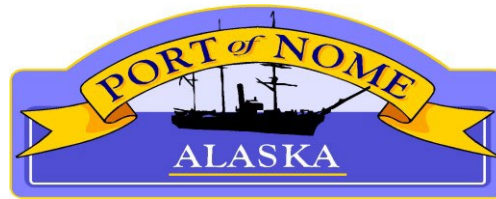


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**NOME PORT COMMISSION
WORK SESSION AGENDA
WEDNESDAY, MAY 15th, 2024 5:30PM
CITY HALL COUNCIL CHAMBERS**

WORK SESSION – 5:30PM

- 24-05-13 PON Tariff Rate Study & Analysis DRAFT Report (Mike Fisher – Northern Economics)

Port of Nome Tariff Rate Study & Analysis

Draft

Prepared for

City of Nome

May 2024

Prepared by



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Abbreviations

ADCCED	Alaska Department of Commerce, Community and Economic Development
ADOTPF	Alaska Department of Transportation and Public Facilities
CFEC	Commercial Fisheries Entry Commission
NSR	Northern Sea Route
NWP	Northwest Passage
USACE	United States Corps of Engineers

Introduction

This report reviews operational and financial activities at the Port of Nome, discusses exogenous trends that could affect port activity, and presents forecasts of commodity movements and vessel traffic through 2035. It concludes with recommendations based on the projections. It is intended to serve as an update of a prior development analysis (Cordova 2017) and incorporates and builds upon forecasts developed for the economic analysis of the port expansion (USACE 2020).

The report is organized into four major sections, in addition to a comprehensive references section:

Summary of Operational and Financial Activities presents a summary of the port, focusing on vessel traffic, commodity movements, and financial information.

Economic Trends examines exogenous trends affecting activity at the Port of Nome, reflecting outside factors that have affected activity at the port.

Demand and Growth Forecasts provides forecasts of activity at the port, including both commodity movements and vessel traffic.

Financial Analysis and Recommendations presents a financial forecast for the Port of Nome based on projected commodity movements and vessel traffic.

Summary of Operational and Financial Activities

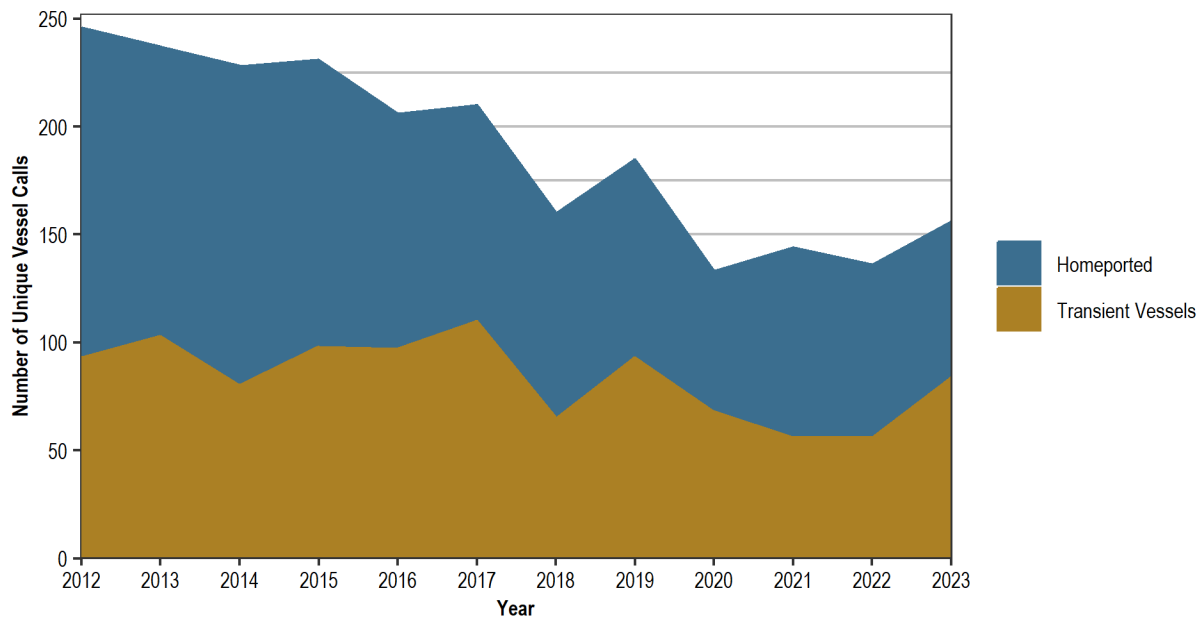
This section presents a summary of the port, focusing on vessel traffic and commodity movements for 2012–2023 and financial information for 2015–2023.

Vessel Traffic

Vessel activity in Nome is dependent on the level of activity of different user types. The number of transient vessels using the port has varied over the years but has generally been flat, while the number of homeported vessels declined from 2012 to 2020 and has since been gradually increasing. The next several pages summarize vessel traffic seen in Nome.

Figure 1 shows the overall counts of these two categories over time, with additional detail about the types of transient users captured in Table 1. Figure 2 presents a snapshot of transient vessel calls by type for 2023 to demonstrate the relative proportion in that year. Note that the figures and table show the number of unique vessel calls by transient users (and the number of homeported vessels) rather than the amount of time the transient vessels stayed in Nome. Figure 3 and Figure 4 provide a graphic depiction of how transient calls and dock days—how long vessels were in Nome—have varied over time by type. In contrast to the number of vessel calls, the dock days reflect the level of activity associated with calls. Figure 5 and Figure 6 present the calls and dock days in stacked charts to show the composition of the total. The dock days by type are also shown in Table 2.

Figure 1. Unique Vessel Calls at the Port of Nome, by Homeport Status, 2012–2023



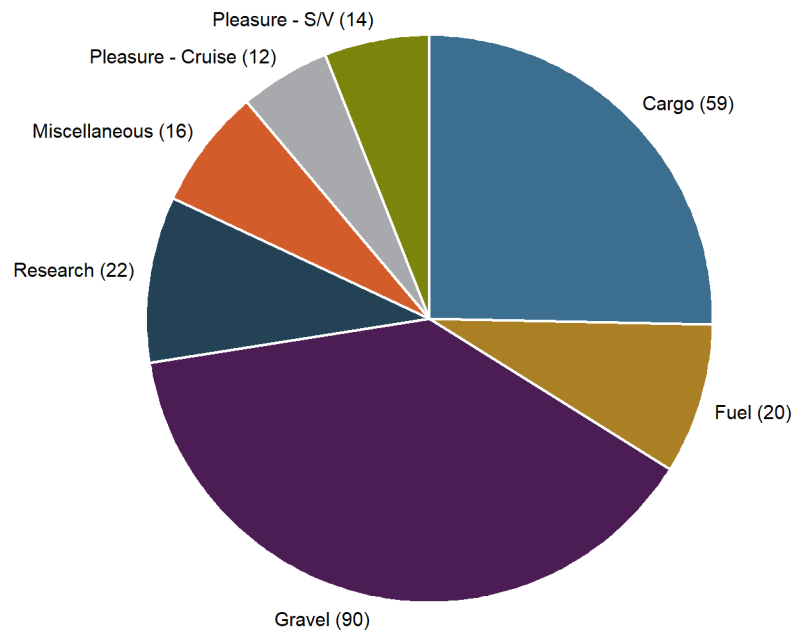
Source: Port of Nome (2023b, 2024b)

Table 1. Unique Vessel Calls at the Port of Nome, Transient and Homeported, 2012–2023

Vessel Type	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Transient												
Bulk Cargo	14	19	12	14	15	16	16	24	11	11	11	14
Bulk Fuel	14	17	20	19	17	17	17	15	20	15	15	11
Gravel/Equipment	6	13	9	14	13	13	9	11	25	14	14	14
Research	12	9	7	9	5	9	11	7	4	5	5	10
Miscellaneous	16	9	7	9	19	9	0	9	3	9	9	12
Pleasure - Cruise	2	3	3	5	5	4	2	10	0	0	0	8
Pleasure - S/V	20	21	13	15	14	26	4	13	2	1	1	10
Government	9	12	7	13	7	14	6	4	3	1	1	5
Homeported												
Homeported	153	134	148	133	109	100	95	92	65	88	80	72
Total Vessels												
Total	246	237	226	231	204	208	160	185	133	144	136	156

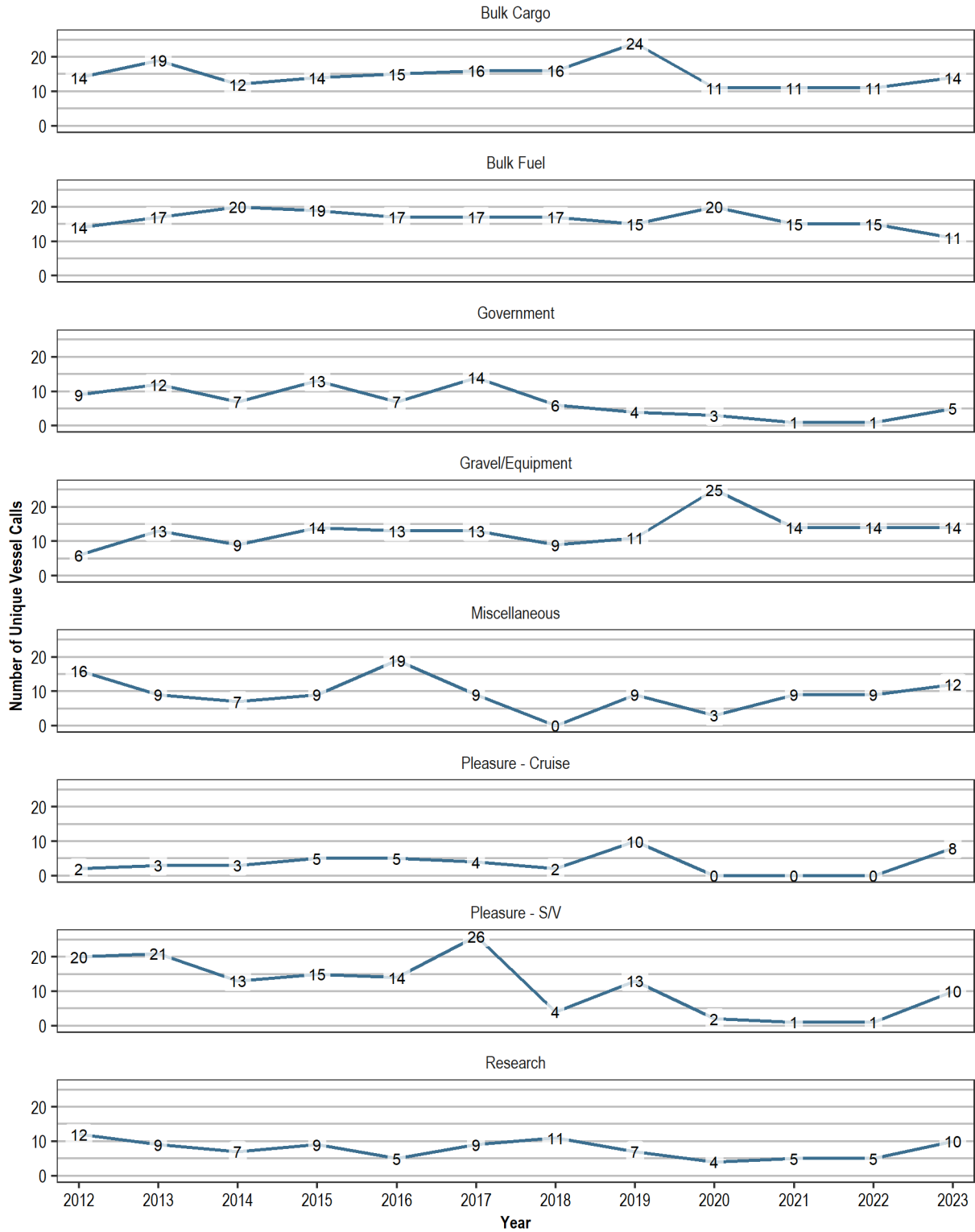
Source: Port of Nome (2023b, 2024b)

Figure 2. Vessel Calls by Type, 2023



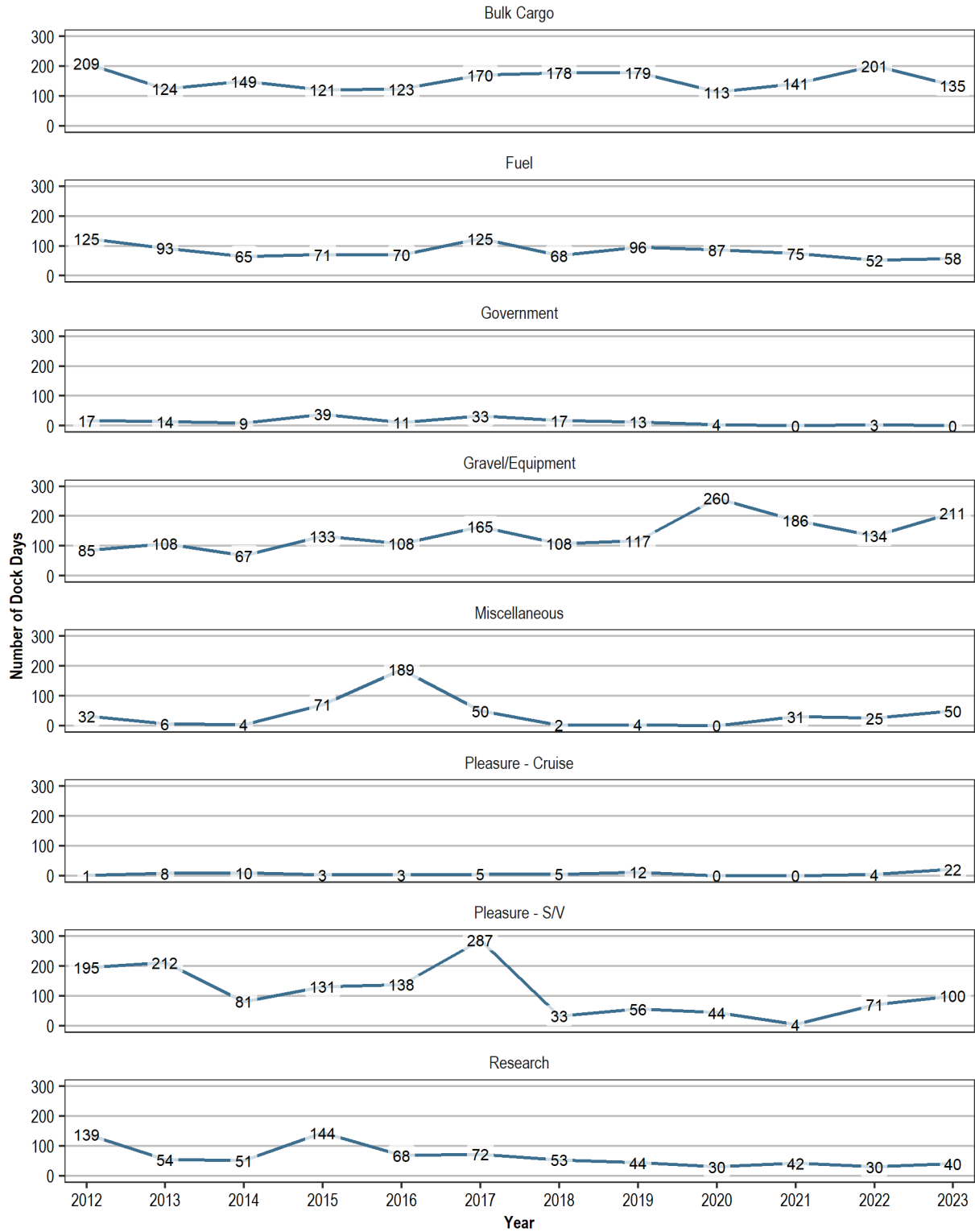
Source: Port of Nome (2024b)

