

February 2015

Ties that Bind

The Enduring Economic Impact of Alaska on the Puget Sound Region



Prepared By
McDowell
GROUP

Prepared For
THE CHAMBER
seattle metropolitan chamber of commerce

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Seattle Metropolitan
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Executive Summary

Alaska and Puget Sound share a dynamic and diverse economic relationship strengthened not only by the obvious industries of shipping, seafood, petroleum, and tourism, but also by services such as maritime support, education, and health care. The Seattle Metropolitan Chamber of Commerce contracted with McDowell Group, a research and consulting firm with offices in Juneau, Anchorage, and Bellingham, to analyze the economic impact of Alaska on Puget Sound in 2013. This is the fourth report in a series started in 1985, repeated roughly every decade. For purposes of this report, Puget Sound encompasses the six counties of King, Kitsap, Pierce, Snohomish, Skagit, and Whatcom. Following are key findings of the study.

Economic Impacts

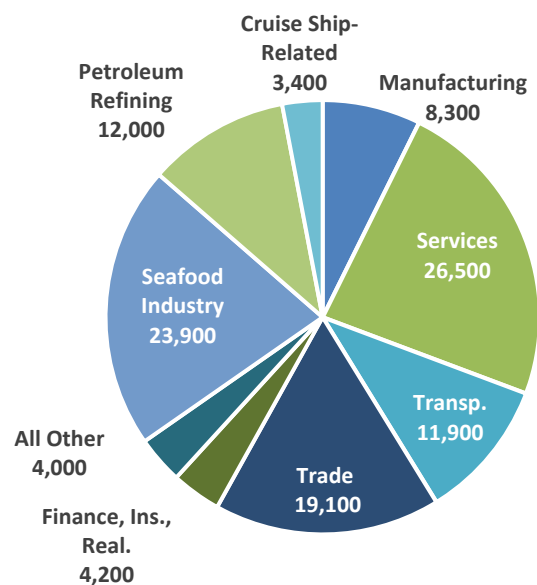
TOTAL JOBS: 113,000

TOTAL LABOR EARNINGS: \$6.2 BILLION

Alaska's economic relationship with Puget Sound accounted for 113,000 jobs in the region, and \$6.2 billion in labor earnings, in 2013 (including direct, indirect, and induced impacts). The sectors accounting for the largest percentage of Alaska-related jobs were services at 26,500 jobs (23 percent), seafood at 23,900 jobs (21 percent), and trade at 19,100 jobs (17 percent).

Alaska-related economic activity in Puget Sound falls into two categories: export-related and natural resource-related. Alaska's "export value" to Puget Sound is the value of all goods and services Puget Sound businesses provide to households, businesses, and industry in Alaska. In 2013 those exports were valued at approximately \$5.4 billion, resulting in 74,000 jobs. Economic activity related to Alaska's natural resources include those resulting from commercial fishing, seafood processing, petroleum, and tourism. These resource-related sectors accounted for 39,300 jobs and \$2.3 billion in earnings in 2013.

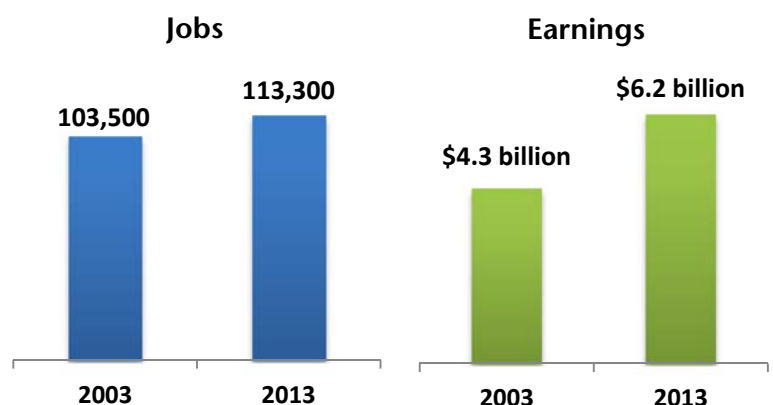
**Alaska-Related Jobs in Puget Sound,
By Sector, 2013**



IMPACT TRENDS

Between 2003 and 2013, Alaska-related jobs in Puget Sound increased from 103,500 to 113,300, an increase of 9 percent. Labor earnings have also increased, from \$4.3 billion to \$6.2 billion. While this represents an increase of 44 percent in nominal terms, actual growth was 12 percent after adjusting for inflation.

**Alaska's Economic Impacts on Puget Sound,
2003 and 2013**



Puget Sound's Ties with Alaska

FREIGHT AND CARGO CONNECTIONS

- In 2013, **over 3.4 million tons of cargo** moved between Puget Sound and Alaska, nearly all (97 percent) via water. Of all this cargo movement, 80 percent is transported north, while 20 percent is transported south.
- Between 2009 and 2013, trade with Alaska accounted for **over 80 percent** of *domestic* containerized shipments through the Ports of Seattle and Tacoma, and **20 percent** of *total* containerized shipments.
- The marine commerce connection between Puget Sound and the Port of Anchorage is particularly critical to Alaska. Virtually all northbound containerized freight destined for Alaska originates in Puget Sound.
- Alaska-Puget Sound cargo and freight activity accounted for **5,500 jobs** and **\$450 million in labor earnings** in 2013.



Source: Port of Seattle by Don Wilson.



Source: Port of Seattle by Don Wilson.

SEAFOOD

- Puget Sound residents own **nearly 1,000 commercial fishing vessels** participating in Alaska commercial fisheries.
 - Puget Sound's **36 seafood processing companies** accounted for **82 percent** of total first wholesale value of Alaska seafood production in 2013.
 - Alaska-related commercial fishing created **10,150 jobs** and **\$600 million in labor earnings** in Puget Sound in 2013.
- Alaska-related seafood processing created **13,100 jobs** and **\$690 million in labor earnings** in Puget Sound in 2013.
 - Government and industry organization-related employment created **650 jobs** and **\$50 million in labor earnings** in 2013.
 - Including multiplier effects, nearly **24,000 Puget Sound jobs** and **\$1.3 billion** in labor earnings are tied to Alaska's seafood industry.

PASSENGER TRANSPORTATION AND TOURISM

- **Over 1 million air passengers** embark on planes bound for Alaska communities at Sea-Tac on an annual basis (with an equivalent number disembarking).
- Puget Sound hosts over **430,000 Alaska cruise passengers** annually. Virtually all of these passengers transit the area twice (once before embarking and again after disembarking). **Almost half (45 percent)** of all Alaska cruise passengers begin and end their cruise in Seattle.



Source: Port of Seattle by Don Wilson.

- **Over 14,000 ferry passengers**, and **nearly 6,000 vehicles**, travel from Bellingham to Alaska annually; an equivalent number travel the same route south.
- Passenger transportation to and from Alaska accounted for **14,100 jobs** and **\$554 million in labor earnings** in Puget Sound in 2013.

PETROLEUM

- Alaska supplies **nearly half (46 percent)** of all crude oil refined in Puget Sound. Puget Sound's five refineries receive **265,000 barrels** of Alaska crude oil per day.
- An estimated **12,000 Puget Sound jobs** and **\$780 million in labor earnings** are connected with refining Alaska oil.



Source: Port of Seattle by Don Wilson.

MARITIME SUPPORT

- Maritime industrial support (MIS) services in Puget Sound are critical to all the industries in Alaska that rely on marine transportation: commercial fishermen, the visitor industry, and waterborne cargo and fuel haulers, among others. MIS services include the full range of services required to keep vessels operating safely and efficiently.

- Vessels from Washington represent **56 percent** of the Alaska fleet's gross tonnage.
- It is estimated that **one-quarter** of all MIS activity in Puget Sound is connected to Alaska, with an economic impact that includes **5,300 jobs** and **\$390 million** in annual wages.

HEALTH CARE

- Puget Sound medical facilities served **over 2,000 Alaska residents** in 2013, at **33 different facilities**. Alaska patient-related spending on medical care in Puget Sound totaled **nearly \$100 million**.
- Alaska patients receiving treatment in Puget Sound created **1,200 jobs** and **\$87 million in labor earnings** in 2013.

EDUCATION

- Washington is the **number one state** for Alaska residents attending postsecondary institutions outside of Alaska. **Over 600 Alaska residents** attend Puget Sound postsecondary educational institutions on an annual basis.
- Alaska students attending Puget Sound postsecondary institutions accounted for **250 jobs** and **\$11 million in labor earnings** in 2013.

TRIBAL TIES

- Five Alaska Native Claims Settlement Act (ANCSA) corporations operate a combined total of **14 subsidiaries** in the Puget Sound area.

Trends and Outlook

- In a survey of Puget Sound firms with ties to Alaska, over half of those surveyed (57 percent) said they expect their organization's Alaska-related activities/sales to become a more important part of their business. This compares with 38 percent who expect it to stay the same, and none who expect their Alaska-related sales to decline.

- The role of Alaska in the Puget Sound economy has climbed steadily over past decades as the economies of both regions have grown. When first measured in 1985, Alaska accounted for 57,000 jobs in the Puget Sound area. A decade later Alaska's economic impact had grown to 90,000 jobs, and by 2003, 103,000 Puget Sound jobs were tied to Alaska. A decade later, another 10,000 jobs have been added to the mix, bringing the total to 113,000 jobs.



Source: Port of Seattle by Don Wilson.

- Over the long-term, the economic connection between Puget Sound and Alaska will continue to grow as both economies evolve. While Alaska faces near-term challenges associated with low oil prices and declining production, the state remains richly endowed with oil and gas, seafood, minerals, and scenic resources. These natural assets will continue to provide opportunity for economic growth in Alaska, and even stronger, mutually beneficial, economic Ties that Bind with Puget Sound.

Introduction and Methodology

Introduction

The economies of Alaska and Puget Sound have been inextricably linked for centuries – reaching back beyond the days of the Gold Rush, when miners were provisioned in Seattle before heading north, to historic trade and commerce between Pacific Northwest tribes. The economic relationship between the two regions has strengthened over time, reflecting improved transportation ties and growing resident populations and economies.

To illustrate and quantify the economic relationship between the two regions, the Seattle Metropolitan Chamber of Commerce contracted with McDowell Group to analyze the impact of Alaska on the Puget Sound economy. This report represents the fourth report in a series of studies of Alaska’s economic impact on Puget Sound. Previous reports measured impacts in 1985, 1994, and 2003. This is the first report in the series conducted by McDowell Group, a research and consulting firm with offices in Juneau, Anchorage, and Bellingham.

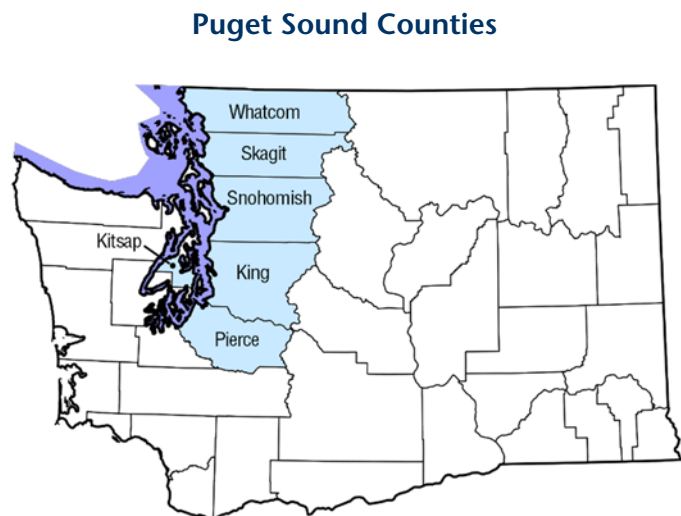
Methodology

Project Scope

For purposes of this report, Puget Sound refers to the following six Washington counties: King, Kitsap, Pierce, Snohomish, Skagit, and Whatcom.

Unless otherwise noted, this report measures economic impacts for the calendar year 2013. Data for prior years is included, where available and relevant.

Study sources and methods are provided below, by subject area. A full list of reference documents is provided in the “References” chapter at the end of the report.



Economic Impact Analysis

The economic impact analysis was conducted, to the maximum degree possible, to generate data in a fashion consistent with previous editions of the Ties that Bind study series. A variety of tools and data sources were used, including IMPLAN, a widely used model for estimating the economic impact of commercial and industrial activity.

An online survey of Puget Sound businesses was conducted to inform the economic impact analysis. The Seattle Chamber provided email addresses from lists of Alaska Business Forum attendees and Alaska Committee participants. A total of 100 out of 360 businesses participated in the survey representing a wide range of

business sectors and connections with Alaska. The survey gathered information on the organization's size, sector, and Alaska-related sales and activities. Executive interviews were also conducted to fill important information gaps.

Secondary data was gathered from a variety of sources, including the federal Bureau of Economic Analysis, the Washington State Employment Security Department, the Alaska Department of Labor and Workforce Development (ADOLWD), the U.S. Census Bureau, U.S. Bureau of Labor Statistics, and others.

