN USS 1865 - MOQUAWKIE INDIAN RESERVATION - EXCLUDING THIRD LAKE & SECOND LAKE**

Consent is for approximately 6.5 acres. 5 acres of the landfill are existing and 1.5 acres for the proposed expansion.

Section: 35	Township: 12N	Range: 11W	Meridian: Seward
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I hereby acknowledge I am the owner of the above described property and give my consent for the property to be used as a **Class III Municipal Solid Waste Landfill**.

I hereby also acknowledge that, as required in 18 AAC 60.396(b), upon closure of the above landfill I agree to the placement of a notation of the property deed as permanent notice that:

- The property was used as a **Class III Municipal Solid Waste Landfill**;
- The property may not be suitable for some uses;
- Maintenance and repairs to the property might become necessary to prevent pollution problems at the site; and
- Any activity that results in damage to the final cover of the property must be corrected to control potential pollution problems.

### Landowner Signature:

Organization: Tyonek Native

Printed Name: Connie Downing

Title: Chief Administrative Officer

Signature: *Connie Downing*

Date: Jan 23, 2026



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# Attachment B

General Site Maps and Distances



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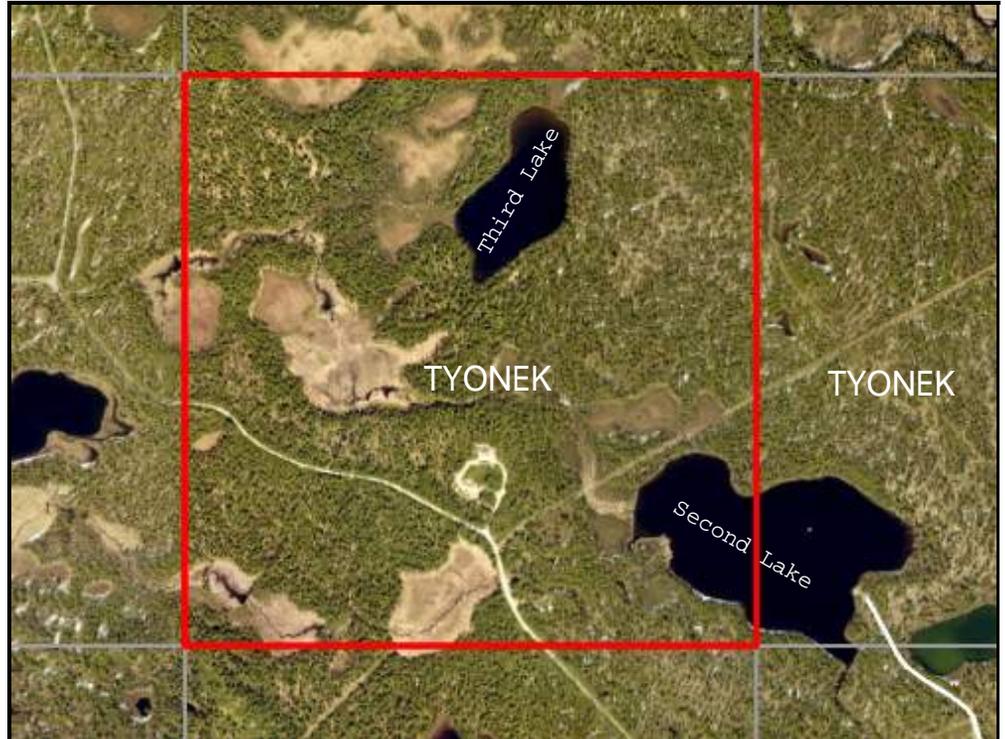
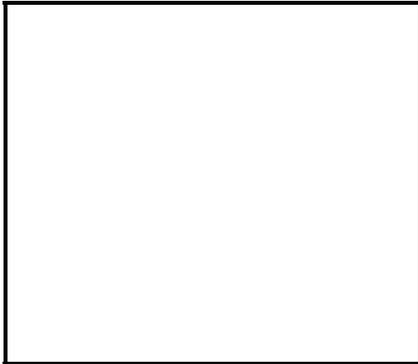
**TOTAL ACREAGE:** 605

**LEGAL DESCRIPTION:**

T 12N R 11W SEC 35 SEWARD MERIDIAN AN US SURVEY 1865 ALL OF SEC 35 LYING WITHIN USS 1865 - MOQUAWKIE INDIAN RESERVATION - EXCLUDING THIRD LAKE & SECOND LAKE

**PHYSICAL ADDRESS(ES):**

NONE



**VALUE INFORMATION:**

Land:	\$317,600
Improvement:	\$
Total Assessed:	\$317,600
Exemption:	\$317,600
Taxable Value:	\$

**OWNERSHIP INFORMATION:**

TYONEK NATIVE CORPORATION  
 880 H ST STE 210  
 ANCHORAGE, AK  
 99501

**BUILDINGS:**

Improvement Type:  
 Building Type:  
 Year Built:  
 Total Sq Ft:

**ZONING**

**Zoning information presented here is derived from an automated overlay of the parcel indicated and zoning-related spatial information. It is presented for informational purposes only. No reliance should be placed upon the zoning information presented here and KPB assumes no liability whatsoever for the correctness thereof. Always confirm this information with KPB staff.**



**LOCAL OPTION ZONING DISTRICTS**

*KPB 21.44*

Local Option Zoning Districts will appear on the map if they are nearby or on the selected parcel. If the selected parcel is within an LOZD, the property is considered zoned under KPB 21.44, and building permits may be required.



**MATERIALS SITES ZONING**

*KPB 21.19*

Registered Material Sites (gravel pits) will appear on the map if they are nearby or on the selected parcel. Material Sites are regulated by KPB 21.29, and are differentiated by type: PEU (Prior Existing Use), CLUP (Conditional Land Use Permit), and CP (Counter Permits). Any permits that have expired will be depicted on the map.



**FLOODPLAIN ZONING**

*KPB 21.06*

FEMA-mapped floodplain zones will appear on the map if they are nearby or on the selected parcel. If the selected parcel is within a regulatory floodplain, the property is considered zoned under KPB 21.06 and building permits may be required. This map is presented for informational purposes only and should not be used to determine a property's flood risk. Please request a Floodplain Determination from KPB staff for additional floodplain information.



**Managed Rivers, Streams and Lakes**

**ANADROMOUS WATERS ZONING**

*KPB 21.18*

Anadromous rivers, streams, and lakes will appear on the map if they are nearby or on the selected parcel. If the selected parcel intersects an anadromous waterbody, its lands within 50 feet of Ordinary High Water are considered zoned under KPB 21.18, and building permits may be required. Note that waterbodies can move over time and the lines (as drawn here) may not depict the true location of the waterbody. Please contact KPB staff to confirm the waterbody's true location.



**Legend**

Transportation

Mileposts



Parcels and PLSS

Tax Parcels



Roads

Major Roads



**Map Notes:**

- The closest lake to TLF, Second Lake, is approximately 1,100 ft east of the landfill.
- The closest wetland to TLF is approximately 300 ft south of the landfill.
- Tyonek's community public water system (PWSID AK2240472) is an active community water system with two groundwater source wells; the closest well (WL002) is located approximately 4,900 ft from TLF.

**Notes:**

Tyonek Landfill (TLF) Class III Permit Renewal Application: Distances to nearest surface water bodies and public water system source wells.



NOTE: Every reasonable effort has been made to ensure the accuracy of these data. However, by accepting this material, you agree that the Kenai Peninsula Borough assumes no liability of any kind arising from the use of this data. The data are provided without warranty of any kind, either expressed or implied, including but not limited to time, money or goodwill arising from the use, operation or modification of the data. In using these data, you further agree to indemnify, defend, and hold harmless Kenai Peninsula Borough for any and all liability of any nature arising from the lack of accuracy or correctness of the data, or use of the data.



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Legend

- Transportation
  - Mileposts
- Parcels and PLSS
  - Tax Parcels
- Roads
  - Major Roads

Map Notes:

- One of the closest residential areas is approximately 5,500 ft from TLF, but the community center is approximately 7,600 ft from TLF.
- The public water system is approximately 4,900 ft from TLF.
- The airport is approximately 8,300 ft from TLF.

Notes:

Tyonek Landfill (TLF) Class III Permit Renewal Application: Distances to residential areas, community center, water system source wells, and airport.



NOTE: Every reasonable effort has been made to ensure the accuracy of these data. However, by accepting this material, you agree that the Kenai Peninsula Borough assumes no liability of any kind arising from the use of this data. The data are provided without warranty of any kind, either expressed or implied, including but not limited to time, money or goodwill arising from the use, operation or modification of the data. In using these data, you further agree to indemnify, defend, and hold harmless Kenai Peninsula Borough for any and all liability of any nature arising from the lack of accuracy or correctness of the data, or use of the data.



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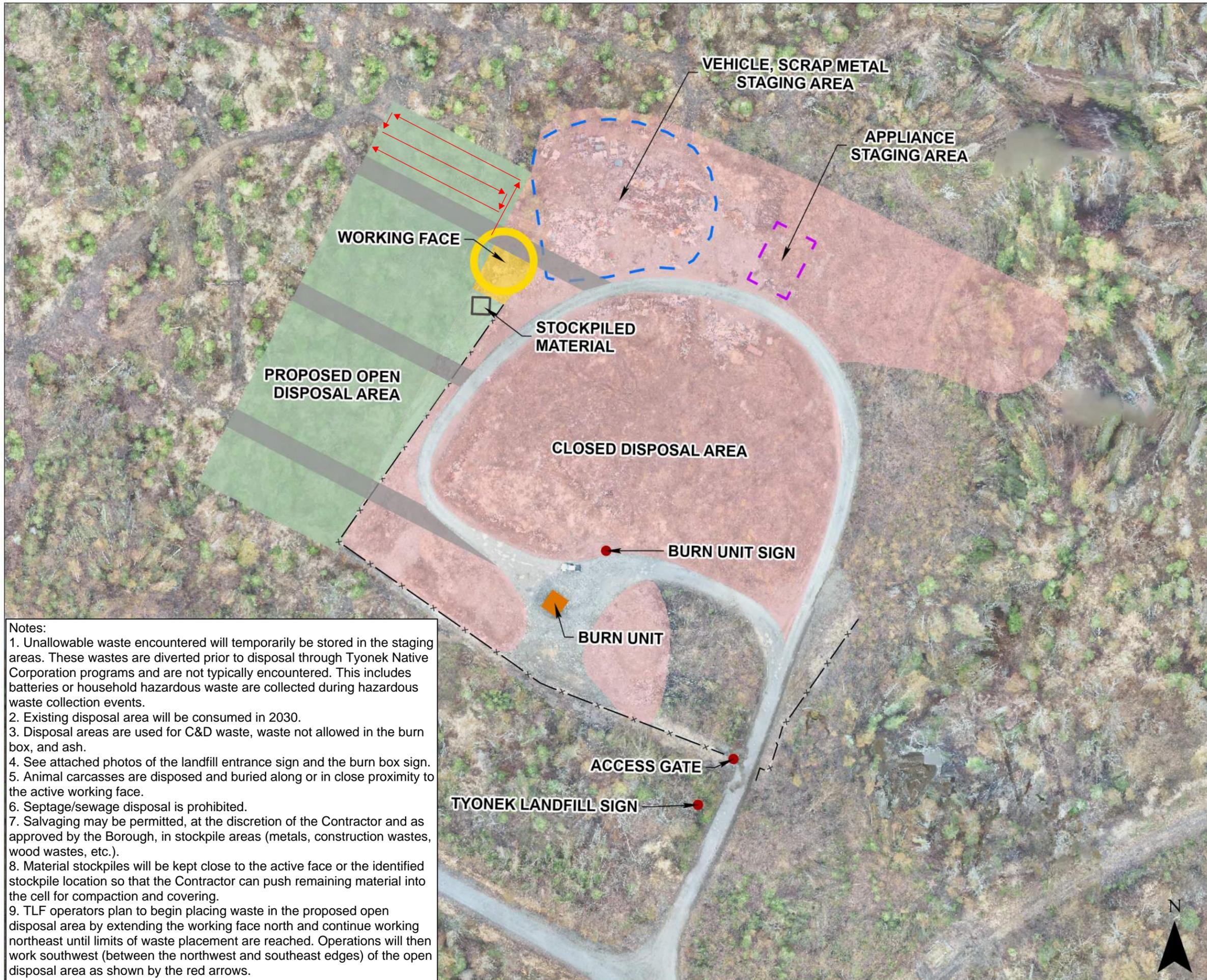


# Attachment C

Landfill Site Plan



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**Disposal Areas**

- Proposed Open
- Closed

**Staging Areas**

- Vehicle, Scrap Metal
- Appliance

**Other Features**

- Working Face
- Stockpiled Material
- Burn Unit
- Proposed Access Road
- Fencing
- Point of Interest
- Progression of Operations

Drone Imagery: 4/30/2025  
Meridian: Seward



**Notes:**

1. Unallowable waste encountered will temporarily be stored in the staging areas. These wastes are diverted prior to disposal through Tyonek Native Corporation programs and are not typically encountered. This includes batteries or household hazardous waste are collected during hazardous waste collection events.
2. Existing disposal area will be consumed in 2030.
3. Disposal areas are used for C&D waste, waste not allowed in the burn box, and ash.
4. See attached photos of the landfill entrance sign and the burn box sign.
5. Animal carcasses are disposed and buried along or in close proximity to the active working face.
6. Septage/sewage disposal is prohibited.
7. Salvaging may be permitted, at the discretion of the Contractor and as approved by the Borough, in stockpile areas (metals, construction wastes, wood wastes, etc.).
8. Material stockpiles will be kept close to the active face or the identified stockpile location so that the Contractor can push remaining material into the cell for compaction and covering.
9. TLF operators plan to begin placing waste in the proposed open disposal area by extending the working face north and continue working northeast until limits of waste placement are reached. Operations will then work southwest (between the northwest and southeast edges) of the open disposal area as shown by the red arrows.

**Tyonek**  
Native Corporation

**PROPOSED TYONEK LANDFILL RELOCATION**

TYONEK NATIVE CORPORATION

SCALE: 0 75 150 Feet  
0 25 50 Meters

FIGURE: **1**

ORNRC:TYONEK0037.aprx, 2/27/2026, R01



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# Attachment D

Operations Plan and Visual Monitoring Form



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# **Tyonek Landfill**

## **Operations & Maintenance**

### **Requirements**

#### **WORKPLAN**

February 2026



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**Kenai Peninsula Borough  
Solid Waste Department  
47140 East Poppy Lane  
Soldotna, Alaska 99669  
Tel. 907-262-9667  
Fax 907-262-6090**

# **TLF OPERATIONS AND MAINTENANCE REQUIREMENTS - WORKPLAN (2026)**

- 1. THEWORK**
- 2. DESCRIPTION OF EXISTING LANDFILL**
- 3. GENERAL OPERATION AND MAINTENANCE REQUIREMENTS**
- 4. OPERATING HOURS**
- 5. MATERIAL MANAGEMENT**
  - 5.A. Wastes Accepted/Prohibited Hazardous Material**
    - Vehicles, Boats, etc.
    - Battery Collection
    - Appliances
    - Fish and Animal Waste
    - Miscellaneous Materials
  - 5.B. Material Deposits**
    - Burn Box
    - Refuse Cells
  - 5.C. Stockpiling, Burning & Burial Stockpiled Materials**
    - Wood Waste Stockpiling and Burning Cover Material
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# OPERATIONS AND MAINTENANCE REQUIREMENTS WORK PLAN

## Tyonek Landfill

### 1. THE WORK

The work includes operations and maintenance of the Tyonek Landfill (TLF) and is to be performed in accordance with the Agreement, the General Conditions, and the Operations and Maintenance Workplan.

### 2. DESCRIPTION OF EXISTING LANDFILL

The TLF is located approximately two (2) miles northwest of the Village of Tyonek, within SE 1/4, SW 1/4, Section 35, T12N, R11W, Seward Meridian. The landfill area is approximately six and a half (6.5) acres in size and owned by Tyonek Native Corporation.

The TLF includes: waste disposal cells, interim appliance storage, inert waste salvage area and a burn box unit. The TLF receives approximately 300 tons of waste per year consisting primarily of household waste with minimal or no commercial or industrial sources currently impacting the waste stream.

### 3. GENERAL OPERATION AND MAINTENANCE REQUIREMENTS

The Contractor shall be responsible to operate and maintain the site as called out in these documents, site plans, and other applicable documents, unless noted otherwise.

The Contractor shall at all times have a representative available and a current phone number and address of this representative shall be supplied to the Kenai Peninsula Borough (Borough). The representative must have the authority to respond on behalf of the Contractor to Borough requests, questions, concerns, and emergencies. In the event the representative is not available (due to absence out of town or other reason) the Contractor shall provide the name and number of an alternate contact.

The Contractor shall have a landfill operator who will be responsible for administering operations under the supervision of the Contractor, the Borough, and in accordance with any regulatory permits.

The facility receives waste only from Tyonek.

General operation and maintenance includes, but is not limited to, the following tasks:

- o Maintain landfill maintenance log, etc. and take photo documentation.
- o Assure disposers are using areas designated for disposal, stockpiling, or consolidation when Contractor is on site.
- o Monitor and screen waste for prohibited materials and prohibit the deposit of hazardous materials when Contractor is on site.
- o Monitor waste placed in the burn box for prohibited materials.

- o Conduct litter cleanup and collect materials dumped inappropriately.
- o Grade, plow, sand and ditch, access road, staffing area pad and burial area.
- o Properly operate and maintain all Borough equipment.
- o Protect equipment from damage due to operations, weather, careless handling, neglect, etc.
- o Inform site users of rules and restrictions, make note of and contact disposers abusing the landfill rules when Contractor is on site.
- o Coordinate with disposers and the Borough for items that may require special handling or arrangements.
- o Direct controlled salvage of usable materials, if allowed.
- o Provide cover material on waste at a frequency defined by the Borough.
- o Adhere to detailed operation guidelines (as periodically amended with Borough approval).
- o Implement and maintain a health and safety program.

#### **4. OPERATING HOURS**

The landfill has unrestricted access and is open 24 hours per day.

#### **5. MATERIAL MANAGEMENT**

Based on past activities, it is estimated that approximately 500 - 750 cubic yards of landfill capacity will be consumed annually (includes waste and cover). Actual capacity consumed will vary dependent on current local population, construction and other local business activities as well as other factors. Contractor's efficiency compacting waste and the amount of cover material needed to cover waste will also impact the capacity consumed.

The Contractor, when present at the site, shall make sure offloading vehicles know the areas designated for material deposit, direct the controlled salvaging of usable materials (if allowed), screen for prohibited materials and remove them from the waste stream (includes opening bags/cans to remove information on the source of the waste), and prevent the disposal of hazardous materials. The Contractor shall inform site users of rules/restrictions, whenever possible, distribute informational materials as requested by the Borough, and note disposers abusing the rules and contact them if requested by the Borough. Only Borough approved handouts are to be distributed by the Contractor.

##### **5.A. WASTES ACCEPTED/PROHIBITED**

To the extent possible, the Contractor shall monitor and screen loads for prohibited or hazardous materials and these materials shall be denied for disposal. The Contractor shall visibly inspect loads as often as possible when on site performing contract services.

If suspected hazardous or prohibited materials are found on site, the Contractor, following appropriate safety guidelines and precautions, shall separate the material from other refuse and store safely away from the working face at locations designated by the Borough.

The Contractor shall dispose of abandoned prohibited waste during the hazardous waste collection events that are held periodically in the community. If management during an event is not possible, the Contractor must contact the Borough representative for instructions on where to temporarily store the material at the TLF. If a regulatory issue prohibits storage, the Borough shall be notified and shall make necessary arrangements to properly transport and dispose the material.

If suspected hazardous or prohibited materials are found and the owner/depositor is present or can be identified, the Contractor shall contact them and ask them to immediately remove the material from the site.

The Borough shall be notified in writing by the Contractor of their name, address, vehicle license, identification, and explanation of the incident.

The Borough shall provide written disposal guidelines and policies which are to be used as a public handout and as a reference for the Contractor and disposers to clarify waste acceptance policies, etc. The guidelines shall be provided before project commencement and shall be modified from time to time as may be in the best interest of the Borough. Changes during the contract term must be followed by the Contractor and disposers.