Figure 3. Unique Transient Vessel Calls at the Port of Nome, by Type, 2012–2023



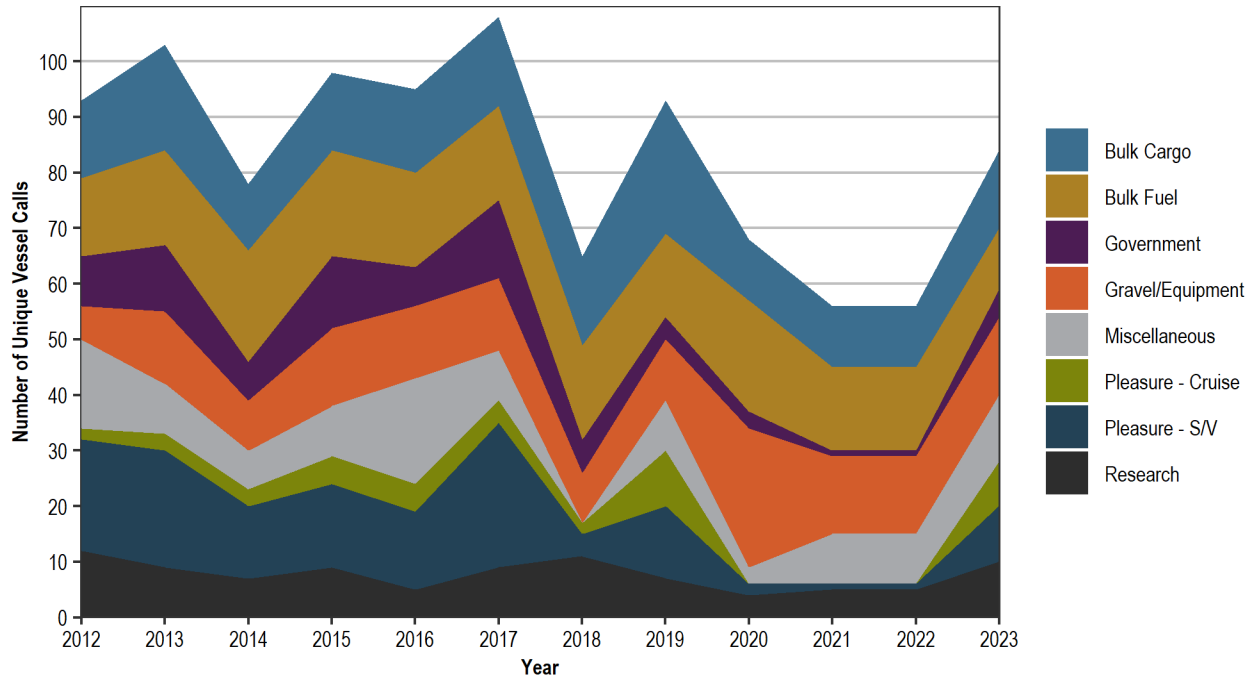
Source: Port of Nome (2023b, 2024b)

Figure 4. Total Transient Vessel Dock Days at the Port of Nome, 2012–2023



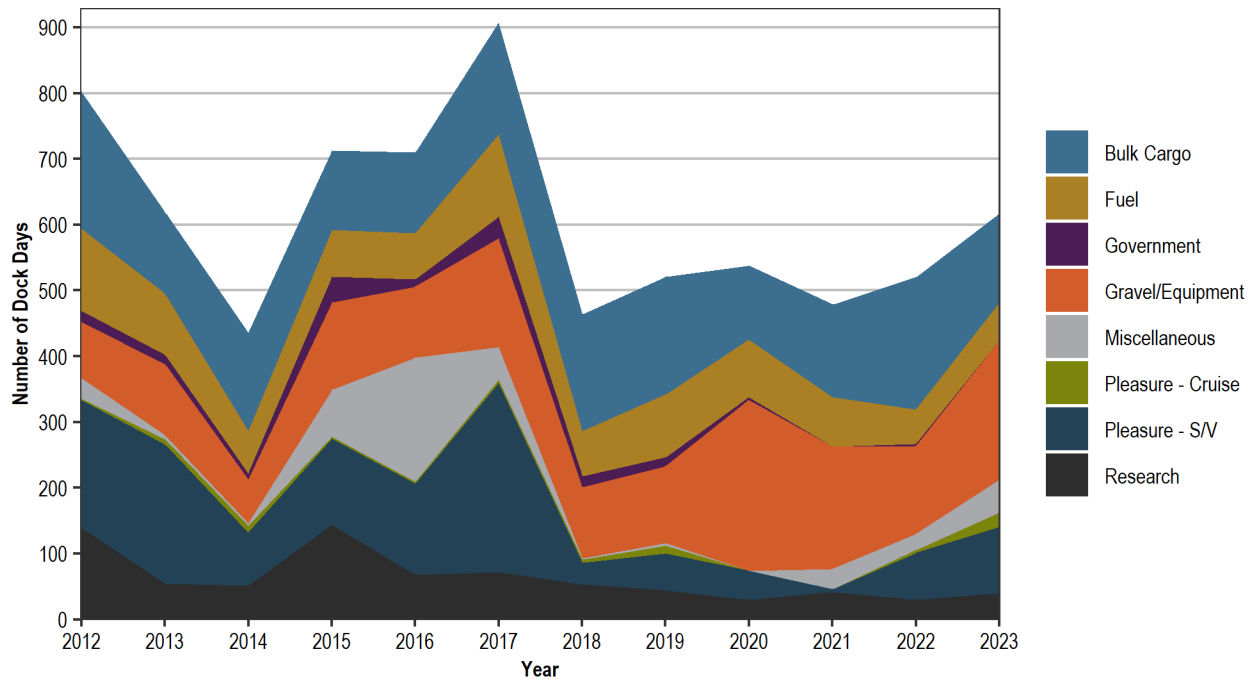
Source: Port of Nome (2023b, 2024b)

Figure 5. Unique Transient Vessel Calls at the Port of Nome, by Type, 2012–2023



Source: Port of Nome (2023b, 2024b)

Figure 6. Total Transient Vessel Dock Days at the Port of Nome, 2012–2023



Source: Port of Nome (2023b, 2024b)

Table 2. Total Transient Vessel Days at the Port of Nome, 2012–2023

Vessel Type	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Bulk Cargo	209	124	149	121	123	170	178	179	113	141	201	135
Bulk Fuel	125	93	65	71	70	125	68	96	87	75	52	58
Gravel/Equipment	85	108	67	133	108	165	108	117	260	186	134	211
Research	139	54	51	144	68	72	53	44	30	42	30	40
Miscellaneous	32	6	4	71	189	50	2	3	0	31	25	50
Pleasure - Cruise	1	8	10	3	3	5	5	12	0	0	4	22
Pleasure - S/V	195	212	81	131	138	287	33	56	44	4	71	100
Government	17	14	9	39	11	33	17	13	4	0	3	0
Total	803	619	436	713	710	907	464	520	538	479	520	616

Source: Port of Nome (2023b, 2024b)

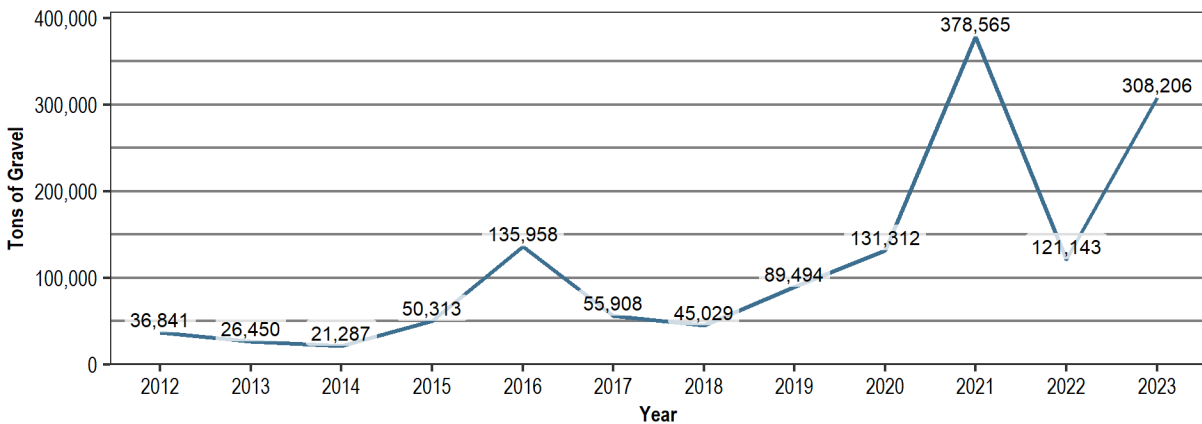
Commodity Movements

The following sections summarize historical commodity movements for 2012–2023. The three commodity groups tracked by the port are aggregates (gravel, rock, and sand), general cargo, and fuel. These movements are reflected in the transient vessel calls and dock days shown for Bulk Cargo, Bulk Fuel, and Gravel/Equipment vessels in the prior section.

Historical Gravel, Rock, and Sand Volumes

Gravel shipments through the Port of Nome have fluctuated over the years depending on regional projects, as shown in Figure 7. Since 2019, shipments have been on an upward trend, with peak shipments exceeding 300,000 tons in 2021 and 2023. The peak in 2021 reflected a record amount of material exported to projects across Western Alaska (Stotts 2022). Another big year had been expected in 2022, though high exports ended up being delayed until 2023.

Figure 7. Gravel Handled at the Port of Nome, 2012–2023

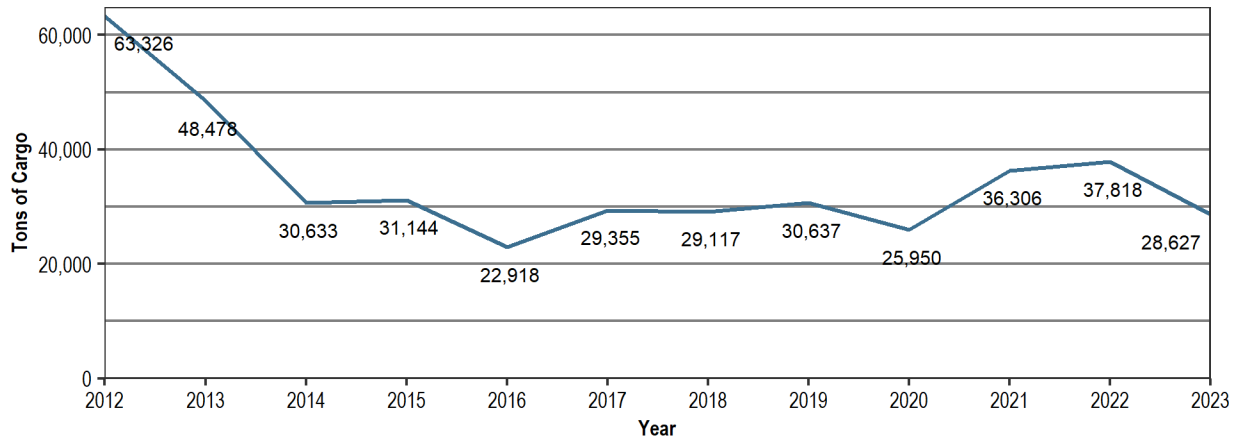


Source: Port of Nome (2023b, 2024c)

Historical Cargo Volumes

Figure 8 shows the volume of cargo handled at the Port of Nome for 2012–2023. Cargo movements have ranged from 20,000 to 30,000 tons annually since 2014, representing a base level of activity corresponding to regional needs plus varying levels of cargo handling for projects. Inbound equipment for Quintillion Fiber drove increases starting in 2017 and a peak of 37,818 tons in 2022.

Figure 8. Cargo Handled at the Port of Nome, 2012–2023

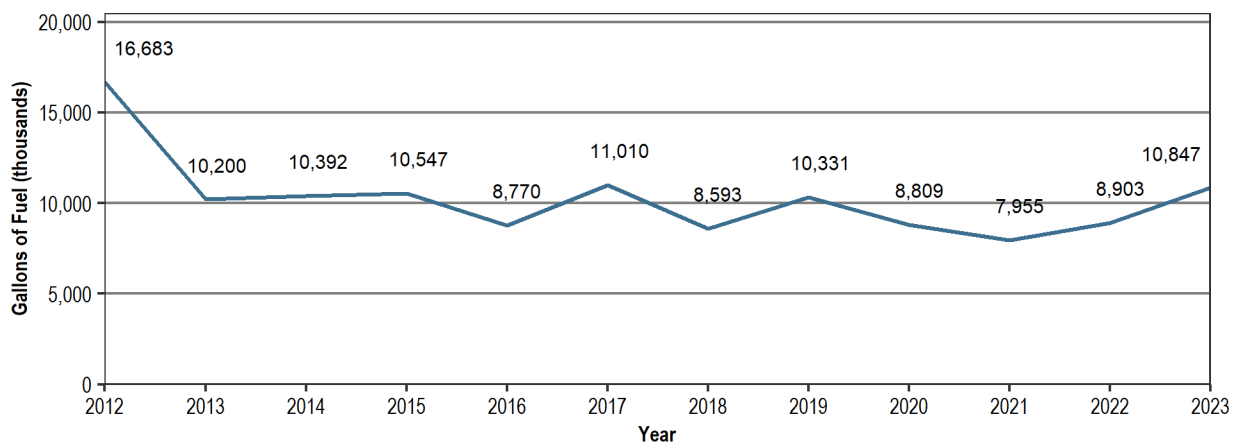


Source: Port of Nome (2023b, 2024c)

Historical Fuel Volumes

Fuel handled at the port is shown in Figure 9. These volumes reflect local and regional demand, with variation due to transient vessel calls and specific development projects. Calls by gravel barges and vessels related to Quintillion Fiber contributed to the increased fuel volumes seen in 2017 and 2022, for example.

Figure 9. Fuel Handled at the Port of Nome, Thousands of Gallons, 2012–2023



Source: Port of Nome (2023b, 2024b, 2024c)

Financial Summary, Port of Nome Operating Fund

The Port of Nome has two major funds: Port of Nome Fund and Port of Nome Capital Projects Fund. This analysis covers the former, which is the operating fund. Capital projects are discussed in a later section.

Figure 10 summarizes the port’s operating fund revenues, expenses, and net operating income for 2015–2023. Revenue has tended to be more stable over the period, showing a gradual increase, while expenses have varied considerably. As a result, the net operating income has also varied and was negative—representing a loss—in five of the last nine years.

The following sections provide more information about the port’s operating revenues and expenses over this period.

Figure 10 . Port of Nome Operating Fund Revenues, Expenses, and Net Operating Income, 2015–2023



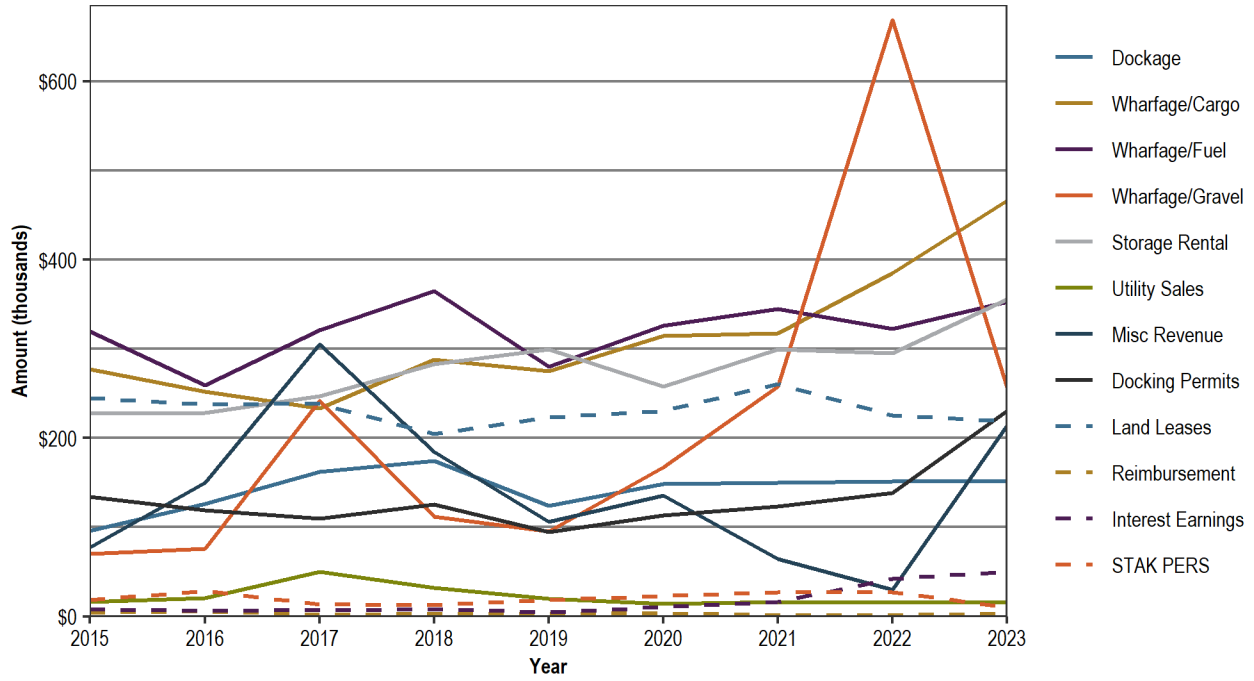
Source: Port of Nome (2023a)

Revenues

The port’s operating revenues consist of 12 accounts. The three categories of wharfage (cargo, fuel, and gravel) and storage rental accounts are the fund’s largest revenue sources and represented 61.5% of the 2023 revenues and an average of 61.4% of the revenues for 2015–2023. Figure 11 and Table 3 present the operating revenues by account over this period. Revenues are further divided into three facilities: the causeway, harbor, and industrial park. Figure 12 summarizes the share of revenue generated by these three facilities. The harbor has generated a stable share of revenue over

time, with greater variability in the causeway and industrial park revenues. Generally, half of the revenues come from the causeway and the other half from the harbor and industrial park combined.