While every effort was made to produce analytical results consistent with and comparable to previous studies, methodological differences do result in variances. Nevertheless, overall results presented in this report are generally comparable with earlier *Ties that Bind* reports, providing an accurate picture of long-term trends in the economic relationship between Puget Sound and Alaska.

Freight and Cargo Connections

Information and data on cargo shipping were gathered through prior economic reports, public and private databases, and interviews with industry stakeholders. Over 25 phone and in-person interviews were conducted with representatives from ports, airports, shipping companies, and trade organizations. Shipping tonnages were retrieved from the Ports of Seattle and Tacoma, the Corps of Engineers, the Washington Department of Transportation, and the Bureau of Transportation and Statistics. The study team also utilized data from *The Economic Impact of Marine Cargo at the Ports of Tacoma and Seattle*, conducted by Martin Associates and jointly commissioned by the Ports of Seattle and Tacoma.

Seafood Industry

Information on the Alaska seafood connection to Puget Sound is primarily drawn from the Alaska Department of Fish & Game (ADF&G) and the National Marine Fisheries Service. McDowell Group requested custom data aggregations from ADF&G which provided information on gross fishing earnings by Puget Sound residents and cost/revenue data on processing companies based in the region. Processing employment data was estimated by the project team, but is based on seafood processing employment statistics published by ADOLWD and the Washington State Employment Security Department. Industry interviews provided supplementary information. The study team drew upon prior work (completed for McDowell Group's *Economic Value of the Alaska Seafood Industry*) to estimate the economic impact of the Alaska seafood industry on Puget Sound. The prior analysis was an extensive effort that estimated impacts of the Alaska seafood industry throughout Washington State during 2011. That analysis was updated and adapted for Puget Sound.

Passenger Transportation and Tourism

Passenger traffic data was obtained from the following sources: Bureau of Transportation Statistics, Port of Seattle, Cruise Line Agencies of Alaska, and Alaska Marine Highway System. The study team also drew from McDowell Group's *Alaska Visitor Statistics Program*, conducted for the State of Alaska. Economic impact data was based on *The 2013 Economic Impact of the Port of Seattle*, conducted for the Port of Seattle by Martin Associates.

Petroleum

A variety of data sources were used in understanding the impact of Alaska crude oil on the five refineries operating in Puget Sound. Production and refining capacity data came from the U.S. Energy Information Administration (EIA), Canadian Association of Petroleum Producers (CAPP), Washington Research Council (WRC), and Sightline Institute. Information on a natural gas pipeline and Outer Continental Shelf development was obtained from the Office of the Federal Coordinator (OFC), Northern Economics, and the Institute of Social and Economic Research (ISER). Other data came from the Western States Petroleum Association (WSPA), Bureau of Labor Statistics (BLS), and the Alaska Department of Revenue (DOR).

Maritime Support

The main source of data for Maritime Support information was a McDowell Group report conducted in 2014 for the Alaska Department of Commerce, Community, and Economic Development: *Trends and Opportunities in the Alaska Maritime Industrial Support Sector*. A 2013 report compiled by Community Attributes titled *Washington State Maritime Cluster* was also referenced. Other data came from the Bureau of Labor Statistics (BLS) and the Washington State Employment Security Department.

Health Care

Data on Alaska resident patients at Puget Sound health care facilities was obtained from the Washington Department of Health (DOH). An estimate of total inpatient payments was calculated by applying the ratio of net revenue to billed charges. Using Centers for Medicare and Medicaid Services health expenditure data, and references from other jurisdictions, an estimate of associated physician and other additional payments was added to inpatient cost estimates to derive a total estimate for health expenditures. Data and assistance was also provided by Airlift Northwest, Providence Health and Services, and Schick Shadel Hospital.

Education

Education data was obtained from several sources including the ADOLWD for unpublished enrollment data; an article on Alaskan high school graduates from *Alaska Economic Trends*; average tuition rates from the U.S. Department of Education's National Center for Education Statistics (NCES); and an article published by the U.S. Census Bureau on national college enrollment trends.

Additional Economic Ties

Information on federal government ties between Alaska and Puget Sound was based on agency websites. Data was adjusted, when necessary, by McDowell Group based on industry interviews. Information on professional services firms was obtained via online searches and the study team's knowledge of such firms operating in both regions. Information on military connections between Alaska and Puget Sound was collected from the U.S. Coast Guard; the U.S. Navy; Joint Base Elmendorf-Richardson; and U.S. Northern Command. Military personnel counts were collected from U.S. Department of Defense's Defense Manpower Data Center, and military spending was collected from U.S. Census Bureau's Consolidated Federal Funds report. Information on ANCSA regional corporations and their subsidiaries were obtained from organization websites.

Economies in Perspective

To provide context for the study's findings, this chapter provides a brief overview of the economies of Puget Sound and Alaska including population, employment, personal income, and major economic drivers.

The Puget Sound Economy

The Puget Sound region is home to just under 4.2 million residents. The region has enjoyed steady population growth in recent years, gaining a steady 1.4 percent annually since 2008. Puget Sound employment topped 2.6 million jobs in 2013, after adding 170,000 new jobs since the bottom of the recession in 2010. Total personal income reached \$225 billion in 2013, with per capita personal income of \$53,562 (20 percent above of the national average of \$44,765).¹

Puget Sound Total Employment and Personal Income, 2009-2013



With total output of over \$475 billion, the Puget Sound economy is larger than most of the world's national economies. Puget Sound has a vibrant, well developed, and highly diversified economy. It is headquarters to a range of Fortune 500 companies such as Alaska Air Group, Amazon, Costco, Microsoft, Nordstrom, Starbucks, and Weyerhaeuser. Its largest employers include Boeing, with about 70,000 employees, and Microsoft, with 40,000 workers. In addition to aviation and information technology, the Puget Sound economy is driven by higher education, health care, manufacturing, finance, military, travel and tourism, and maritime services. It a regional service and supply center and a key transportation hub connecting the Pacific Northwest to the world.

The Alaska Economy

Though Alaska's 570,000 square miles is 50 times larger than the Puget Sound counties combined, the state's total population of 735,000 residents is only about one-sixth of Puget Sound's. Alaska's population growth has paralleled Puget Sound's, also rising at a rate of 1.4 percent over the past five years. Alaska employment also took a small dip during the 2009-10 recession, but since then has grown steadily to just over 460,000 jobs. Alaskans had total

Alaska and Puget Sound Economic Indicators, 2013

	Alaska	Puget Sound
Population	735,000	4.2 million
Jobs	460,000	2.6 million
Per capita income	\$50,150	\$53,562
Economic output	\$75 billion	\$475 billion

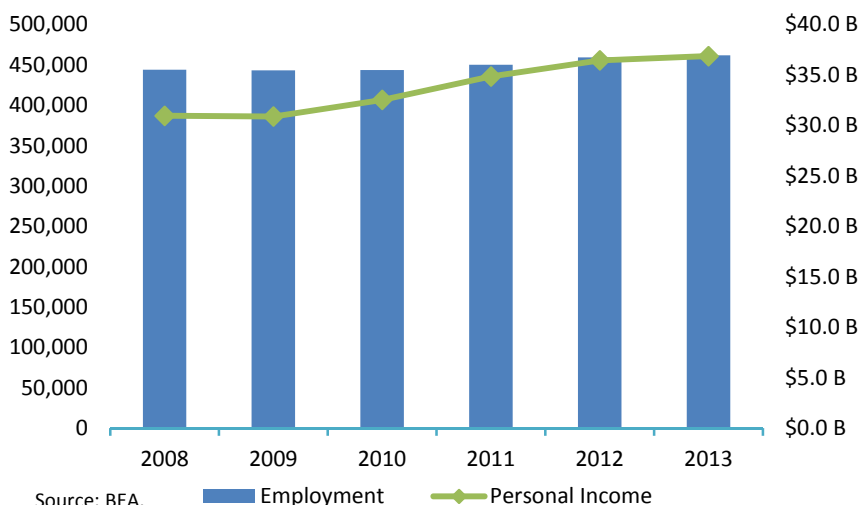
Source: Bureau of Economic Analysis.

¹Bureau of Economic Analysis, 2014

personal income of \$37 billion in 2013, with per capita income of \$50,150, slightly below the Puget Sound average but still well above the national average.

Alaska's annual output of about \$75 billion is driven largely by oil production, but geography and the state's rich natural resource endowment provide a range of other economic opportunities. The seafood industry, tourism, mining, the military and other federal government are key drivers of the state's economy. Alaska, with support from Puget Sound, accounts for about 60 percent of total U.S. domestic seafood production in terms of volume (and one-third in terms of value).

Alaska Total Employment and Personal Income, 2009-2013



Alaska once accounted for about one-quarter of U.S oil production; today it accounts for less than 10 percent. Alaska's Red Dog Mine accounts for 5 percent of the world's zinc production and is one of the three largest zinc mines in the world. Greens Creek Mine is one of the largest silver producers in the world. In 2013, Alaska hosted 2 million visitors (many through Puget Sound) who spent \$1.8 billion while in Alaska.

The Ties That Bind

While the Puget Sound economy is very large relative to Alaska's, this report documents the important role of Alaska in generating economic activity for a broad cross-section of Puget Sound businesses and industries. Conversely, this analysis also provides clear evidence of the essential role that Puget Sound plays in supporting Alaskans and the Alaska economy. These are the Ties that Bind.

Alaska's Impact on Puget Sound

Puget Sound to Alaska “Export” Values

The role of Alaska in the Puget Sound economy is composed of a complex network of business and commerce linkages that include direct, indirect, and induced impacts. While there are several ways to measure these impacts, one comprehensive approach is to examine the value of all the goods and services Puget Sound businesses provide to people living and/or doing business in Alaska. In previous “Ties that Bind” studies, these transactions have been described as “exports,” a term meant to illustrate the role of Puget Sound as a service and supply hub for Alaska.

The value of Puget Sound exports to Alaska totaled \$5.4 billion in 2013, up from \$3.8 billion in 2003.

In 2003, the value of exports to Alaska from Puget Sound were estimated at just under \$3.8 billion.² Though the methodological approach used in this study differed from the 2004 study, results of the analysis were structured to provide a measure of long-term trends. As illustrated in the following table, exports to Alaska totaled approximately \$5.4 billion, 44 percent above the 2003 valuation. Some of that increase reflects the effects of inflation. After adjusting for inflation, the increase in export value is 12 percent.³

**Value of Puget Sound Exports to Alaska, 2003 and 2013,
(in \$Millions)**

Sector	2003	2013
Manufacturing	\$971	\$1,410
Services	675	1,035
Transportation	1,503	1,995
Trade	429	680
Finance, Insurance & Real Estate	82	120
All Other	110	190
Total	\$3,770	\$5,430

Source: 2003 data from “Ties that Bind” September 2004. 2014 figures are McDowell Group estimates.

*Note: 2003 figures are not adjusted for inflation.

Export growth has occurred across all sectors, and this growth is generally consistent with growth in the Alaska economy. A close parallel between Puget Sound exports to Alaska and growth in Alaska would be expected, given Puget Sound’s role in providing or at least transshipping most goods and materials consumed in Alaska. Between 2003 and 2013, Alaska’s population increased by 13 percent, employment was up 14 percent, and

² *Ties That Bind: The Enduring Economic Impact of Alaska on the Puget Sound Region*, prepared by Robert A. Chase and Huckell/Weinman Associates, Inc. for Greater Seattle Chamber of Commerce and Tacoma-Pierce County Chamber of Commerce, September 2004.

³ Nominal values adjusted by the Seattle Consumer Price Index, provided by the Bureau of Labor Statistics.

real (inflation-adjusted) gross state product (GSP) was up 33 percent (GSP is substantially influenced by the value of oil production).⁴

Jobs and Labor Earnings

How does \$5.4 billion in export value translate into jobs and earnings? First, there are direct employment and earnings effects. These are the jobs and earnings for workers employed in the businesses that sell goods and services to Alaskans, Alaska businesses, and others doing business in Alaska. Then there are indirect economic effects, which occur when these businesses spend money in the Puget Sound economy in support of their business operations. Finally, there are induced effects. These are the jobs and earnings created when the employees of these businesses spend their wages in the local economy. Together, indirect and induced economic impacts are termed “multiplier effects.” Using econometric modeling, it is possible to broadly estimate multiplier effects and develop measures of all Puget Sound jobs and earnings connected with Alaska.

Based on modelling conducted for this study, Alaska accounted for an estimated 74,000 export-related jobs in the Puget Sound area in 2013, 16 percent above the 2003 estimate of 63,600 jobs. Labor earnings in 2014 are estimated at \$3.8 billion, up from \$2.6 billion in 2003, a nominal increase of 46 percent. After adjusting for inflation, labor earnings in real dollars in 2013 were up 16 percent from 2003.

In addition to these export-related jobs and earnings, Alaska accounts for Puget Sound jobs related to natural resources produced in Alaska. Alaska produces nearly \$5 billion in seafood resources each year, measured at the first wholesale value level. Alaska and Puget Sound are tightly interconnected in the seafood industry (as described later in this report). That connection translates into 24,000 jobs and \$1.3 billion in labor earnings, including all direct, indirect, and induced impacts. (See table, next page.)