Solid waste acceptable for disposal consists of materials permitted by the Alaska Department of Environmental Conservation (ADEC), Kenai Peninsula Borough Code of Ordinances, and these documents.

Materials **PROHIBITED** include, but are not limited to:

asbestos containing materials, ash (except small amounts of cool burn barrel ash), drilling mud, fish waste (small amounts acceptable), hazardous waste, hot ashes, medical waste, liquid waste, used oil, oily waste, lead-acid batteries, radioactive waste, sewage, contaminated soil, polychlorinated biphenyls (PCBs), bulk liquids (greater than 1 gallons) and any other items that might be questionable.

Other PROHIBITED material includes waste from outside the Kenai Peninsula Borough (unless Borough approved). The TLF specifically collects wastes from Tyonek within the Borough.

Disposal of large quantities, waste requiring special handling, etc. may require permission by the Borough prior to disposal. Some items may require that the disposer transport the materials to the Central Peninsula Landfill (CPL) in Soldotna if the material type or quantity cannot be handled at the TLF.

Contacting disposers is necessary if loads containing prohibited items are deposited.

#### **HAZARDOUS MATERIAL**

Hazardous wastes including, but not limited to, lead-acid and household batteries, used oil, paints, solvents, preservatives, photographic chemicals, corrosives, resins, adhesives, pesticides, herbicides,

fuels, asphalt sealers, fluorescent light ballasts (if directed by the Borough), soaked sorbents, ammonia and other household cleaners are not accepted.

The Contractor shall distribute Borough supplied flyers and posters notifying disposers of a scheduled hazardous waste collection event and rules for hazardous waste disposal. The Contractor shall **NOT** collect hazardous material unless instructed by the Borough. The Borough will provide a collection date to the Contractor at least 30 days prior to the collection event.

Operation of the hazardous waste collection event is by a Borough selected contractor. The hazardous waste contractor shall accept, identify, package, complete paperwork, transport, and dispose, of hazardous waste collected during the event as per EPA and State regulations. The hazardous waste contractor shall provide all equipment necessary for their operations; however, the Contractor may be requested to provide assistance loading and unloading large items on an as needed basis.

Hazardous materials abandoned at the site will be disposed through the hazardous waste collection event. The Contractor shall inventory all hazardous waste abandoned at the site and shall fax the list to the Borough one week before the hazardous waste collection event.

The Contractor will take all measures necessary to immediately contain and clean up hazardous and prohibited materials that spill at the site and shall notify the Borough immediately.

Any person wishing to dispose of materials such as barrels that have been in contact with hazardous or special wastes must ensure items are cleansed and must obtain prior approval from the Borough. If an item is at all questionable, it is the responsibility of the Borough to authorize or deny disposal of said item. Burn barrels are acceptable if they are empty of hot ashes.

The Borough may establish storage stations for various hazardous or special waste materials and the Contractor shall maintain these areas in a neat manner, as directed by the Borough.

#### **VEHICLES. BOATS. ETC.**

All-terrain vehicles, automobiles, boats, etc. are accepted if they are free of waste, batteries, oils, fuel, brake fluid, antifreeze, wiper fluids, and any other automotive fluids, if applicable. Prior to acceptance:

- The Contractor shall inspect the vehicles to make sure they meet disposal requirements.
- Any vehicle or large item over the size of a one-ton pickup truck will need pre-approval from the Borough prior to deposit.
- Large vehicles, boats, or other items too large to easily handle must be cut in smaller more manageable sizes prior to deposit.

No more than five (5) vehicles/year will be accepted from one source, project, company, or person unless approved otherwise by the Borough.

Limits are necessary to control large quantity disposal. Example: company/person collecting vehicles for scrap or reuse (i.e. salvage yard, etc.) must coordinate vehicle disposal/recycling on their own and may not use the Borough program, unless approved by the Borough.

### **BATTERY COLLECTION**

Lead-acid vehicle batteries are collected in plastic totes with lids during hazardous waste collection events outside of the landfill. If batteries are encountered at the landfill they shall be stored in the identified staging areas until they can be removed. The Contractor shall restack batteries as needed to best utilize space in the totes and shall ensure the batteries are stored in a neat, safe, and organized manner with lids on the collection containers to prevent water infiltration. The full totes will be managed in conjunction with a scheduled hazardous waste collection event. Disposers are currently limited to no more than ten (10) batteries/year and large commercial batteries (forklift, etc.) are not accepted. The Contractor shall keep the area around the totes clean.

Household batteries, such as alkaline and nickel-cadmium (i.e., AA, C, D cell, 9 volt), shall be collected in a separate Borough provided plastic container and will be managed through a scheduled hazardous waste collection event.

### **APPLIANCES**

Appliances (not including refrigerators, freezers) shall be deposited in the active cell or managed as directed by the Borough.

Refrigerators and freezers must be stored in an upright position in a designated area that must be maintained in a clean and organized manner. The Borough shall be notified by the Contractor when approximately 20 units have accumulated in the storage area so arrangements can be made for refrigerant removal. Once refrigerants are removed, the appliances must be placed in the refuse cell by the end of the next operating day.

The Borough is responsible for the refrigerant recovery program and shall ensure work is properly performed according to State and Federal laws, and shall ensure refrigerant recovery work has been completed prior to notifying the Contractor that the appliances are approved for landfilling.

### **FISH AND ANIMAL WASTE**

Animal waste/carcasses must be placed in the area designated by the Borough, treated with lime, and covered immediately with a minimum of 1 foot of cover material. The designated area for animal waste/carcasses will generally be in an area in close proximity adjacent to the current working area. Small amounts of fish waste and animal process waste from the general public/households and some small businesses, will be accepted provided that acceptance of the waste does not result in a health or safety problem. Waste must be placed directly in the area designated for animal waste/carcasses.

### **MISCELLANEOUS MATERIALS**

- ❖ All barrels must have at least one end removed and be empty and free of liquids.
- ❖ Tanks must be empty and free of liquids, have an end cut off, and/or the tank cut in manageable pieces (tanks larger than 500-gallon capacity must be cut into manageable size).
- ❖ Soils are prohibited unless previous arrangements have been made with the Borough.
- ❖ Asbestos (friable and non-friable) containing material is prohibited from disposal at the TLF. The only Borough landfill permitted for disposal of asbestos containing material is the CPL in Soldotna.

## **5.B. MATERIAL DEPOSITS**

Material off-loading shall be at locations shown on drawings, referenced in this plan or as directed by the Borough. The Contractor shall keep all off-loading areas clean and accessible at all times. Material must be deposited directly into the burn box, active cell or at the designated stockpile locations, if applicable.

### **BURN BOX**

Controlled burning of allowed waste types is permitted in the approved burn box receptacle. Disposers are to be directed to place burnable materials such as paper, cardboard, general household refuse, and small pieces of construction wood directly into the box. It is imperative that only approved combustible materials that do not generate black smoke or potentially harmful fumes are placed in the burn box. The Contractor, when on-site, must inform disposers about the importance of waste segregation into approved combustible and non-combustible loads.

When the box is about 1/2 full (approximately 10-15 CY) the contents should be lit by the Contractor. Disposers must be directed to the active cell when the burn unit is operating.

Contractor conducts the burn which is monitored until flames and all coals have fully subsided. The unit is cleaned once a month. Staff wear appropriate PPE and utilize heavy equipment to empty the ash and dispose of it in the open landfill cell.

### **REFUSE CELLS**

Disposal of domestic refuse/garbage shall be made directly at the active working cell face. The refuse cells shall be developed to approximate elevations as shown on the plans, or as directed by the Borough, and in some instances the waste may be compacted and covered above previously filled landfill cells. The refuse cell shall be consolidated, compacted and covered at a minimum of once per week from April 15 through November 15, and a minimum of two times per month during the remainder of the year (November 15 through April 15).

All waste shall be consolidated at the working face of the active cell and the working face shall be as small as practical, and shall never exceed 40' in width. Waste shall be spread in lifts not exceeding 24 inches as measured perpendicularly from the existing face of the previous lift. The Contractor shall compact this lift with equipment by running over the area for a minimum of three (3) to five (5) passes. A minimum of six (6) inches of cover material shall be applied over the face of the cell after each day that waste is compacted, or on a less frequent schedule, as determined to be necessary by the Borough. The working face shall be maintained at a slope of 20 to 30 degrees.

Buried waste may become exposed due to wind, erosion, settlement, or other factors, and must be covered at the end of the next day of consolidation, compaction and covering. Low spots must also be filled as necessary to prohibit standing water or ponding over waste filled areas. All cells must be maintained to prevent blowing litter, water ponding, and vector and wildlife attraction.

Cell development will be coordinated separately by the Borough.

## **5.C. STOCKPILING, BURNING AND BURIAL**

### **STOCKPILED MATERIAL**

The Contractor may be requested to maintain storage/stockpile areas for materials including, but not limited to, scrap metal, drums, appliances, vehicles, wood waste and land clearing debris, construction and demolition debris, concrete, brick and block. Borough designated storage area locations (and types and quantities of materials) may change during the contract term. The Contractor may not set up stockpile or storage areas except as directed or approved by the Borough.

The Contractor shall monitor and screen disposal activities in stockpile areas. Stockpiles shall be maintained in a neat and organized manner and in manageable quantities (as determined by the Borough) that best conserves available space. The Contractor shall ensure that the materials are properly segregated, free of other wastes, and stored in the correct area until used or landfilled.

### **WOOD WASTE STOCKILING AND BURNING**

At the request of the Borough, land clearing and untreated wood debris may be consolidated and stockpiled in an orderly pile and a controlled burn conducted as needed.

The Contractor shall contact the Department of Forestry to ensure burn bans are not in effect, shall notify the local fire department before work commences, and shall be present during burning events.

Burns must be strictly controlled and burned in small amounts (10-30 cubic yards at a time or as specified by the Department of Forestry or Department of Environmental Conservation). The fire must be out and dirt placed on the hot ashes at the end of the working day (before the Contractor leaves).

All materials remaining after the burn is complete must be buried in the active cell and covered as required. Contractor shall record burn dates and estimated volumes burned on the maintenance log.

The Borough may prohibit burning at any time. If burning is not allowed, the Contractor shall compact, bury, and cover waste as directed by the Borough.

### **COVER MATERIAL**

The Contractor shall use cover material stockpiled at the site to confine waste and to prevent surface water from entering the active cell. The Borough shall ensure that cover material is stockpiled in locations conducive to the current work activities. Cover material stockpiling shall be coordinated separately by the Borough.

When soil cover material is not available due to frost, or if directed by the Borough, the waste shall be compacted and alternative cover materials provided by the Borough shall be used. Alternative covers may include membrane liners that would be spread over the working face, pulled back during the next operating day, and reused. Alternative covers are beneficial during times that soil cannot be excavated. All alternative soil materials must be approved by the Borough and the ADEC prior to use. A six (6) inch layer of soil must be immediately placed upon waste as soon as available.

If during the contract term, cover material stockpile is not sufficient to perform the work, the Borough will arrange for excavation if it is determined necessary by the Borough.

## **6. SALVAGING AND/OR RECYCLING**

Salvaging may be permitted, at the discretion of the Contractor and as approved by the Borough, in appropriate areas of the landfill (potential areas of stockpiled metals, wood wastes, construction wastes, etc.) subject to insurance liability provisions.

The controlled removal of material for recycling or reuse by the public shall be permitted only if the Contractor can monitor the activities and can be halted by the Borough if activities are unsafe or if the Borough deems it necessary. The salvagers shall be required to leave the disposal area when heavy equipment is in use and shall stay clear of dumping activities, or at other times as deemed necessary by the Contractor.

The Borough may occasionally request that some materials be temporarily stockpiled for reuse by the public. The stockpiling of material shall be conducted as close to the active face, or stockpile location, as possible so that the Contractor can push the remaining material into the cell for compaction and covering.

If allowed by the Borough, good, usable items can be set out for public reuse/removal but must be thrown away by the end of each operating day, or as directed by the Borough. Public reuse areas must be neat and organized or reuse activities will be halted. The Borough must be notified if salvage activities will occur and must pre-approve storage locations.

The Contractor must strictly control any salvage activities and take precautions necessary to prevent injury. No open flames will be permitted to conduct salvage operations, unless it is authorized and preapproved by the Borough.

Selling salvaged materials is prohibited and the Borough must approve any buy-back (recycling) activities. Contractor shall not pull items from the waste for personal use or resale, unless approved by the Borough.

The Contractor shall not stockpile any materials other than as approved by the Borough.

## **7. SALVAGING AND/OR RECYCLING**

### **7.A. GENERAL MAINTENANCE AND OPERATIONS**

The Contractor shall furnish fill supplies, tools and equipment for site operations and maintenance unless an item is specifically noted as being supplied by the Borough, and must understand and interpret site plans and other applicable information.

Contractor supplied items include, but are not limited to: general tools, specialized tools for site equipment, litter bags, gloves, rakes, shovels, cleaning supplies, lights, sorbents, buckets, ladders, etc. unless an item is specifically noted as being supplied by the Borough.

The Borough will compensate for any repairs or replacement of the burn box due to failure of the unit, not due to Contractor's neglect.

The Contractor shall not work on equipment he is not qualified to maintain or repair and shall hire a qualified, individual or firm specializing in repairs and maintenance of such equipment. The Contractor shall pay the expense of using the qualified individual or firm. Additionally, the Borough reserves the right to conduct work at Borough expense if it is in the Borough's best interest.

All personal salvage items shall be stored out of operational areas and removed from the site by the end of each operating day.

The frequency of work called out in this section is the minimum frequency, and work will be required more often as needed.

The Borough shall provide signs, however, the Contractor shall hang signs at Borough request, replace any signs damaged as a result of the Contractor's activities and occasionally provide and place temporary signs. The Contractor shall replace signs damaged by his operations and must notify the Borough when signs need replaced or if additional signs are needed.

The Borough shall provide fence construction and major repairs, and the Contractor shall provide minor repairs and any repairs necessary due to Contractor's activities.

Listed maintenance and housekeeping items do not include all contract requirements, but are general requirements for some items needing additional explanation. It is the Contractor's responsibility to be familiar with, and understand all plans and specifications, and other applicable information.

#### **7.B. ROAD MAINTENANCE**

Road maintenance shall include basic grading and smoothing of the existing road surface, snow removal, sanding and minor drainage and ditching work, necessary to provide safe access and to keep roads and pad in good condition.

All driving areas, stockpile, and burial areas must be maintained in good condition to allow maneuvering of vehicles with minimal effort. Road maintenance is required for all areas from the Village of Tyonek to the landfill, and on site at the landfill.

The Contractor shall provide equipment that may include, but not be limited to, motor grader, loader and mechanical sander.

The Borough has the right to inspect equipment prior to award and during the term of this contract, and shall have final approval determining fitness of machinery before acceptance of the equipment to conduct the work. All equipment must meet Federal and State safety and equipment standards and equipment must be reliable and suitable for the work.

The Contractor, or the Contractor's subcontractor, must provide a copy of any required contractor licenses and proof of insurance prior to work commencement.

No more than 6 inches of snow accumulation is allowed on driving surfaces. Snow removal with a motorgrader or 4WD truck shall be conducted so roads, pads, etc. are clear and accessible at all times

and to ensure proper drainage. The snow removal equipment must be capable of moving snow, slush and ice from travelway.

Moving snow from the sides of the road and driving pads with a loader may be necessary during heavy snow periods. Snow stockpiles shall be developed in areas where snow melt will not result in ponding or drainage problems in waste cells.

The Contractor must provide a mechanical sander capable of providing an even sand distribution to maintain safe access (critical during icy times). The Contractor must have sand and equipment capable of sanding all areas as needed. Sand shall not contain peat or frost susceptible materials.

The Contractor shall construct any diversion ditches or berms as necessary to prevent surface water runoff from flowing over, into, or through the deposited waste. This may include small ditches along the cell or stockpile perimeter.

#### **7.C. LITTER COLLECTION**

The Contractor shall keep the on-site access road, entry area, driving, stockpile and burial areas free of litter by conducting a minimum of twice monthly litter collection, or as needed, from inside the cleared landfill area. Litter collection into the treeline must be performed two to four times per year.

Loads entering the site are to be covered or confined and the Contractor must notify site users of this rule and provide handouts/flyers as requested by the Borough. Note license numbers of persons not following this rule. The Borough may implement a covered load policy whereby any landfill users entering the site with an uncovered load will have a choice of either buying a tarp or paying a fee. If implemented, the Contractor may be asked to distribute tarps and collect fees as necessary and would be compensated in addition to the monthly compensation for basic services.

#### **7.D. SITE SECURITY**

The Contractor will be responsible for site security. The Contractor shall take all precautions necessary to protect the site and equipment from damage and theft. The Borough **will not** repair or replace Contractor equipment or supplies.

### **8. EQUIPMENT**

All equipment necessary to carry out the work specified for this project must be called out on the Contractor's Planned Primary Equipment List and is subject to approval by the Borough. It is the Contractor's responsibility to ensure that work procedures and equipment are capable of completing all tasks as called out in these documents.

Compaction and covering equipment must be capable of crushing and compacting all wastes including, but not limited to, household and business waste, automobiles, scrap, drums, and bulky construction and demolition materials. The equipment must have a blade capable of pushing, spreading, compacting, and covering all waste and shall be a track-type loader or tractor with a minimum 80

horsepower and minimum operating weight of 25,000 pounds. **The horsepower and operating weight are minimum requirements only. The Operator must provide equipment capable of crushing all items and performing work called out in this section and in the project documents.**

At the Contractor's option, more than one piece of equipment can be used to conduct the work. All equipment must be called out on the Contractor's Primary Equipment List and is subject to approval by the Borough. Alternate equipment cannot be used during the contract unless approved in writing by the Borough.

In case of primary equipment breakdown, the Contractor shall have support equipment readily available so that site operations are not interrupted.

The Contractor shall at all times have equipment available to conduct the work as called out in these documents. Any equipment substitutions must meet the conditions of these documents and must be approved by the Borough (in writing) prior to use on the project. If equipment is not owned by the Contractor, the Contractor shall provide written details that include equipment, location, owner, Contractor lease terms and proof of insurance. The Borough shall have final approval determining if equipment meets contract requirements.

If the equipment is deemed unacceptable at any time, the Borough will take all actions necessary to have the work performed by a substitute contractor and/or may terminate the contract. If a substitute contractor performs work and/or the Contract is terminated, the Contractor will pay all associated costs as called out in the General Conditions and Supplementary General Conditions for Correction of Work and Termination of the Contract.

All equipment, rolling stock, etc., must be properly maintained and operated and shall be subject to inspections at any time (by the Borough representative or a mechanic of the Borough's choice - at Borough's cost) prior to project commencement and throughout the remainder of the contract, at the discretion of the Borough.

## **9. RECORDKEEPING AND FEES**

### **9.A. RECORDKEEPING**

Record keeping shall include, but may not be limited to, estimating waste and cover volumes; documents compaction and cover activities; take photo documentation; document other site maintenance and operational activities such as litter collection, road maintenance, site maintenance and repairs, etc.; and other items as required by the Borough. This information shall be written on a landfill log form initially supplied by the Borough and submitted with the monthly invoice for operations. Monthly invoices shall be in a format approved by the Borough and must be submitted no later than the 15th of each month, for work conducted during the previous month.

The Contractor shall perform a monthly visual inspection of the landfill and complete a Tyonek Landfill Monthly Visual Monitoring Form (attached) and submit to the Borough with other required documentation with their monthly invoice for services.

Incident/Accident Investigation Report forms for reporting property/vehicle damage or personal injury are to be turned in within 24 hours of an incident.

The Contractor shall provide a digital camera, with date imprinting. The Contractor shall take pictures (with current date imprinted on the picture) of the working face of the landfill after the waste is covered each working day unless the Borough approves an alternate schedule. Pictures shall also be taken of other site activities such as drainage problems, reckless disposal, etc. The photos must be submitted electronically with monthly invoices, unless otherwise approved by the Borough.