Figure 11. Port of Nome’s Operating Revenues, by Account, 2015–2023



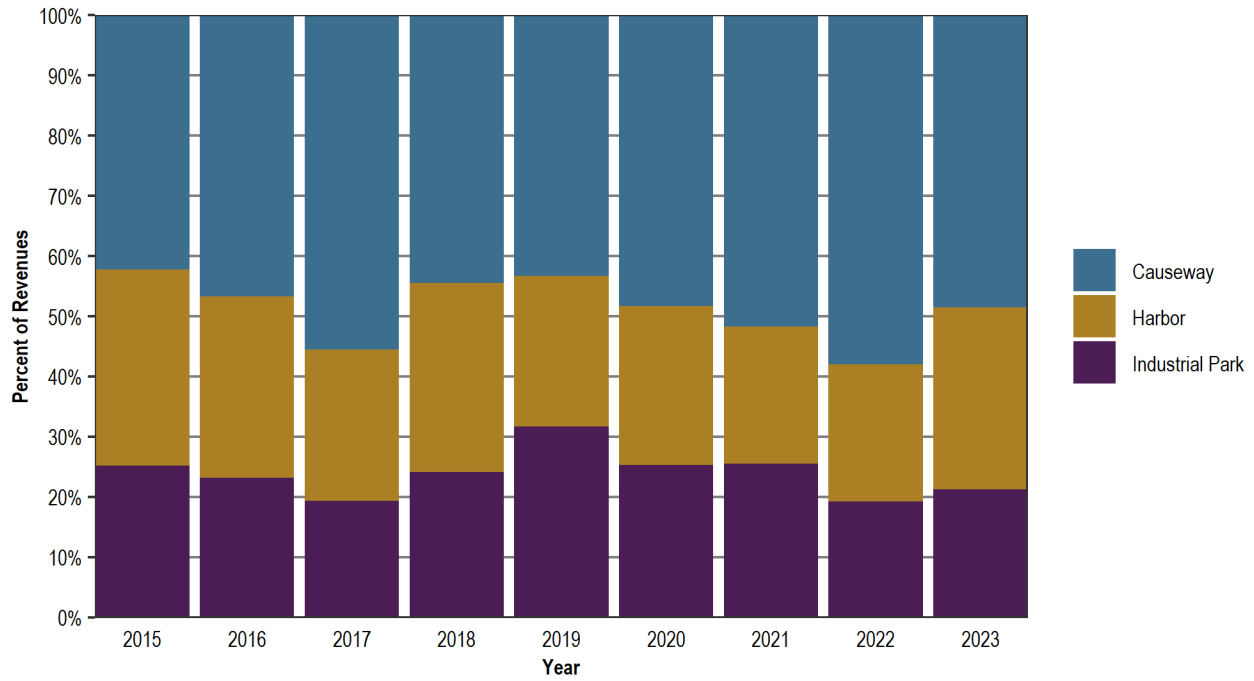
Source: Port of Nome (2023a)

Table 3. Port of Nome’s Operating Revenues, by Account, 2015–2023

Category	2015	2016	2017	2018	2019	2020	2021	2022	2023
Dockage	95,942	126,503	162,469	174,162	124,047	148,515	149,683	151,169	151,642
Wharfage/Cargo	277,249	252,243	232,950	288,245	274,786	314,541	317,450	384,960	466,070
Wharfage/Fuel	319,647	259,306	321,187	364,891	280,348	326,270	344,689	322,665	352,958
Wharfage/Gravel	70,067	75,956	241,752	111,772	95,609	166,950	257,606	669,089	256,969
Storage Rental	227,463	227,990	246,984	282,836	299,327	257,537	299,756	295,280	355,198
Utility Sales	16,533	20,288	49,890	31,833	19,495	13,866	16,041	15,637	15,348
Misc Revenue	77,210	149,604	305,095	184,062	105,735	135,872	64,252	29,860	214,067
Docking Permits	133,967	119,163	109,447	125,371	94,537	113,340	123,270	138,147	230,677
Land Leases	244,472	237,725	238,203	204,620	223,568	230,532	260,332	225,597	218,868
Reimbursement	3,827	5,662	2,108	2,801	2,558	3,405	1,266	1,078	3,334
Interest Earnings	7,311	5,872	6,821	7,603	4,461	10,432	16,011	42,283	50,142
STAK PERS	18,527	28,730	13,133	12,356	18,332	22,406	27,336	26,857	10,765
Total	1,492,215	1,509,042	1,930,039	1,790,553	1,542,803	1,743,667	1,877,691	2,302,621	2,326,037

Source: Port of Nome (2023a) and Northern Economics analysis

Figure 12. Percent of Port of Nome’s Operating Revenues, by Facility, 2015–2023

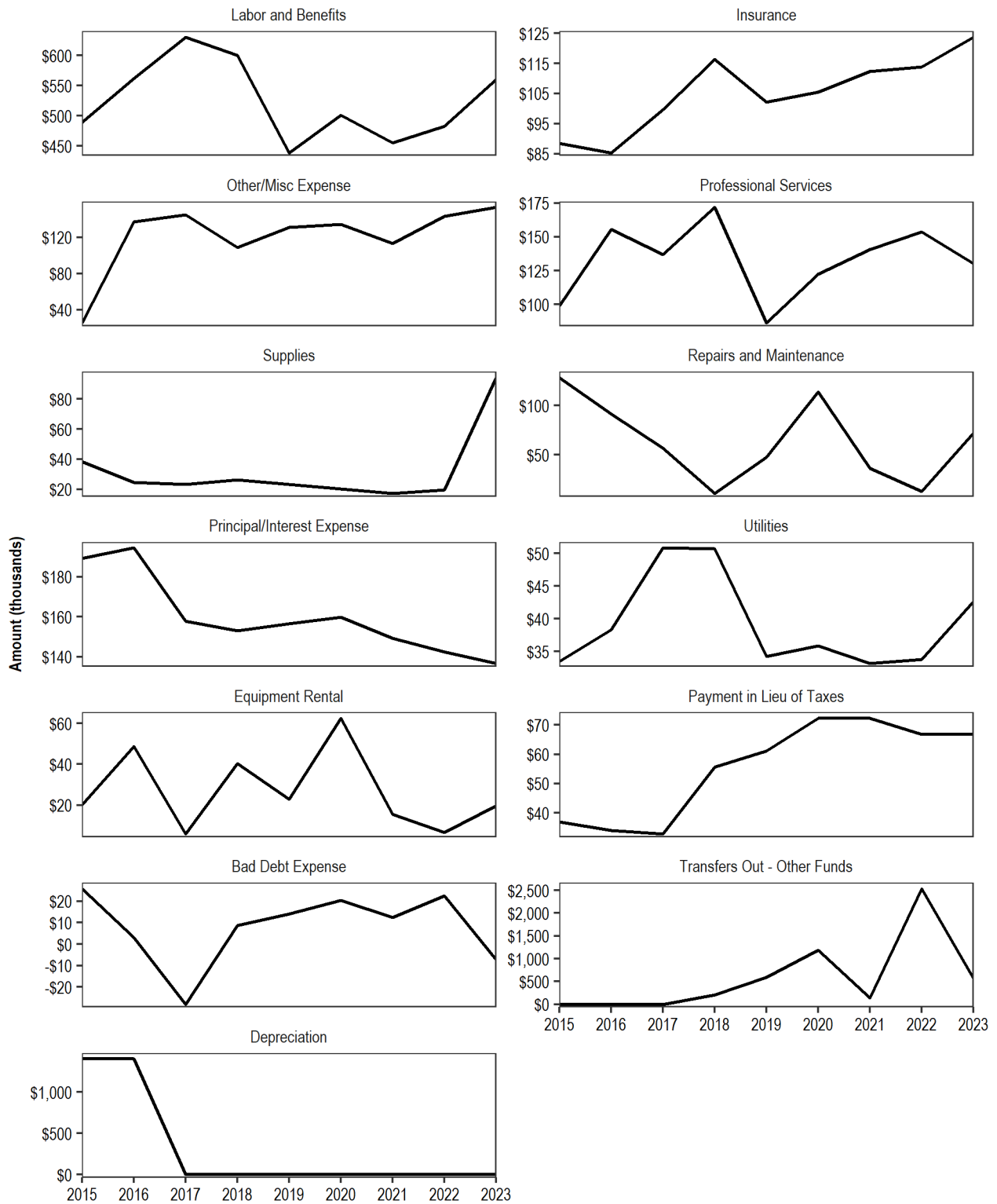


Source: Port of Nome (2023a)

Expenses

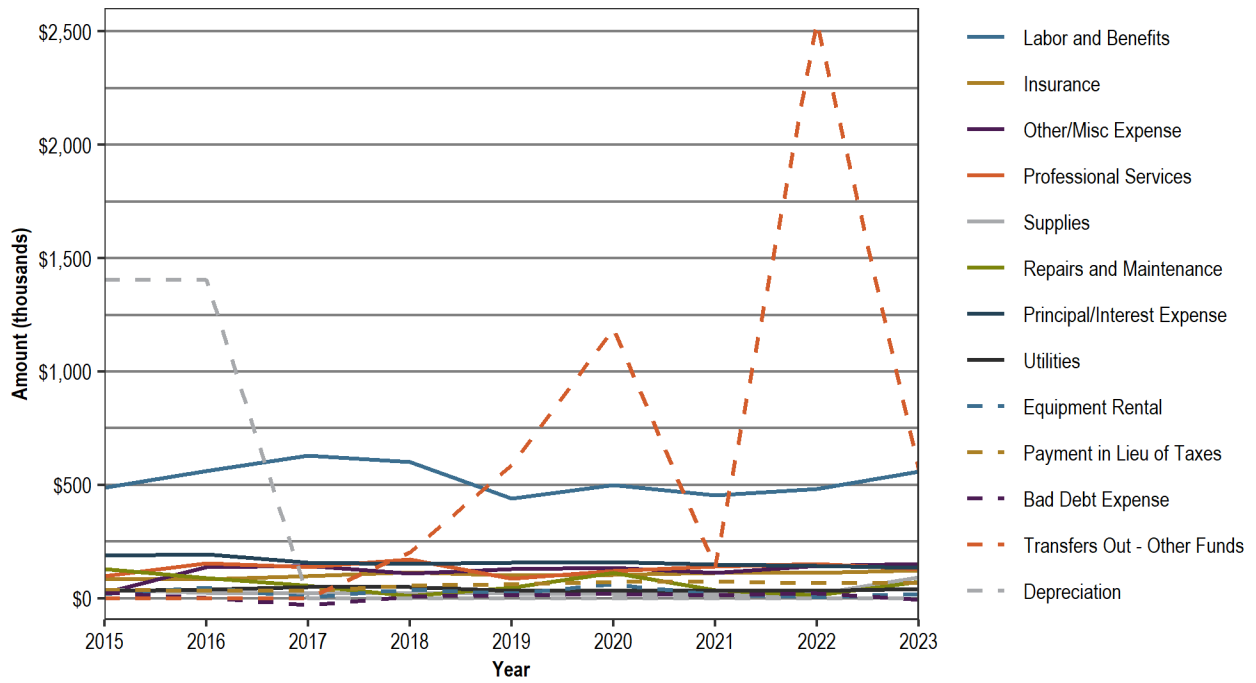
The port’s operating expenses consist of 13 accounts. Each line item varies considerably, so Figure 13 provides a brief overview of the changes seen in each. Viewed together, Figure 14 shows that transfers and depreciation are the largest accounts, though depreciation was only recognized in the operating expenses prior to 2017. Figure 15 excludes these two large accounts to show the other expenses by account over time. Labor is the largest expense, ranging from about \$400,000 to \$600,000 annually, while other expense categories have each remained below \$200,000 in each year.

Figure 13. Port of Nome’s Operating Expenditures, Detail by Account, 2015–2023



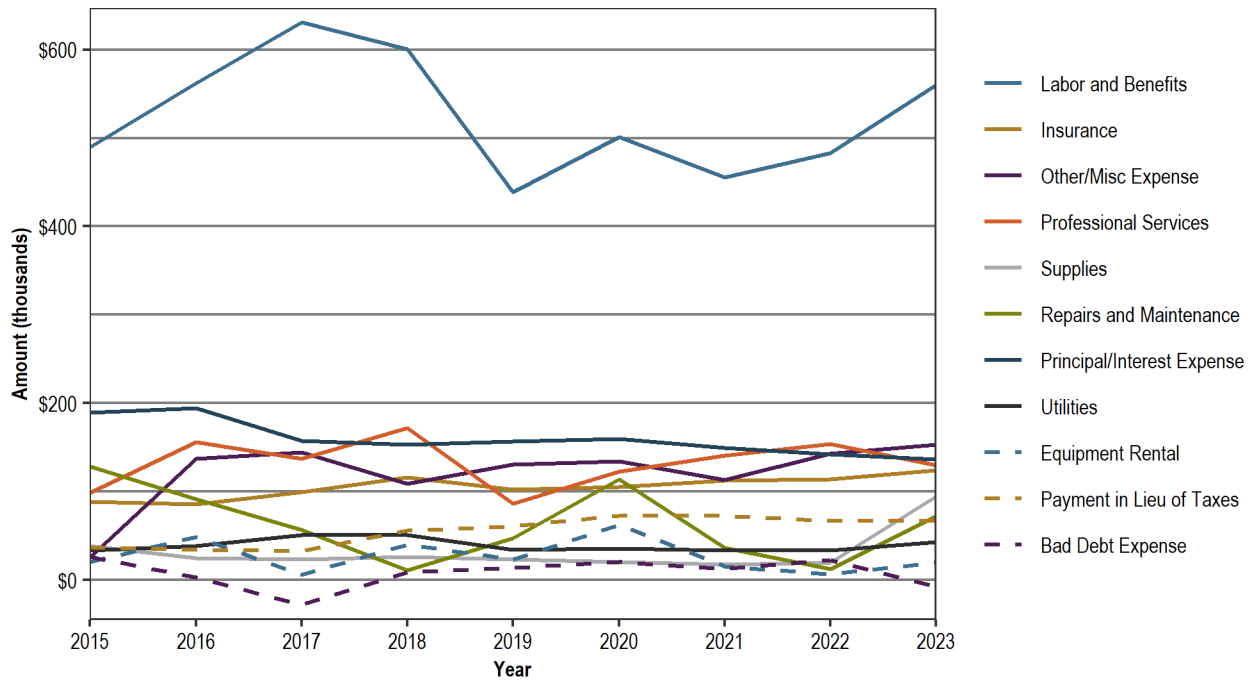
Source: Port of Nome (2023a)

Figure 14. Port of Nome’s Operating Expenditures, 2015–2023



Source: Port of Nome (2023a)

Figure 15. Port of Nome’s Operating Expenditures, Excluding Transfers and Depreciation, 2015–2023



Source: Port of Nome (2023a)

Economic Trends

This section examines exogenous trends affecting activity at the Port of Nome, reflecting outside factors that have affected the trends shown in the prior section, *Summary of Operational and Financial Activities*. Importantly, development activities discussed in this section reflect potential demand for the port's facilities in the future—demand that the port expansion was designed to address based on the USACE (2020) analysis. The next section, *Demand and Growth Forecasts*, presents commodity and vessel traffic forecasts and provides the basis for the final section, *Financial Analysis and Recommendations*, which forecasts the financial impact of this activity.