Alaska seafood industry-related employment in Puget Sound in 2013 is lower than reported for 2003, by several thousand jobs. Methodological differences account for most (if not all) of the change. The 2003 estimate likely includes some of the maritime support services-related employment that is captured in the export-related employment measured in this study.

Alaska accounted for 113,000 jobs and nearly \$6.2 billion in labor earnings in Puget Sound in 2013.

The change in petroleum refining employment also warrants explanation. The estimated 12,000 jobs and \$780 million in labor income is drawn from a 2014 study, focusing specifically on the refining industry, conducted by the Washington Research Council.⁵ It is believed that the study provides an accurate assessment of the economic impacts of Puget Sound refinery operations, and that the 2003 study understated the impact of the sector at that time. In 2003, Alaska supplied 90 percent of crude oil used by Puget Sound refineries; today it is less than half. Clearly the impact of Alaska crude has declined since 2003, but it is still an important economic driver in Puget Sound.

⁴ Population data from Alaska Department of Labor and Workforce Development. Employment and GSP data provided by Bureau of Economic Analysis.

⁵ *The Economic Contribution of Washington State's Petroleum Refining Industry in 2013*, Washington Resource Council, 2014.

Cruise-related employment estimates are also subject to methodological changes. Estimates for cruise-related jobs and earnings in 2013 are drawn from a study recently completed for the Port of Seattle.⁶ Both the 2003 and current studies report 3,400 jobs, though cruise passenger traffic through Puget Sound about doubled between 2003 and 2013. While not reflected in the job numbers presented here, it is clear the economic impact in Puget Sound of Alaska cruising has increased over the past decade. It is likely some of the economic impact attributed to the cruise sector in the 2003 report is captured in the export analysis in this study.

Total Alaska-Related Direct, Indirect, and Induced Employment and Labor Earnings in Puget Sound, 2003 and 2013

Sector	2003 Jobs	2013 Jobs	2003 Labor Earnings (\$millions)	2013 Labor Earnings (\$millions)
Export-Related				
Manufacturing	6,973	8,300	\$327	\$480
Services	23,343	26,500	900	1,295
Transportation	9,948	11,900	525	770
Trade	16,276	19,100	475	750
Finance, Insurance & Real Estate	3,513	4,200	198	300
All Other	3,566	4,000	159	250
Total Export-Related	63,619	74,000	\$2,584	\$3,845
Resource-Related				
Seafood Industry	26,929	23,900	\$1,154	\$1,340
Petroleum Refining	9,569	12,000	420	800
Cruise Ship-Related	3,401	3,400	160	176
Total Resource-Related	39,899	39,300	1,734	2,316
Grand Total	103,518	113,300	\$4,316	\$6,161

Source: 2003 data from "Ties that Bind", September 2004. 2013 figures are McDowell Group estimates.

In summary, including export-related and natural resource-related jobs and earnings, Alaska accounted for approximately 113,000 jobs in 2013, and just under \$6.2 billion in labor earnings. It is interesting to note that there is one Alaska-related job in Puget Sound for every four jobs in Alaska.⁷

The following chapters of this report provide a different perspective on the economic connections between Alaska and Puget Sound, describing qualitatively and quantitatively the varied and interesting industry linkages between the two regions, including freight and cargo transportation, passenger travel and tourism, petroleum, the seafood industry, health care, and education. It is important to note that the Alaska-related jobs and earnings measured for each of these sectors does not sum to the totals presented in the preceding table, as not all export-related jobs (and related multiplier effects) are captured in the industry profiles.

⁶The 2013 Economic Impact of the Port of Seattle. Martin Associates, prepared for the Port of Seattle. October 2014.

⁷ According to BEA data there were 460,000 jobs in the Alaska economy in 2013.

Freight and Cargo Connections

The Puget Sound area is the primary hub for moving goods to and from Alaska. This chapter describes the freight connections between Puget Sound and Alaska, including waterborne cargo (container vessel, rail barge, and barge), truck freight, and air freight – as well as how all this activity impacts the Puget Sound economy.

Total Freight/Cargo

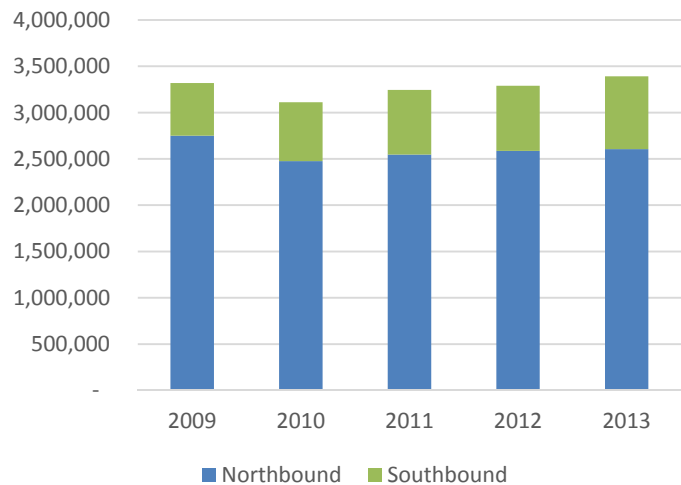
Shipments northbound from Puget Sound to Alaska include household and other consumer goods, construction materials, and a broad range of supplies and materials to support business and industry in Alaska. Seafood accounts for the bulk of southbound shipments destined for Puget Sound from Alaska, with lesser amounts of household goods, recyclables, and scrap materials comprising the remainder. Of the total tonnage shipped between the two regions, about 80 percent travels north and 20 percent travels south.⁸

In 2013, over 3.4 million tons of cargo moved between the two regions. Cargo tonnages have increased in each of the last three years, for a 9 percent increase between 2010 and 2013; 2013 was 2 percent over the previous peak in 2009.

Waterborne service is by far the most significant mode of transport, representing 97 percent of tonnage in 2013. Over 3.3 million tons of waterborne cargo headed to Alaska moved across the Ports of Seattle and Tacoma. Trucking represented 2 percent of tonnage, while airfreight represented 1 percent.

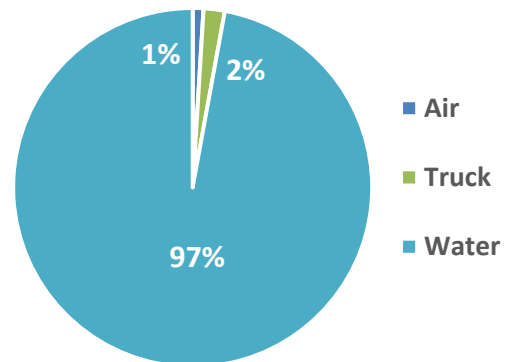
Numerous types of freight companies, including small independent firms as well as large conglomerates, service the Puget Sound–Alaska trade route. While some are headquartered in Alaska and others in Puget Sound, the majority have offices and operations in both regions. Totem Ocean Trailer Express (TOTE), Horizon Lines (Matson recently purchased Horizon’s Alaska operations), and Alaska Marine Lines (a Lynden company) are among the key shippers connecting Puget Sound to Alaska.

Total Cargo Shipped Between Puget Sound and Alaska, by Tonnage, 2009-2013



Source: Ports of Seattle and Tacoma.

Total Alaska-Puget Sound Cargo by Shipping Mode, 2013



Source: Ports of Seattle and Tacoma.

⁸ Ports of Seattle and Tacoma.

Waterborne Cargo



Source: Port of Tacoma.

Waterborne is the slowest and least expensive of the modes of transportation between Alaska and Puget Sound. Goods are shipped over the water via container vessel, barge, and rail barge. Companies operate out of Seattle and Tacoma and service the entire length of the Alaska coast, from Ketchikan to Kaktovik. At all ports of call, workers and infrastructure are needed to load and unload vessels.

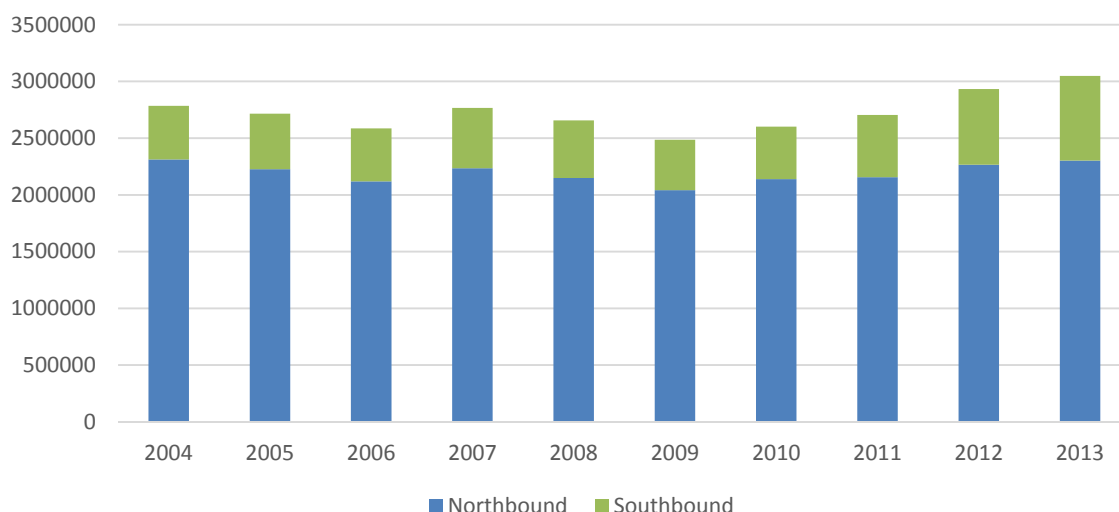
Waterborne transportation is responsible for moving 3.3 million tons of goods between Puget Sound and Alaska.⁹ Between 2009 and 2013, by volume, trade

with Alaska accounted for over 80 percent of *domestic* containerized shipments, and close to 20 percent of *total* (domestic plus international) containerized shipments through the Ports of Seattle and Tacoma.

The chart below shows waterborne cargo between Alaska and Washington over the last 10 years. (While Puget Sound-specific data is not available, it can be assumed that the vast majority of waterborne cargo transported between the two states moved through Puget Sound.) Total waterborne cargo in 2013 was 9 percent above a decade ago. The amount of Alaska-Puget Sound waterborne cargo increased in each of the last five years since the economic recession, for a total increase of 23 percent between 2009 and 2013. Some of the recent growth is attributable to increased oil and gas activity in Cook Inlet and the North Slope.

Waterborne cargo shipped between Alaska and Washington increased by 23 percent from 2009 to 2013.

Total Alaska-Washington Waterborne Cargo, 2004-2013



Source: U.S. Corps of Engineers for 2004-2012; 2013 estimated by McDowell Group.

⁹ Ports of Seattle and Tacoma.

Container Vessels

Container vessels carry over 50 percent of goods traveling between Puget Sound and Alaska. Every week, TOTE and Horizon each make two voyages from the Port of Tacoma to the Port of Anchorage, a trip that takes about four days. Horizon also stops at Kodiak and Dutch Harbor. Consumer goods comprise 80 to 85 percent of northbound containerized shipments.



Source: Port of Seattle by Don Wilson.

Rail Barge

The Alaska Railroad connects Alaska to Puget Sound via the Alaska Rail Marine System (ARMS) Barge. Operated by Alaska Marine Lines, an ARMS barge leaves Harbor Island in Seattle once a week loaded with rail cars on its deck (and containers stacked above them) and arrives in Whittier about a week later. From Whittier, some goods travel by rail through Anchorage and the Mat-Su Valley continuing as far north as Fairbanks, while others are reshipped to coastal communities like Valdez and Cordova. The main customers of the ARMS barge are the natural resource industries. Machinery, building materials, and oil and gas drilling fluid and mud are all transported via the rail barge.

Barge

A significant volume of waterborne cargo moves by conventional barge. Southeast Alaska is supplied almost entirely by barge. Northbound barges transport materials for construction and resource development; southbound barges largely transport seafood; and both northbound and southbound barges

transport commercial fishing equipment. The majority of goods are transported in standardized containers, with larger pieces stacked on deck or platforms. In addition to Alaska Marine Lines, barge companies shipping between Puget Sound and Alaska include Alaska Logistics, Bowhead Transportation, Coastal Transportation, and Samson Tug and Barge.

Trucking

With ample freight packaging and consolidation infrastructure, Puget Sound also serves as a trucking hub for northbound goods. Much of the trucking activity revolves around transporting goods to and from other shipping modes. For example, trucks transport goods from points of manufacture to marine ports and airports in Puget Sound.



Source: Port of Seattle by Don Wilson.

In addition to moving goods to and from marine ports and airports, trucks carry about 2 percent of the goods that travel between Puget Sound and Alaska. Trucking companies like Lynden and Carlile operate out of Puget Sound and deliver to destinations throughout Alaska's highway system.