**OPERATING RECORD**

The Tyonek Landfill operates under a ADEC Class III landfill operating permit, therefore an operating record is required. The operating record consists of multiple components required by regulation for operation of a Class III landfill.

The Borough is responsible for the following components and will maintain these records at the Borough's Solid Waste Department administration offices in Soldotna: ADEC permit application and permit; inspection records; training procedures and records; notifications and manifests related to hazardous waste and other prohibited wastes; monitoring data, reports, demonstrations, certifications or findings; operating plan, as-built drawings; and any other required documents.

The Contractor is responsible for the following components as part of the contract documents and will maintain a copy of these records at their office in Tyonek: ADEC permit and permit application; operations and maintenance work plan; and any other documents required by contract.

**9.B. FEES**

The Borough does not currently charge any fees for disposal at the Tyonek Landfill.

**10. PERSONNEL, TRAINING, HEALTH AND SAFETY**

The Contractor must have knowledge of waste identification and handling of wastes such as hazardous waste, construction/demolition debris, recyclables, etc.; experience in heavy equipment operations; knowledge and capability to perform minor maintenance on site equipment including the dumpsters and storage. The Contractor must have knowledge of waste identification and handling of wastes such as hazardous building, and minor fence and sign repairs, etc.; and must be capable of greeting, directing and educating disposers of site rules in a friendly but direct manner.

Any additional personnel training required by State, Federal or other agencies (i.e. OSHA) is the responsibility of the Contractor.

The Borough may require that the Contractor's personnel attend additional training sponsored by the Borough or other organizations. The Borough shall pay for training and associated costs.

The Contractor is encouraged, but not required, to have the operator attend a Solid Waste Association North America (SWANA) Rural Alaska Landfill Operators (RALO) training class.

The Contractor is responsible for compliance with OSHA and labor requirements.

The Contractor shall supply safety materials including, but not limited to: protective clothes, gloves, boots, sorbents, eye protection, hearing protections, shovel, broom, plastic bags, first-aid kit and fire extinguishers. The Contractor shall be trained in the use of all safety equipment.

#### **10.A. PUBLIC SAFETY**

The Contractor shall conduct the work to ensure a minimum of inconvenience to traffic. The Contractor shall promptly remedy any interruption of access to the site or on the site.

When working at the site, the Contractor shall direct traffic to applicable disposal areas; prohibit disposers from climbing in or on the active working cell; clean up waste that has been dropped or placed on the ground at the site; ensure pets and children remain in vehicles at all times except children assisting an adult while under the direct supervision and control of that adult; and warn users of unsafe practices.

Absolutely no smoking is allowed near the active cell.

The Contractor must notify the Borough immediately of any accident resulting in injury to persons, damage to Borough owned equipment or site, or to disposers property or vehicles. Within 24 hours, the Contractor shall provide a written statement (on Borough supplied form) to the Borough detailing events.

#### **10.B. FIRES**

The Contractor is responsible for fire prevention, which includes screening waste for prohibited flammable materials. The Contractor shall prohibit disposal of hot ashes or other combustibles and shall insure sufficient cover stockpiles and equipment are available for fire control within the landfill at all times.

If a landfill fire occurs, the Contractor shall push dirt from above the waste cell, if possible, onto the burning material. Equipment pushing dirt must always stay upwind of the smoke. If equipment cannot access an area upwind to place dirt on the fire or the wind shifts, the Contractor shall halt work immediately and move to a safe location.

Water, or snow in winter, should be used on a fire only if no other remedy is successful in extinguishing the fire. Unless specifically instructed by the Borough or the local fire department underground fires are not to be dug up or exposed.

The Contractor must provide, maintain, and keep available at all times, fire extinguishers for all heavy equipment.

The Contractor must immediately notify the local fire department and Borough in event of fire and make every attempt possible to extinguish fires as rapidly as possible. If a fire becomes too large for the Contractor to handle safely, the Contractor shall keep all disposers and personnel out of the area until the fire department has extinguished the fire and approved the Contractor to return to work.

Open flames are not to be allowed in the landfill, unless specifically approved by the Borough. In the event that a fire occurs, the Contractor shall make available a Contractor and equipment upon a two hour

notice by the Borough to aid in controlling the fire. The Contractor shall be compensated at the hourly rate for equipment and Contractor as agreed upon by the Borough and Contractor.

#### **11. SUBCONTRACTORS, COOPERATION WITH OTHER CONTRACTORS**

The Contractor must supply personnel data, equipment data, and proof of insurance and other applicable data on any subcontractors used on this project prior to work commencement, or at any time as requested by the Borough.

The Contractor shall conduct his operations to interfere as little as possible with those of other contractors on or near the work. It is expressly understood that the Borough has the right to award other contracts in connection with site operations, construction or maintenance, and to grant access to the site to others as necessary.

The Contractor shall notify the Borough of any problems resulting from use of this site by others.

#### **12. REGULATORY AGENCIES**

The Borough shall be the responsible agency to respond to any inquiries, questions, or formal response with any state, federal or city agencies.

The site is operated under an ADEC disposal permit. A copy is to be kept by the Contractor and presented to ADEC inspectors or the Borough upon request. The Contractor and all site personnel must be familiar with permit requirements.

The Contractor shall meet all of the ADEC permit requirements. In the event that the contract operating requirements are more stringent than the ADEC permit, the Contractor will comply with the Contract, unless directed otherwise by the Borough.

#### **13. ESTIMATE OF QUANTITIES**

It is expressly agreed that the quantities shown on the Bid Form or noted throughout this document are approximate only and are not to be taken to be either representation or warranties. The Borough does not expressly, nor by implications, warrant that the actual amount of work will correspond with any estimated quantities.

#### **14. INCREASED OR DECREASED QUANTITIES**

The Borough reserves the right to increase or decrease the quantity of any item or a portion of the work or to omit portions of the work; also to make such alterations or deviations, additions to, or omissions from the operations plan or drawings as may be determined to be necessary and advisable during the progress of the work for the proper completion thereof. The Contractor and the Borough will negotiate a change order to the contract if it is found that the changes are beyond the scope of work outlined herein.

The Borough does not warrant quantities will be the same as shown in this workplan or as called out on the Bid Form.

**15. BOROUGH REPRESENTATIVE**

The Borough shall have a representative who will visit the site as needed. The representative will have access to the site and records at all times. The Borough representative or designee will be the first point of contact in all instances. Regular meetings may be scheduled with the Borough and Contractor.

**16. ADDITIONAL SERVICES**

From time to time, the Borough may request the Contractor to perform additional services. Additional services shall be for work not included as a part of the basic operating requirements. Additional services shall be performed only at the request of the Borough.

Additional services may include, but may not be limited to, site maintenance not included as part of the contract documents that cannot be managed under the basic services of this plan.

If the Contractor's additional services require contractor licensing as set forth in State Regulations, the Contractor must show proof of licensing prior to work commencing (the actual task requested by the Borough for additional services).

Payment shall be made at the rates specified in the Contractor's Additional Services Bid Form.

**17. CONTRACTOR USE OF SITE**

No equipment or supplies other than those required to carry out the work as required in these documents will be allowed to be stored at the site unless otherwise approved by the Borough.

No posters, flyers, handouts, jokes, informational items, etc. are allowed unless approved by the Borough.

Borough equipment is to be used only for conducting Borough business. Use of Borough equipment to conduct activities of other businesses (or of a portion of the business unrelated to the landfill operations) whether as an employee, owner, or contractor, is prohibited.

**18. CONTRACT CLOSEOUT**

During the final month of the contract, at Borough request, the Contractor will allow Borough designated contractor(s) to observe all work being performed. Borough personnel will accompany the designated contractor(s).

**END OF OPERATIONS AND MAINTENANCE REQUIREMENTS WORKPLAN**



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## TYONEK LANDFILL VISUAL MONITORING FORM

<b>Inspector:</b>	
<b>Date:</b>	
<b>Weather Conditions:</b>	
<b>Temperature:</b>	
<b>Wind:</b>	

Question	Yes	No	Comments/Corrective Action
<b>Access Control:</b>			
Is access road in good condition?			
Has litter on the road to the landfill been cleared?			
Is the entrance gate locked?			
Are fence and gate in good condition?			
<b>Landfill:</b>			
Are signs in good condition?			
Is waste deposited in the designated area?			
Has the working face remained the same or decreased in size?			
Have all parts of the landfill been compacted, consolidated, and covered with cover material?			
Have all household hazardous waste (HHW) items been removed from the working face?			
Has litter been cleaned up?			
Have odor, noise, and dust from the landfill been minimized?			
Has waste been removed from unauthorized dumping areas?			
Are areas where shooting damage was observed clear of equipment or items that may be targeted?			
Are containment structures, retaining walls, erosion control, and diversion structures structurally sound?			
Is the working face clear of evidence of fire or combustion (i.e. hot ash smoldering, smoke from the waste, etc.)?			
<b>Burning:</b>			
Is the property free of any evidence of open burning (on the ground)?			
Has the burnbox been emptied?			
Are the airways open to allow for a hotter burn?			

## TYONEK LANDFILL VISUAL MONITORING FORM

Question	Yes	No	Comments/Corrective Action
<b>Burning:</b>			
Are only allowed burnable items being burned?			
Is the burnbox maintained in good condition (door not broken, etc.)?			
<b>Water Impacts:</b>			
If water ponding is observed at the landfill, has the ponding been removed and action taken to prevent future ponding within 30 days?			
If any water settlement, water ponding, leakage, thermal instability, frost action, or erosion was observed, has it been corrected?			
Are corrective measures utilized to prevent and contain leachate at the landfill such that no visible seeps are present?			
<b>Environmental Impacts:</b>			
Have potential methods of death or stress to fish, wildlife, or vegetation that might be caused by the landfill been minimized?			
Are there no wildlife (birds, bears, etc.) in the landfill?			
<b>Permit:</b>			
Have the permit's Specific Conditions been upheld without any violations?			
<b>Water Monitoring (if applicable):</b>			
Are all monitoring devices in working order without any signs of damage?			
<b>Other Comments or Concerns:</b>			

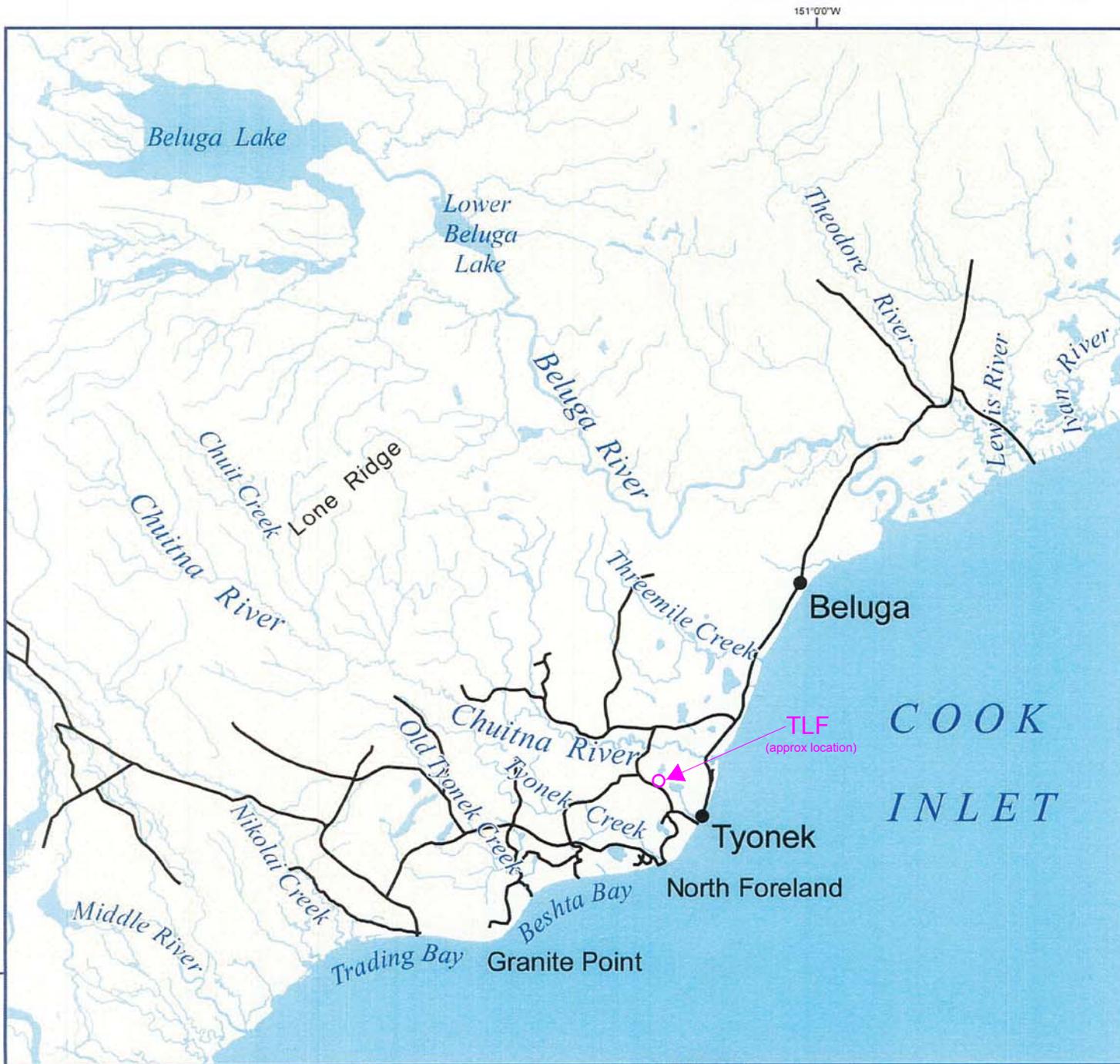


# Attachment E

Subsistence Maps



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- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

PacRim Coal, through Stephen R. Braund & Associates, provided funding to ADF&G for this study. Stephen R. Braund & Associates, funded by PacRim Coal, digitized the data and prepared the GIS maps.

Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
 See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

Map Projection: UTM Zone 5N, NAD83

Stephen R. Braund & Associates  
 P.O. Box 1480  
 Anchorage, Alaska 99510  
 907-276-8222 907-276-6117 (fax) srbai@alaska.net

Map 1

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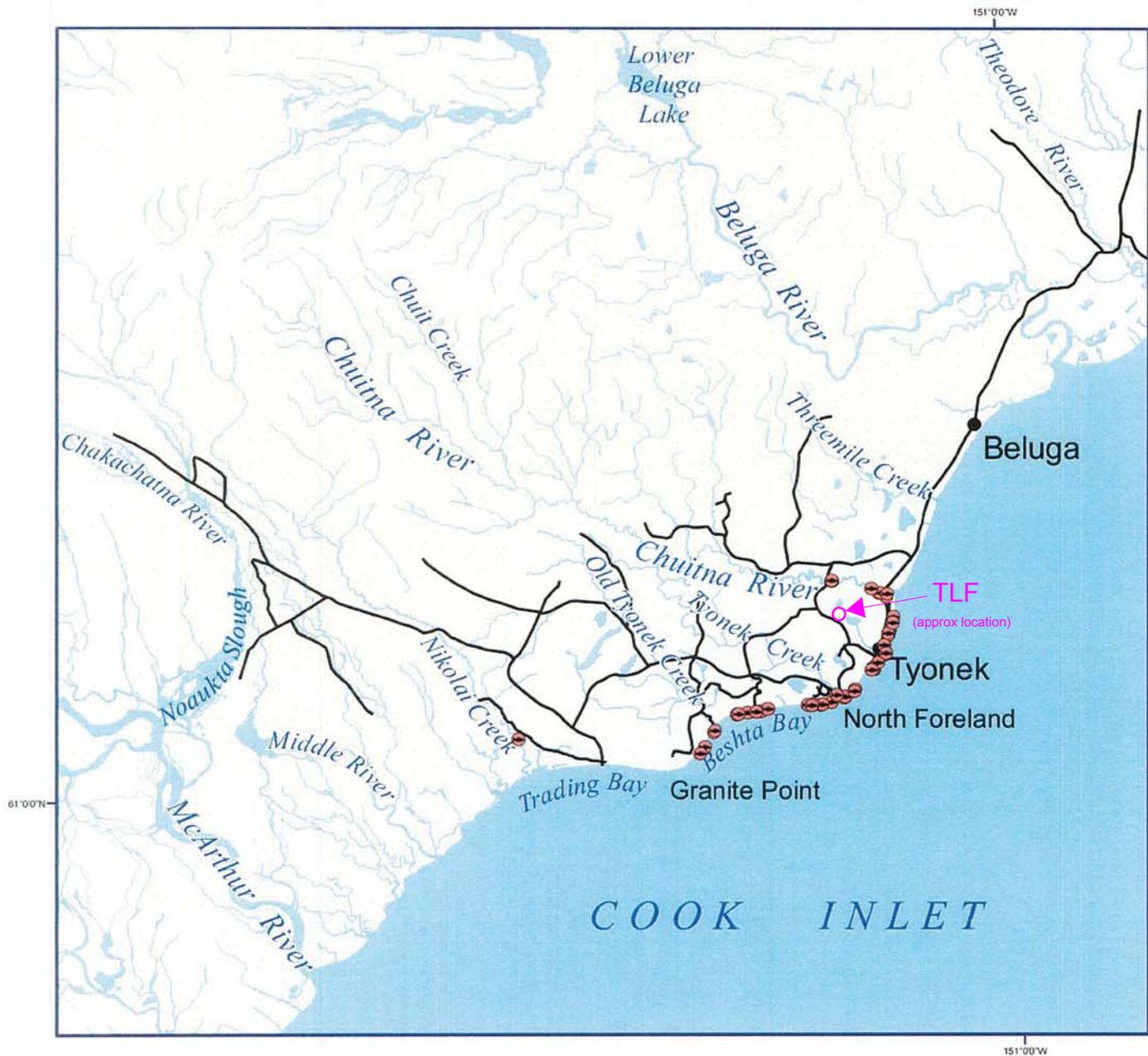
61°00'N

151°00'W

151°00'W

61°00'N

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



- Tyonek Chinook Salmon Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

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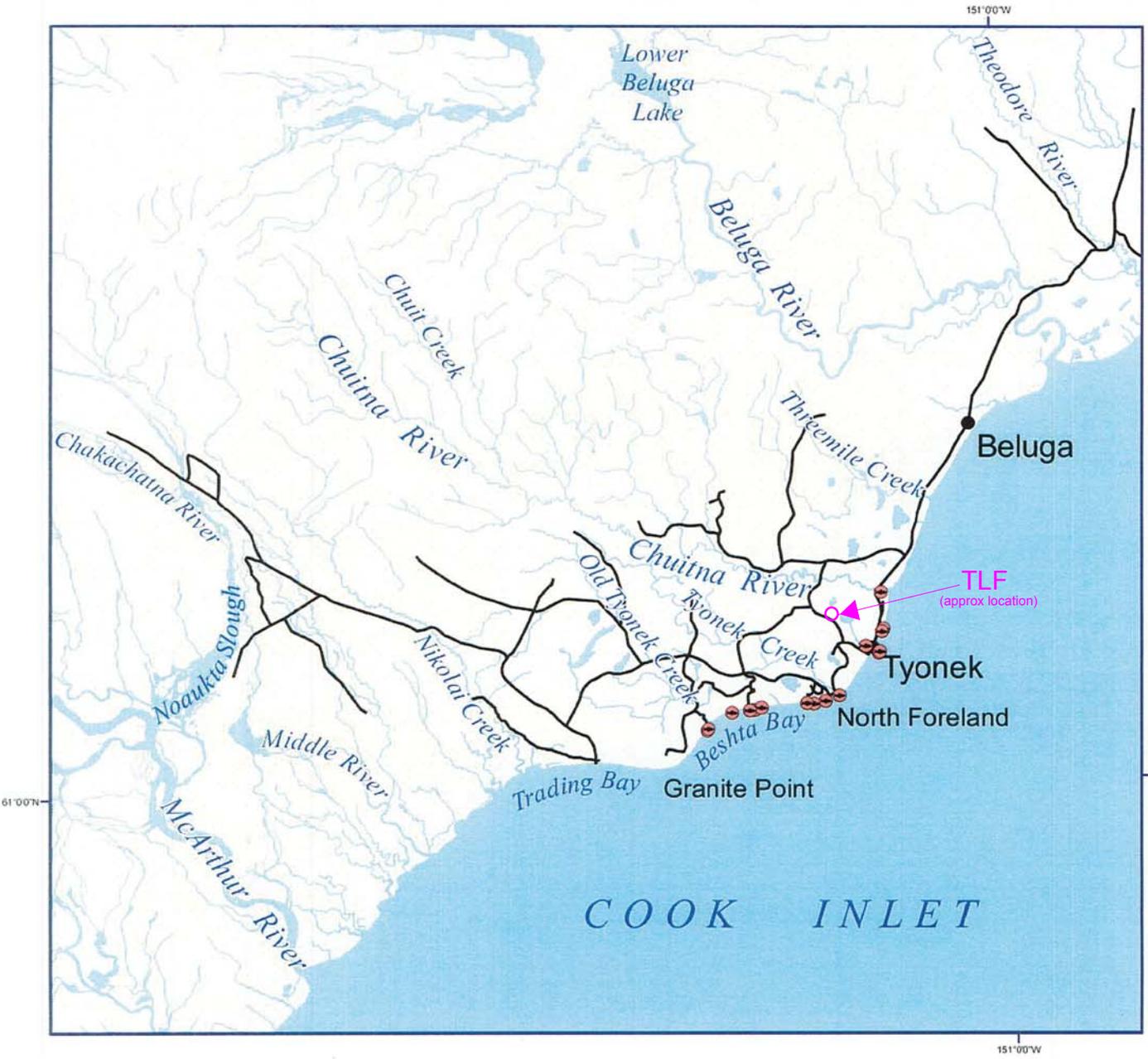
Map Projection: UTM Zone 5N, NAD83