This section is reproduced from the Port of Nome Strategic Development Plan Update – Phase A Background & Engagement report.

Marine and Related Industry Trends

Commercial Fisheries

Commercial fishing is an important sector in the Norton Sound Region from an economic perspective. Estimated gross earnings for Nome Census Area resident fishermen were \$4,691,580 for all fisheries combined (CFEC 2022). As of 2021, there were 267 seafood processing jobs in the Nome Census Area which resulted in \$4.8 million in wages for Alaska residents (United Fishermen of Alaska 2021). Additionally, there are many indirect jobs created that help support the sector, such as administrative and transportation roles.

The commercial fisheries sector in the Nome Census Area from 2013 to 2022 paints a picture of change and resilience. Salmon and crab are historically two of the most important commercial fisheries in the Norton Sound Region. These commercial fisheries also support others that are used as bait fish, such as herring. The number of fishermen has fluctuated over the years, and it peaked for crab fishermen in 2017 with 72 fishermen. The same is true for salmon fishermen, except that the peak was in 2016 with 140 fishermen. Estimated gross earnings for crab reached a 10-year high in 2022 of \$3,789,716. Crab fishing consistently accounts for the largest share of earnings. Unfortunately, commercial salmon fisheries have struggled in recent years for numerous reasons, resulting in lower than usual earnings from 2019 onward (CFEC 2016, 2017, 2019, 2020, 2021, 2022).

Subsistence Activities

Subsistence fishing for Bering Strait residents of Norton Sound and Port Clarence residents occurs in both marine and fresh waters. For the mainland communities, diet surveys indicate that subsistence-caught fish contribute more than half of the meat, fish, and poultry consumed by area residents. In 2022, Nome accounted for 72% of total subsistence salmon harvest permits and 38% of the total

harvest in the Norton Sound-Port Clarence Area. As Port Activity increases, access to subsistence hunting and fishing may become increasingly difficult without additional infrastructure.

Due to Nome's remote location 500 miles off the main road system in Alaska, subsistence hunting and fishing are essential for many living in the area. This is nothing new—Bering Strait residents of Norton Sound and Port Clarence residents have relied on fish for cultural and nutritional sustenance for thousands of years. There are many small remote communities surrounding Nome on the Seward Peninsula, which can help offer insight into subsistence lifestyles in the area.

Recent subsistence data are not available for catch reports in Nome, though the mix of resources is likely similar to other communities. As Port Activity increases, access to subsistence hunting and fishing may become increasingly difficult without additional infrastructure. This also has the potential to impact surrounding communities that might see more traffic passing by along the Bering Strait and Alaska's west coast.

Mining

Aggregate

Cape Nome Quarry continues to produce quality rock for construction projects in surrounding areas and has supply available for years to come.

Gold, Zinc, Lead, Silver, and Copper

Nome's port could become a pivotal supply chain node for zinc, lead, gold, silver, and copper exploration activities if the Upper Kobuk Minerals Project and Ambler Road Project are developed. At the time of this report, the Ambler Road Project has been halted, though that project or alternative means of access could be developed in the future.

Offshore Dredging

Offshore dredging around Nome is conducted by a wide variety of mainly floating dredges, from small pontoon vessels to large barges. Record gold prices and availability of offshore leases resulted in a significant increase in active gold dredges, from just three in 2004 to a record 128 in 2012. Since then, the number of vessels has declined significantly as operations have consolidated. As capital requirements have grown, commercial mining has shifted to larger vessels and the number of smaller operators has declined. An additional offshore lease sale is anticipated sometime after the 2025 summer mining season.

Graphite

Graphite is a strategic mineral that is an essential mineral for production of renewable and electric vehicle batteries, advanced semiconductor manufacturing, and other modern technologies. The graphite resource near Nome is of national interest as a domestic source of this critical mineral. Graphite is one of only four USG-listed critical minerals that are needed in all sectors screened by the USGS. Currently the U.S. is 100% import-dependent and China is the global leader in graphite

production. As a result of its use in a wide range of modern technology we rely on daily, as well as drones and advanced weapons platforms, developing an independent domestic source of graphite has been identified as a national security priority (Graphite One undated).

Development of that resource promises substantial job creation and local demand for fuel, storage, and other commodities and services. Graphite One is the current project proponent for graphite mining and processing operations. Construction could start in 2027, with the mine beginning operations in 2029 (KNOM 2024). Graphite One plans to begin producing 25,000 tonnes of synthetic anode material out of its Secondary Treatment Plant by mid-2026 (Graphite One 2024). The mine life is anticipated to be over 20 years with 183,000 dry metric tonnes of concentrate produced each year (Schaffner 2024).

Heavy hauling vehicles, laydown storage space for graphite (during non-shipping seasons), and a man camp will likely be needed to support operations and should lead to a significant increase in economic activity and commodity movements through the Port of Nome.

Recreation and Tourism

Based on the ATIA Alaska Visitor Profile for 2022–2023, 7% of visitors surveyed visited Southwest Alaska, with about 1% visiting Nome. The warming climate and diminishing sea ice have led to an increase in marine traffic from various vessels, including cruise ships, which has the potential to boost marine-based tourism in Nome. Cruise ship traffic at the Port of Nome is predominantly expedition cruise size, with 150–300 passengers and associated crew members. However, the *Westerdam*—a 1,964-passenger, 812-crewmember cruise ship (CruiseLines.com 2024)—is expected in 2024. The port expansion will enable larger passenger vessels to dock rather than lighter passengers ashore.

Recreational Activities

All cruise ship passengers are taken on a tour of the Nome area either before boarding their ship or just after disembarking. The tour generally includes an overview of the city of Nome, gold rush history including gold panning, a visit to a sled dog owner and past Iditarod competitor, and a visit to the tundra.

Nome's tourism strengths lie in its rich gold mining history, the unique and diverse tundra landscape, and its charismatic wildlife, including muskox and reindeer. Birding is also a popular activity, with niche species available and accessible via Nome's road system. Nome also features a museum and cultural center, along with many historical sites. There are two hot springs near Nome that are a draw for tourists, Pilgrim Springs and Serpentine Springs, with Pilgrim Springs being the more developed of the two. Winter tourism attractions, notably the Iditarod, add to its allure, along with potential cultural connections to the Bering Land Bridge National Preserve and a tradition of unique local personalities. Nome and the surrounding region are also known for their local artists (alaska.org undated).

Locally made art and goods can be found in some shops year-round, but the biggest selection can be found in the Iditarod Arts and Crafts Fair during the Iditarod Week in March (Alaska.org undated). There are other smaller fairs and festivals throughout the year as well. Business license data are also helpful for providing a snapshot of the local art scene. There are 337 active business licenses in Nome, with art-related businesses accounting for 8% of businesses in Nome (ADCCED 2024a, 2024b).

National Security and Public Safety

Historically, the polar ice cap has restricted marine travel in the north. However, as the climate warms, sea ice along the northern coast of Alaska is shrinking away. This has resulted in increased vessel traffic of all kinds in the Arctic Ocean. Marine traffic increased by 44% through the Northwest Passage (NWP) between 2013 and 2019. This increase in traffic is because when large industrial ships can travel through the Northwest Passage instead of the Panama Canal, they can reduce their transit time by several days (Schwing 2023).

Maritime use of the area is becoming more of an international issue. Increased Arctic shipping via the NWP and the Russian Federation's Northern Sea Route (NSR) has important global commercial and U.S. national defense implications. Russia has claimed that the NSR is within its territorial waters, and so it should have exclusive rights to develop the area and to patrol ships. Other powers, including the U.S. have disagreed with Russia's claim, and neither side agrees who can control the passageway (Gricius 2021). However, Canada is a notable exception, agreeing that Russia can control the NSR, and Russia recognizes Canada's claim to control the NWP. Canada's claim to the NWP has not been accepted by the U.S. or the European Union, with both arguing that the NWP is an international strait, so there is a right of transit.

China and Russia have cooperated in their development of the NSR, which has created concerns for the U.S. about protecting its own interests in the arctic. China has seen that development of the NSR adds value to its own economic interests and believes it will be worth the long-term investment. The increased cooperation between China and Russia working as allies in this project has major geopolitical implications. Additionally, Russia has been developing new ports, including hydrocarbon and military-oriented ports, throughout the region. Russia has also re-opened over 50 Soviet bases in the Arctic. Policy makers, especially in the U.S. have been concerned about Russia's militarization of the Arctic. No other state has near the presence that Russia does in the Arctic (Gricius 2021).

These concerns will become more prevalent as sea ice continues to retreat and vessel activity increases (ADOTPF 2022). Nome is strategically located such that it can serve as a final port call for vessels that intend to continue through the Bering Strait and beyond to the NSP or NWP, or vessels coming south from the Arctic. However, historically any ships that have a draft deeper than 20 feet cannot come into Nome and dock, which the port expansion will change. The Norton Sound Region maritime boundary is 150 miles from Nome, and vessel traffic to and from the arctic will pass through the region.

An increased Coast Guard presence is anticipated as vessel traffic increases. More traffic and maritime activities increase the risk of safety incidents and emergency disasters. Additionally, vessels engaged in dredging for gold off the coast of Nome are subject to Coast Guard vessel safety and environmental protection requirements. It is also likely that the U.S. will increase its military presence where it can along these routes as it tries to secure its interests in the Arctic. Nome's port expansion combined with its location along the NSR and NWP will make it particularly attractive as hub for military activities.

As traffic in the area increases with the eventual opening of the NSR and NWP, there are bound to be more environmental impacts and accidents, such as oil spills, which will create conservation concerns. Increased government presence will likely become necessary to help mitigate these concerns and help enforce regulations designed to protect wildlife and the environment. While a port expansion and increased shipping could help reduce costs for goods being sent to Nome, it could also create food insecurity for those who rely on subsistence hunting and fishing because of environmental impacts from the shipping lanes.

Demand and Growth Forecasts

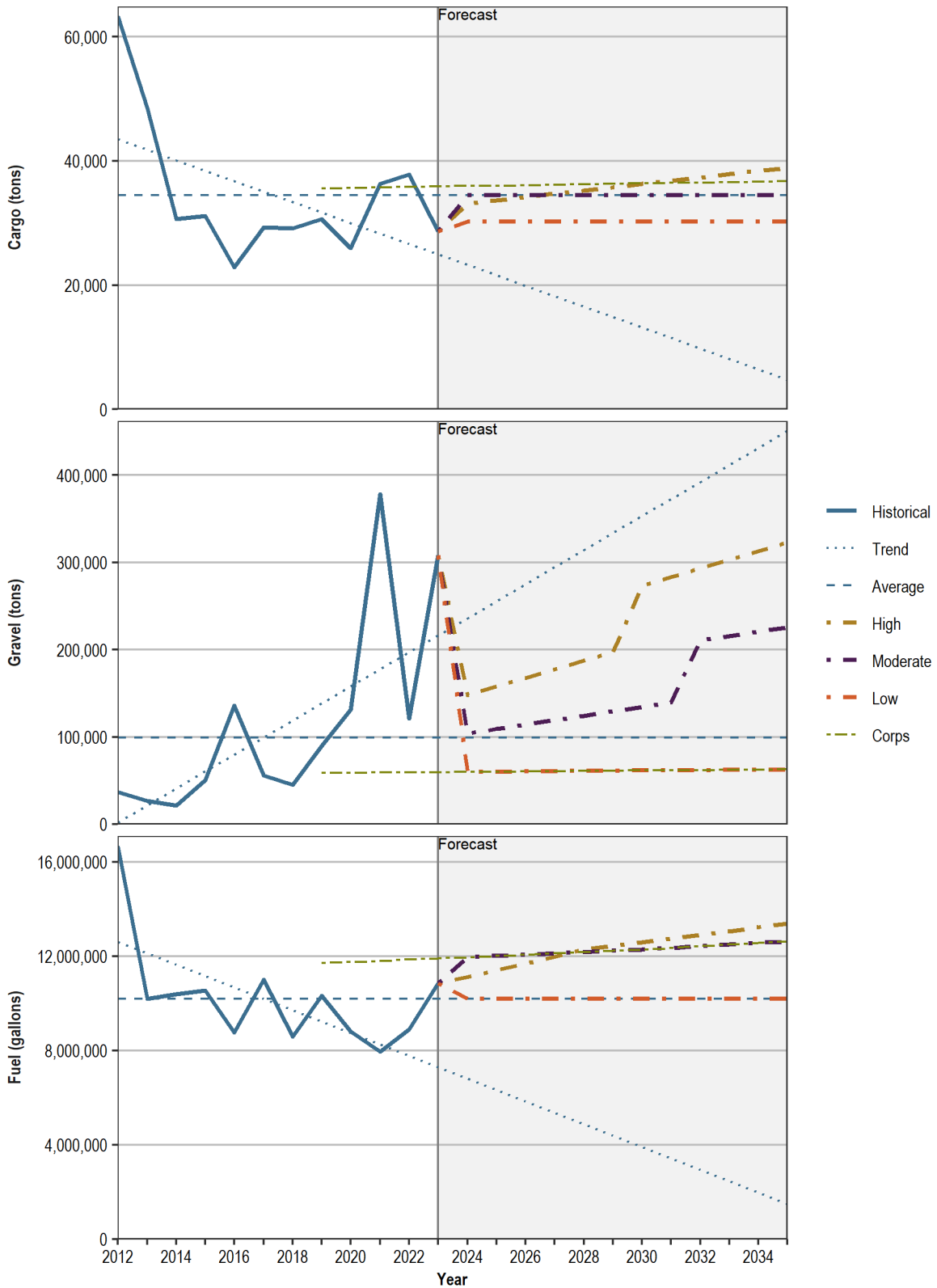
This section presents forecasts of activity at the Port of Nome, including both commodity movements and vessel traffic. The analysis considers the commodity movement and vessel traffic forecasts developed by the U.S. Army Corps of Engineers (USACE 2020)¹ and expands them to include three scenarios for future commodity movements and vessel traffic. The assumptions for each forecast scenario—low, moderate, and high—are described in the individual commodity sections and vessel traffic section.

Commodity Movement

The following subsections present commodity movement forecasts for gravel, cargo, and fuel. Overall, the forecasts largely show some increase in commodity movements but not outside the range seen in 2012–2023. The one commodity that is expected to see the largest increase is gravel, which will benefit from exports from the Graphite One operation, once it commences. Figure 16 provides an overall summary of the forecasts, with greater detail shown in the subsections.

¹ USACE (2020) forecasts are shown in the figures as Corps.

Figure 16 . Historical and Forecasted Volumes of Cargo, Gravel, and Fuel, 2012–2035



Source: Port of Nome (2023b, 2024c), USACE (2020), and Northern Economics analysis

Forecasted Gravel, Rock, and Sand Volumes

USACE (2020) projected a gradual upward trend in gravel receipts and shipments, though the report was published prior to the 2021 spike. Gravel movements are highly sensitive to projects and in the moderate and high cases this analysis expects gravel shipments to continue to grow, with volatility depending on the number and size of projects each year.