Trucks travel from Puget Sound to Alaska in less than three days, a faster trip than over water. Consequently, trucks often carry time-sensitive shipments. Northbound shipments include perishable food products and machinery for natural resource development, among other goods, while seafood makes up the majority of cargo trucked south.

Infrastructure and technology improvements have bolstered trucking's role in shipping between Alaska and Puget Sound. Improved roads reduce travel time and wear and tear on vehicles, while the use of long combination vehicles (one tractor with multiple trailers) allows for efficiencies of scale with greater capacity.

Air Freight

The fastest of all shipping modes, air freight plays a small but vital role in shipping between Puget Sound and Alaska. In 2013, planes transported 1 percent, by weight, of the cargo shipped between the two regions. While both Anchorage and Puget Sound are hubs for international air shippers, there is relatively little international shipping connecting Puget Sound and Alaska. A notable exception is a plane that departs Anchorage about once a week destined for Puget Sound carrying aircraft parts to be assembled in Boeing's aircraft factory.



Source: Port of Seattle by Don Wilson.

A large volume of goods and mail flown between the two regions are loaded into the bellies of passenger planes. Parcel shippers like FedEx and UPS contract for space in the planes of passenger airlines that service Alaska from Puget Sound.

Economic Impacts

According to a recently released study prepared for the ports of Seattle and Tacoma, marine cargo activity through those two ports accounted for \$4.3 billion in direct business revenue, 48,000 direct, indirect, and induced jobs, and \$4.1 billion in total personal income. The two ports together handled 36 million tons of marine cargo in 2013.¹⁰ Containerized international cargo accounts for about 60 percent of the cargo volume and half the employment. Transshipment of fish harvested in Alaska area waters accounts for a small share of this international containerized cargo (perhaps 300,000 tons). Shipyard-related employment accounts for

¹⁰ Martin Associates, *The Economic Impact of Marine Cargo at the Ports of Seattle and Tacoma*.

another 10 percent of employment related to the ports of Tacoma and Seattle (Alaska-related shipyard employment is considered elsewhere in this report).

Based on research and analysis conducted by McDowell Group, it is estimated that Alaska accounts for about 10 percent of all marine cargo-related economic activity in Puget Sound. Adding jobs associated with Alaska-related trucking and air cargo, it is estimated approximately 5,500 direct, indirect, and induced jobs and \$450 million in total wages in the Puget Sound economy are connected to the movement of cargo and freight between Puget Sound and Alaska.

Economic Impact of Alaska-Puget Sound Cargo and Freight Activity, 2013

	Impact
Jobs	5,500
Labor earnings	\$450 million

Outlook

Over the long-term, the volume of cargo shipped out of Puget Sound to Alaska will depend on population growth and the trajectory of the Alaska economy in general. Nearly everything that is consumed in Alaska, whether by households, business, or industry, is manufactured outside the state, and most of those goods and materials will continue to move through Puget Sound.

While cargo shipments between Puget Sound and Alaska increased between 2010 and 2013 (with shippers reporting solid gains in shipping for the oil and gas industry in 2013), the next few years may see downward pressure on northbound cargo tonnages. With expected declines in federal and state government spending, construction-related shipping may flatten or perhaps decline. The most recent population estimates for Alaska show essentially no change between 2013 and 2014, and the outlook is for very slow growth (about 1 percent annually over the next five years).¹¹ Those



Source: Port of Tacoma.

projections were made prior to the recent steep decline in oil prices. A prolonged period of lower oil prices would place significant downward pressure on the Alaska economy and could constrain population growth.

Still, big projects can create a spike in cargo movements and spur economic growth. In the future, tentative plans for liquefied natural gas and a natural gas pipeline, for example, would certainly stimulate shipping from Puget Sound.

¹¹ Alaska Department of Labor and Workforce Development, Alaska Economic Trends June 2014. <http://laborstats.alaska.gov/trends/jun14art1.pdf>

Although Alaska's fertile fishing grounds are over a thousand miles to the north, Puget Sound remains the central hub of the Alaska seafood industry. Puget Sound is the base for the industry's largest processors and biggest boats. In addition, it is a transportation hub for Alaska seafood product entering the U.S. market and product sold to export markets. Regardless of whether the job takes place in Alaska or Puget Sound, the region enjoys significant benefits from the companies and workers who bring back fish, boats, and money from Alaska.



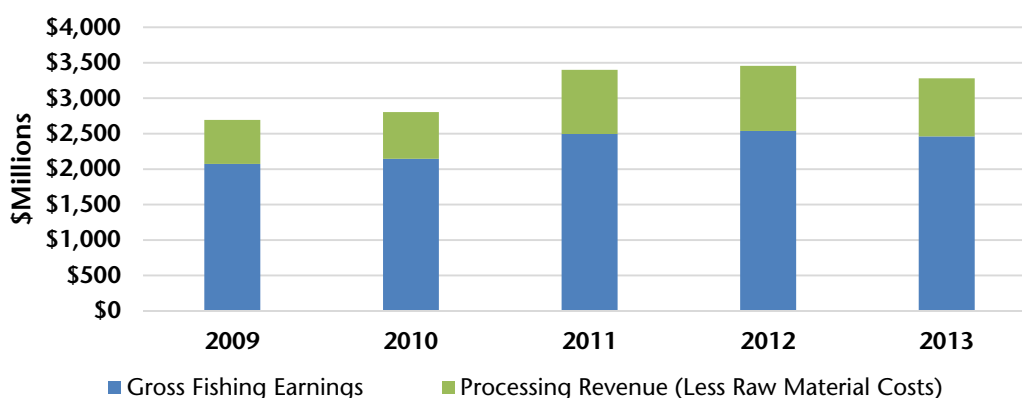
Source: Port of Seattle by Don Wilson.

Gross Earnings

The chart below illustrates gross fishing earnings for Washington residents, along with revenues (net of raw material costs) for processing companies based in Puget Sound. In 2013, resident and processing company earnings totaled \$3.3 billion. While a portion of this income is spent in Alaska, much of it is also spent in Puget Sound, where it stimulates additional economic activity.

The \$3.3 billion total for 2013 is comprised of \$818 million earned by Washington residents who commercial fish in Alaska,¹² plus \$2.5 billion grossed by processing companies (less payments to fishermen). Earnings in 2013 for both residents and processors were down by 3 percent from 2012, but were well ahead of earnings of five years ago.

**Cash Flows to Washington Fishermen and Seafood Processing Companies
Derived from the Alaska Seafood Industry, 2009-2013**



Note: Gross fishing earnings represents the ex-vessel value earned in Alaska commercial fisheries by WA residents. Processing earnings shown here refer to the first wholesale value of Alaska seafood products produced by processing firms based in WA, less payments for (fish/shellfish). Source: ADF&G.

¹² This figure refers to Alaska permit/quota owners who are Washington residents. Earnings by crew are a component of gross fishing earnings. Puget Sound residents accounted for 70 percent of gross fishing earnings earned by Washington residents in Alaska commercial fisheries in 2013.

Commercial Fishing

Including active permit owners, crew members, and fishing company/cooperative staff, Alaska's commercial fisheries provide jobs for 4,340 Puget Sound residents. This employment generated an estimated \$571 million in gross earnings and \$307 million in labor earnings in 2013 (70 percent of total Washington State resident earnings from Alaska commercial fisheries).

Alaska commercial fishermen residing in Puget Sound generated \$571 million in gross earnings in 2013.

Alaska Commercial Fishermen Residing in Puget Sound Employment, 2013

	Employment
Active Permit Owners	890
Crew Members	3,260
Mgmt. and staff of fishing companies/cooperatives	190
Total Direct Employment	4,340

Source: CFEC and McDowell Group estimates.

Puget Sound residents own nearly 1,000 fishing vessels participating in Alaska commercial fisheries, and over half (526) are homeported in Puget Sound. Most large vessels participating in Alaska commercial fisheries are owned by Puget Sound residents and homeported in the area, resulting in many indirect jobs at shipyards, machine/fabrication shops, equipment sales companies, and marine engineering firms. Puget Sound has an extensive network of service providers and moorage space which cater to large commercial fishing vessels.

The majority of Puget Sound residents who own smaller commercial fishing boats (35' or less) tend to leave their boats in Alaska rather than incur the expense and risk of running them back home each year. Although they may not always return from Alaska with their boat, these small boat owners often source major equipment purchases from local suppliers or have new boats built by Puget Sound yards.



Source: Alaska Seafood Marketing Institute.

Seafood Processors

Puget Sound is home to 36 processing companies that accounted for 82 percent of total first wholesale value of Alaska seafood production in 2013.¹³ These companies employ most of their workers in Alaska; however, many of those Alaska jobs are filled by Washington residents, and virtually all senior-level management and sales positions are based in Seattle. It is estimated that seafood processors directly create 5,700 jobs for Puget Sound residents (utilizing Alaska seafood), generating \$336 million in labor earnings. Processing companies

¹³ Total count of processors based in Puget Sound includes 15 companies that operate shore-based plants in Alaska and 21 companies which operate catcher/processors or floating processors.

indirectly create additional jobs in a broad range of industries, including trucking/shipping, processing equipment sales and manufacturing, marine repair, supply stores, and financial services, among others.

Fishery Management and Marketing

Three fisheries-related government entities and eleven industry associations are based in Seattle. Together, they directly generate approximately 310 jobs and \$35 million in labor earnings. The Alaska Fisheries Science Center (AFSC), a division of the National Marine Fisheries Service, is located in Seattle's Sand Point neighborhood. The AFSC employs approximately 242 people. The International Pacific Halibut Commission (IPHC) employs 34 staff, while the Alaska Seafood Marketing Institute – a State of Alaska division – employs six people in Seattle. Seattle-based industry associations representing Alaska fishermen and processors employ nearly 30 people in full-time and part-time positions.



Source: Alaska Seafood Marketing Institute.

Support Sector for Alaska Seafood Industry

Puget Sound hosts most of the industry's major support companies, many of whom rely on the Alaska seafood industry for the majority of their business. Examples of support businesses include those providing processing equipment, cold storage, marine transport, and shipyards. Although providing a comprehensive roster is beyond the scope of this project, following is a list of major support sector companies for the seafood industry.



Source: McDowell Group.

See table, next page

Selected Seafood Industry Support Businesses in Puget Sound

Processing Equipment			
Marel Seattle	Ryco, Inc	Coastline Equip.	MTC Food Equipment
Cold Storage and Logistics			
Lineage/City Ice	Lineage/Seafreeze	Apex	Commercial Cold Storage
CFI, Inc.	Movers, Inc.	Western Dist. Serv.	Bellingham Cold Storage
Sprint Forwarders	LSI Logistics	PCC Logistics	North Star Cold Storage
Marine Transport			
AML/Northland	APL/Eagle Marine	TOTE	Samson Tug & Barge
Fishing Equipment Manufacturers and Sales			
Marco Global	LFS Marine	Redden Marine	Teknortherm Refrigeration
Mustang Survival	Diamond Nets	Everson Cordage	Int'l Longline Supply
NET Systems	Baier Marine	SEAMAR	Seattle Marine Supply
DACO Corp.	Lister Chain Forge	IMS, Inc.	Radar Marine Electronics
Kolstrand	Radar Marine Elec.	Naust Marine	Ballard Hardware & Supply
Shipyards and Boat Builders			
Vigor Industrial	Jensen Marine Arch.	Foss Maritime	Pacific Fishermen Shipyard
Delta Marine	Dakota Creek Ind.	Kvichak Marine	Port Townsend Shipwrights
La Conner Marine	Lake Union Drydock	Mavirk Marine	Jensen Maritime Consultants
Maritime Fabricat.	Platypus Marine	Rozema Boat Works	Little Hoquiam Shipyard
Other			
Alaska Airlines	Philips Publishing	Alaskan Observers	Diversified Business Comm.
Wells Fargo	Bank of America	Kapstone Container	Pacific Fishing Magazine
WA Chain/Supply	Frontier Packaging	Brown & Brown Ins.	Northwest Farm Credit Svcs.

Economic Impacts

In total, the Alaska seafood industry created 23,900 jobs and \$1.34 billion in labor income in the Puget Sound region during 2013, combining the impacts of commercial fishing, seafood processing, and government/industry groups.

Commercial fishing in Alaska accounted for a total of 10,150 jobs for Puget Sound residents, including 4,340 direct jobs and 5,810 indirect and induced jobs. These jobs generated \$600 million in total labor earnings. Seafood processing accounted for another 13,100 jobs, including 5,700 direct jobs and 7,400 indirect and induced jobs. These jobs accounted for \$690 million in total labor earnings. Government and industry groups connected with the Alaska seafood industry accounted for 310 direct jobs, and a total of 650 jobs and \$50 million in labor earnings, including indirect and induced impacts.

Economic Impact of Seafood Industry on Puget Sound Economy, 2013

	Commercial Fishing	Seafood Processing	Government & Industry Groups	Total Impacts
Average Monthly Employment	10,150	13,100	650	23,900
Estimated Labor Earnings (in \$Millions)	\$600	\$690	\$50	\$1,340

Source: McDowell Group estimates based on data from ADF&G, CFEC, and NMFS; industry interviews; and IMPLAN analysis.