Prepared by Stephen R. Braund & Associates  
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 Anchorage, Alaska 99510  
 907-276-8222 907-276-6117 (Fax) srb@alaska.net

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MAP 2

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



Tyonek Sockeye Salmon Harvest Area  
 Community  
 Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

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SCALE: 1:300,000

0 1.25 2.5 5 Miles

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Map Projection: UTM Zone 5N, NAD83

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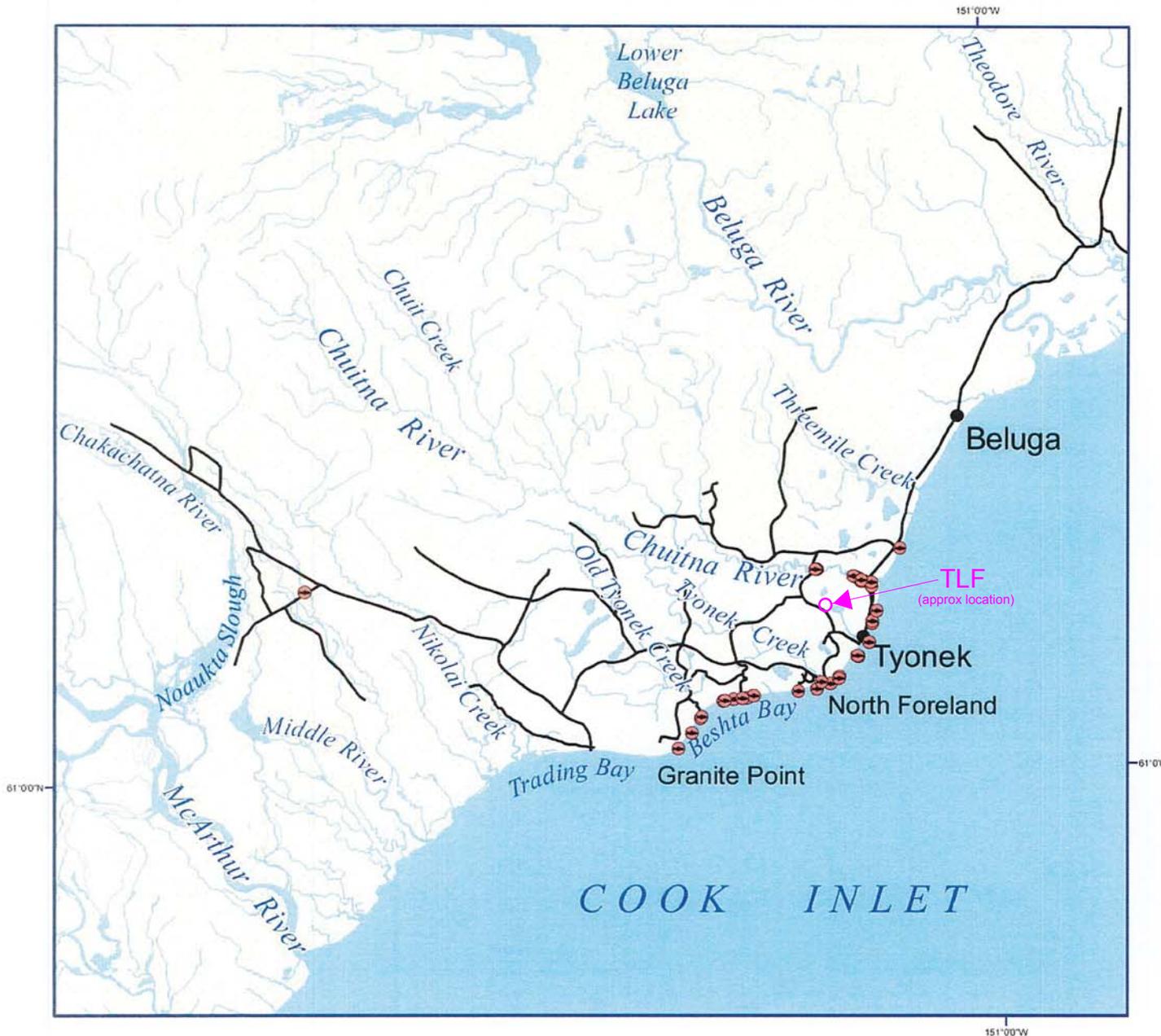
811

MAP 3

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



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- Tyonek Coho Salmon Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska. 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

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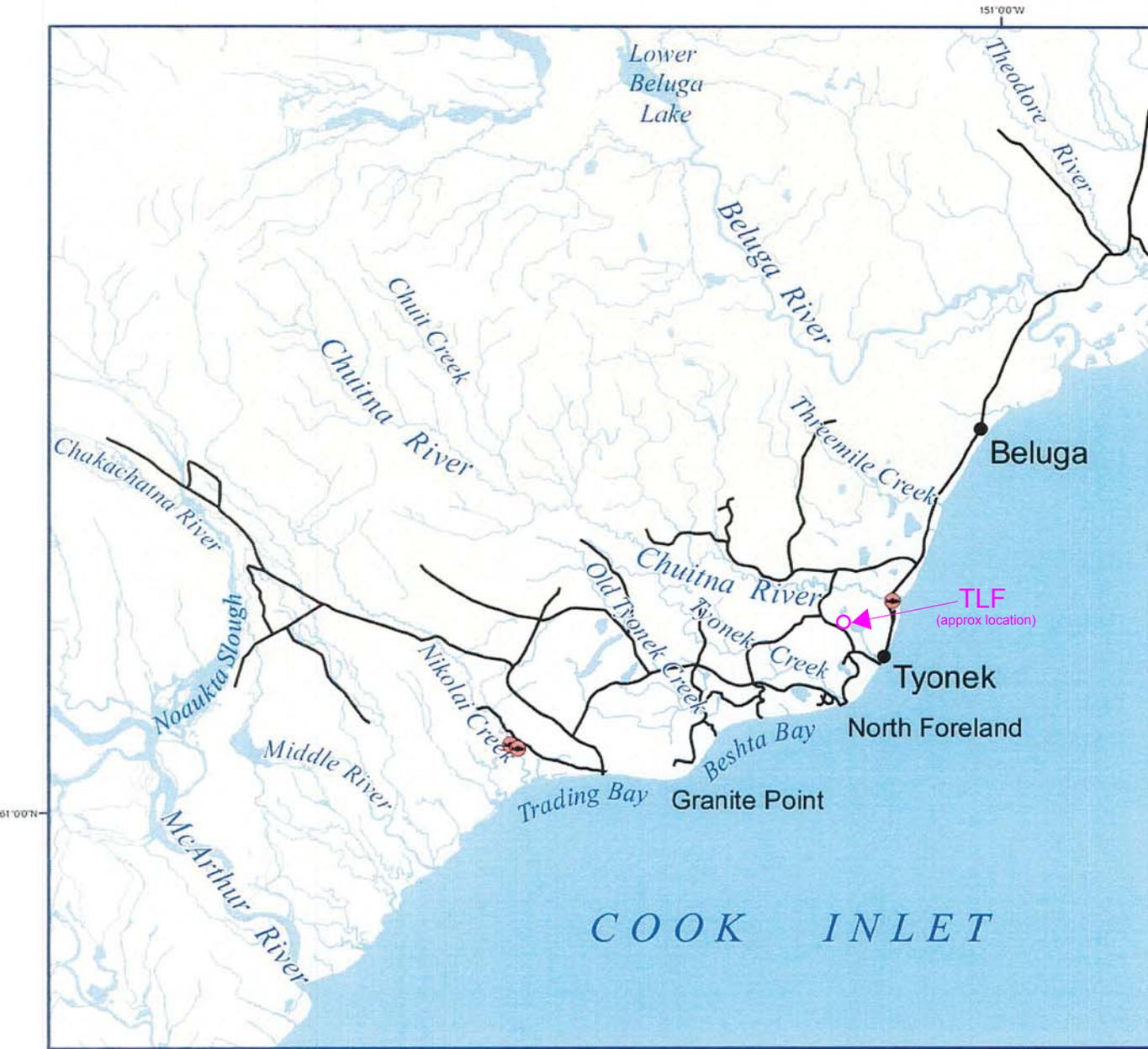
Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
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Map Projection: UTM Zone 5N, NAD83

Prepared by Stephen R. Braund & Associates  
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MAP 4

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



- Tyonek Dolly Varden Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska. 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

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Map Projection: UTM Zone 5N, NAD83

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120

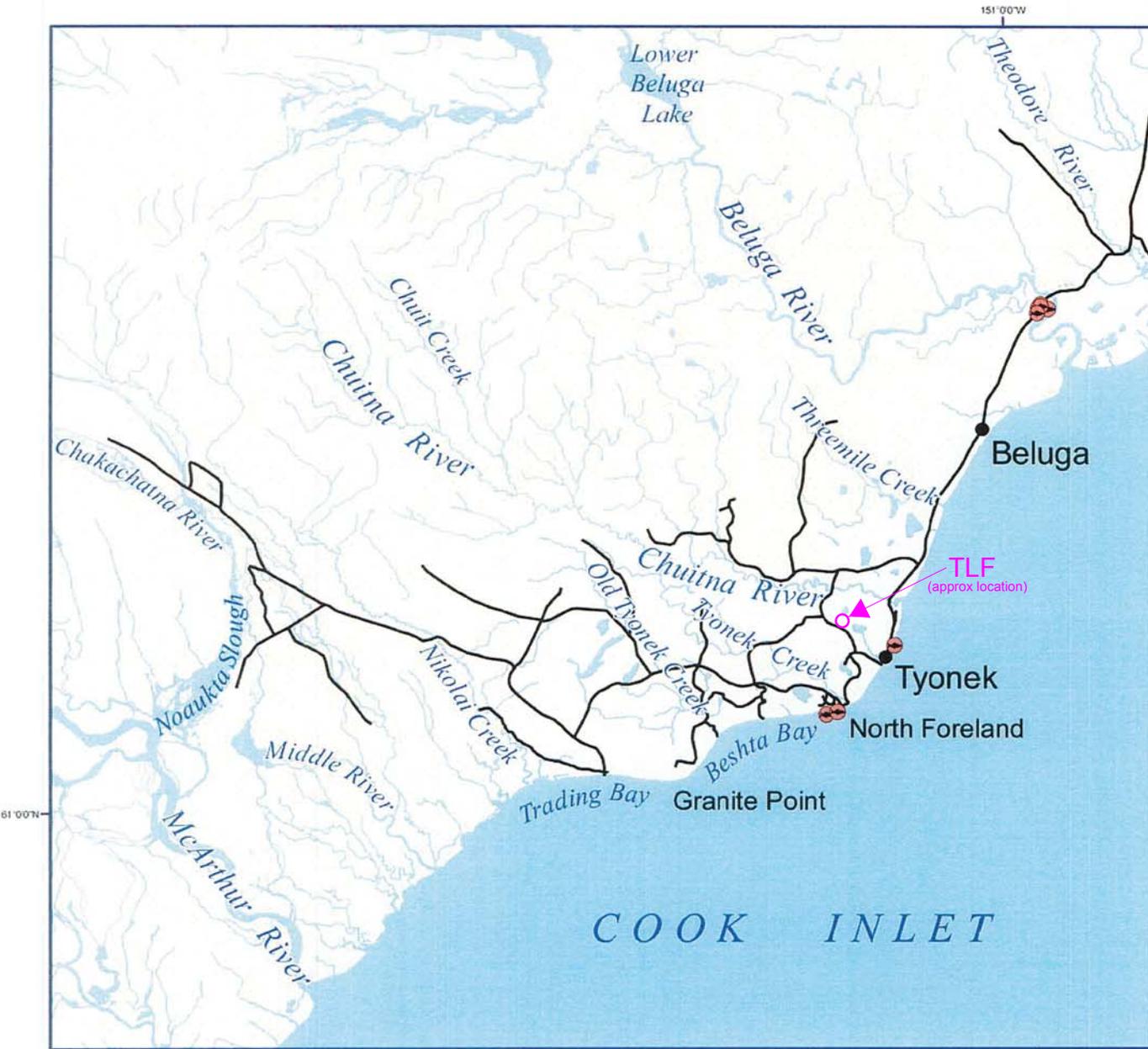
61°00'N

151°00'W

151°00'W

MAP 5

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



Tyonek Eulachon Harvest Area  
 Community  
 Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska. 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

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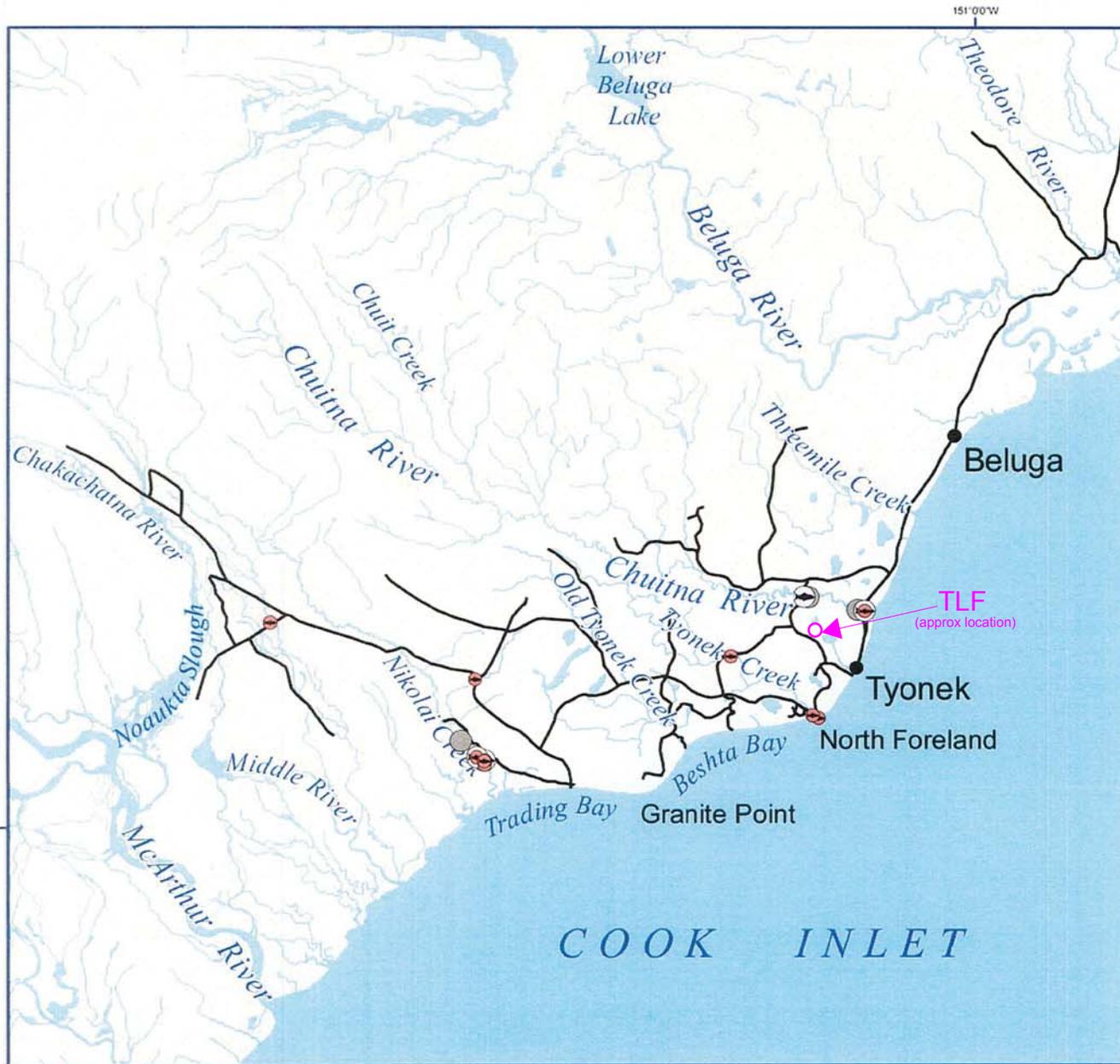
Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
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Map Projection: UTM Zone 5N, NAD83

Prepared by Stephen R. Braund & Associates  
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MAP 6

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



- Tyonek Rainbow Trout Harvest Area
- Tyonek Steelhead Trout Harvest Area
- Tyonek Trout Harvest Area
- Community
- Road

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SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

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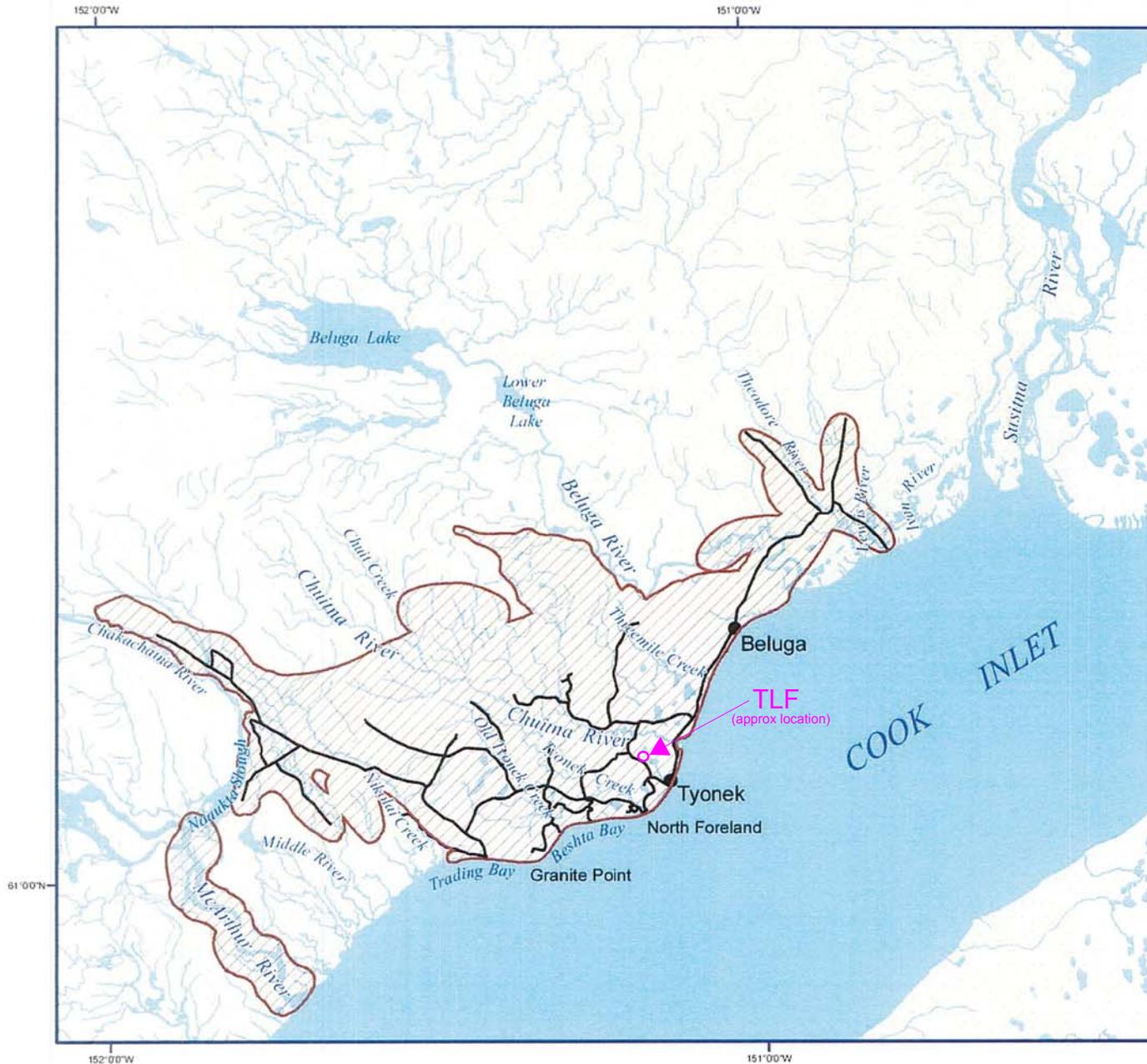
Map Projection: UTM Zone 5N, NAD83