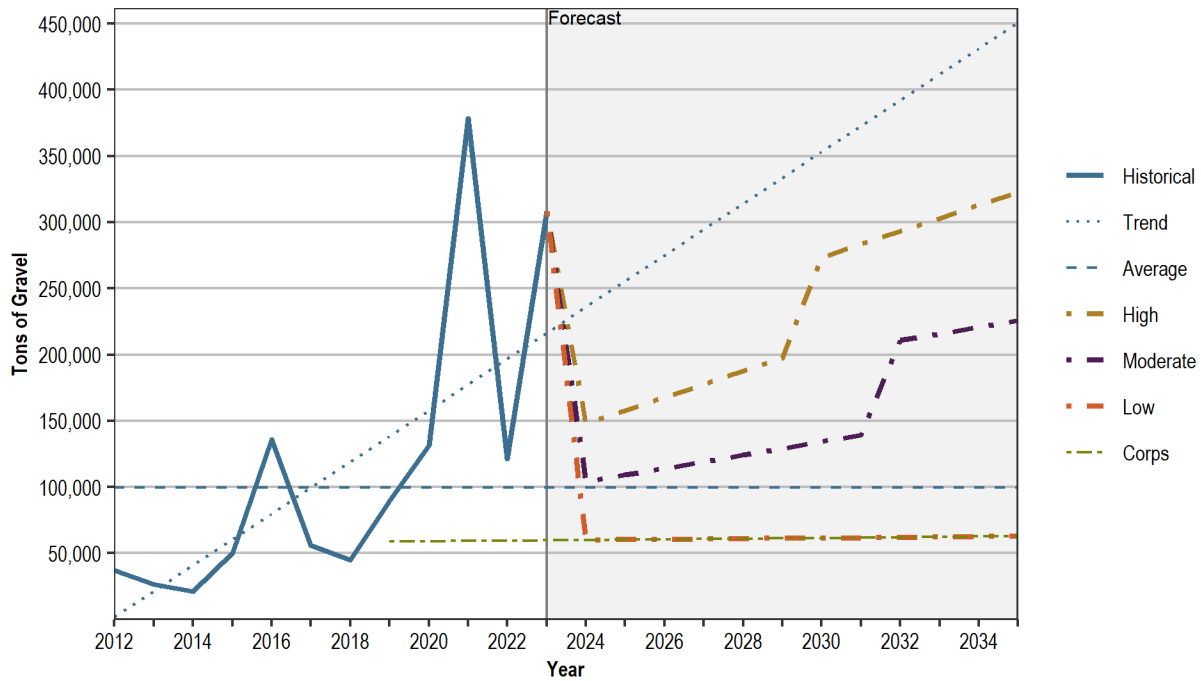
USACE (2020) included a 60,000 metric ton increase in graphite shipments for 2027–2066. The current timeline calls for Graphite One to construct the mine in 2027 and begin shipping graphite in 2029 (Gannon 2023). The current timeline suggests exports could begin in 2030 if work proceeds as planned. This analysis assumes that Graphite One will begin exports in 2030 in the high case and 2032 in the moderate case. Other than the increased activity due to graphite export, the projections show steady gravel shipments over time. It is important to note that gravel shipments are volatile, depending on projects being supported through the port, so annual volumes are likely to fluctuate.

Table 4 presents the assumptions used in the analysis for each scenario. Figure 17 and Table 5 provide details of the forecast.

Table 4. Scenario Assumptions for Gravel, Rock, and Sand Volumes

Scenario	Assumption
Low	The low scenario assumes gravel shipments will follow the USACE (2020) forecast, excluding Graphite One.
Moderate	The moderate forecast assumes gravel shipments will be an average of the low and high scenarios, plus 60,000 metric tonnes of graphite exports beginning in 2032.
High	The high forecast assumes gravel shipments will be an average of the low scenario and 2012–2023 trend, plus 60,000 metric tonnes of graphite exports starting in 2030.

Figure 17. Historical and Forecasted Gravel Volumes, 2012–2035



Source: Port of Nome (2023b, 2024c), USACE (2020), and Northern Economics analysis

Table 5. Forecasted Gravel Volumes, Tons, 2024–2035

Year	Low	Moderate	High
2024	59,896	103,911	147,927
2025	60,154	108,986	157,817
2026	60,412	114,060	167,707
2027	60,670	119,134	177,598
2028	60,928	124,208	187,488
2029	61,186	129,282	197,378
2030	61,444	134,356	207,268
2031	61,702	139,430	217,158
2032	61,960	144,504	227,048
2033	62,218	149,578	236,938
2034	62,476	154,652	246,828

Source: Port of Nome (2023b, 2024c), USACE (2020), and Northern Economics analysis

Forecasted Cargo Volumes

USACE (2020) projected a slight increase in cargo volumes from the 10-year average, which at the time was at or slightly lower than the average shown in this analysis. That report did not include the uptick in cargo activity in 2021 and 2022. It is important to note that the Nome Census Area

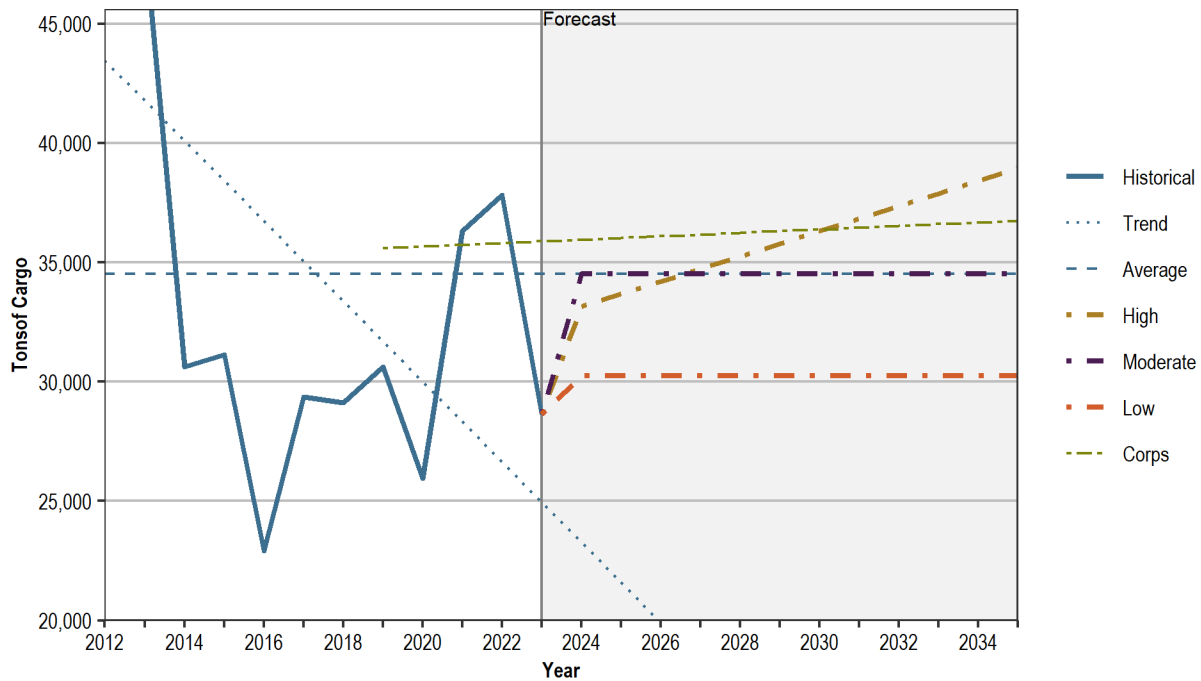
population is expected to decline slightly through 2035 (ADOLWD 2022), causing downward pressure on cargo volumes.

Table 6 presents the assumptions used in the analysis for each scenario. Figure 18 and Table 7 provide details of the forecast.

Table 6. Scenario Assumptions for Cargo Volumes

Scenario	Assumption
Low	The low scenario assumes cargo volumes will remain at the average level seen in 2014–2023.
Moderate	The moderate scenario assumes cargo volumes will remain at the average level seen in 2012–2023.
High	The high scenario assumes cargo volumes will follow the trend from 2014–2023.

Figure 18. Historical and Forecasted Cargo Volumes, 2012–2035



Source: Port of Nome (2023b, 2024c), USACE (2020), and Northern Economics analysis

Table 7. Forecasted Cargo Volumes, Tons, 2024–2035

Year	Low	Moderate	High
2024	30,251	34,526	33,147
2025	30,251	34,526	33,674
2026	30,251	34,526	34,201
2027	30,251	34,526	34,728
2028	30,251	34,526	35,254
2029	30,251	34,526	35,781
2030	30,251	34,526	36,308
2031	30,251	34,526	36,835
2032	30,251	34,526	37,361
2033	30,251	34,526	37,888
2034	30,251	34,526	38,415

Source: Port of Nome (2023b, 2024c), USACE (2020), and Northern Economics analysis

Forecasted Fuel Volumes

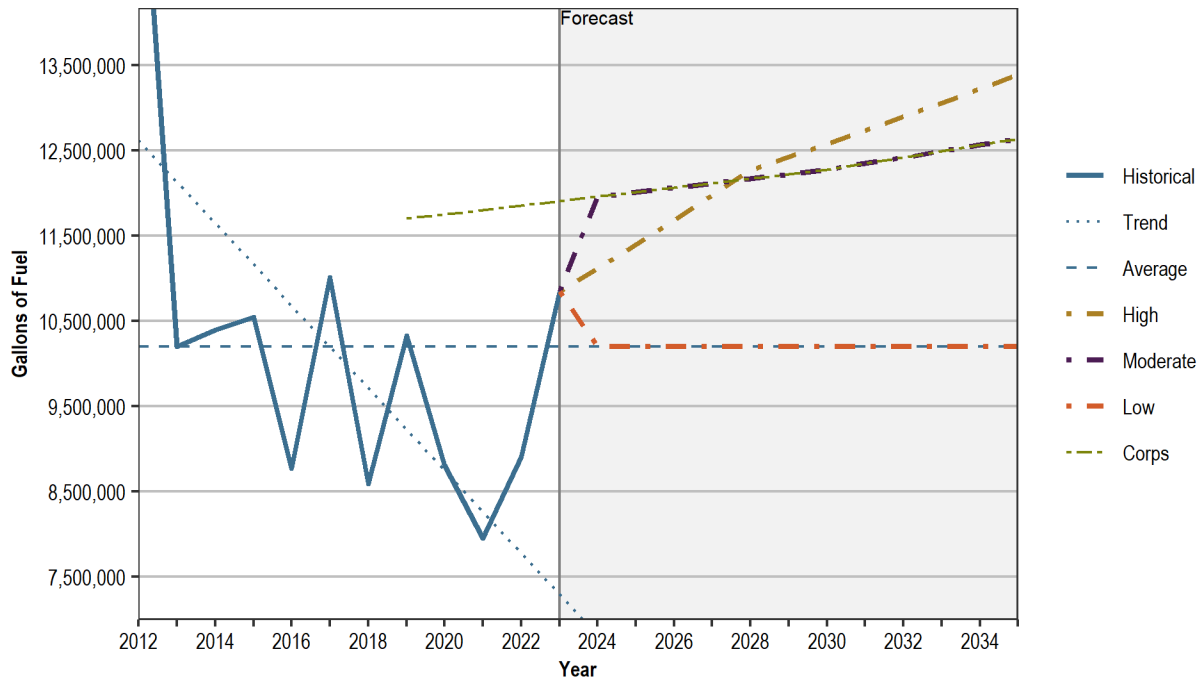
USACE (2020) projected a slow increase in fuel volume, starting at 36,700 metric tonnes (approximately 11.75 million gallons) in 2020 and growing slowly due to outbound shipments to 38,400 tonnes in 2030 and 40,600 in 2040. That report did not include data for the latter years, during which there has been a downward trend in volumes. This analysis shows the moderate and high scenario fuel volumes reaching, and exceeding in the high case, the USACE forecast. Note that volumes could change dramatically with new projects in the region, an uptick in the number of vessels requiring fuel, or other factors.

Table 8 presents the assumptions used in the analysis for each scenario. Figure 19 and Table 9 provide details of the forecast.

Table 8. Scenario Assumptions for Fuel Volumes

Scenario	Assumption
Low	The low scenario sets future fuel volumes as the average of those seen in 2012–2023.
Moderate	The moderate scenario matches the forecast shown in USACE (2020).
High	The high scenario assumes 2.5% annual growth in fuel volumes for 2024–2028 and 1.25% annual growth thereafter.

Figure 19. Historical and Forecasted Fuel Volumes, 2012–2035



Note: The fuel volume presented in USACE (2020), represented in the figure as “Corps”, has been converted from tons to gallons for comparison.

Source: Port of Nome (2023b, 2024c), Air BP Ltd. (2000), Sunoco (2024), The Engineering Toolbox (2003), USACE (2020), and Northern Economics analysis

Table 9. Forecasted Fuel Volumes, Gallons, 2024–2035

Year	Low	Moderate	High
2024	10,199,468	11,959,388	11,117,673
2025	10,199,468	12,012,712	11,395,615
2026	10,199,468	12,066,037	11,680,505
2027	10,199,468	12,119,361	11,972,518
2028	10,199,468	12,172,685	12,271,830
2029	10,199,468	12,226,010	12,425,228
2030	10,199,468	12,279,334	12,580,544
2031	10,199,468	12,350,999	12,737,801
2032	10,199,468	12,422,664	12,897,023
2033	10,199,468	12,494,328	13,058,236
2034	10,199,468	12,565,993	13,221,464

Source: Port of Nome (2023b, 2024c), USACE (2020), and Northern Economics analysis

Vessel Traffic

This section forecasts the vessel traffic the Port of Nome will see through 2035, based on commodity volumes forecasts presented above for those vessels and trends in dock days for other vessel types. The USACE (2020) analysis used commodity load factors to forecast vessel growth based on the

commodity forecasts; while this analysis does not follow the same approach with its focus on dock days, it does reach a similar result by considering average loads by commodity type in its dock days forecasts.

The major differences between the findings of this analysis and those of USACE are in the vessel traffic forecast. USACE focused on vessel calls rather than dock days and projected a higher number of calls, largely due to the analysis being based on a higher level of vessel traffic in the years considered by that report. This analysis benefits from additional years of data, and during those years the port saw lower levels of vessel activity. This section compares this analysis’ vessel call projection with that of USACE before proceeding to forecast vessel dock days.

Table 10 presents the assumptions used for the low, moderate, and high scenarios for vessel traffic.

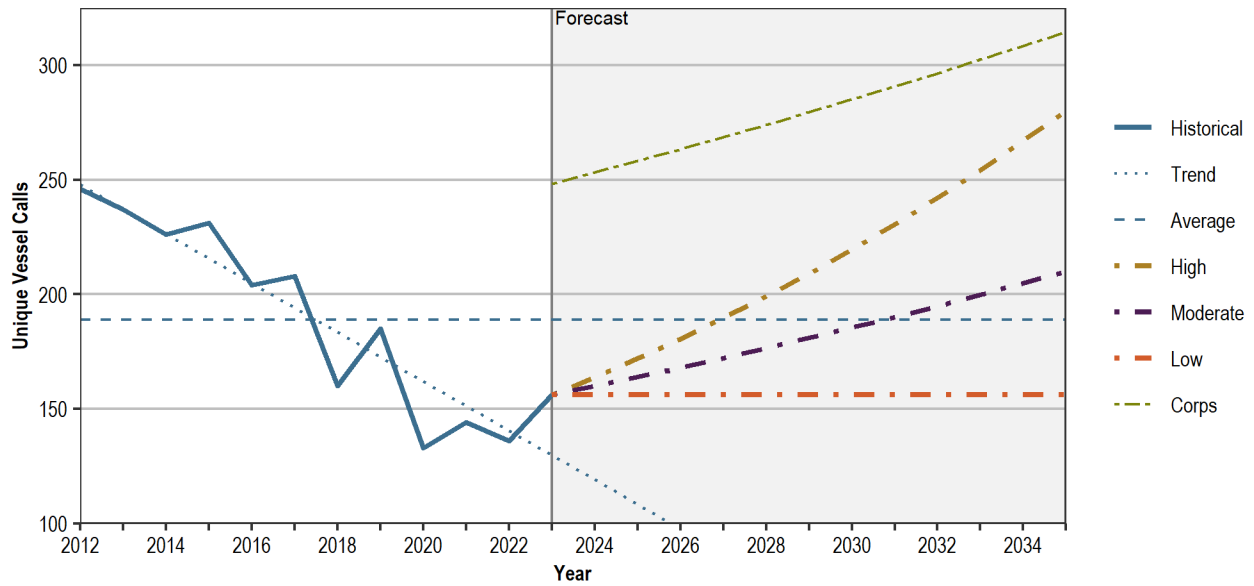
Table 10. Scenario Assumptions for Vessel Traffic

Scenario	Assumption
Low	Dock days for commodity vessels are calculated based on the commodity volume by type for this scenario and the average volume of each commodity handled per dock day in 2012–2023. Miscellaneous vessels follow the linear trend. Cruise and government vessels are flat at the 2023 level. Sailing vessels stay at the average level for 2018–2023. Research vessels stay at the average level for 2019–2023.
Moderate	Dock days for commodity vessels are calculated based on the commodity volume by type for this scenario and the average volume of each commodity handled per dock day in 2012–2023. Graphite One exports are accommodated by existing barge traffic as backhaul, consistent with USACE (2020), though vessel days increase due to additional loading time. Miscellaneous vessels are flat at the 2023 level. Cruise vessels follow the linear trend. Sailing vessels are projected between the 2018–2023 average level and the 2023 level. Government ships stay at the average level for 2012–2023. Research ships stay at the average level for 2016–2023.
High	Dock days for commodity vessels are calculated based on the commodity volume by type for this scenario and the average volume of each commodity handled per dock day in 2012–2023. Graphite One exports are accommodated by existing barge traffic as backhaul, consistent with USACE (2020), though vessel days increase due to additional loading time. Miscellaneous and cruise vessels grow 2.5% annually. Sailing vessels stay at the level seen in 2023. Government ships stay at the average level for 2012–2019. Research ships stay at the average level for 2012–2023.