Outlook

The outlook for the Alaska seafood industry in Puget Sound is mixed. On the positive side, an increasing number of large commercial fishing vessels will be due for replacement or at least require significant shipyard work in coming years – particularly for large longliners. This investment will create jobs for marine trade workers, marine architects, and other regional support companies. It is expected that Puget Sound yards will get the bulk of the shipyard work associated with medium-to-larger vessels ('50 and above).

On the downside, near-term markets for Alaska pollock and sockeye salmon – two of the most important commercial species – are challenging. A range of issues are impacting most key product lines for these species and the result is declining overall wholesale value. The ex-vessel value of Alaska seafood has been stable around the \$2.0 billion mark since 2011, but it does not appear as though the industry will grow much beyond that figure – if at all – in 2015, despite larger harvests for some key species (Alaska pollock, king crab, sockeye salmon, and pink salmon).

Passenger Transportation and Tourism

This chapter describes the role of Puget Sound as gateway for people traveling to and from Alaska, primarily through three transportation modes: cruise ship, air, and ferry. Regardless of mode, these passengers all impact Puget Sound's economy in a variety of ways.

Air Passenger Transport

Puget Sound, and specifically Seattle-Tacoma International Airport (Sea-Tac), is the access point for virtually all travelers flying to or from Alaska. Airlines directly serve the following Alaska communities from Sea-Tac:¹⁴

Anchorage	Juneau
Fairbanks	Ketchikan
Petersburg	Cordova
Yakutat	Wrangell
Gustavus (summer)	Sitka
King Salmon (summer only)	



Source: Port of Seattle by Don Wilson.

Alaska Airlines accounts for the vast majority of passengers on these routes; other major airlines flying between Sea-Tac and Alaska include United, Delta, and JetBlue. Alaska Airlines carried nearly two-thirds of all passengers on outbound itineraries from Alaska between October of 2013 and September of 2014.¹⁵

Over 1 million passengers embark on planes bound for Alaska at Sea-Tac Airport on an annual basis.¹⁶ The 2013 enplanement volume of 1.07 million is 11 percent greater than a decade ago, and 4 percent greater than five years ago (2009). 2013 traffic was slightly below (2 percent) the 2012 peak of 1.09 million.

Over 1 million air passengers fly to Alaska communities from Sea-Tac annually.

See chart, next page.

¹⁴ Bureau of Transportation Statistics.

¹⁵ *Alaska Visitor Statistics Program VI*, prepared by McDowell Group for Alaska Department of Commerce, Community, and Economic Development. Data provided by Alaska Airlines, Anchorage International Airport, and Fairbanks International Airport.

¹⁶ Enplanement volume generally mirrors deplanement volume. For example, in 2013 there were 1.07 million enplanements on Alaska-bound flights, and 1.07 million deplanements from flights originating in Alaska, at Sea-Tac.

Alaska-Bound Passenger Enplanements at Sea-Tac, 2004-2013



Source: Port of Seattle.

Cruise Ship Industry

Seattle is an essential gateway for cruise passengers on voyages to and/or from Alaska. Seven major cruise lines use Seattle as a “homeport;” that is, passengers embark and/or disembark for their Alaska cruises in Seattle. These include Carnival, Celebrity, Holland America, Norwegian, Oceania, Princess, and Royal Caribbean. Passengers are generally on round-trip, seven-day itineraries that visit three to four Alaska communities, in addition to scenic destinations such as Glacier Bay, before returning to Seattle.



Source: Port of Seattle by Don Wilson.

Nearly half of 2014 Alaska cruise passengers (45 percent) transited the Port of Seattle before and/or after their cruise to Alaska, representing 434,600 out of 867,500 total passengers.¹⁷ The most common other homeport for Alaska cruise passengers is Vancouver, BC.

The Port of Seattle is transited by over 430,000 Alaska cruise passengers annually – nearly half of the entire Alaska market.

Cruise ship traffic in Seattle increased dramatically between 1999, when only six cruise vessels called on the Port of Seattle, and the peak year of 2010, which saw 223 vessels. The explosive growth is not only attributable to the growing Alaska cruise market; Seattle was also successful in drawing capacity from Vancouver.

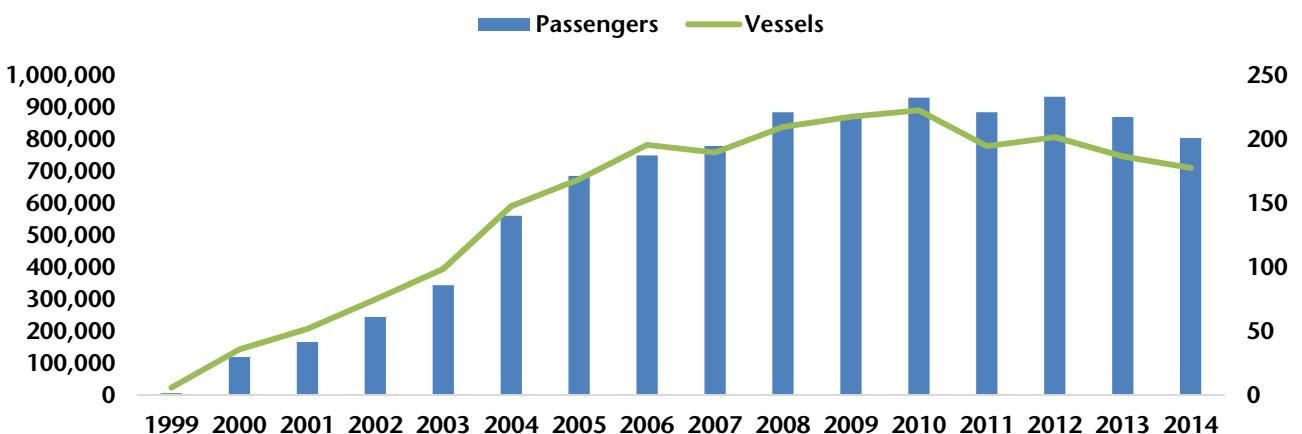
¹⁷ McDowell Group calculation based on cruise traffic data from Cruise Line Agencies of Alaska.



Source: Port of Seattle.

Following the rapid growth between 1999 and 2010, the last five years has seen a 20 percent decrease in the number of cruise vessels: from 223 in 2010 to 179 in 2014. Over the same time period, the number of passengers decreased by 12 percent, from 931,698 to 823,780. The decrease is reflective of an overall decline in Alaska passenger capacity in the last several years. (These figures count ships and passengers on round-trip itineraries twice, as they transit the Port of Seattle twice. In addition, passenger capacity does not strictly follow the number of vessels, as newer, larger ships replace older ships.)

Alaska Cruise Vessels and Passengers, Port of Seattle, 1999-2014



Source: Port of Seattle, *Cruise Seattle 2014 Fact Sheet*. Note: Passengers and ships are counted once for each time they transit the Port.

Ferry Passenger Transport

While passenger numbers are a fraction of those represented by cruise ships and airplanes, the ferries of the Alaska Marine Highway System are an important transportation option for people traveling between Puget Sound and Alaska. Year-round, ferries travel between Bellingham, Washington and Southeast ports such as Ketchikan, Juneau, and Petersburg. The current schedule includes four ferries per month in the winter and six ferries per month in the summer.

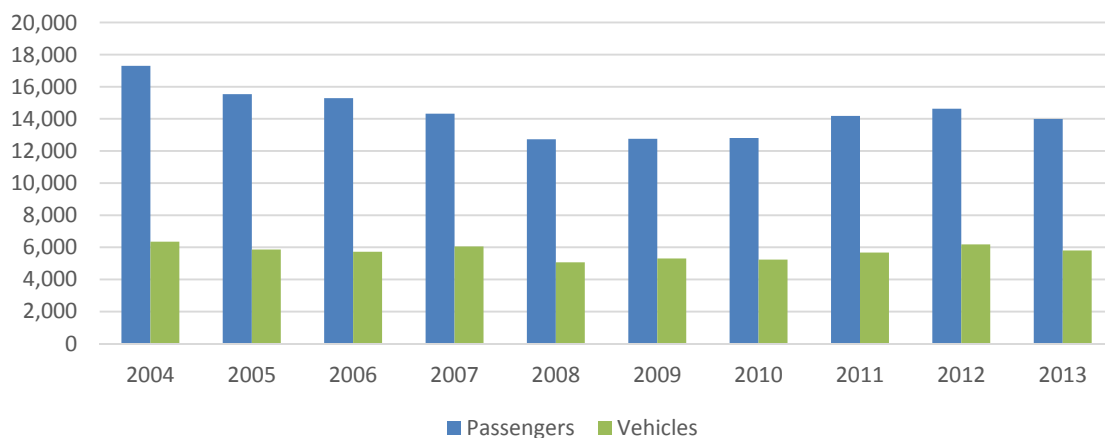
The ferry is used by a wide variety of markets, including vacationing visitors from Washington and elsewhere in the U.S., particularly those who wish to explore Alaska via personal vehicle or RV. The ferry also draws people who are re-locating to or from Alaska, as it allows them to travel with their vehicles and pets. Like cruise ships and airplanes, Alaska ferries play a role in bringing people to the Puget Sound region in order to access Alaska; likewise, these visitors create jobs and income through local spending.



Source: Alaska Marine Highway System, Peter Metcalfe.

In 2013, 14,000 passengers and 5,800 vehicles embarked at the Port of Bellingham on ferries bound for Alaska. Ferry passenger volume has faced a long-term decline in the last decade due to a variety of factors. The U.S. travel market has trended towards shorter trips, closer to home – and the ferry generally requires a longer stay, as it takes two days alone to reach the southernmost Alaska port of Ketchikan. The economic recession had a dampening effect on the entire Alaska visitor market in 2008-10. The growth of the cruise industry may also have impacted the market for Alaska ferry travel. The last several years show increased traffic, corresponding to the U.S. economic recovery, although not nearly to levels of a decade ago.

AMHS Annual Embarkations at Bellingham, 2004-2013



Source: Alaska Marine Highway System.

Economic Impacts

Whether visiting Puget Sound via cruise ship, airplane, or ferry, visitors contribute to the Puget Sound economy in a variety of ways: staying in local hotels; purchasing tours and entertainment; purchasing gifts, souvenirs, and other retail items; and spending money in local restaurants and bars.

The total impacts of Sea-Tac Airport in 2013 are estimated at 170,984 jobs and \$6.0 billion in labor earnings.¹⁸ Alaska-related impacts are assumed to represent approximately 6 percent of total Sea-Tac impacts, reflecting the percentage of Sea-Tac enplanements bound for Alaska destinations (minus cruise passengers).¹⁹ Alaska-related impacts are estimated at 10,600 jobs and \$373 million in labor income.

According to data published by the Port of Seattle, the cruise industry had significant local economic impact in 2013: 3,404 jobs; \$176 million in personal income; and \$16 million in annual state and local taxes.²⁰ The Alaska cruise industry contributes to the Puget Sound economy in another significant way: through cruise line employment and administration. The two main cruise lines with Seattle offices are Princess and Holland America (both of which are owned by Carnival); other lines have presences in Seattle, albeit to a lesser extent.

**Economic Impact of Alaska-Puget Sound
Passenger Transportation, 2013**

	Impact
Jobs	14,100
Labor earnings	\$554 million

In the absence of specific data on the impacts of ferry passengers, ferry-related impacts are assumed to generally resemble cruise impacts on a per-passenger basis.

Adding together impacts of cruise, air, and ferry passengers, total passenger transportation impacts are estimated at 14,100 jobs and \$554 million in labor earnings in 2013.

Outlook

The Puget Sound region, and specifically SeaTac Airport, will continue to act as the air gateway to Alaska for the foreseeable future. The U.S. Travel Association forecasts slow, moderate growth over the next several years in both the domestic pleasure and domestic business sectors, at between 1.3 and 1.8 percent annually, through 2017.²¹ International travel is forecasted to grow at a faster rate over the same time period, at more than 5 percent annually. Air traffic to Alaska is likely to experience gradual growth in the coming years, as the U.S. economy continues its slow recovery. The growing economies and populations of both regions are likely to have positive impacts.

Alaska's cruise ship traffic at the Port of Seattle, as noted previously, has declined somewhat in the last five years. However, the Port of Seattle estimates that passenger traffic will increase by 9 percent, and vessel traffic

¹⁸ *Ibid.*

¹⁹ Cruise passengers who transit the airport were removed from the total Alaska passenger volume for the purposes of economic impact analysis as they are accounted for in cruise passenger impacts.

²⁰ *The 2013 Economic Impact of the Port of Seattle*, prepared by Martin Associates for the Port of Seattle.