Prepared by Stephen R. Braund & Associates  
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MAP 7

# DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



 Tyonek Moose Hunting Area

 Community

 Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:450,000



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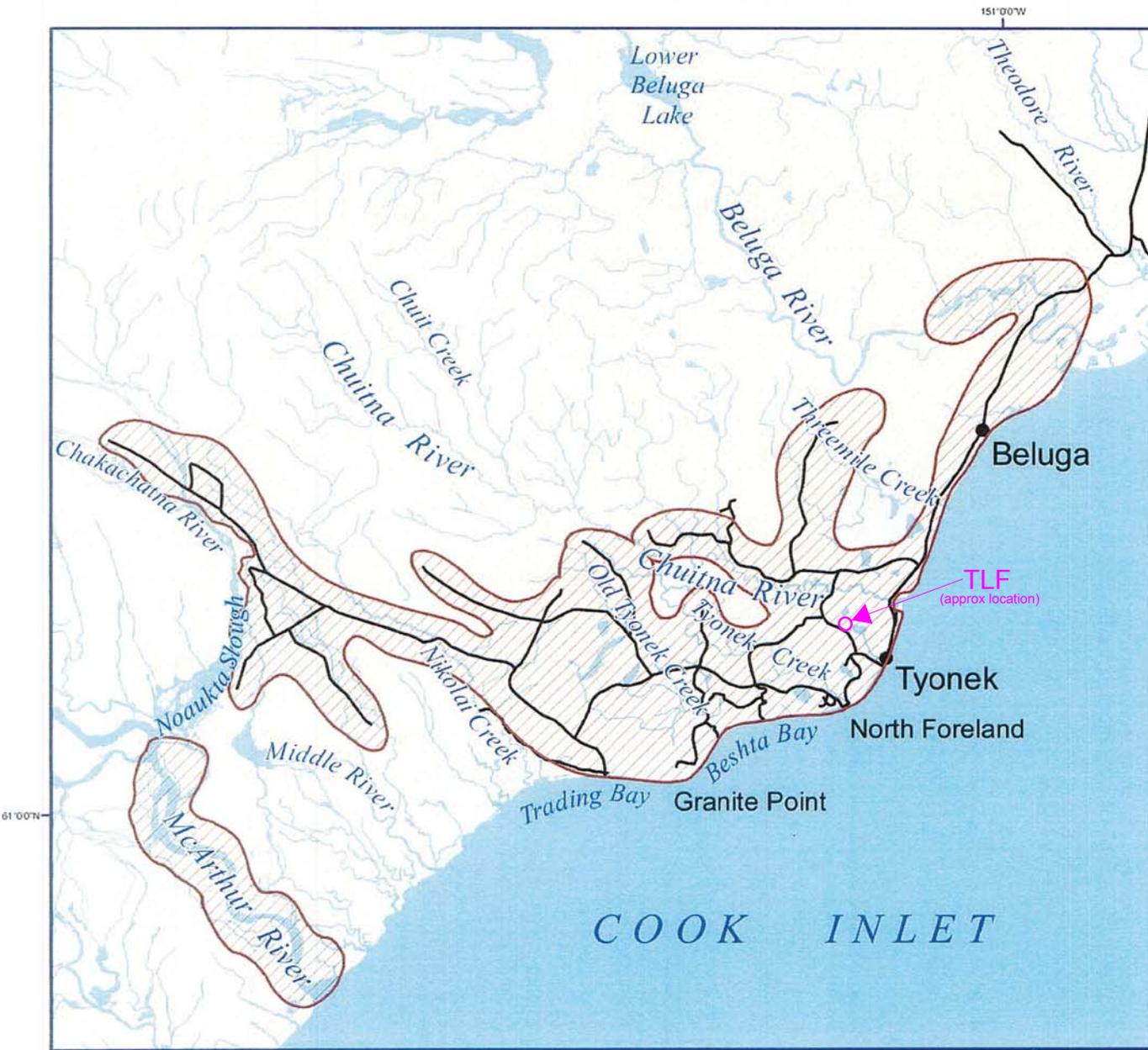
Source:  
Division of Subsistence, ADF&G Household Interviews, 2006.  
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Map Projection: UTM Zone 5N, NAD83

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MAP 8

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



-  Tyonek Brown Bear Hunting Area
-  Community
-  Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

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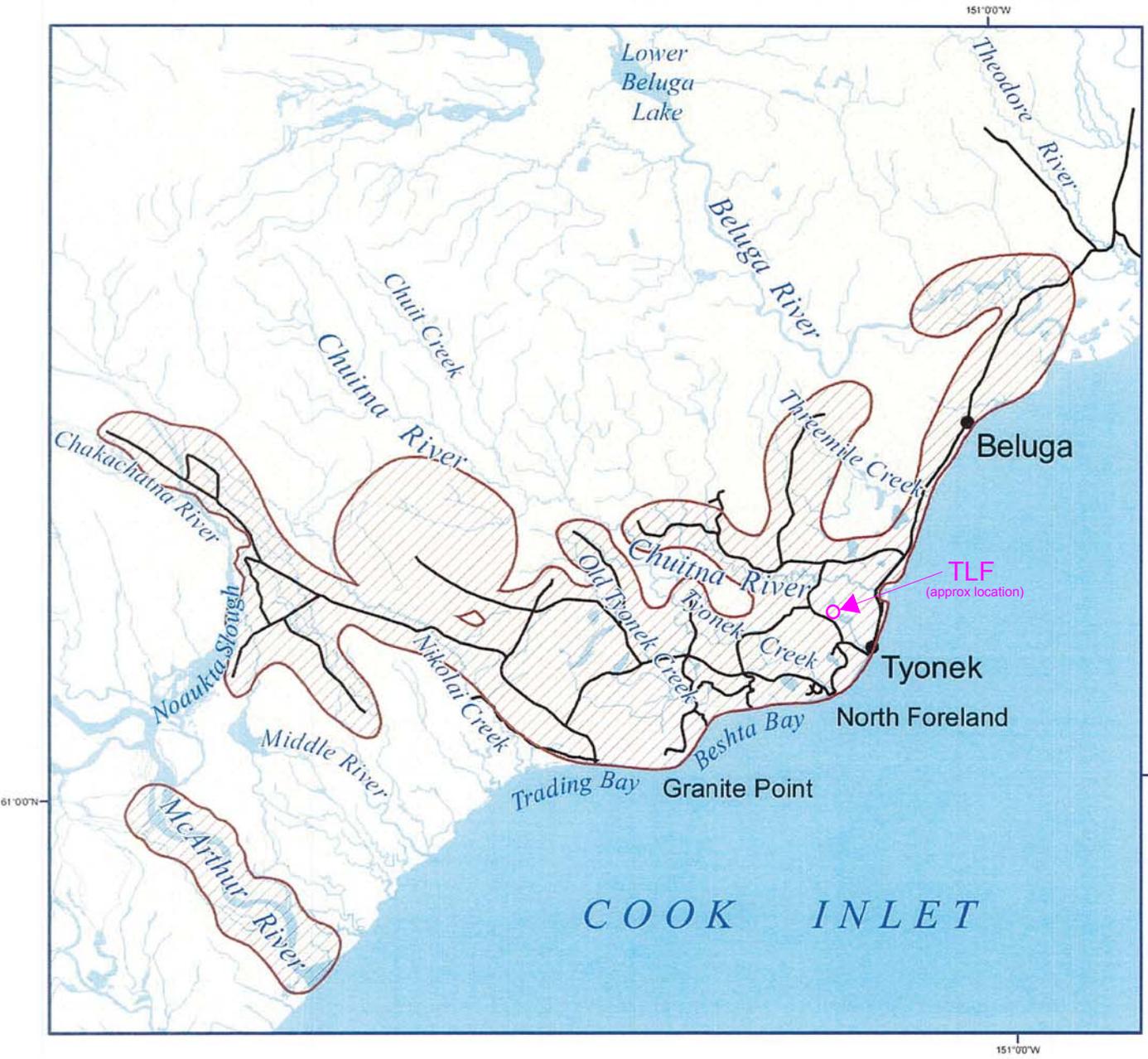
Map Projection: UTM Zone 5N, NAD83

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MAP 9

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



-  Tyonek Black Bear Hunting Area
-  Community
-  Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

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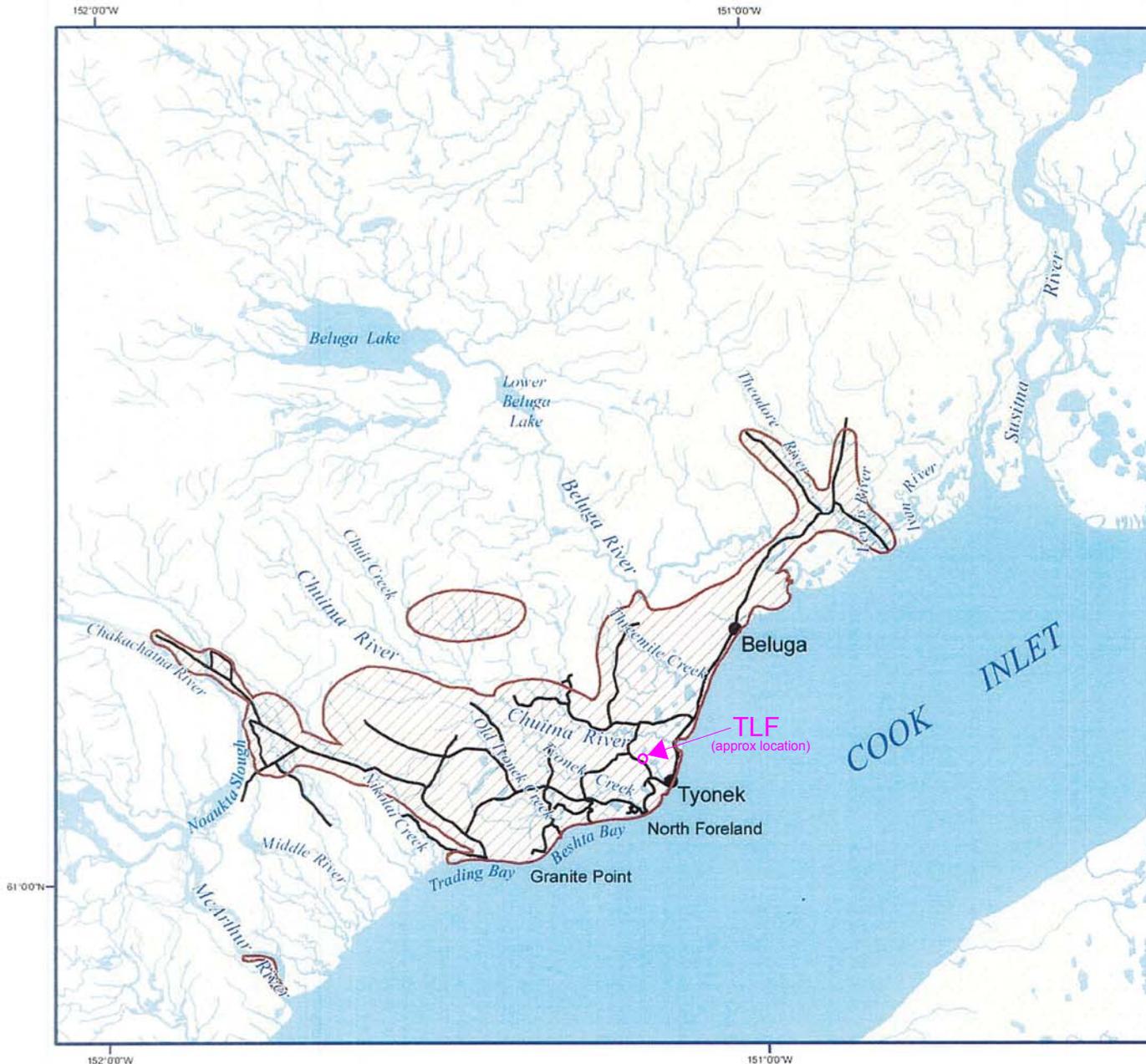
Source:  
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Map Projection: UTM Zone 5N, NAD83

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MAP 10

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



 Tyonek Small Land Mammal Hunting Area

 Community

 Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:450,000



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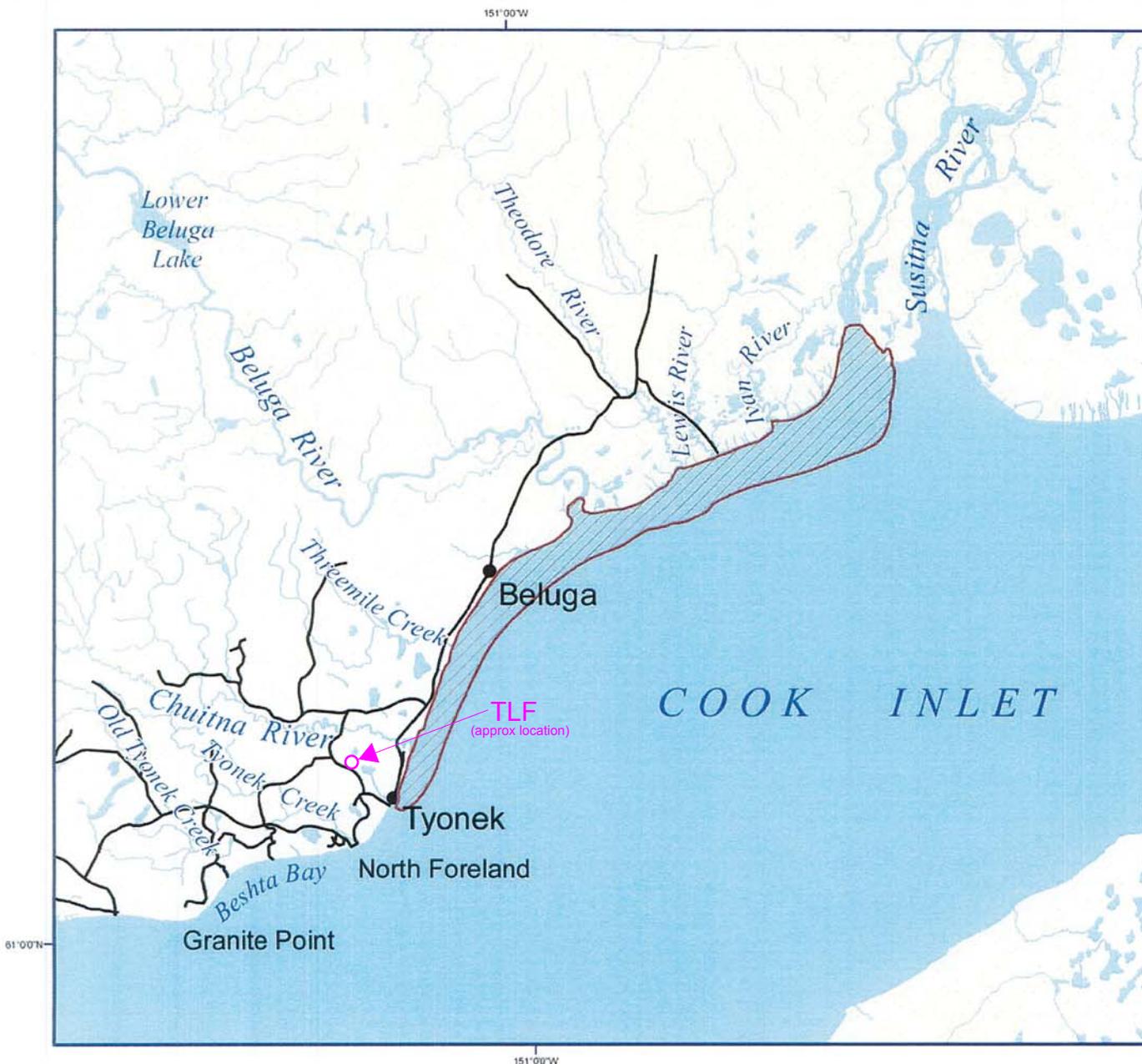
Source:  
Division of Subsistence, ADF&G Household Interviews, 2006.  
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Map Projection: UTM Zone 5N, NAD83

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MAP 11

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



-  Tyonek Beluga Hunting Area
-  Community
-  Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

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SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

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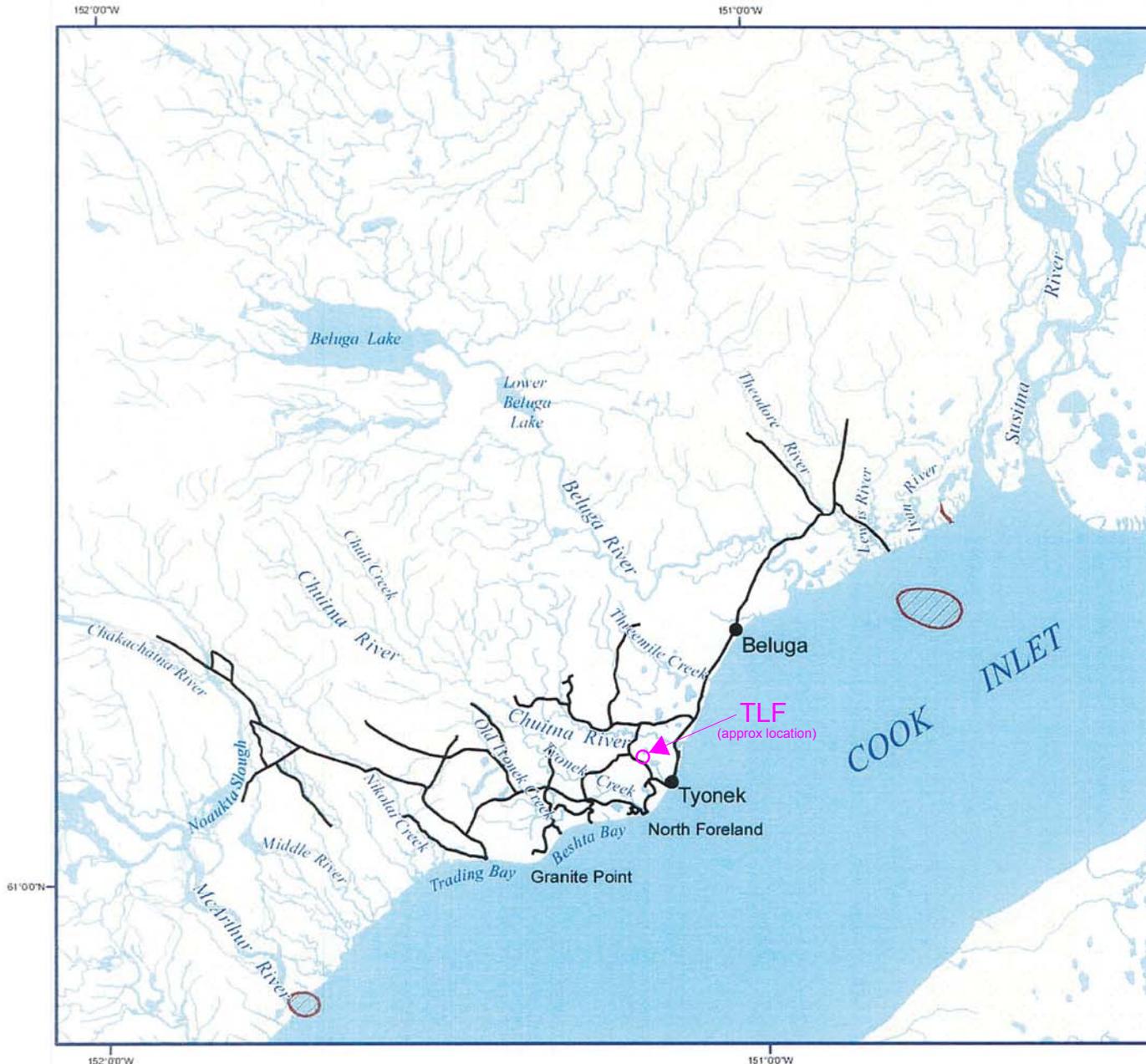
Source:  
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Map Projection: UTM Zone 5N, NAD83

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MAP 12

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



Tyonek Seal Hunting Area

Community

Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska. 2006.