Figure 20 presents historical and forecasted unique vessel calls, for the purpose of comparing this analysis’ vessel call forecasts with those of USACE (2020). These calls represent both transient and homeported users. USACE projected that vessel calls would increase over time to approximately 325 calls in 2050, at which point they would remain at that level. As shown in the figure, vessel calls have been on a consistent downward trend. While this analysis projects an increase in calls over time, it does not reach the level found by USACE over the period forecasted.

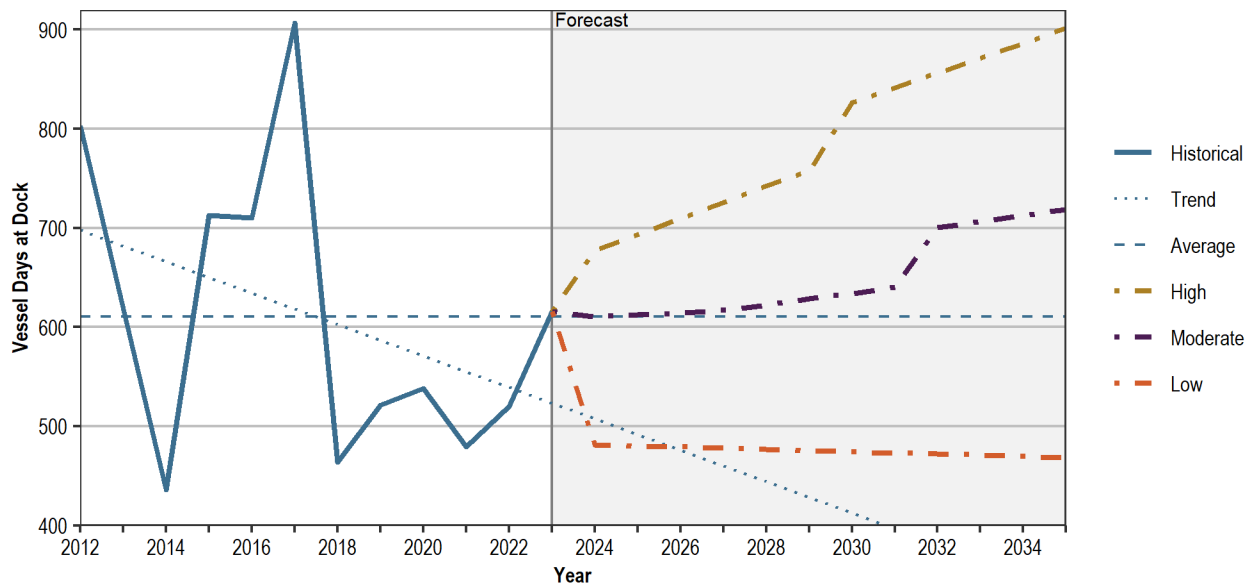
Figure 21 presents this analysis’ forecast of vessel dock days based on the assumptions described in Table 10 and the commodity forecasts presented above. The low scenario shows vessel dock days dropping to 480 in the future, while both the moderate and high forecasts project overall growth in activity as well as a boost in gravel vessel activity from graphite exports. Table 11 presents the vessel dock day projections shown in the figure and Table 12 through Table 14 provide details by vessel type for the low, moderate, and high scenarios.

Figure 20. Historical and Forecasted Unique Vessel Calls, 2024–2035



Source: Port of Nome (2023b, 2024b, 2024c), USACE (2020), and Northern Economics analysis

Figure 21. Historical and Forecasted Transient Vessel Dock Days, 2024–2035



Source: Port of Nome (2023b, 2024b, 2024c) and Northern Economics analysis

Table 11. Forecasted Transient Vessel Dock Days, 2024–2035

Year	Low	Moderate	High
2024	616	616	616
2025	481	611	677
2026	480	612	693
2027	479	614	710
2028	478	617	726
2029	477	622	743
2030	475	629	757
2031	474	634	827
2032	473	640	841
2033	472	701	856
2034	471	707	871
2035	470	712	886

Source: Port of Nome (2023b, 2024b, 2024c) and Northern Economics analysis

Table 12. Forecasted Vessel Dock Days, Low Scenario, 2024–2035

Year	Bulk Cargo	Fuel	Gravel & Equipment	Miscellaneous	Pleasure-Cruise	Pleasure-Sailing Vessel	Government Ships	Research
2024	133	50	140	49	22	51	0	37
2025	133	50	140	47	22	51	0	37
2026	133	50	140	46	22	51	0	37
2027	133	50	140	44	22	51	0	37
2028	133	50	140	43	22	51	0	37
2029	133	51	140	42	22	51	0	37
2030	133	51	140	40	22	51	0	37
2031	133	51	140	39	22	51	0	37
2032	133	51	140	37	22	51	0	37
2033	133	51	140	36	22	51	0	37
2034	133	52	140	35	22	51	0	37
2035	133	52	140	33	22	51	0	37

Source: Port of Nome (2023b, 2024b, 2024c) and Northern Economics analysis

Table 13. Forecasted Vessel Dock Days, Moderate Scenario, 2024–2035

Year	Bulk Cargo	Fuel	Gravel & Equipment	Miscellaneous	Pleasure-Cruise	Pleasure-Sailing Vessel	Government Ships	Research
2024	151	86	164	50	23	76	13	47
2025	151	90	165	50	23	76	13	44
2026	151	94	166	50	24	76	13	39
2027	151	98	167	50	25	76	13	37
2028	151	103	167	50	26	76	13	36
2029	151	107	168	50	26	76	13	37
2030	151	111	169	50	27	76	13	37
2031	151	115	170	50	28	76	13	38
2032	151	174	171	50	28	76	13	37
2033	151	178	172	50	29	76	13	37
2034	151	183	173	50	30	76	13	37
2035	151	187	174	50	30	76	13	37

Source: Port of Nome (2023b, 2024b, 2024c) and Northern Economics analysis

Table 14. Forecasted Vessel Dock Days, High Scenario, 2024–2035

Year	Bulk Cargo	Fuel	Gravel & Equipment	Miscellaneous	Pleasure-Cruise	Pleasure-Sailing Vessel	Government Ships	Research
2024	145	122	153	51	23	100	19	64
2025	148	130	157	53	23	100	19	64
2026	150	139	161	54	24	100	19	64
2027	152	147	165	55	24	100	19	64
2028	154	155	169	57	25	100	19	64
2029	157	163	171	58	26	100	19	64
2030	159	226	173	59	26	100	19	64
2031	161	234	175	61	27	100	19	64
2032	164	242	177	62	27	100	19	64
2033	166	251	179	64	28	100	19	64
2034	168	259	182	66	29	100	19	64
2035	171	267	184	67	30	100	19	64

Source: Port of Nome (2023b, 2024b, 2024c) and Northern Economics analysis

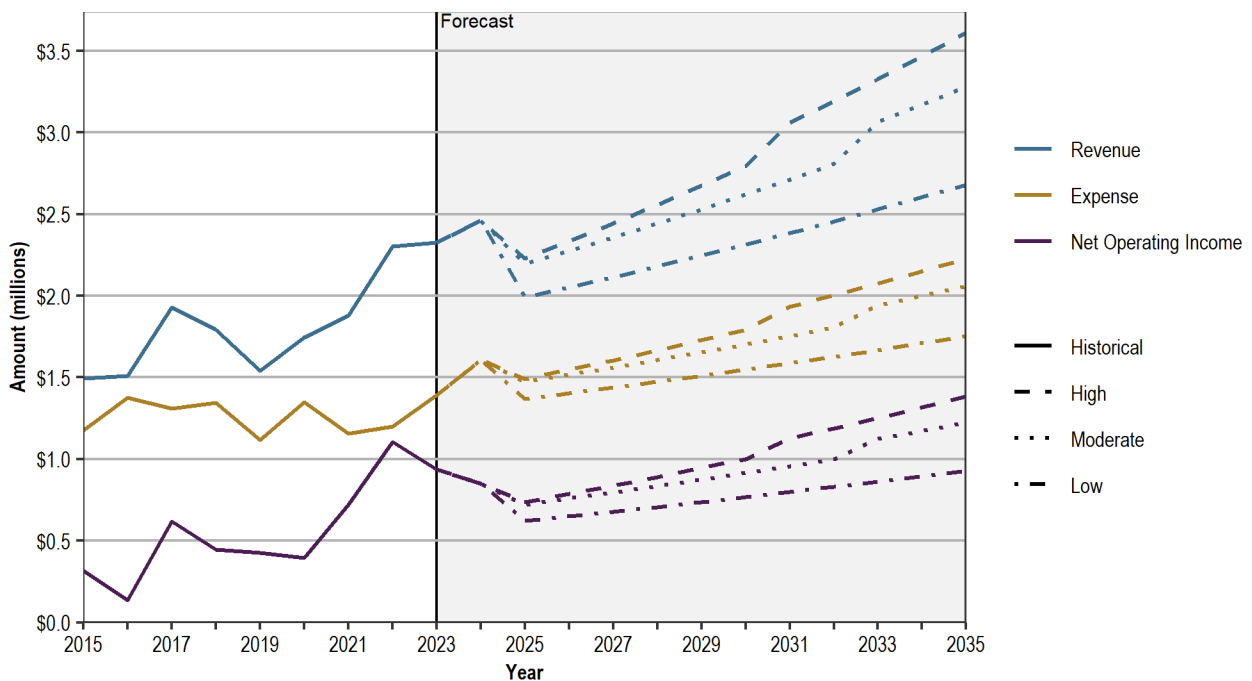
Financial Analysis and Recommendations

This section presents a financial forecast for the Port of Nome based on the projected commodity movements and vessel traffic developed in prior sections, concluding with recommendations based on the analysis.

Operating Financial Projections

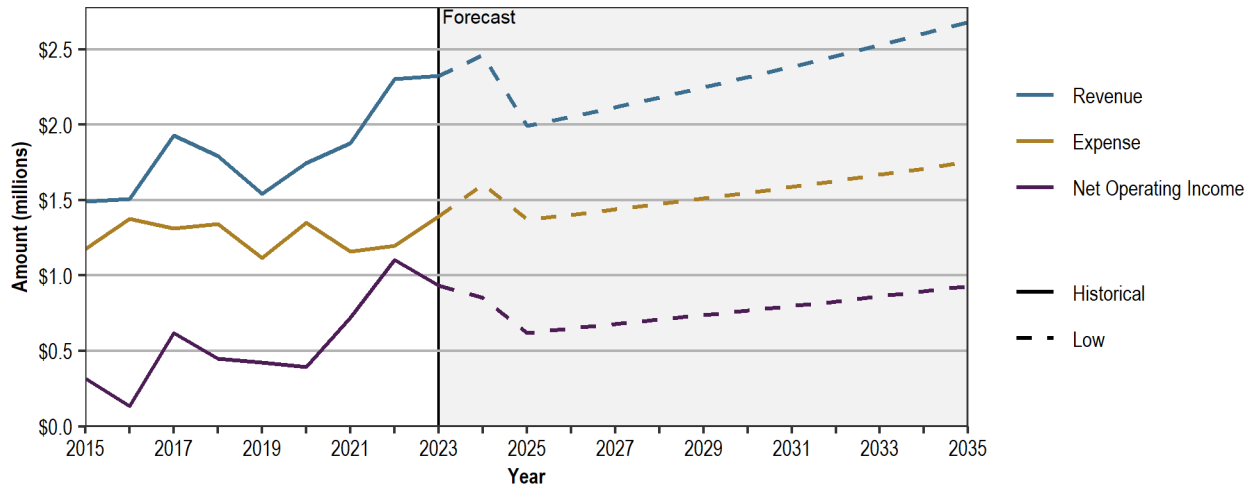
The following subsections present financial projections for the Port of Nome’s operating fund based on the commodity volume and vessel traffic forecasts presented in the preceding section. Figure 22 provides an overall look at the three scenarios. In each scenario, revenues, expenses (excluding depreciation and transfers), and net operating income are projected to grow, though at different rates. Due to volatility that can be anticipated but not modeled, the actual progression of revenues and expenses will vary depending on actual commodity volumes, actual vessel traffic, and other factors outside the control of the Port of Nome. However, the general trajectory is upward, driven not only from activity at the port but also an assumption that the port will continue to raise its rates to meet increasing costs over time. Figure 23 through Figure 25 present the overall projections for low through high scenarios. Table 15 summarizes the forecasts.

Figure 22. Forecasted Port of Nome Operating Fund Revenues, Expenses (excluding Transfers and Depreciation), and Net Operating Income, All Scenarios, 2024–2035



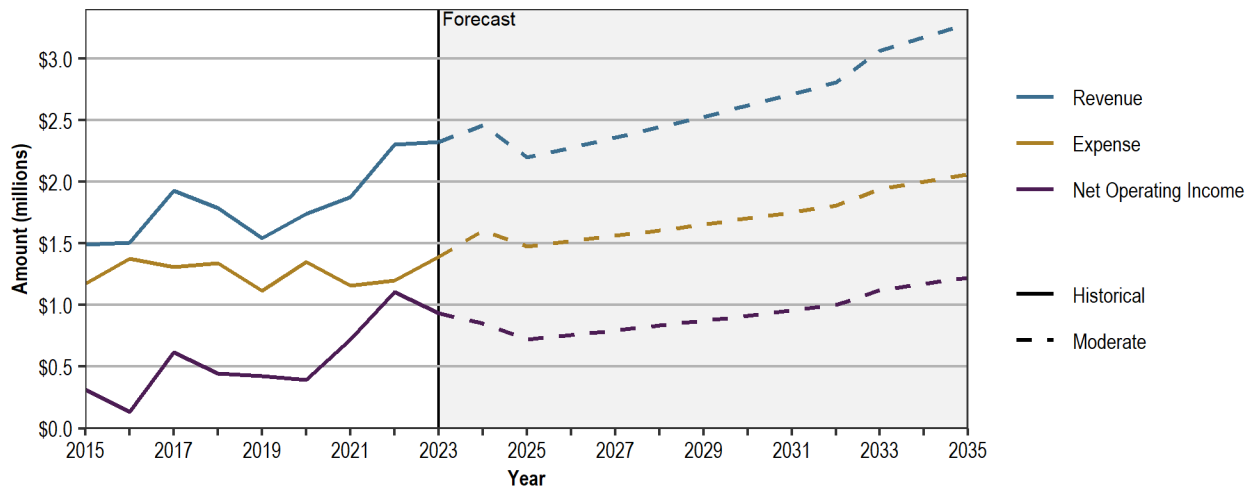
Source: Port of Nome (2023a, 2023b, 2024b) and Northern Economics analysis

Figure 23. Forecasted Port of Nome Operating Fund Revenues, Expenses (excluding Transfers and Depreciation), and Net Operating Income, Low Scenario, 2024–2035



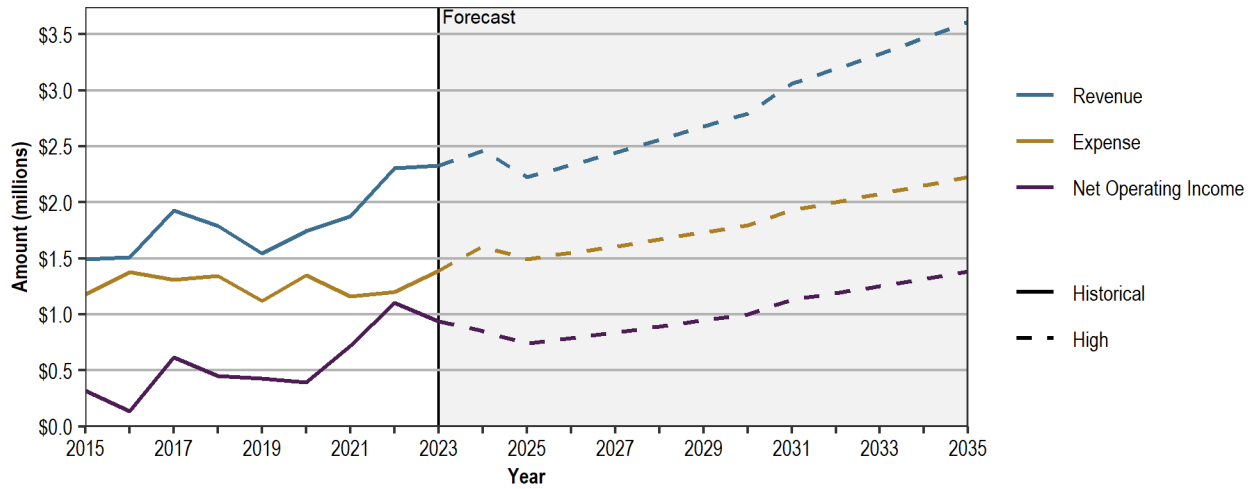
Source: Port of Nome (2023a, 2023b, 2024b) and Northern Economics analysis