²¹ U.S. Travel Association, www.ustravel.org

by 7 percent, in summer 2015.²² These growth projections are stronger than the overall Alaska cruise industry, which is projected to increase by 3 percent in passenger capacity in summer 2015.²³

According to industry experts, the longer-term outlook for Alaska cruising is for very gradual growth as newer, larger ships continue to replace smaller, older ships. Although the worldwide cruise industry is poised for stronger growth, Alaska is unlikely to realize much benefit from it. Alaska's (small) global market share has shrunk in recent years, from 4.5 percent in 2010 to 4.2 percent in 2014.²⁴ Competing markets, particularly in Asia, are gaining momentum. Growth capacity is also limited by the ports themselves: the most popular ports of Juneau, Ketchikan, and Skagway are limited in terms of the number of ships they can accommodate. Unless a new Southeast port is developed, Alaska's cruise passenger volume is unlikely to grow as rapidly as the overall worldwide market. Cruise traffic to the Port of Seattle may tell a different story: with over half of passengers still using Vancouver as a homeport, there may be potential for some of that capacity to shift to Seattle.

The Alaska Marine Highway System will continue to play an essential role in transporting people and their vehicles between Alaska and Puget Sound. Judging from recent traffic trends and limited passenger capacity in the peak summer months, volume is likely to stay flat or decrease slightly in future years.

²² Cruise Line International Association (CLIA) Alaska.

²³ Port of Seattle, *Cruise Seattle 2015 Fact Sheet*.

²⁴ *Cruise Industry News, State of the Industry Annual Report, 2014-15*.

Processing Alaska crude oil in Puget Sound refineries provides significant employment, payroll, and spending in the Puget Sound region. This section examines these impacts, details Alaska's role in the refining industry, and explores trends that could affect the region.

Puget Sound Refineries

Puget Sound refining began in the 1950s with the construction of two refineries, in Anacortes and Ferndale. In the following decades another facility was built in Anacortes, and the U.S. Oil and Refining Company was built in Tacoma. In anticipation of increased crude oil from Alaska, the BP Cherry Point refinery was built in 1971.

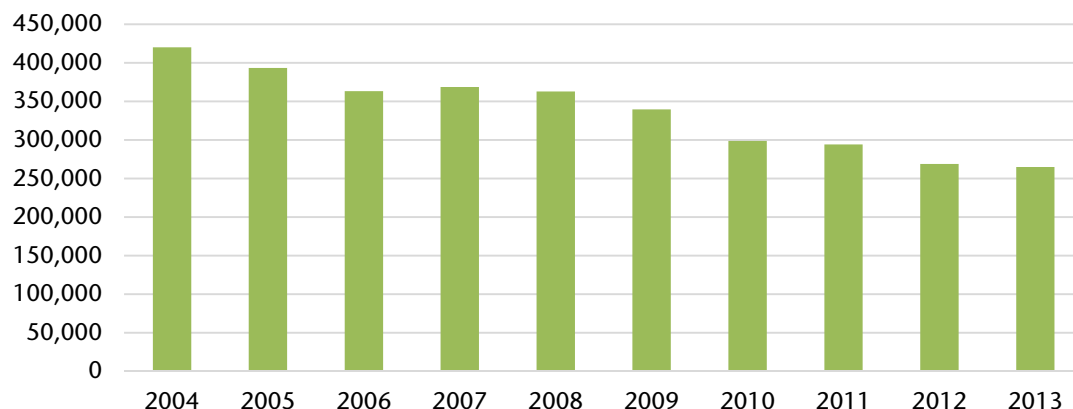
Alaska supplies nearly half of all crude oil refined in Puget Sound.



Source: "Tesoro Refinery & Fidalgo Bay", by flickr user: Dana, is licensed under CC BY-ND 2.0.

Puget Sound's five refineries produce a variety of petroleum products including gasoline, diesel fuel, jet fuel, marine fuel, and asphalt. In 2013, their three main sources of crude were Alaska (46 percent), Canada (27 percent), and North Dakota (14 percent).²⁵ While Alaska remains the largest supplier, the state's position as Puget Sound's primary supplier of oil has eroded over time: in 2003, Alaska supplied 90 percent of crude oil used by Puget Sound refineries. The amount of crude oil shipped from Alaska to Puget Sound dropped by 37 percent between 2004 and 2013, from 420,000 to 265,000 barrels per day.

Crude Oil Shipment from Alaska to Puget Sound (BBL/day), 2004 -2013

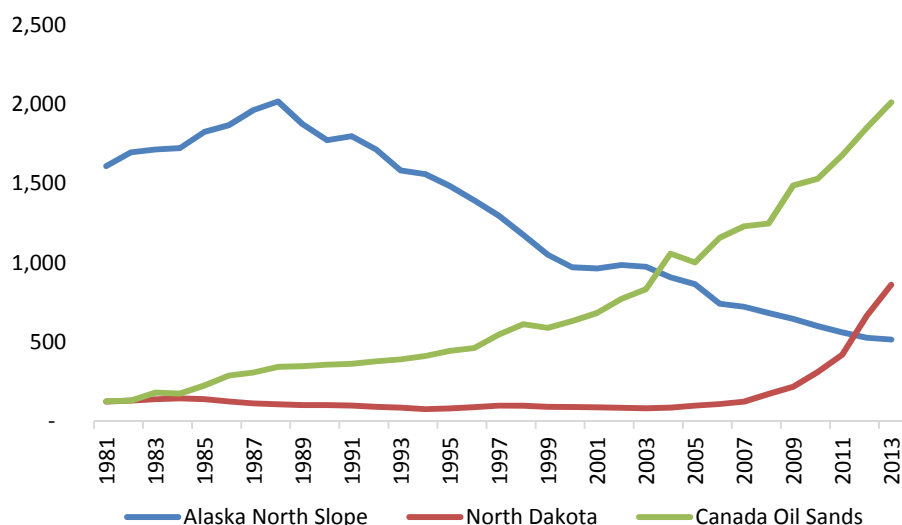


Source: U.S. Corps of Engineers, 2014.

²⁵ Washington Research Council, *The Economic Contribution of Washington State's Petroleum Refining Industry in 2013, 2014*

The decreased reliance upon Alaska crude has been driven by a number of factors. Crude production in Alaska has fallen steadily and significantly since its peak in the 1980s, while production from Canadian oil sands and the Bakken formation in North Dakota has increased dramatically over the past few years.²⁶

Crude Oil Production, Thousands of Barrels per Day, 1981-2013



Source: U.S. Energy Information Administration, 2014; Canadian Association of Petroleum Producers, 2014.

Puget Sound Refining Capacity

Total refining capacity in Puget Sound is currently 631,700 barrels per day. While the majority of crude oil feeding Puget Sound refineries comes by tanker, a growing proportion is transported by rail. As Alaska shipments continue to decline, and as more rail capacity comes online, rail-transported crude oil could surpass Alaska-sourced crude oil. Investment in rail capacity by the five refineries will increase rail capacity to approximately 250,000 barrels per day in the near-term, an amount similar to daily shipments from Alaska in 2013 (265,000 barrels per day).

Puget Sound Refinery Capacity, 2013

Name of Facility	Location	Refining Capacity (BBL/day)	Rail Capacity (BBL/day)
BP West Coast Products	Ferndale	225,000	70,000
Shell Oil Products	Anacortes	145,000	*60,000
Tesoro	Anacortes	120,000	50,000
Phillips 66	Ferndale	101,000	**35,000
US Oil and Refining	Tacoma	40,700	35,000
Total		631,700	250,000

*Currently seeking permitting.

**Currently under construction.

Source: U.S. Energy Information Administration, 2014; Western States Petroleum Association, 2014, Sightline Institute, 2014.

²⁶ State of Alaska, *Revenue Sources Book Fall 2014*, <http://www.tax.alaska.gov/programs/documentviewer/viewer.aspx?1113r>

Economic Impacts

The Washington Research Council estimated the entire Washington refining sector was responsible for more than 26,000 jobs, including direct, indirect, and induced effects.²⁷ With 46 percent of crude oil from Alaska supplying local refineries, a similar proportion of economic impact is assumed to be connected with Alaska. Based on that assumption, an estimated 12,000 Washington jobs and \$780 million in labor earnings is supported by refining of North Slope crude oil.

Economic Impact of Alaska-Sourced Petroleum on Puget Sound, 2013

	Impact
Jobs	12,000
Labor earnings	\$780 million

Outlook

While Alaska's role in Puget Sound's refinery sector may continue to decline along with North Slope production, Puget Sound will continue to serve an important role as a staging area for oil and gas activity taking place in Alaska. Shipment of supplies and equipment from local businesses, utilization of port infrastructure, and contracting for services will continue, with near-term and long-term potential for an uptick in activity related to projects like the proposed natural gas pipeline from the vast gas reserves on the North Slope.

A number of projects have been proposed, from relatively small inter-state trucking schemes costing hundreds of millions of dollars to construction of a large pipeline to export facilities which could cost more than \$65 billion.²⁸ It is uncertain what type of project will eventually be built. However, it is safe to assume the larger the project, the larger impact on Puget Sound.

Development occurring on the Outer Continental Shelf (OCS) off the northern coast of Alaska may impact the Puget Sound region. Development would occur mainly in the Beaufort and Chukchi Seas, and has the potential to annually generate 145,000 national jobs with payroll of \$145 billion, of which a significant portion would be expected to occur in the Puget Sound region.²⁹

This potential is reflected in Shell's 2012 efforts at OCS development that first started in Puget Sound with the refurbishing of two drill rigs. An estimated \$200 million was spent in local shipyards and 400 people were employed.³⁰ While Shell had limited success with initial efforts, the company intends to continue its OCS development plans. The extent to which OCS development will occur, and over what timeline, is unknown, but Puget Sound businesses are sure to play a role.

²⁷ *The Economic Contribution of Washington State's Petroleum Refining Industry in 2013*, Washington Resource Council, 2014.

²⁸ <http://www.arcticgas.gov/sites/default/files/documents/guide-to-alaska-natural-gas-projects.pdf>

²⁹ Northern Economics, Inc. and Institute of Social and Economic Research. *Potential National-Level Benefits of Alaska OCS Development*. Prepared for Shell Exploration & Production. February 2011. Note: Figures are in 2007 dollars.

³⁰ http://seattletimes.com/html/localnews/2018403997_shellarctic11m.html

Maritime industrial support (MIS) services in Puget Sound are critical to all the industries in Alaska that rely on marine transportation; commercial fishermen, the visitor industry, waterborne cargo, and fuel haulers, for example. MIS services include the full range of services vessels require to operate safely and efficiently. Whether a Bering Sea crabber, a cruise ship, tug, or barge, Puget Sound is a hub for repair, supplies, and new construction. This section provides a brief overview of the Puget Sound services utilized by the Alaska fleet, and the economic impact of those services.

Supporting the Alaska Fleet

An estimated 9,416 vessels over 28’ operate in Alaska.³¹ Approximately 10 percent (940) of these vessels are registered in Washington and make regular trips to Alaska. However, vessels from Washington total 56 percent of all gross tonnage, a measurement of the vessel’s size. This indicates that while Alaska has many smaller vessels, Washington vessels are the largest in the fleet.

Vessels from Washington State represent over half of the Alaska fleet’s gross tonnage.



Source: TOTE.

Gross tonnage is positively correlated with the amount of MIS services required to maintain a vessel. For example, it is assumed a 40-foot yacht requires much less service than a 115-foot crab boat. Consequently, the 940 Puget Sound-based vessels making regular trips to Alaska provide significant amount of vessel maintenance and repair employment and other economic activity in Puget Sound.

Many larger Alaska-based vessels travel south to Puget Sound for routine or major maintenance and repair work. While some areas in Alaska, such as Ketchikan, Seward, and Kodiak, have facilities with capacity to lift larger vessels, in general the state lags far behind Puget Sound in terms of specialized MIS-related service and supply infrastructure.

Alaska Fleet, Number of Vessels and Gross Tonnage, 2013

	Number of Vessels	Gross Tonnage
Alaska-based	7,660	387,220
Washington-based	940	270,875
Other	816	33,288
Total	9,416	691,383

Note: Excludes 41 oil tankers and cruise ships. These vessels are often registered internationally.
Source: McDowell Group, 2014.

³¹ McDowell Group, *Trends and Opportunities in the Alaska Maritime Industrial Support Sector*, prepared for the Alaska Department of Commerce, Community, and Economic Development, 2014.

An example of the difference in MIS capacity between Alaska and Puget Sound can be seen in just a few of the local shipyards. Vigor Industrial operates four facilities in Puget Sound, and offers four dry-docks, one marine railway, and 28 cranes. The Lake Union Drydock Company operates two dry-docks in addition to hydraulic, metal, electronics, rigging, and marine-coating shops. Foss Maritime operates two shipyards with dry-dock capacity up to 2,000 tons, a marine railway with capacity of 640 tons, and full machine and metal fabrication shops. For comparison, the entire state of Alaska has five dry-docks.



Source: Vigor Industrial

The MIS connection between Puget Sound and Alaska got much stronger in 2014 with Vigor's acquisition of Ketchikan Ship and Dry Dock, as well as the Seward shipyard. Vigor has additional operations in Seattle, Tacoma, Everett, Bremerton, and Port Angeles.