SCALE: 1:450,000



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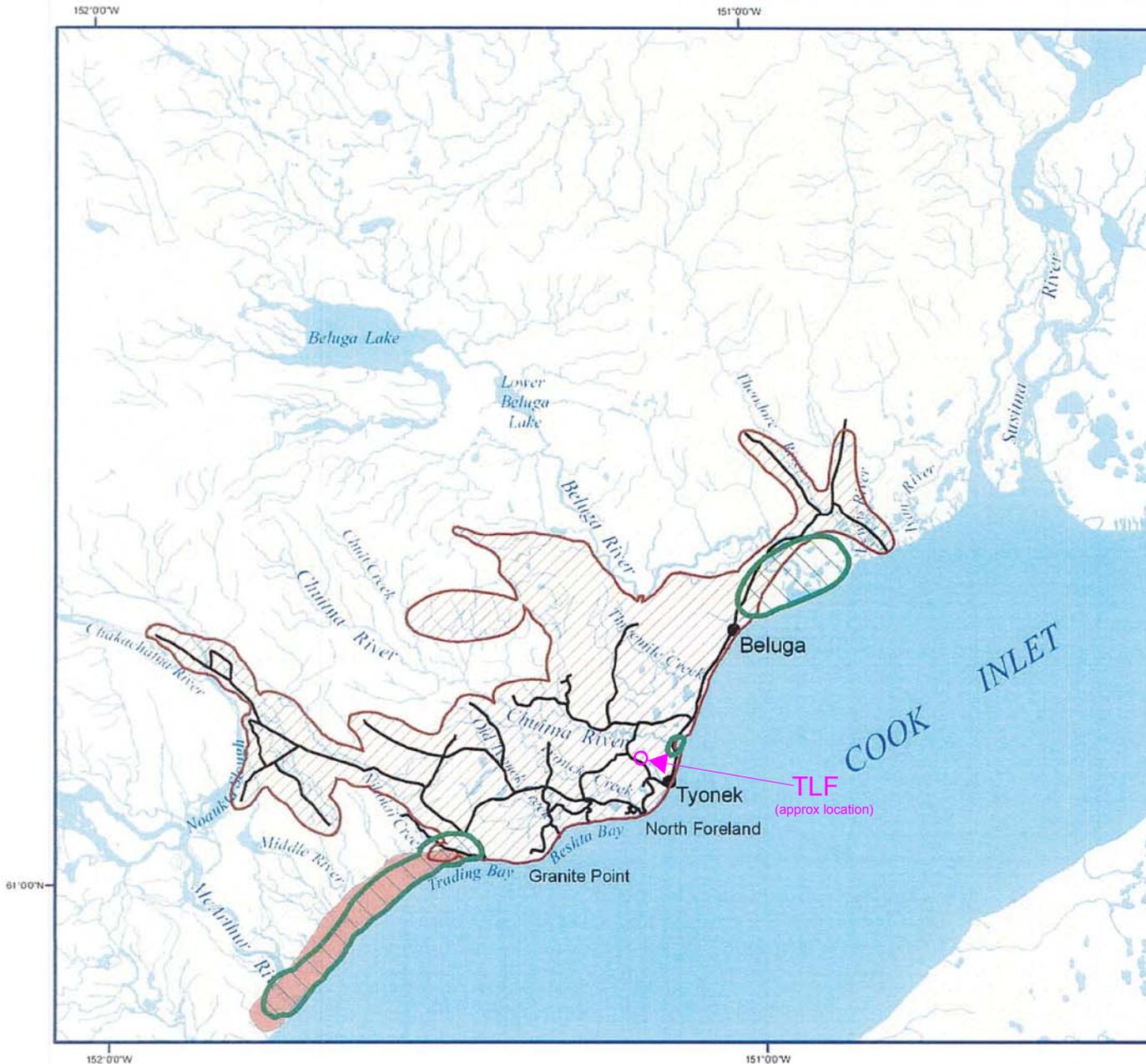
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Map Projection: UTM Zone 5N, NAD83

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MAP 13

# DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



- Tyonek Egg Harvesting Area
- Tyonek Upland Bird Harvesting Area
- Tyonek Waterfowl Harvesting Area

● Community

— Road

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SCALE: 1:450,000



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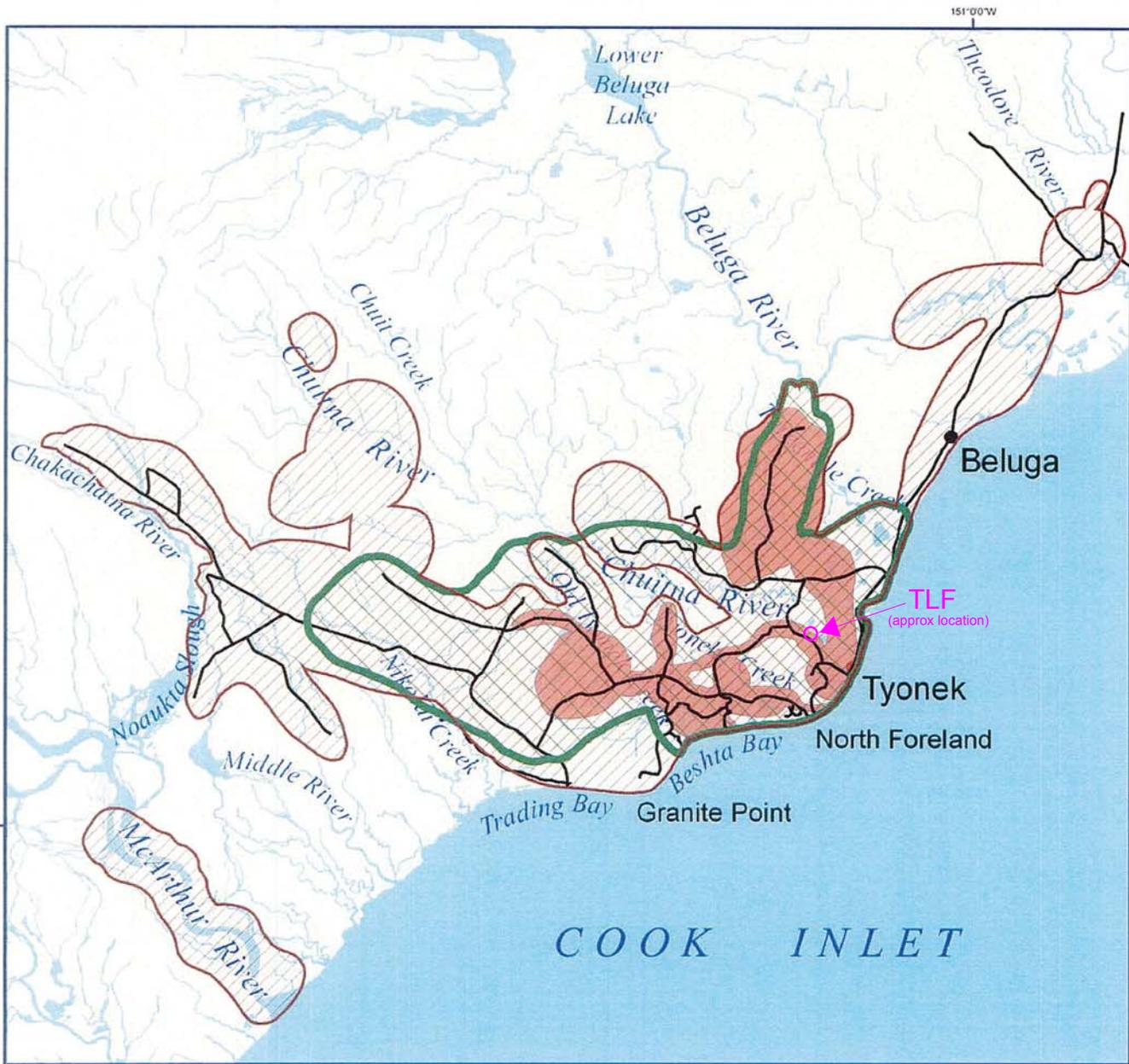
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Map Projection: UTM Zone 5N, NAD83

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**MAP 14**

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



-  Tyonek Berry Gathering Area
-  Tyonek Plant Gathering Area
-  Tyonek Wood Gathering Area

-  Community
-  Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000

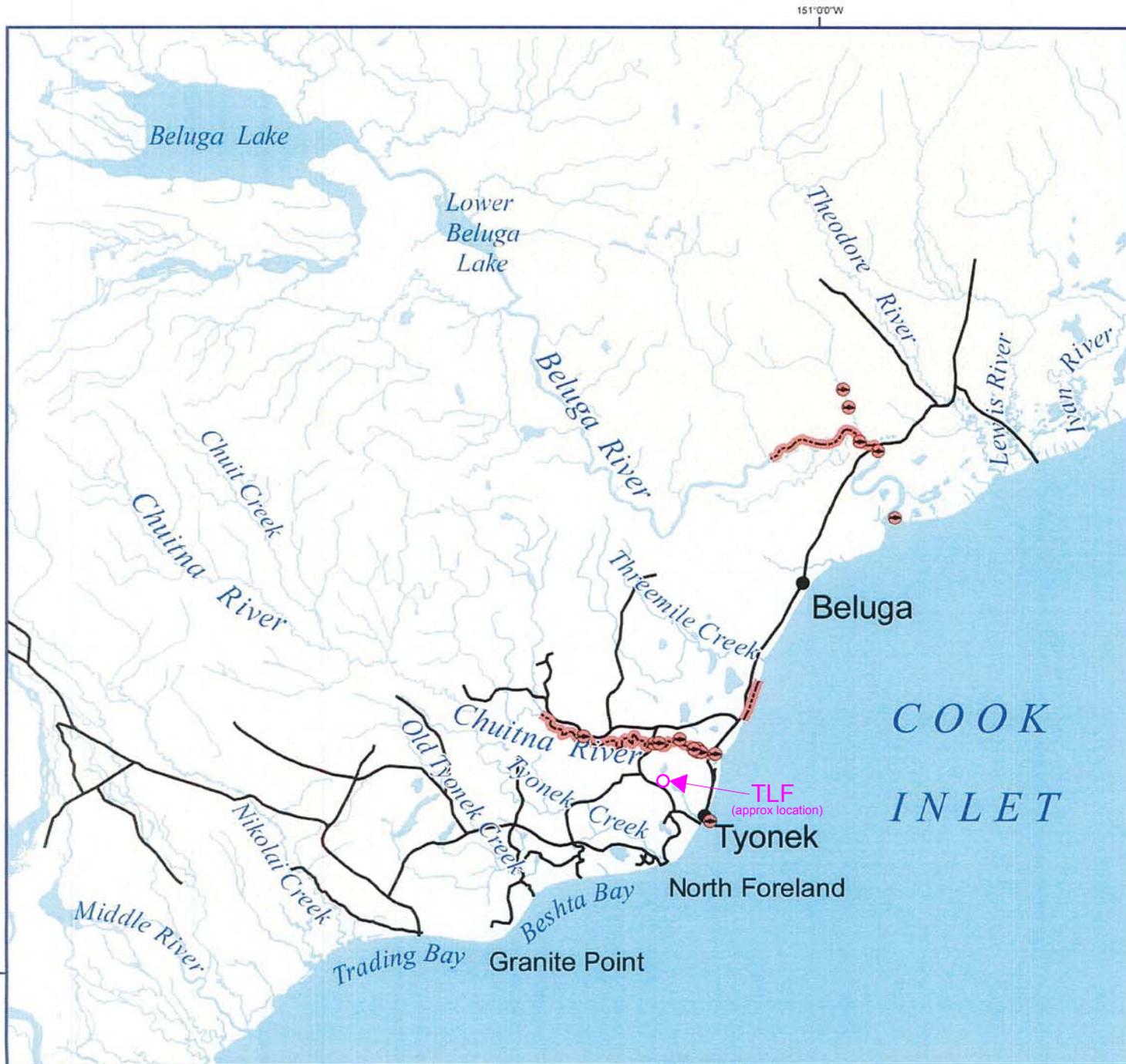


PacRim Coal, through Stephen R. Braund & Associates, provided funding to ADF&G for this study. Stephen R. Braund & Associates, funded by PacRim Coal, digitized the data and prepared the GIS maps.

Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
 See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

Map Projection: UTM Zone 5N, NAD83

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- Beluga Chinook Salmon Harvest Area
- Beluga Chinook Salmon Harvest Area
- Community
- Road

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Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

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Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
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Map Projection: UTM Zone 5N, NAD83

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Map 17

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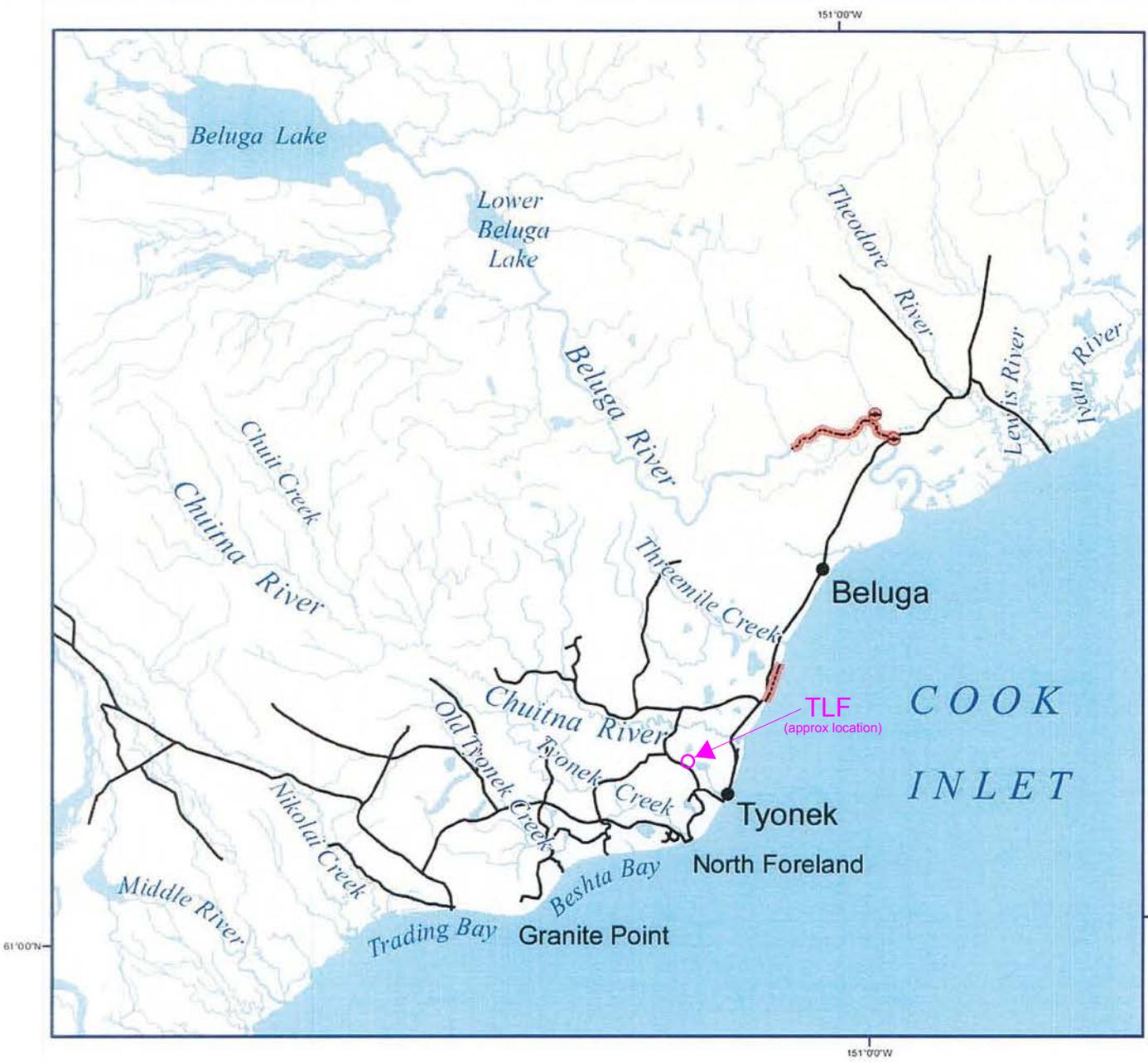
61°0'0"N

151°0'0"W

151°0'0"W

61°0'0"N

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- Beluga Sockeye Salmon Harvest Area
- Beluga Sockeye Salmon Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

PacRim Coal, through Stephen R. Braund & Associates, provided funding to ADF&G for this study. Stephen R. Braund & Associates, funded by PacRim Coal, digitized the data and prepared the GIS maps.