Figure 24. Forecasted Port of Nome Operating Fund Revenues, Expenses (excluding Transfers and Depreciation), and Net Operating Income, Moderate Scenario, 2024–2035



Source: Port of Nome (2023a, 2023b, 2024b) and Northern Economics analysis

Figure 25. Forecasted Port of Nome Operating Fund Revenues, Expenses (excluding Transfers and Depreciation), and Net Operating Income, High Scenario, 2024–2035



Source: Port of Nome (2023a, 2023b, 2024b) and Northern Economics analysis

Table 15. Forecasted Port of Nome Operating Fund Revenues, Expenses (excluding Transfers and Depreciation), and Net Operating Income, All Scenarios, Millions of Dollars, 2024–2035

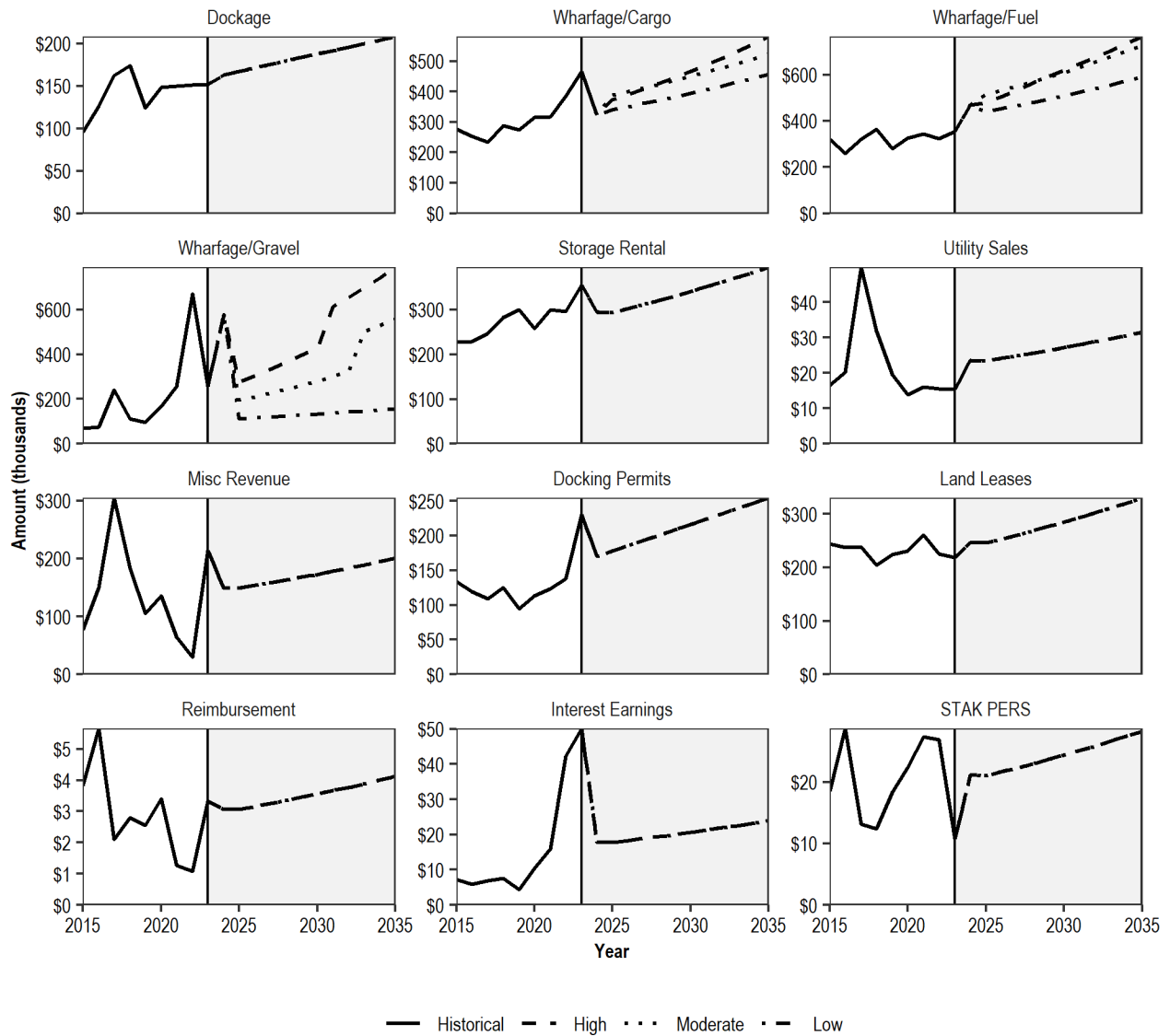
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Low Scenario												
Revenue	1.61	1.37	1.40	1.44	1.47	1.51	1.55	1.59	1.63	1.67	1.71	1.75
Expense	2.46	1.99	2.05	2.12	2.18	2.25	2.31	2.38	2.46	2.53	2.60	2.68
Net Operating Income	0.85	0.62	0.65	0.68	0.71	0.74	0.77	0.80	0.83	0.86	0.89	0.93
Moderate Scenario												
Revenue	1.61	1.48	1.52	1.56	1.61	1.66	1.70	1.75	1.81	1.94	2.00	2.06
Expense	2.46	2.20	2.28	2.36	2.44	2.53	2.62	2.71	2.81	3.06	3.17	3.28
Net Operating Income	0.85	0.72	0.76	0.80	0.83	0.87	0.92	0.96	1.00	1.12	1.17	1.22
High Scenario												
Revenue	1.61	1.49	1.55	1.61	1.67	1.73	1.79	1.93	2.00	2.07	2.15	2.23
Expense	2.46	2.23	2.33	2.44	2.56	2.68	2.79	3.06	3.19	3.33	3.47	3.61
Net Operating Income	0.85	0.74	0.79	0.84	0.89	0.95	1.00	1.13	1.19	1.25	1.32	1.38

Source: Port of Nome (2023a, 2023b, 2024b) and Northern Economics analysis

Revenues

Figure 26 looks at the projections in each revenue account, with details provided for each scenario in Table 16 through Table 18. It is intended to look at how revenues from each account change over time under each scenario. As discussed in the *Financial Assumptions* section, only the commodity-based accounts (cargo, fuel, and gravel) are expected to vary meaningfully in each scenario. As noted above, these forecasts assume the port will make regular rate increases to account for inflation.

Figure 26. Forecasted Port of Nome Operating Fund Revenues, All Scenarios, 2024–2035



Source: Port of Nome (2023b) and Northern Economics analysis

Table 16. Forecasted Operating Revenue, Low Scenario, Thousands of Dollars, 2024–2035

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Dockage	163	167	171	175	180	184	188	192	196	200	204	208
Wharfage/Cargo	323	340	350	361	372	383	394	406	419	431	444	457
Wharfage/Fuel	468	439	452	466	480	494	509	524	540	556	573	590
Wharfage/Gravel	579	112	116	120	124	129	133	138	142	147	152	158
Storage Rental	294	294	303	312	321	331	341	351	361	372	383	395
Utility Sales	23	23	24	25	26	26	27	28	29	30	31	32
Misc Revenue	150	149	154	158	163	168	173	178	184	189	195	201
Docking Permits	170	178	186	193	201	209	216	224	232	239	247	254
Land Leases	246	246	253	261	268	276	285	293	302	311	321	330
Reimbursement	3	3	3	3	3	3	4	4	4	4	4	4
Interest Earnings	18	18	18	19	19	20	21	21	22	23	23	24
STAK PERS	21	21	22	22	23	24	24	25	26	27	27	28
Total	2,458	1,991	2,052	2,115	2,180	2,246	2,314	2,384	2,455	2,529	2,604	2,681

Source: Port of Nome (2023a) and Northern Economics analysis

Table 17. Forecasted Operating Revenue, Moderate Scenario, Thousands of Dollars, 2024–2035

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Dockage	163	167	171	175	180	184	188	192	196	200	204	208
Wharfage/Cargo	323	388	400	412	424	437	450	464	478	492	507	522
Wharfage/Fuel	468	515	532	551	570	590	610	631	654	677	702	727
Wharfage/Gravel	579	195	210	227	244	262	281	301	322	500	528	556
Storage Rental	294	294	303	312	321	331	341	351	361	372	383	395
Utility Sales	23	23	24	25	26	26	27	28	29	30	31	32
Misc Revenue	150	149	154	158	163	168	173	178	184	189	195	201
Docking Permits	170	178	186	193	201	209	216	224	232	239	247	254
Land Leases	246	246	253	261	268	276	285	293	302	311	321	330
Reimbursement	3	3	3	3	3	3	4	4	4	4	4	4
Interest Earnings	18	18	18	19	19	20	21	21	22	23	23	24
STAK PERS	21	21	22	22	23	24	24	25	26	27	27	28
Total	2,458	2,197	2,277	2,358	2,443	2,530	2,619	2,712	2,808	3,064	3,171	3,281

Source: Port of Nome (2023a) and Northern Economics analysis

Table 18. Forecasted Operating Revenue, High Scenario, Thousands of Dollars, 2024–2035

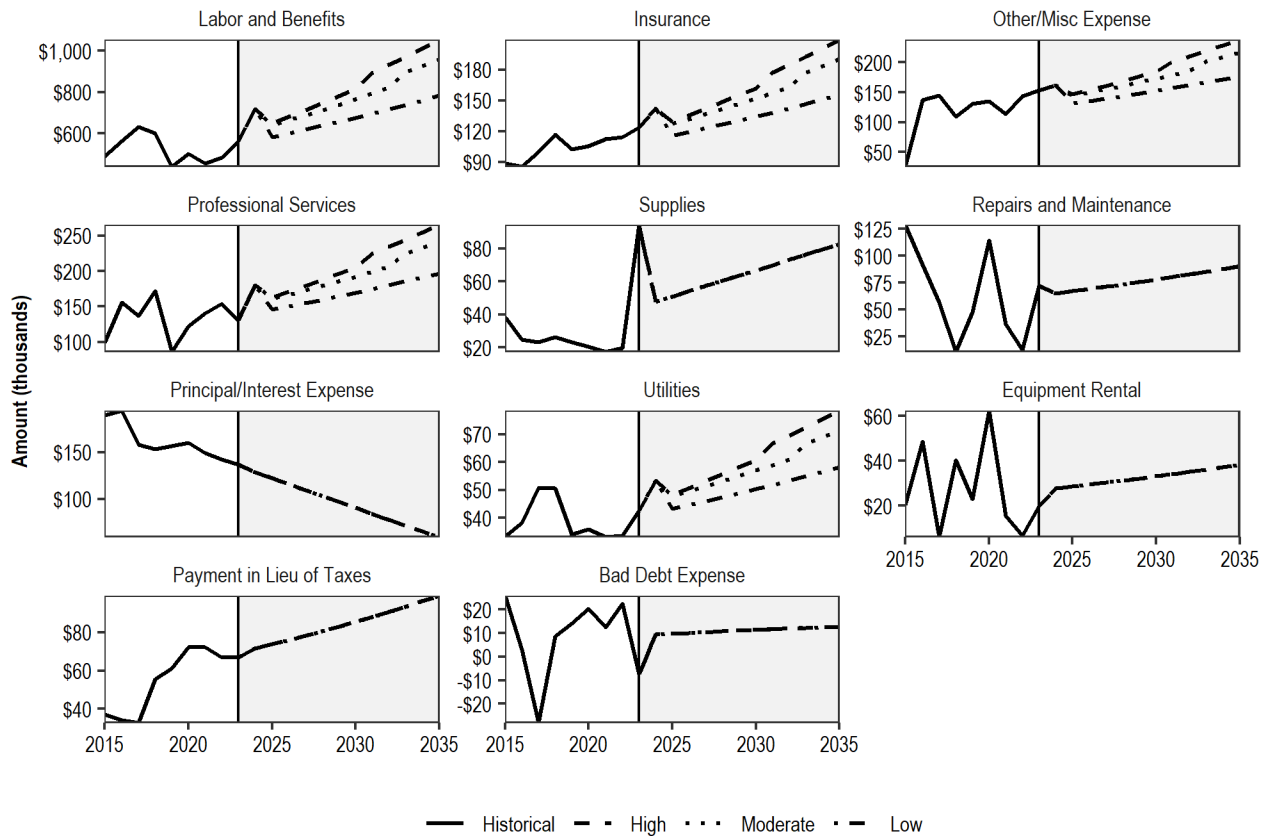
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Dockage	163	167	171	175	180	184	188	192	196	200	204	208
Wharfage/Cargo	323	373	390	408	427	446	467	488	510	532	556	581
Wharfage/Fuel	468	478	505	533	563	594	620	646	674	703	733	765
Wharfage/Gravel	579	277	305	334	364	396	429	612	653	696	742	789
Storage Rental	294	294	303	312	321	331	341	351	361	372	383	395
Utility Sales	23	23	24	25	26	26	27	28	29	30	31	32
Misc Revenue	150	149	154	158	163	168	173	178	184	189	195	201
Docking Permits	170	178	186	193	201	209	216	224	232	239	247	254
Land Leases	246	246	253	261	268	276	285	293	302	311	321	330
Reimbursement	3	3	3	3	3	3	4	4	4	4	4	4
Interest Earnings	18	18	18	19	19	20	21	21	22	23	23	24
STAK PERS	21	21	22	22	23	24	24	25	26	27	27	28
Total	2,458	2,228	2,334	2,444	2,558	2,677	2,794	3,062	3,192	3,326	3,466	3,610

Source: Port of Nome (2023a) and Northern Economics analysis

Expenses

Figure 27 presents the forecasts operating expenses by account, excluding depreciation and transfers, for each scenario. Details are provided in Table 19 through Table 21. The figure is intended to show how each expense category will change over time under each scenario. As discussed in the *Financial Assumptions* section, only five of the accounts are expected to vary meaningfully in each scenario.