Economic Impacts

The economic impact of Alaska on Puget Sound's MIS sector stems from the construction, maintenance, and repair of the local vessels that operate in Alaska waters and Alaska vessels traveling south for shipyard work. Roughly 450 businesses provide MIS services in Puget Sound with an estimated 21,100 employees, who earned \$1.55 billion in wages in 2012.³² With

average wages of approximately \$73,500, these positions paid approximately 40 percent more than the average statewide wage of \$51,966 in 2012.³³ Based on interviews with industry representatives, it is conservatively estimated that 25 percent of all MIS activity in Puget Sound is connected to Alaska. Using this estimate, the economic impact of Alaska on Puget Sound included 5,300 jobs and \$390 million in annual wages in the MIS sector.³⁴

Economic Impact of Puget Sound Maritime Industrial Support Related to Alaska Vessels, 2013

	Impact
Jobs	5,300
Labor earnings	\$390 million

³² *Washington State Maritime Cluster*, Prepared by Community Attributes, 2013

³³ Washington State Employment Security Department, *Quarterly Census of Employment and Wages*, 2012

³⁴ Some of this employment and income is accounted for in the Seafood chapter. Total Puget Sound employment was adjusted to account for this overlap.

Outlook

The outlook for Puget Sound's Alaska-related maritime support services is very strong. By 2025, more than two-thirds of vessels operating in Alaska will be more than 45 years old.³⁵ Some of the oldest vessels are commercial fishing vessels built in the 1940s and 1950s. Over the following decades, replacement of aging Alaska vessels, especially among the commercial fishing fleet, could require spending of more than \$14 billion.³⁶ With Puget Sound's established MIS sector, a portion, if not the majority, of new vessels would likely be built in the region.

³⁵ McDowell Group Vessel Database, 2014.

³⁶ <http://fishermensnews.com/story/2014/06/01/Todays%20Catch/Value-of-the-Fleet/261.html>

Health care is a small but literally life-saving segment of the Alaska-Puget Sound economic relationship. This chapter explores Alaska residents' usage of Puget Sound medical facilities as well as shared medical systems and expertise between the two regions.

Alaska Patients

Alaska patients receive services in Puget Sound for a variety of reasons including proximity, physician and patient preferences, disease severity, and occasionally economic factors. As the most populated area in the Northwest United States, Seattle is the natural home to specialized medical services. Some conditions, such as major burns, complex orthopedics, and specific cancers, require services unavailable in Alaska.

Puget Sound medical facilities served over 2,000 Alaska residents in 2013, at 33 different facilities.

Based on data provided by the Washington State Department of Health, 2,085 Alaska patients were admitted to 33 different medical facilities in Puget Sound in 2013. The most common facilities were the University of Washington Medical Center, Swedish Medical Center (First Hill/Ballard), and Virginia Mason Medical Center.

Alaska Patients in Puget Sound by Medical Center, 2013

Medical Facility	Alaska Patients	Percent
University Of Washington Medical Center	409	20%
Swedish Medical Center - First Hill/Ballard	350	17
Virginia Mason Medical Center	343	16
Harborview Medical Center	261	13
Seattle Children's Hospital	253	12
Swedish Medical Center - Cherry Hill	140	7
PeaceHealth Saint Joseph Hospital	74	4
Northwest Hospital	38	2
Highline Medical Center	31	1
Valley Medical Center	29	1
Other	157	8
Total	2,085	100

Source: Washington Department of Health Comprehensive Hospital Abstract Reporting System, 2013.

Medical Transportation

Alaska is a large state with low population density; the need to travel for medical services is an accepted way of life. For many patients, medical transport involves flying to Seattle rather than Anchorage. Some communities, namely Ketchikan, Metlakatla, and Hollis, are closer to Seattle than Anchorage and due to payment rules, some patients must be transported to Seattle.³⁷ In other cases, required services are unavailable in Alaska and patients must be transported for necessary care. In 2013, there were at least two patients from



Source: Clare McLean, UW Medicine.

every borough in Alaska admitted to a Puget Sound hospital. The majority of patients came from the Municipality of Anchorage (409), followed by Juneau (350) and Ketchikan (343). Several medical transport companies specialize in transport to Washington State. These carriers provide emergency medical transport services, and some, such as Airlift Northwest's "Flying ICU," bring medical services to remote communities.

Economic Impacts

Including physician charges, outpatient charges, and other medical services, total expenditures for Alaska patients are estimated to be \$98.6 million.³⁸ Based on economic multipliers for health services in Puget Sound, an estimated 1,200 jobs and \$87 million in wages are related to these health expenditures, including direct, indirect, and induced effects.

Economic Impact of Alaska Patients Using Puget Sound Medical Facilities, 2013

	Impact
Jobs	1,200
Labor earnings	\$87 million

Aside from medical costs and the associated economic impact of those expenditures, out-of-state patients are likely to generate additional economic activity not normally associated with medical care. A quarter of patients (515 in 2013) were in the hospital for more than a week, and 12 percent were in the hospital for over two weeks. When patients are in the hospital for an extended length of time family members often join them, spending money in hotels, restaurants, and



Source: "Hanging Out in the Hospital with Gramps" by Flickr user: Eli Duke, is licensed under CC BY-SA 2.0.

³⁷ Medicaid, Medicare and some private insurance plans will only pay for patient transportation to the nearest facility.

³⁸ Total charge amounts in 2013 for in-patients were \$177.3 million; however, negotiated discounts and charity care reduce average in-patients charge amounts by 40 to 73 percent depending on the facility. In addition to inpatient charges, physician and outpatient expenditures are estimated to account for an additional 25 percent.

elsewhere. The medical care patients receive may also influence long-term plans and prompt some Alaskans to move to the Puget Sound area. While it is unknown to what extent availability of healthcare was a deciding factor, there were (for example) 1,485 State of Alaska government retirees living in the Puget Sound area as of July 2014.

Other Health Care Connections with Alaska

Alaska and Washington have a long history of shared medical services. Beginning with the Sisters of Providence in 1902, there have always been medical service providers with facilities in both states. Major health care systems operating in Washington and Alaska include PeaceHealth³⁹, Universal Health Services⁴⁰, and Providence⁴¹. The recent alliance in 2012 of the Providence and Swedish health systems formed the largest group operating in both Alaska and Puget Sound, with four hospitals in Alaska and eight in Puget Sound, plus medical groups, diagnostic services, and clinics.

Hospitals and Inpatient Facilities in Alaska and Puget Sound With Common Ownership

	Alaska	Puget Sound
Providence and Providence/Swedish Alliance	Providence Alaska Medical Center (Anchorage), Providence Kodiak Island Medical Center (Kodiak), Providence Seward Medical and Care Center (Seward), Providence Valdez Medical Center (Valdez)	Swedish Ballard (Seattle), Swedish Cherry Hill (Seattle), Swedish Edmonds (Edmonds), Swedish First Hill (Seattle), Swedish Issaquah (Issaquah), Swedish Mill Creek (Everett), Swedish Redmond (Redmond), Providence Regional Medical Center Everett (Everett)
PeaceHealth	PeaceHealth Ketchikan Medical Center (Ketchikan)	St. Joseph Medical Center (Bellingham), United General Medical Center (Sedro-Woolley)
Universal Health Services	North Star Behavioral Health Hospital (Anchorage),	Fairfax Hospital (Kirkland), Schick Shadel Hospital (Seattle)

In addition to large medical systems, it is common for Washington physicians, nurses, and other clinicians to provide locum or itinerant medical services in Alaska. While reliable data on the number of individuals is unavailable, as an indication of the contribution to Alaska's clinical workforce, 10 percent of physicians with an active Alaska license report their primary address is in Washington. Alaska also participates in the WWAMI regional medical education network, pooling the resources of Washington, Wyoming, Alaska, Montana, and Idaho with the University of Washington School of Medicine to train new physicians.

³⁹ PeaceHealth is a Catholic health care system operating in Alaska, Washington, and Oregon.

⁴⁰ Universal Health Services is a national hospital management company which owns and operates 225 facilities including behavioral health facilities in Alaska and Puget Sound.

⁴¹ Providence Health & Services is a Catholic health care system operating in Alaska, Washington, Oregon, California and Montana.

Outlook

Puget Sound health care services provided to Alaskans may increase in the near future, though Alaska's capacity to serve its own residents' health care needs continues to improve. Still, with a much smaller population base, Alaska is unlikely to ever match the wide range of specialized services available in Puget Sound. Further, an aging population in Alaska means demand for health care services will grow overall, in-state and in Puget Sound. Cost may also be a factor prompting Alaskans to seek health care in Puget Sound. Alaska healthcare services average 35 percent more than in Washington.⁴² Medical advancements, particularly in surgery and telemedicine, are increasing the number of procedures for which medical travel is a reasonable clinical option and less expensive – even with the cost of travel.

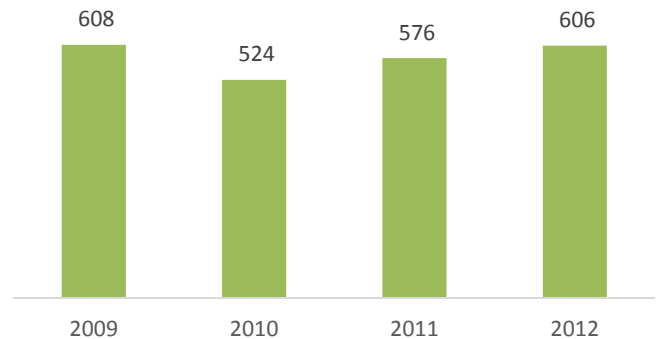
⁴² CMS, National Health Expenditure Accounts, 2009.

Like health care, education is a smaller component of the economic relationship between Alaska and Puget Sound, but represents an essential tie for the many Alaskans studying at Puget Sound institutions.

Alaskans Studying in Puget Sound

Due to Washington's proximity to Alaska, and the relatively limited postsecondary opportunities in Alaska, Alaska students attend Washington schools at a very high rate. According to DOLWD and DEED data, Washington is the number one state (outside of Alaska) for postsecondary enrollment among Alaska residents, and attracted 6 percent of all college-going Alaska high school graduates between 2005 and 2011.⁴³ In terms of institutions specifically in Puget Sound, around 600 Alaska residents reported attendance at a Puget Sound-area school on an annual basis between 2009 and 2012.

Alaska Student Enrollment in Puget Sound Postsecondary Education Schools, FY2009 – FY2012

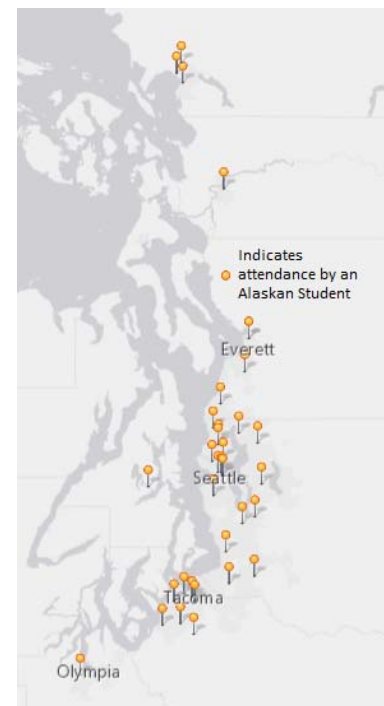


Source: DOLWD, unpublished data.

Data shows Alaskans attending a wide variety of Puget Sound area schools between 2005 and 2012. These are listed below, with their locations noted on the accompanying map.

Puget Sound Schools Attended by Alaska Residents, 2005-2012

Bastyr University	Pacific Lutheran University
Bates Technical College	Pierce College
Bellevue College	Renton Technical College
Bellingham Technical College	Seattle Central Community College
Clover Park Technical College	Seattle Pacific University
Cornish College of the Arts	Seattle University
DeVry University - Federal Way	Seattle University - Law
Edmonds Community College	Shoreline Community College
Everest College – Renton	Skagit Valley College
Everest College – Seattle	South Puget Sound Community College
Everest College – Everett	South Seattle Community College
Everest College – Tacoma	Tacoma Community College
Everett Community College	University Of Puget Sound
Green River Comm. College	University Of Washington - Seattle
Highline Community College	Washington State University
Lake Washington Tech. College	Western Washington University
North Seattle Comm. College	Whatcom Community College
Olympic College	



⁴³ *Alaska Economic Trends*, June 2012, "Alaska's High School Graduates," published by ADOLWD.

Several programs help encourage Alaska residents to seek postsecondary opportunities in Washington. These include Western Undergraduate Exchange (WUE), which allows out-of-state residents a near in-state tuition rate; the WWAMI program, a partnership with University of Washington School of Medicine that designates a certain number of student slots for Alaskans; and Seattle University's School of Law's scholarships for Alaskans, among others.



Source: University of Washington.

Economic Impacts

Due to confidentiality reasons, the exact number of Alaska students that attend each specific university/college is not available, making it difficult to calculate precise student spending. According to the U.S. Department of Education's National Center for Education Statistics (NCES), for the 2011-2012 school year, the national average annual cost of tuition, room, and board for full-time undergraduate students at all institutions (2-year private and public and 4-year private and public) was \$19,339. Based on this figure, Alaska students spent an estimated \$12 million in education costs in Puget Sound postsecondary institutions in FY2012. This level of spending accounts for about 250 jobs and \$11 million in wages, including direct, indirect, and induced effects.