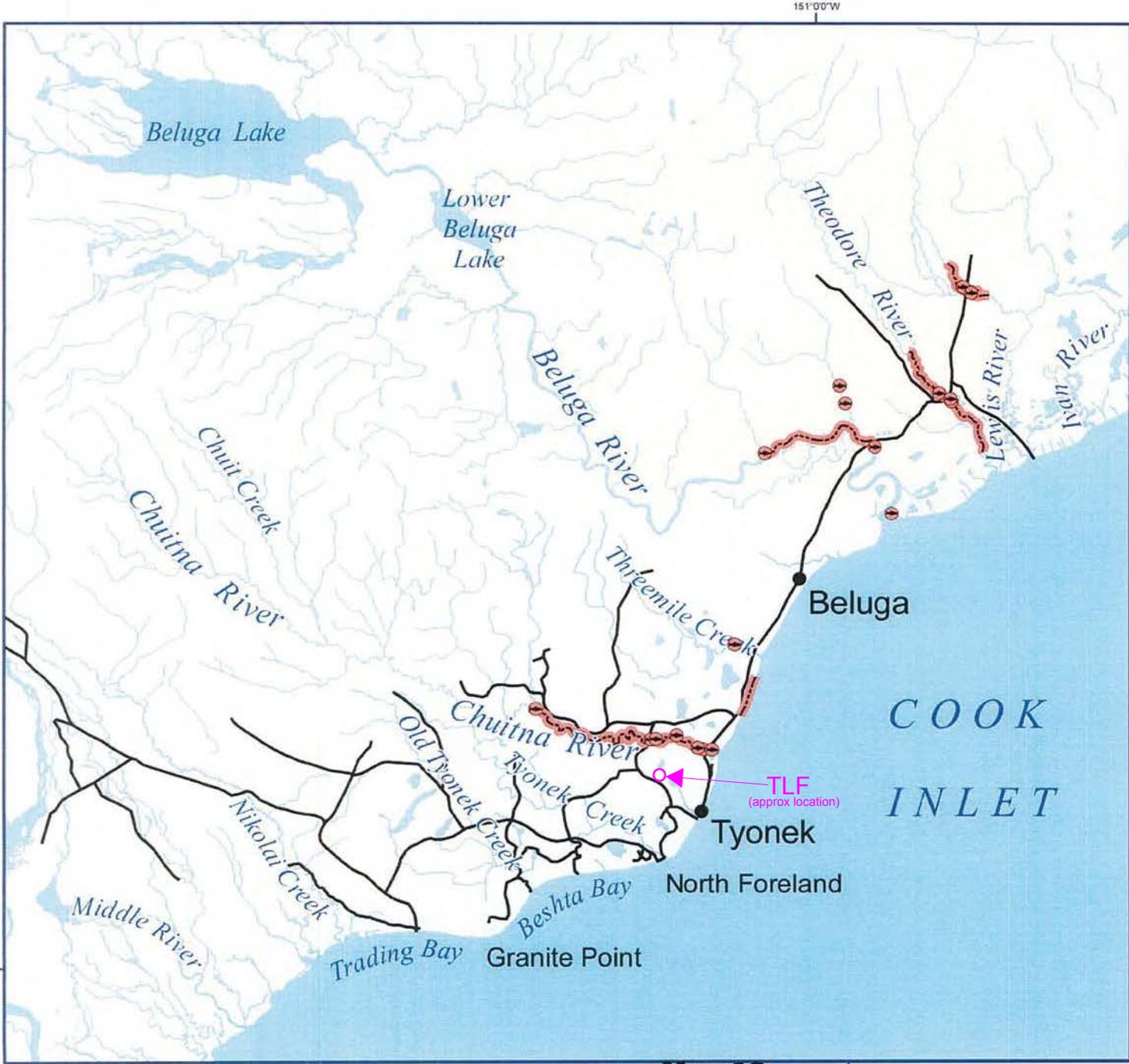
Source:  
Division of Subsistence, ADF&G Household Interviews, 2006.  
See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

Map Projection: UTM Zone 5N, NAD83

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MAP 18



- Beluga Coho Salmon Harvest Area
- Beluga Coho Salmon Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

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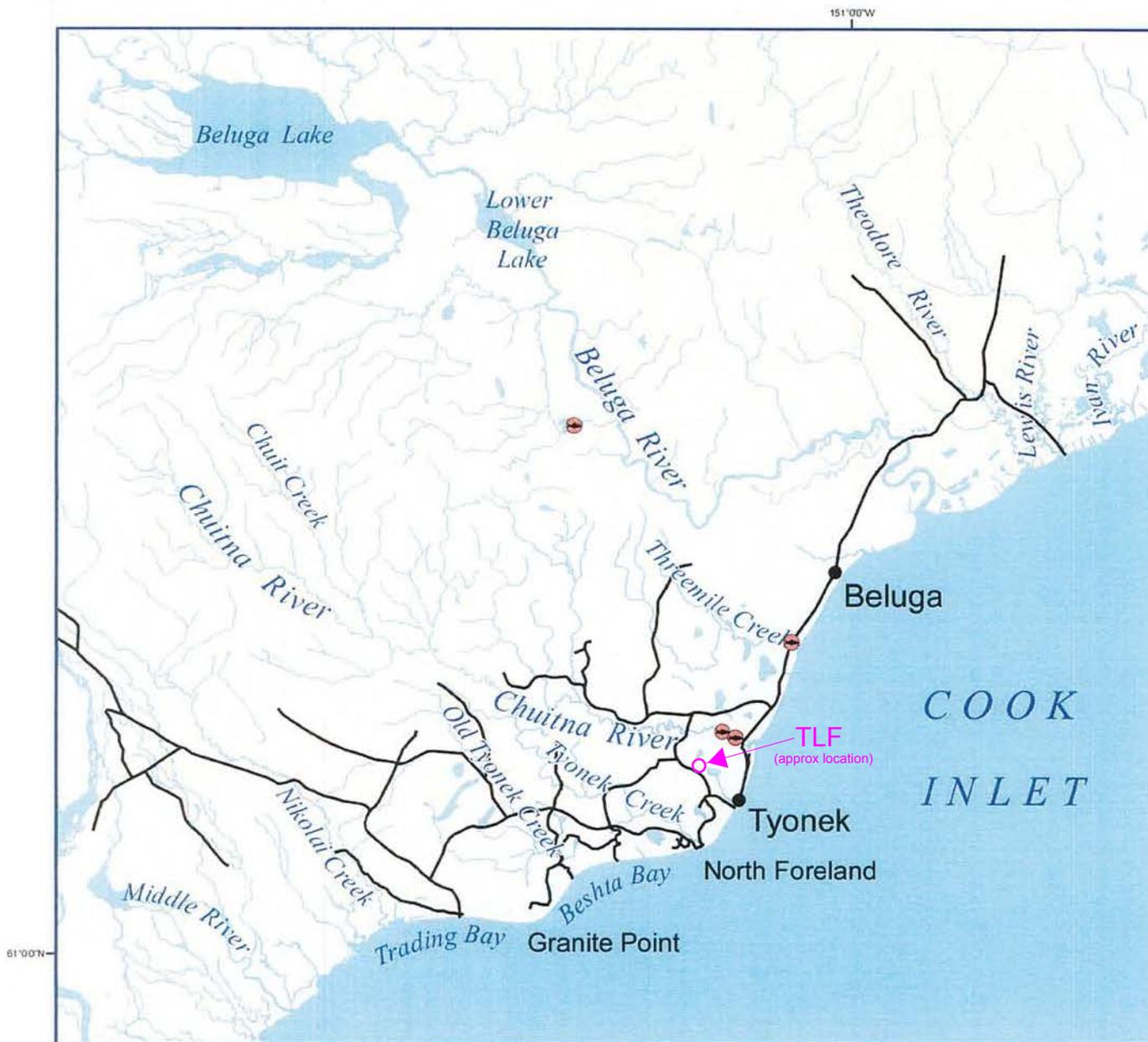
Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
 See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

Map Projection: UTM Zone 5N, NAD83

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Map 19

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- Beluga Dolly Varden Harvest Area
  - Community
  - Road
- Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

PacRim Coal, through Stephen R. Braund & Associates, provided funding to ADF&G for this study. Stephen R. Braund & Associates, funded by PacRim Coal, digitized the data and prepared the GIS maps.

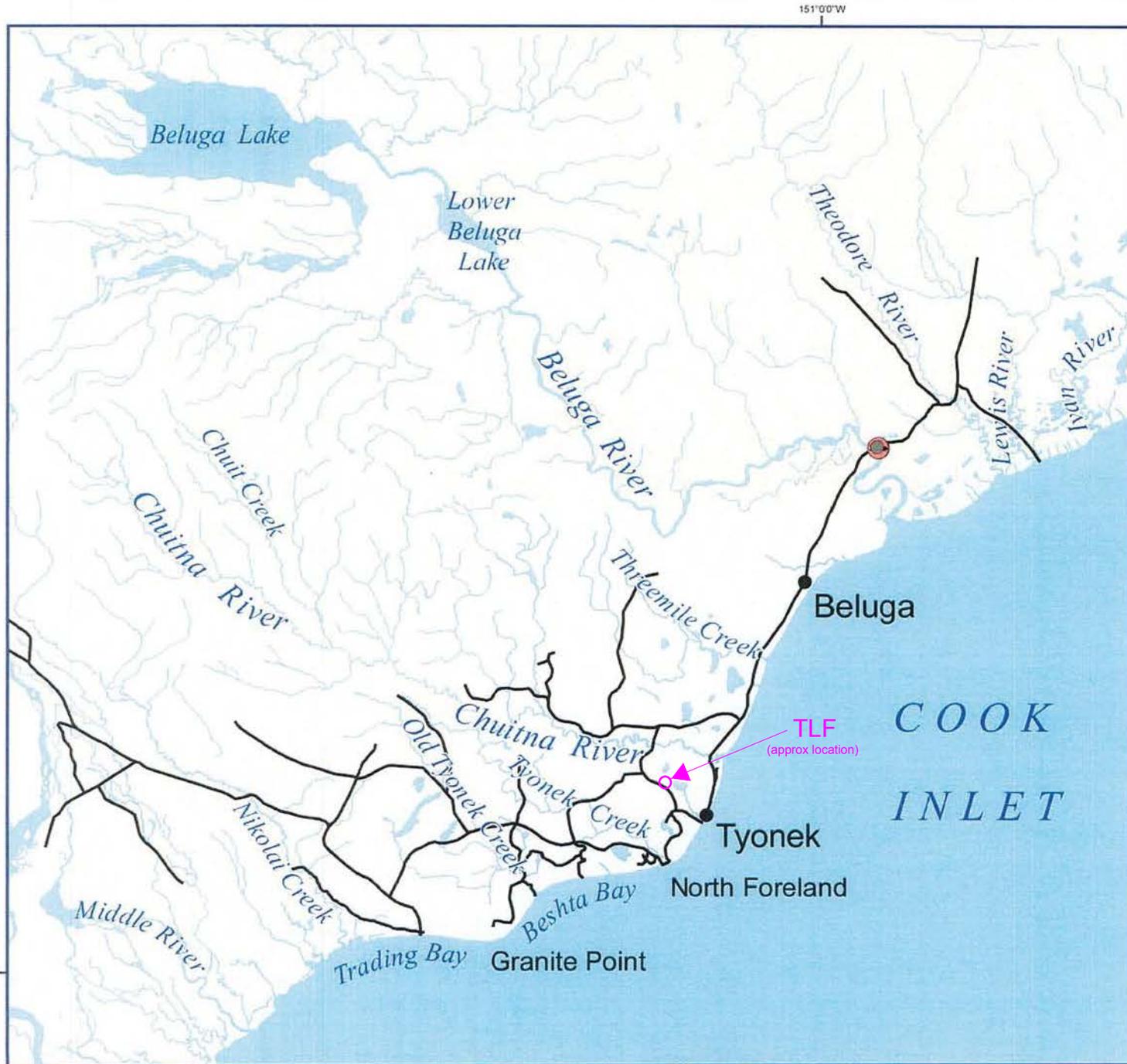
Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
 See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

Map Projection: UTM Zone 5N, NAD83

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MAP 20



**Legend**

- Beluga Eulachon Harvest Area
- Beluga Smelt Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

**SCALE: 1:300,000**

0 1.25 2.5 5 Miles

PacRim Coal, through Stephen R. Braund & Associates, provided funding to ADF&G for this study. Stephen R. Braund & Associates, funded by PacRim Coal, digitized the data and prepared the GIS maps.

**Source:**  
Division of Subsistence, ADF&G Household Interviews, 2006.  
See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

**Map Projection: UTM Zone 5N, NAD83**

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Map 21

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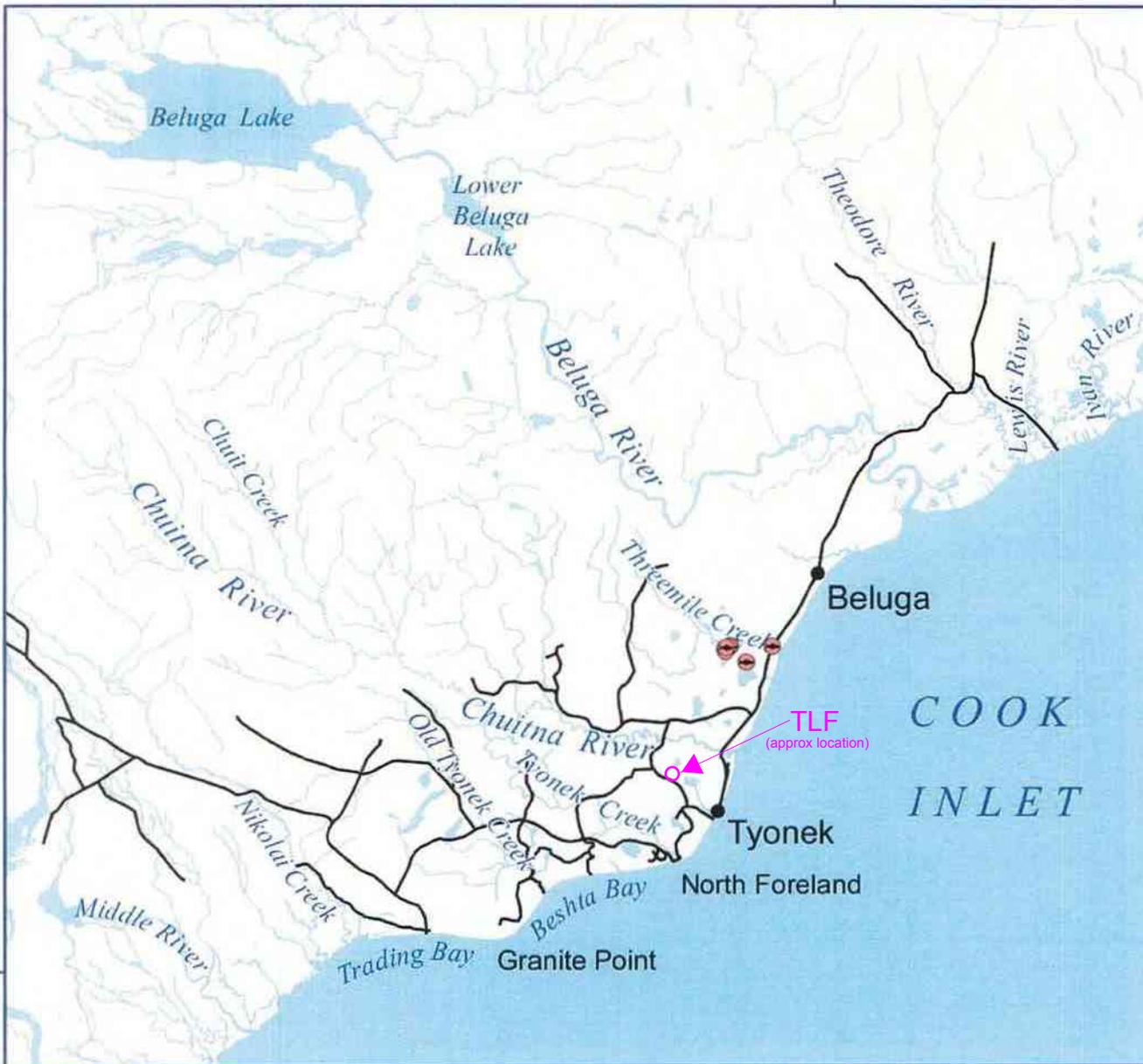
61°00'N

151°00'W

151°00'W

61°00'N

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- Beluga Northern Pike Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

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Source:  
Division of Subsistence, ADF&G Household Interviews, 2006.  
See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

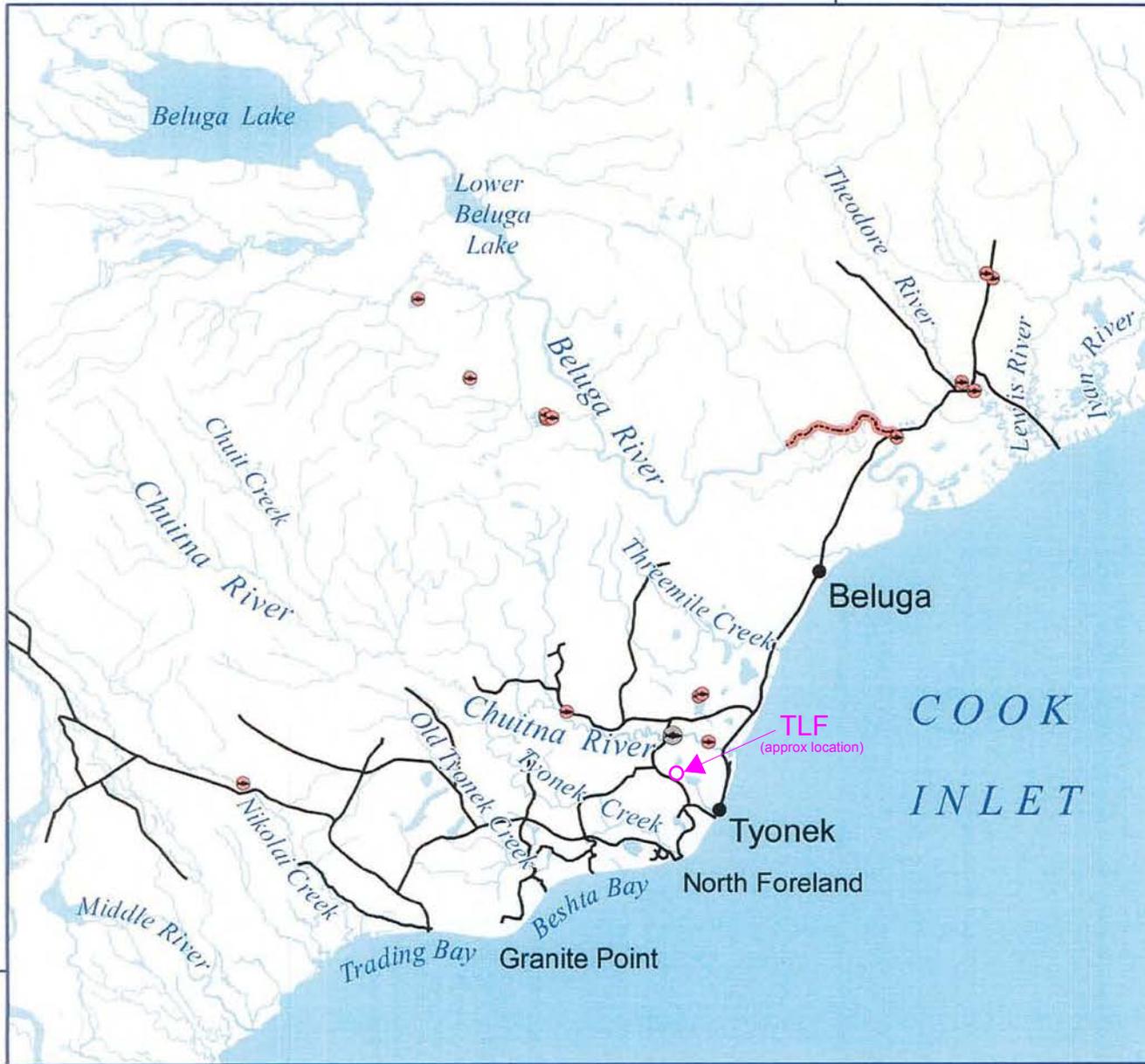
Map Projection: UTM Zone 5N, NAD83

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MAP 22

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- Beluga Rainbow Trout Harvest Area
- Beluga Steelhead Trout Harvest Area
- Beluga Rainbow Trout Harvest Area
- Community
- Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