Figure 27. Forecasted Operating Expenses (excluding Transfers and Depreciation), All Scenarios, 2024–2035



Source: Port of Nome (2023b) and Northern Economics analysis

Table 19. Forecasted Operating Expenses (excluding Transfers and Depreciation), Low Scenario, 2024–2035

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Labor and Benefits	718	581	599	618	636	656	676	696	717	738	760	783
Insurance	142	115	119	123	126	130	134	138	142	147	151	155
Other/Misc Expense	162	131	135	139	144	148	153	157	162	167	172	177
Professional Services	180	146	151	155	160	165	170	175	180	185	191	197
Supplies	48	51	54	57	60	64	67	70	73	76	80	83
Repairs and Maintenance	65	67	69	71	73	76	78	80	83	85	88	90
Principal/Interest Expense	129	122	116	110	103	97	91	84	78	72	66	59
Utilities	53	43	45	46	47	49	50	52	53	55	57	58
Equipment Rental	28	29	29	30	31	32	33	34	35	36	37	38
Payment in Lieu of Taxes	72	74	76	78	81	83	86	88	91	93	96	99
Bad Debt Expense	10	10	10	10	11	11	11	12	12	12	13	13
Total	1,606	1,370	1,403	1,438	1,474	1,510	1,548	1,587	1,626	1,667	1,709	1,753

Source: Port of Nome (2023a) and Northern Economics analysis

Table 20. Forecasted Operating Expenses (excluding Transfers and Depreciation), Moderate Scenario, 2024–2035

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Labor and Benefits	718	641	665	689	713	739	765	792	820	895	926	958
Insurance	142	127	132	137	142	147	152	157	163	178	184	190
Other/Misc Expense	162	145	150	156	161	167	173	179	185	202	209	216
Professional Services	180	161	167	173	179	186	192	199	206	225	233	241
Supplies	48	51	54	57	60	64	67	70	73	76	80	83
Repairs and Maintenance	65	67	69	71	73	76	78	80	83	85	88	90
Principal/Interest Expense	129	122	116	110	103	97	91	84	78	72	66	59
Utilities	53	48	50	51	53	55	57	59	61	67	69	71
Equipment Rental	28	29	29	30	31	32	33	34	35	36	37	38
Payment in Lieu of Taxes	72	74	76	78	81	83	86	88	91	93	96	99
Bad Debt Expense	10	10	10	10	11	11	11	12	12	12	13	13
Total	1,606	1,475	1,518	1,562	1,608	1,655	1,704	1,754	1,806	1,941	1,999	2,059

Source: Port of Nome (2023a) and Northern Economics analysis

Table 21. Forecasted Operating Expenses (excluding Transfers and Depreciation), High Scenario, 2024–2035

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Labor and Benefits	718	650	681	713	747	782	816	894	932	971	1,012	1,054
Insurance	142	129	135	142	148	155	162	177	185	193	201	209
Other/Misc Expense	162	147	154	161	169	177	184	202	210	219	229	238
Professional Services	180	163	171	179	188	196	205	225	234	244	254	265
Supplies	48	51	54	57	60	64	67	70	73	76	80	83
Repairs and Maintenance	65	67	69	71	73	76	78	80	83	85	88	90
Principal/Interest Expense	129	122	116	110	103	97	91	84	78	72	66	59
Utilities	53	48	51	53	56	58	61	67	69	72	75	79
Equipment Rental	28	29	29	30	31	32	33	34	35	36	37	38
Payment in Lieu of Taxes	72	74	76	78	81	83	86	88	91	93	96	99
Bad Debt Expense	10	10	10	10	11	11	11	12	12	12	13	13
Total	1,606	1,491	1,547	1,606	1,667	1,731	1,793	1,933	2,003	2,075	2,150	2,227

Source: Port of Nome (2023a) and Northern Economics analysis

Financial Assumptions

The following assumptions were used to develop the revenue projections:

- Dockage follows the historical time trend (linear regression).
- Wharfage/Cargo is calculated as the charge per unit of commodity plus rate increases.
- Wharfage/Fuel is calculated as the charge per unit of commodity plus rate increases.
- Wharfage/Gravel is calculated as the charge per unit of commodity plus rate increases.

- Storage rental represents the average of 2015–2023, plus rate increases.
- Utility sales represent the average of 2015–2023, plus rate increases.
- Misc revenue represents the average of 2015–2023, plus rate increases.
- Docking permits follow the historical time trend (linear regression).
- Land leases represent the average of 2015–2023, plus rate increases.
- Reimbursement represents the average of 2015–2023, plus rate increases.
- Interest earnings represent the average of 2015–2023, plus rate increases.
- STAK PERS represents the average of 2015–2023, plus rate increases.

The assumptions shown below were used to develop the expense projections:

- Labor and benefits are calculated as a percentage of total revenue.
- Insurance is calculated as a percentage of total revenue.
- Other/misc expense is calculated as a percentage of total revenue.
- Professional services are calculated as a percentage of total revenue.
- Supplies is calculated based on the historical time trend (linear regression).
- Repairs and maintenance are calculated as the average amount for 2015–2023, plus inflation (assumed to be 3%).
- Principal/interest expense is calculated based on the historical time trend (linear regression).
- Utilities are calculated as a percentage of total revenue.
- Equipment rental is calculated as the average amount for 2015–2023, plus inflation (assumed to be 3%).
- Payment in lieu of taxes is calculated as the average amount for 2020–2023, plus inflation (assumed to be 3%).
- Bad debt expense is calculated based on the historical time trend (linear regression).

Ongoing and Planned Projects

Table 22 through Table 24 present current and long-term projects to maintain Port of Nome facilities. While most of these projects are still being planned, they are included here in the context of the financial projections. The financial projections, excluding transfers, suggest these projects can be covered with port funds, though, as noted in the recommendations in the following section, it would be beneficial for the port to pursue grants and other funding to the extent possible to cover the costs of the larger, long-term projects shown in Table 24.

Table 22. Port of Nome Asset Repair and Replacement Projects

Priority	Project Title and Description	Status	Funding		Fiscal Year
			Source	Amount	
High	Replace Old Ship Gangway: Replace old gangway with longer and wider unit (material speculation)	Determining need and type.	Port Funds	\$18,000 + \$5,000 freight	F26/27
High	High Mast Lighting Replacement (City & Westgold Docks): Lowering Devices are still operable. All Lighting units damaged from Ice and removed 2022. Install new Lighting units on WG and City dock poles.	Seeking cost estimate for materials - Need same lights that lowering devices are designed for.	Port Funds	\$25,000	F24
High	PND Recommended Fish Dock & Floating Dock Repairs: Adjust east float gangway aluminum bearing plate while hauled out	Port/PWR crew will install in spring 2024 prior to launch	Port Funds	\$2,000	F24
High	Repair Bullrail Cracking: Locate pipe rail-cut damaged sections and weld new pipe to sheetpile	Port/PWR crew assessing work / materials. Welding gas, grinding wheels.	Port Funds	\$5,000	F25
High	Middle Dock Ramp Extension: Extend concrete ramp toward top of slope	Seeking cost estimates and constructing design for FEMA	FEMA	Unknown	F25
High	City and Middle Dock Erosion Protection: EK35 for edges (dig back and refill in areas that typically wash out)	Seeking cost estimates and constructing design for FEMA	FEMA	Unknown	F25
Medium	SBH Floating Docks Repair/Re-skin: Disassembly of Floats to sandblast and apply new heavy coating. Repair or replace timber decking and mooring cleats.	F25 conduct temp in-house repairs to coatings and investigate the need of full replacement vs returning to new condition.	Port Funds	\$10,000	F25
Low	Replace High Ramp Dolphin Pile Connection: Replace/reengineer front batter-pile and connection to tri-pile. Original connection detached. Still working as intended for now.	F25 explore options to repair in-house versus having to drive new pile.	Port Funds	\$10,000	F25
Low	High Mast Lighting Replacement (Middle Dock): 3 Cable system on Lowering Device. One cable broke and no longer operable. All Lighting units are removed and need replacement.	Seeking engineering input on methodology for dismantle/repair. Requires crane use.	Unknown	\$100,000 - \$150,000	F28

Source: Port of Nome (2024a)

Table 23. Port of Nome Ongoing Maintenance Projects

Priority	Project Title and Description	Status	Funding		Fiscal Year
			Source	Amount	
High	Hydrotests & CP Inspect - Port Fuel Lines: Annual maintenance tests/inspection/maintenance on port fuel lines system to meet compliance/ensure integrity	Hydrotesting Scheduled	Port Funds	\$26,000	ALL
High	Fuel Lines - API-570 Inspection: Full inspection of fuel lines and CP system every 5 years.	Due in 2024 Summer season. Need Quotes	Port Funds	\$25,000	F25
High	CP System Testing - Fuel Lines: Annual maintenance tests/inspection/maintenance on port fuel lines Cathodic Protection System to meet compliance/ensure integrity	CP Work Scheduled	Port Funds	\$7,000	F25
High	PND Facility Inspections: Every 5 years PND will inspect facilities			\$180,000	F25
N/A	Causeway & Inner Harbor Survey/Dredging: There is a periodic need to survey/dredge the SBH and Snake River ramp approaches to ensure control depth maintained	Evaluate pre & post COE 2018 surveys - determine if shoaling	Port Funds	\$35,000	F26

Source: Port of Nome (2024a)

Table 24. Port of Nome Long Term Projects

Priority	Project Title and Description	Status	Funding		Fiscal Year
			Source	Amount	
	Garco Building Rehab Project: Demo existing walls/roof, install new roof/panels, prep interior for insulation install - concrete curb around perimeter	Seeking suitable funding opportunity	Unknown / Grant Likely	\$900,000 (ROM)	Long Term
Low	SBH Floating Dock Pilings: Replace both pilings or re-drive. Only 2 remaining from ice heaving but both crooked. West side too short. Needs extension if no replacement.	Expecting quote		Temp \$5,000 Long Term \$100,000-\$200,000	Long Term
Low	Replace Fender at Fish Dock: Replace failed fender pile at wye 12-13 (requires crane for installation)	Seeking cost estimate for materials	Unknown	Unknown	Long Term

Source: Port of Nome (2024a)

Rate Recommendations

The analysis suggests the following rate recommendations:

1. The Port of Nome should continue to make annual adjustments to account for inflation. At a minimum, the port could use the Consumer Price Index for Alaska or a national but port-specific rate such as the Producer Price Index for port operations. Ideally, the port could track expenses to get a better handle on actual cost conditions and changes it experiences.
2. The Port of Nome should evaluate costs specific to the handling of different commodity types and user types to ensure revenue generated by those users/activities is sufficient to cover the costs of facilities (including both routine operations and maintenance costs and major maintenance and replacement costs over the long term).

Capital Replacement Strategy Recommendations

The analysis suggests the following capital replacement strategy recommendations:

1. The Port of Nome should continue to pursue grant funding opportunities to support each project. Numerous grant programs are available that could support different components of planned improvements: port and harbor-specific, security, sportfishing, etc.
2. For larger capital projects such as the current port expansion, implementing a capital replacement surcharge could help to raise additional funds to support the port's obligations, both to cover the local match required for the port expansion but also to add to the capital projects fund to support replacement of existing facilities. This could be instituted as an across-the-board percentage charge—similar to how a sales tax is charged—on the total cost of services provided to the port's users.
3. A public-private partnership between the Port of Nome and industry members or the regional Native Corporation could open up opportunities to fund capital improvements that will provide benefit to those users. Partnering with a Native entity could also create additional opportunities for Native-specific grant programs.

References

- ADCCED (Department of Commerce, Community, and Economic Development). 2024a. "Business License Download". Database Downloads. <https://www.commerce.alaska.gov/cbp/DBDownloads/BusinessLicenseDownload.CSV>. Accessed April 30, 2024.
- ADCCED. 2024b. "NAICS Download". Database Downloads. <https://www.commerce.alaska.gov/cbp/DBDownloads/BusinessNaicsDownload.CSV>. Accessed April 30, 2024.
- ADOLWD (Alaska Department of Labor and Workforce Development). 2022. Alaska Population Projections: 2021 to 2050. <https://live.laborstats.alaska.gov/pop/projections/pub/popproj.pdf>. Accessed June 3, 2023.
- ADOTPF (Alaska Department of Transportation and Public Facilities). 2022. "Northwest Alaska Transportation Plan Update 2022". Northwest Alaska Transportation Plan. <https://dot.alaska.gov/nreg/nwatp/>. Accessed May 3, 2024.
- Air BP Ltd. 2000. Handbook of Products. https://web.archive.org/web/20110608075828/http://www.bp.com/liveassets/bp_internet/aviation/air_bp/STAGING/local_assets/download_s_pdfs/a/air_bp_products_handbook_04004_1.pdf (archived from the original). Accessed May 9, 2024.
- Alaska.org. n.d. "Where to buy local arts and crafts in Nome". <https://www.alaska.org/detail/nome-where-to-buy-local-arts-and-crafts>. Accessed April 30, 2024.
- CFEC (Commercial Fisheries Entry Commission). 2016. "Permit & Fishing Activity by Year, State, Census Area, or City, Nome CA". Fishery Statistics – Participation & Earnings. <https://www.cfec.state.ak.us/gpbycen/2016/180.htm>. Accessed May 3, 2024.
- CFEC. 2017. "Permit & Fishing Activity by Year, State, Census Area, or City, Nome CA". Fishery Statistics – Participation & Earnings. <https://www.cfec.state.ak.us/gpbycen/2017/180.htm>. Accessed May 3, 2024.
- CFEC. 2019. "Permit & Fishing Activity by Year, State, Census Area, or City, Nome CA". Fishery Statistics – Participation & Earnings. <https://www.cfec.state.ak.us/gpbycen/2019/180.htm>. Accessed May 3, 2024.
- CFEC. 2020. "Permit & Fishing Activity by Year, State, Census Area, or City, Nome CA". Fishery Statistics – Participation & Earnings. <https://www.cfec.state.ak.us/gpbycen/2020/180.htm>. Accessed May 3, 2024.

- CFEC. 2021. "Permit & Fishing Activity by Year, State, Census Area, or City, Nome CA". Fishery Statistics – Participation & Earnings. <https://www.cfec.state.ak.us/gpbycen/2021/180.htm>. Accessed May 3, 2024.
- CFEC. 2022. "Permit & Fishing Activity by Year, State, Census Area, or City, Nome CA". Fishery Statistics – Participation & Earnings. <https://www.cfec.state.ak.us/gpbycen/2022/180.htm>. Accessed May 3, 2024.
- Cordova Consulting. 2017. Nome Port and Harbor Development Analysis. Provided by City of Nome on September 13, 2023.
- Gannon, Megan. 2023. "Graphite One sets sights on bigger mine than originally proposed." *The Nome Nugget*, April 28, 2023. <http://www.nomenugget.com/news/graphite-one-sets-sights-bigger-mine-originally-proposed>. Accessed on April 12, 2024.
- Graphite One. 2024. Graphite One 2023 Year in Review. <https://www.graphiteoneinc.com/graphite-one-2023-year-in-review/>. Accessed May 3, 2024.
- Graphite One. n.d. Graphite—A National Security Priority. <https://www.graphiteoneinc.com/national-security/>. Accessed May 3, 2024.
- Gricius, G. 2021. "Geopolitical Implications of New Arctic Shipping Lanes". The Arctic Institute. <https://www.thearcticinstitute.org/geopolitical-implications-arctic-shipping-lanes/>. Accessed April 30, 2024.
- CruiseLines.com. 2024. https://hollandamerica.cruiselines.com/cruise_ship/Westerdam.cfm. Accessed May 13, 2024.
- KNOM. 2024. "Graphite One Community Meeting: Economic Promise Meets Environmental Worry." <https://knom.org/2024/04/24/graphite-one-community-meeting-economic-progress-meets-environmental-worry/>. Accessed May 6, 2024.
- Port of Nome. 2023a. Detailed financial and tariff information. Provided by email to Northern Economics, Inc. October 30, 2023.
- Port of Nome. 2023b. Vessel traffic and commodity volumes for 2012–2022. Provided by email to Northern Economics, Inc. October 30, 2023.
- Port of Nome. 2024a. Project Prioritization. Provided by email to Northern Economics, Inc. March 26, 2024.
- Port of Nome. 2024b. Vessel calls for 2023. Provided by email to Northern Economics, Inc. April 9, 2024.

- Port of Nome. 2024c. Vessel traffic volumes for 2023. Provided by email to Northern Economics, Inc. April 25, 2024.
- Schaffner, M. 2024. "A New Mine for New Times: The Graphite Creek Project". Presentation to Resource Development Council. <https://rdc.memberclicks.net/assets/Breakfasts/2024/2%2015%2024%20%20Graphite%201%20PowerPoint.pdf>. Accessed May 6, 2024.
- Schwing, E. 2023. "As Arctic shipping traffic increases, Nome grapples with its future. 'It's like a highway going right past us'". KYUK. <https://www.kyuk.org/science-and-environment/2023-03-01/as-arctic-shipping-traffic-increases-nome-grapples-with-its-future-its-like-a-highway-going-right-past-us>. Accessed April 30, 2024.
- Stotts, Lucas. 2022. 2nd Quarter Report F2022, in Nome Port Commission Work Session & Regular Meeting Agenda. https://www.nomealaska.org/sites/default/files/fileattachments/nome_port_commission/meeting/packets/11803/22-2-17_pc_w-s_regular_meeting_packet.pdf. Accessed March 29, 2024.
- Sunoco LP. 2024. Avgas, Fuel for Small Piston-Engine Aircraft. <https://www.sunocolp.com/fuel-solutions/avgas>. Accessed May 9, 2024.
- The Engineering Toolbox. 2003. Fuels - Densities and Specific Volumes. https://www.engineeringtoolbox.com/fuels-densities-specific-volumes-d_166.html. Accessed May 9, 2024.
- United Fishermen of Alaska. 2021. Alaska Commercial Fishing and Seafood Processing Community Fact Sheets, 2021 Edition. <https://www.ufafish.org/wp-content/uploads/2023/05/1.-CONTENTS-PAGE-2021-v1.0-1.pdf>. Accessed May 3, 2024.
- USACE. 2020. Port of Nome Feasibility Study. <https://www.poa.usace.army.mil/Library/Reports-and-Studies/Port-of-Nome-Modification-Project/>. Accessed September 19, 2023.