Economic Impact of Alaskans Attending Puget Sound Postsecondary Institutions, 2013

	Impact
Jobs	250
Labor earnings	\$11 million

Outlook

As previously mentioned, Puget Sound's relatively close proximity to Alaska, a greater number of postsecondary institutions available to choose from, and offerings of scholarships, special tuition rates, and reserved spots for Alaskan students draws Alaskans to Puget Sound schools. While Alaska has a strong postsecondary education system in place, it cannot offer the diversity of programs and facilities offered in Puget Sound. For Alaska students who are seeking an education out-of-state, want more institutions to choose from, but want to remain close to home, the Puget Sound postsecondary institutions are, and most likely will remain, an attractive possibility. In particular, without medical and law schools in Alaska, students who want to pursue a graduate degree in those fields will continue to attend Puget Sound institutions.

This chapter discusses the cultural and economic connection between Alaska and Puget Sound in terms of Native American/American Indian/Alaska Native ties. Though there is little economic data, this shared heritage represents an essential link between the two regions.

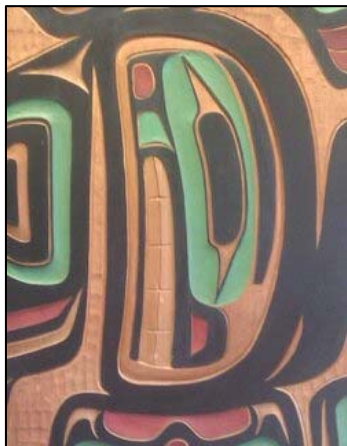
Cultural Heritage

The Pacific Northwest is home to a multitude of Alaska Native and Native American/American Indian groups. Specific to the relationship of Puget Sound and Alaska are the cultural ties between Southeast Alaska's Tlingit, Haida, and Tsimshian peoples, and Puget Sound's Coast Salish peoples, including, among others, the Suquamish, Tulalip, and Puyallup. While these groups are traditionally quite distinct, their surrounding natural temperate rainforest environment along the Pacific Coast influences them in such a way to lead



Source: Burke Museum of Natural History and Culture, Ethnology Archives.

to some cultural similarities: reliance on the ocean and its food resources, such as salmon, marine mammals, and shellfish; equivalent modes of water transportation like dugout canoes; and related cultural traditions and customs, such as matrilineal heritage and the potlatch ceremony.



Source: McDowell Group.

Their shared natural setting also renders similar art traditions. Tribes work with the natural materials in the environments around them, such as cedar for carving and weaving, and animal fur for weaving clothing and blankets. Additionally, the artwork across all the cultures commonly depicts local animals such as ravens, eagles, salmon, bears, and killer whales. Black and red colors are also common as they are derived from natural resources in the area like plants and berries. Along with the traditional art style passed down from generation to generation, today's Pacific Northwest Native artists also portray a similar contemporary art style.

While the traditional cultures of the Southeast Alaska and Puget Sound peoples bind the Pacific Northwest together, natural migration of the peoples themselves also occurs between Alaska and the Puget Sound area. For example, the Central Council of the Tlingit and Haida Indian Tribes of Alaska (CCTHITA), a tribal government representing Tlingit and Haida Indians around the world, estimates there are approximately 4,000 tribal members living in the Seattle area.

Alaska Native Claims Settlement Act Regional Corporations

In December 1971, the Alaska Native Claims Settlement Act (ANCSA) was signed, establishing a land claims settlement between the indigenous peoples of Alaska and the U.S. government. Along with settling the lands claims, the act was also used to stimulate economic opportunity by establishing 12 regional corporations and over 200 village corporations. Each corporation, depending on its location, was transferred some of the 44 million acres in land titles and part of the \$963 million settlement. Altogether, the corporations currently represent approximately 140,000 shareholders.

Over the past four decades, most of the regional corporations have grown and diversified. A few corporations have been listed on *Fortune Magazine's* annual Fortune 500 list. Along with their subsidiaries, many corporations have a presence not only in Alaska and the U.S., but all over the world.

Five ANCSA corporations operate 14 subsidiaries in the Puget Sound area. ANCSA corporations employ over 850 people in the State of Washington.

Five of the 12 ANCSA corporations operate subsidiary companies in the Puget Sound area, representing a wide range of sectors: engineering, construction, security, timber, and consulting, among others. The table below lists the 14 subsidiary companies along with their location and sector. The ANCSA Regional Association estimates that ANCSA corporations and their subsidiaries in the state of Washington employ over 850 people and generate \$51 million in direct payroll.⁴⁴ (These figures are not available for Puget Sound only.)

ANCSA Regional Corporations and Subsidiaries in Puget Sound, 2014

	Puget Sound Location	Type of Business
Ahtna, Incorporated		
Ahtna Engineering Services	Seatac	Engineering
Bristol Bay Native Corporation		
SpecPro Group	Seattle	Environmental Testing
PetroCard	Kent, Burlington	Fuel Distributor
Calista Corporation		
Tunista Construction LLC	Federal Way	Construction
Doyon, Limited		
Doyon Government Group	Federal Way	Government Contracting
Arctic Information Technology, Inc.	Seattle	Technology
Cherokee General Corporation	Federal Way	General Contractor
Doyon Security Services	Federal Way	Security
Doyon Project Services	Federal Way	Construction
Doyon Management Services	Federal Way	Project Management
Doyon Logistics Services	Federal Way	Project Support
Sealaska Corporation		
Sealaska Environmental Services	Bellevue	Environmental Consulting
Sealaska Timber Corporation Marketing/Sales	Bellevue	Timber
Synergy Systems	Redmond	Technology

Source: ANCSA Regional Corporation websites.

⁴⁴ Email communication with ANCSA Regional Association Executive Director.

Additional Economic Ties

The previous chapters describe the economic sectors where Alaska has a clear and measurable impact on Puget Sound's economy. This chapter discusses several areas where, although impacts are less obvious, they are important to complete the illustration of linkages between the two regions.

Federal Government

Federal government agencies in Puget Sound often provide services to Alaska businesses and residents. Even with the number of federal jobs in Alaska on the decline for the past several years (as they are nationwide) and the federal government's per capita spending in Alaska decreasing (though still among the highest in all 50 states), the federal government and Alaska have a strong relationship, particularly in the areas of fisheries management and environmental protection.

The Alaska Fisheries Science Center (AFSC), a division of the National Marine Fisheries Service within the National Oceanic and Atmospheric Administration, is located in Seattle's Sand Point neighborhood. The AFSC has a total budget of \$60 million and employs 72 percent of its employees, approximately 240 FTE positions, in the Puget Sound region.

The United States Environmental Protection Agency (EPA) Pacific Northwest (Region 10) office is located in Seattle. Region 10 has a staff of over 500 employees and a budget of more than \$300 million. The office is responsible for implementation and enforcement of EPA regulations in Washington, Oregon, Idaho, and Alaska. With a vast coastline and several key industries that operate under extensive EPA regulations, Alaska requires a significant amount of Region 10 resources.

Military

Alaska and Puget Sound are also connected by federal defense operations and spending. In Alaska, there is one U.S. Air Force base (Eielson), two U.S. Army bases (Fort Greely and Fort Wainwright), one joint Air Force/Army base (Elmendorf-Richardson), and the 17th District of the U.S. Coast Guard (USCG). The latter has a personnel presence in 11 separate Alaska communities. As of 2013, there were nearly 23,000 active duty military personnel in Alaska. Additionally, in FY2010, the most recent data available, the U.S. Department of Defense's spending in Alaska was \$5.2 billion.

Puget Sound is home to one joint Air Force/Army base (Lewis-McChord), Naval Base Kitsap, Naval Station Everett, and the USCG's Sector Puget Sound. In 2013, there were just over 69,000 active duty personnel in the state of Washington, and in FY2010, the Department of Defense spent \$15.0 billion in Washington.

Of note, while personnel, equipment, and resources are often shared/loaned across military agencies in each state, including participating in training and joint exercises, the command structures are not as closely linked. For the USCG, the entire state of Alaska is considered the jurisdiction of the 17th District; while Washington, Oregon, Idaho, and Montana combined make up the 13th District. For the Navy, Army, Air Force, and Marines,

the state of Alaska falls under Alaskan Command (ALCOM), a subunified command of U.S. Northern Command (NORCOM). Washington is under NORCOM with no subunified command.

Business and Professional Services

Several large professional service firms maintain offices in both Alaska and Puget Sound. These offices often work collectively for clients and on projects located all over Alaska and the Pacific Northwest. In addition, Alaska benefits from the capabilities of business and professional service firms located in Puget Sound. A sample of major professional service firms with offices in Puget Sound and Alaska, as well as Puget Sound companies that do business with Alaska companies, are listed below.

Selected Professional Service Firms with Operations in Puget Sound and Alaska

Engineering			
PND Engineers	CH2MHill	URS Corp.	HDR, Inc.
Legal			
Perkins Coie, LLP	Stoel Rives, LLP	Dorsey & Whitney	K&L Gates, LLP
Accounting			
Ernst & Young	KPMG	Deloitte	PwC, LLP
Public Relations and Consulting			
Edelman PR	Waggener Edstrom	Mercer Consulting	Pyramid Communications

Puget Sound's Impact on Alaska

While the focus of this report is on the impacts of Alaska on Puget Sound, it is important to acknowledge the impacts flowing the other direction: from Puget Sound to Alaska. This concluding chapter briefly explores how Alaska benefits from Puget Sound area businesses, resources, people, and overall economic activity.

In general it is difficult to fully convey the importance of Puget Sound in the Alaska economy, and just about impossible to measure. Alaskans directly or indirectly rely on Puget Sound in so many different ways.

Freight and Cargo Connections

Puget Sound's freight and cargo capabilities affect literally every Alaska resident. Alaskans rely on the goods transported through Puget Sound for everything from groceries to household supplies to medicine. Alaska businesses likewise are dependent on Puget Sound-originated freight for inventory, supplies, and materials necessary to operate a business. Growth in the Puget Sound economy over the past decades has played an important role in bringing down the cost of living in Alaska. As the Puget Sound economy has become more developed, diversified, and price-competitive, Alaskans – who rely on Puget Sound as a retail and supply hub – have benefited.

Seafood

Puget Sound and Alaska have a symbiotic relationship in the seafood industry; each drawing on the other's strengths and assets to maximize the seafood resource value for all participants. Similar to other extraction industries in Alaska, the seafood industry receives and requires significant involvement from "non-Alaskan" workers and companies. This is not surprising given more than 90 percent of Alaska's harvest volume originates in regions containing less than 10 percent of the state's already sparse population. Most of this volume comes from the Bering Sea, western Alaska, and Kodiak. Harvesting, processing, and shipping five billion pounds of seafood requires more people and capital than these regions can provide on their own.

Passenger Transportation and Tourism

Alaska's visitor industry is a \$3.9 billion sector of the state's economy, accounting for nearly 40,000 jobs in 2012-13 (including direct and indirect impacts).⁴⁵ As the gateway for visitors to Alaska whether traveling by cruise, air, or ferry, the Puget Sound region plays an essential role in supporting this industry. In addition, Washington is the second most common state of origin among Alaska's summer visitors (after California), representing 9 percent of all visitors in summer 2011 (roughly 140,000 visitors).⁴⁶ Washington is the most common state of origin in the fall/winter period, representing 25 percent of 2011-12 visitors (about 65,000 visitors), for total annual visitation by Washington residents of over 200,000.⁴⁷

⁴⁵ *Economic Impact of Alaska's Visitor Industry, 2012-13*, prepared by McDowell Group for Alaska Department of Commerce, Community, and Economic Development.

⁴⁶ *Alaska Visitor Statistics Program VI, 2011-12*, prepared by McDowell Group for Alaska Department of Commerce, Community, and Economic Development.

⁴⁷ Ibid.

Petroleum

Oil is the number one industrial driver of Alaska's economy, directly or indirectly accounting for one-third of Alaska's jobs (including those created by oil-related taxes and royalties paid to state government).⁴⁸ This industry relies on Puget Sound refineries as a market for Alaska crude; the majority of crude produced on Alaska's North Slope and moved on the Trans-Alaska Pipeline is loaded on tankers bound for Puget Sound. Further, oil field-related exploration, development, and maintenance work in Cook Inlet and on the North Slope is supported in one way or another through Puget Sound.

Maritime Services

Puget Sound's MIS sector is an essential component in Alaska maritime-dependent economy. Without the services provided in Puget Sound, and without the vessels constructed in Puget Sound, Alaska's economy simply could not function. For example, Puget Sound's MIS sector provides and maintains much of the foundation upon which Alaska's commercial fishing industry is based – an industry that provides jobs for 32,000 fishermen and 27,000 seafood processing workers in Alaska.

⁴⁸ *The Role of the Oil and Gas Industry in Alaska's Economy*, prepared by McDowell Group for the Alaska Oil and Gas Association, May 2014.

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