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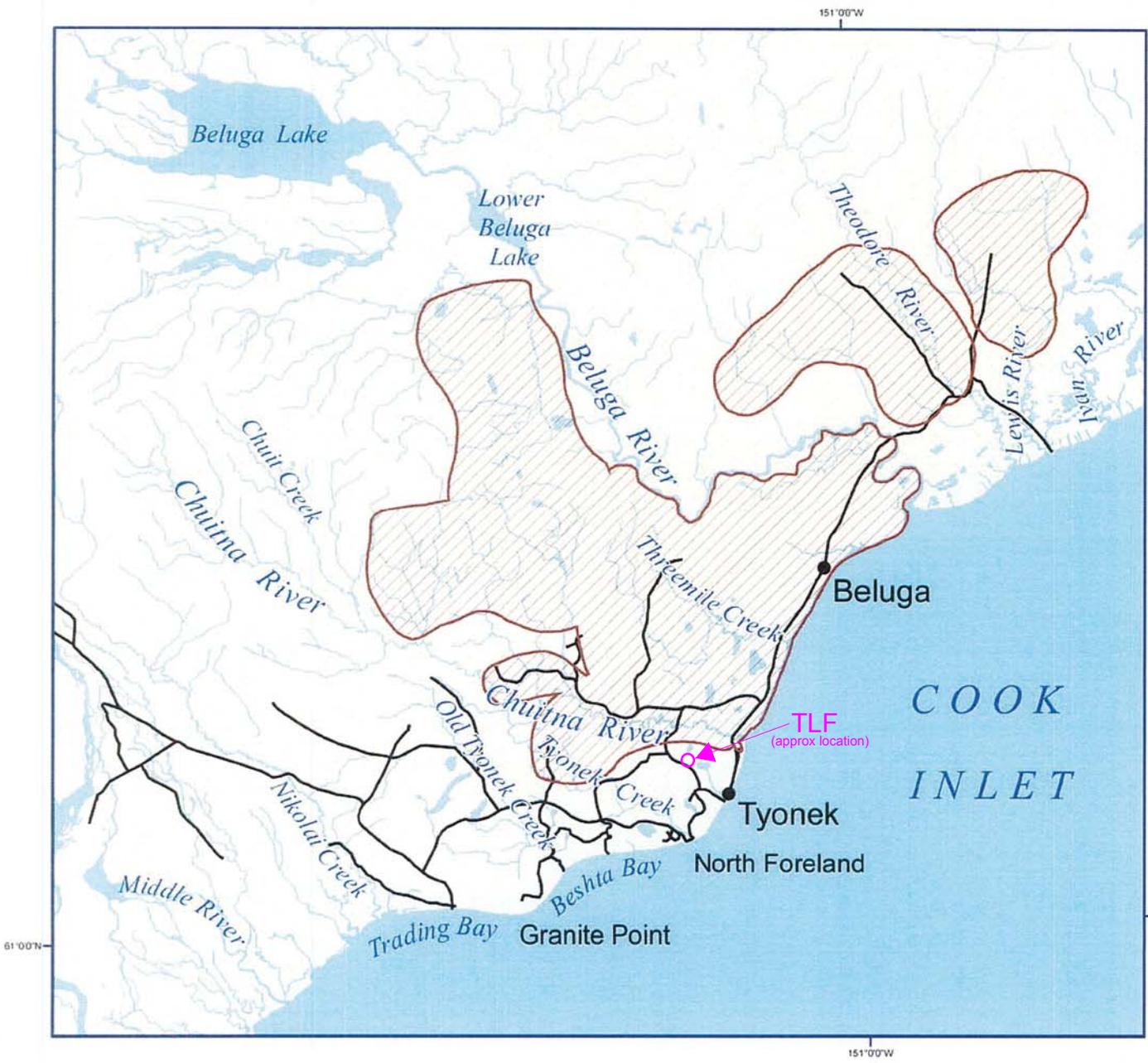
Source:  
Division of Subsistence, ADF&G Household Interviews, 2006  
See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

Map Projection: UTM Zone 5N, NAD83

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MAP 23



Beluga Moose Hunting Area

Community

Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000  
 0 1.25 2.5 5  
 Miles

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Source:  
 Division of Subsistence, ADF&G Household Interviews, 2006.  
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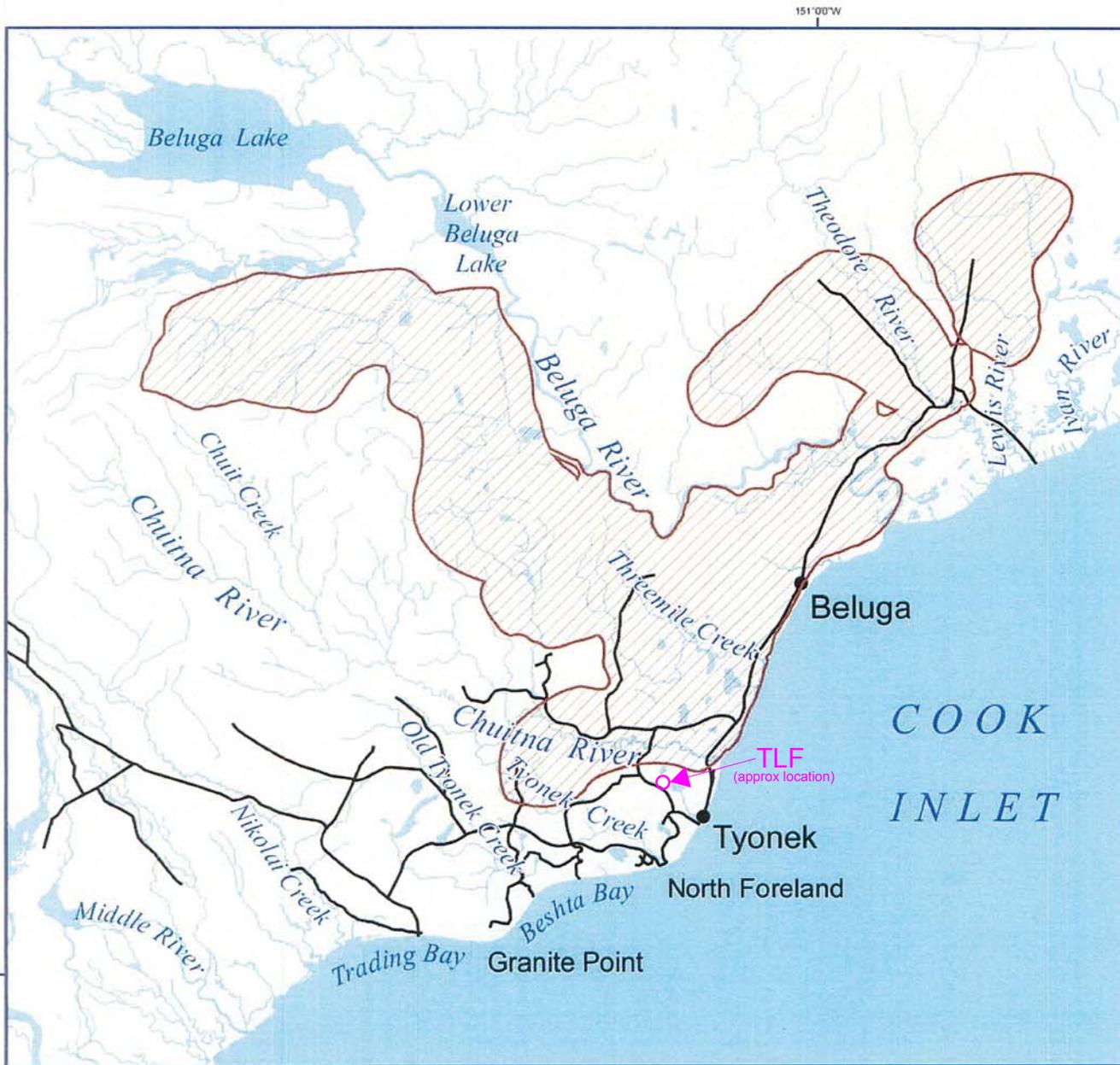
Map Projection: UTM Zone 5N, NAD83

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MAP 24

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Beluga Black Bear Hunting Area

Community

Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000

0 1.25 2.5 5 Miles

PacRim Coal, through Stephen R. Braund & Associates, provided funding to ADF&G for this study. Stephen R. Braund & Associates, funded by PacRim Coal, digitized the data and prepared the GIS maps.

Source:  
Division of Subsistence, ADF&G Household Interviews, 2006.  
See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

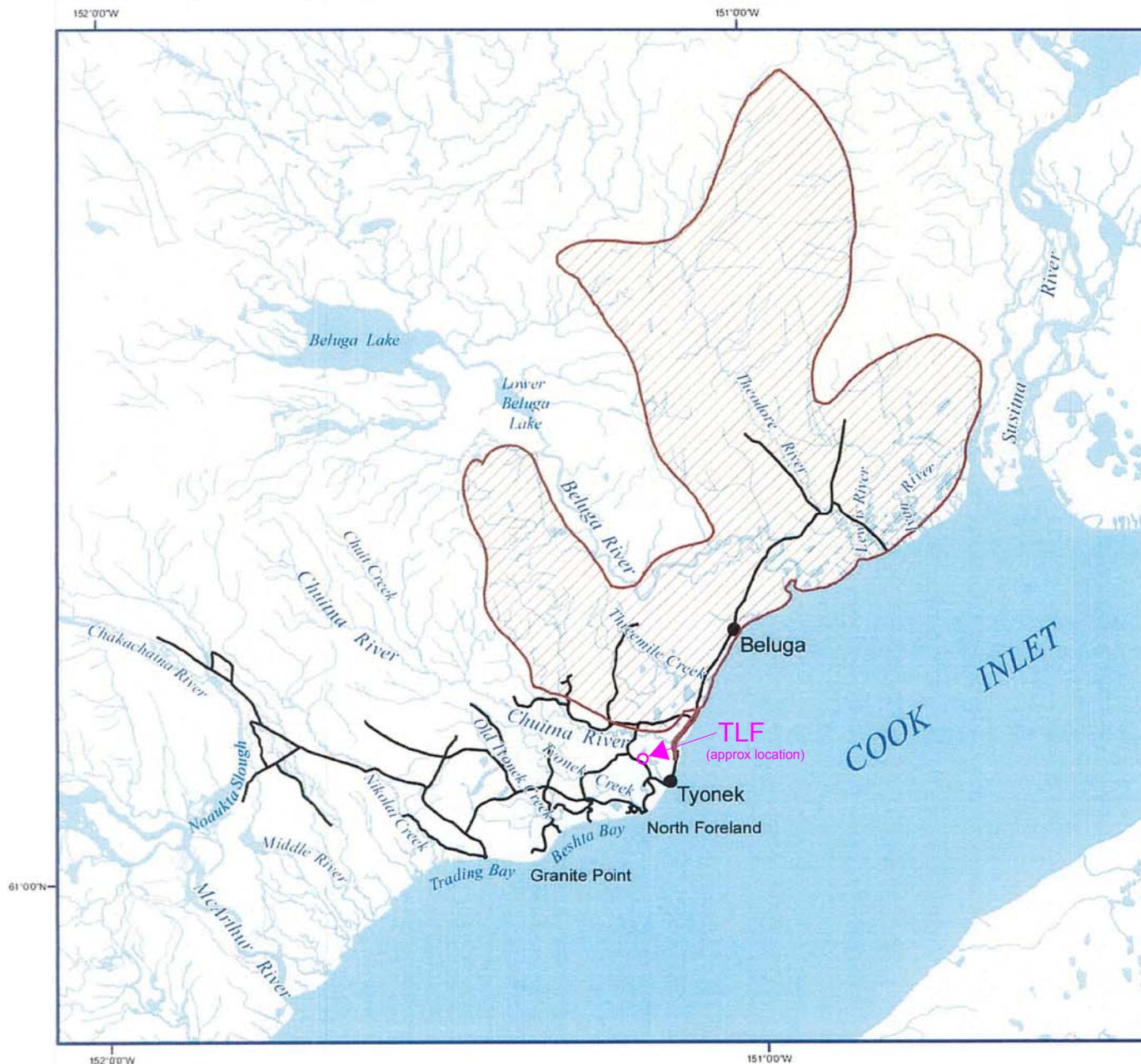
Map Projection: UTM Zone 5N, NAD83

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MAP 25

# DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



Beluga Small Land Mammal Hunting Area

Community

Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:450,000



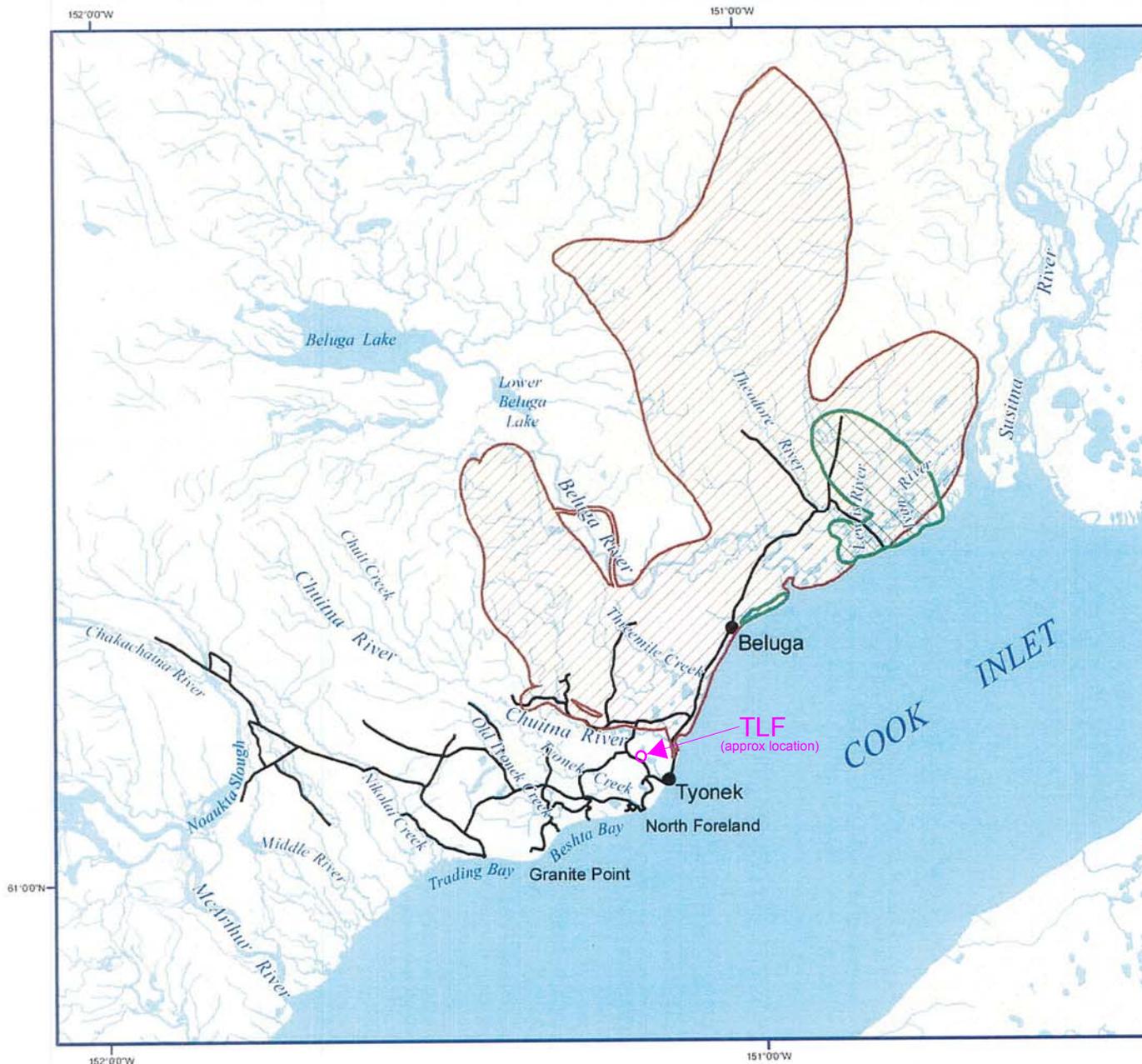
PacRim Coal, through Stephen R. Braund & Associates, provided funding to ADF&G for this study. Stephen R. Braund & Associates, funded by PacRim Coal, digitized the data and prepared the GIS maps.

Source:  
Division of Subsistence, ADF&G Household Interviews, 2006.  
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Map Projection: UTM Zone 5N, NAD83

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-  Beluga Upland Bird Harvesting Area
-  Beluga Waterfowl Harvesting Area

-  Community
-  Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas and Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:450,000



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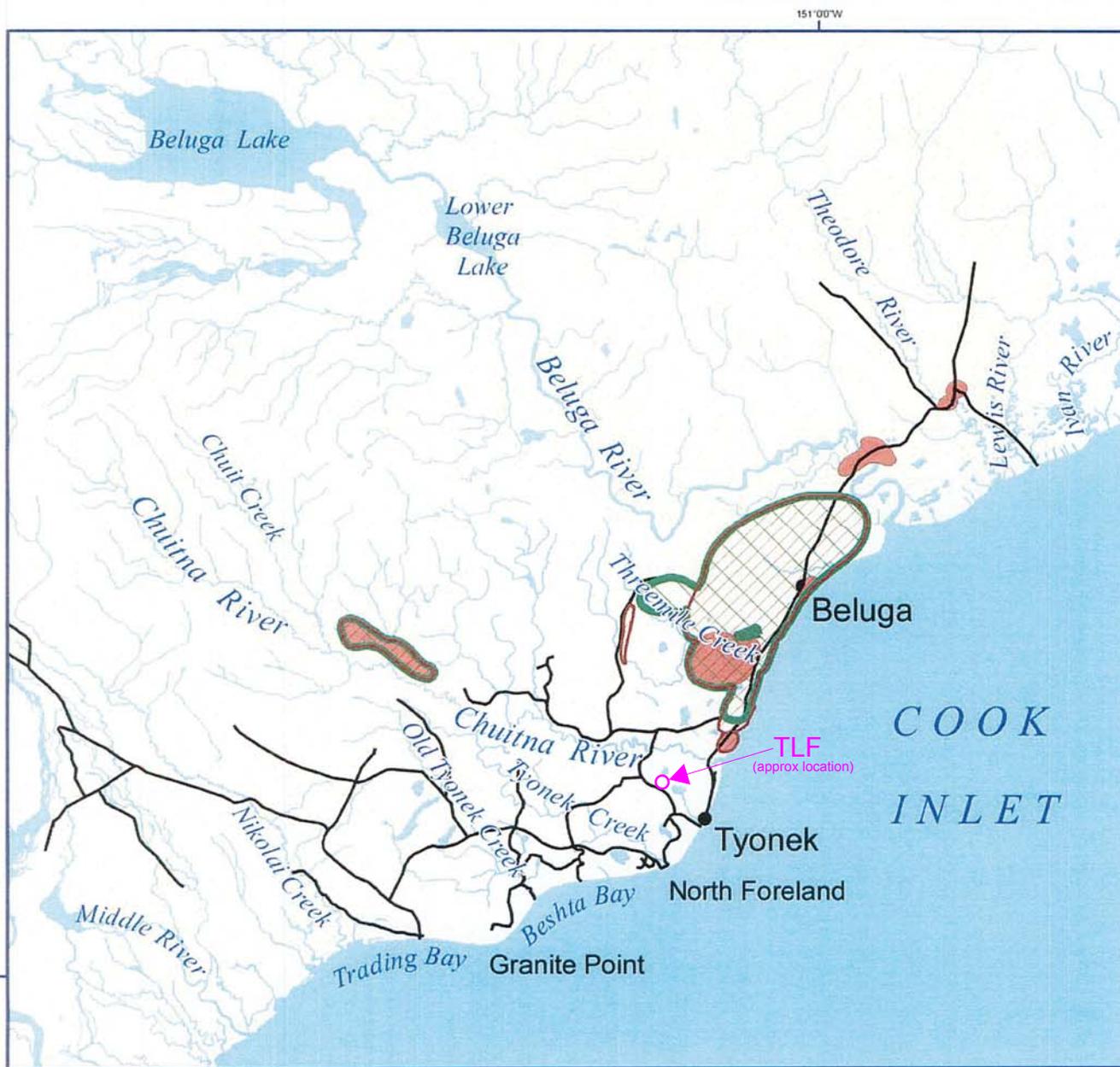
Source:  
Division of Subsistence, ADF&G Household Interviews, 2006.  
See Division of Subsistence Technical Paper No. 321, Update of Wild Resource Harvest and Use Information for Tyonek and Beluga, Alaska, 2005/2006 for background on sample sizes and mapping methods.

Map Projection: UTM Zone 5N, NAD83

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MAP 27

DIVISION OF SUBSISTENCE - ALASKA DEPARTMENT OF FISH AND GAME



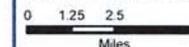
-  Beluga Berry Gathering Area
-  Beluga Plant Gathering Area
-  Beluga Wood Gathering Area

-  Community
-  Road

Roads shown are primarily main gravel roads. Additional roads and trails exist beyond those depicted here.

Resource harvest areas change over time. The area represented here is for the year August 1, 2005 through July 31, 2006. For subsistence use information during the 20 year period from 1987-2006 for this community, see Stephen R. Braund & Associates Subsistence Use Areas & Traditional Knowledge Study for Tyonek and Beluga, Alaska, 2006.

SCALE: 1:300,000



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Source:  
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Map Projection: UTM Zone 5N, NAD83

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MAP 28