

Nome Suction Dredge Study



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ALASKA

NORTH TO OPPORTUNITY

Executive Summary

LARGE-SCALE COMMERCIAL OFFSHORE DREDGE OPERATIONS and recreational suction dredge mining have grown significantly in Nome since 2011. Recent lease sales, the high price of gold in 2011 and 2012, and the popular reality television show Bering Sea Gold have spurred a modern-day gold rush in the area. As with any area or industry experiencing rapid growth, regulations and infrastructure have not kept pace with the expansion; improvements to infrastructure, safety response, public access, and permitting are needed. Additionally, the growing industry offers opportunities for increased revenue to the City and Port of Nome. Recommendations for regulation and infrastructure improvements include:

REVENUES

Tax revenue trends show that the city has significantly increased collections since the influx of miners began in 2011. The City of Nome should consider retaining a personal property assessor to ensure accurate tracking of seasonal visitors and vessels, as well as reviewing the overall property revenue structure.

SAFETY

The mining industry's willingness to adopt safety measures will minimize incidents and ease the burden on the public safety services in the region. Basic safety training and maritime knowledge classes should be available to dredgers and offshore mining vessels should undergo an annual safety inspection. The City of Nome should attempt to recoup operational costs from mining operators who utilize city safety services.

INFRASTRUCTURE

Effective community planning will help Nome find a balance between the infrastructure needs of the growing industry and people of the region. In the near term, requirements to identify proposed camp facilities and secure housing should be implemented, and public toilet and shower facilities should be included in the expansion plans for the Port of Nome. In the long term, upgrades to port and storage facilities are needed to prevent overcrowding and to manage the steadily increasing maritime traffic in Nome. Additionally, solutions for the city's housing shortage should be addressed.

PUBLIC ACCESS

Regulations must be properly enforced for the industry to appropriately access public areas while balancing subsistence needs and keeping clean beaches readily available to the residents of Nome. A full-time DNR staff presence during the mining season is essential to help ensure the industry operates within regulations and does not negatively impact local residents' access to public areas.

PERMITTING

DNR should assess the changes to the permitting process to determine whether it results in the anticipated improvement in management and enforcement.

Both the city and the mining industry need to assume responsibility within their respective arenas. The City of Nome must work to upgrade and add infrastructure, while the mining industry must work to minimize operational hazards and to ensure Nome's public spaces are readily accessible to all residents. If the city and mining community work together to mitigate negative impacts of the offshore dredging industry, Nome will be better poised to appreciate the economic benefits that the industry generates.

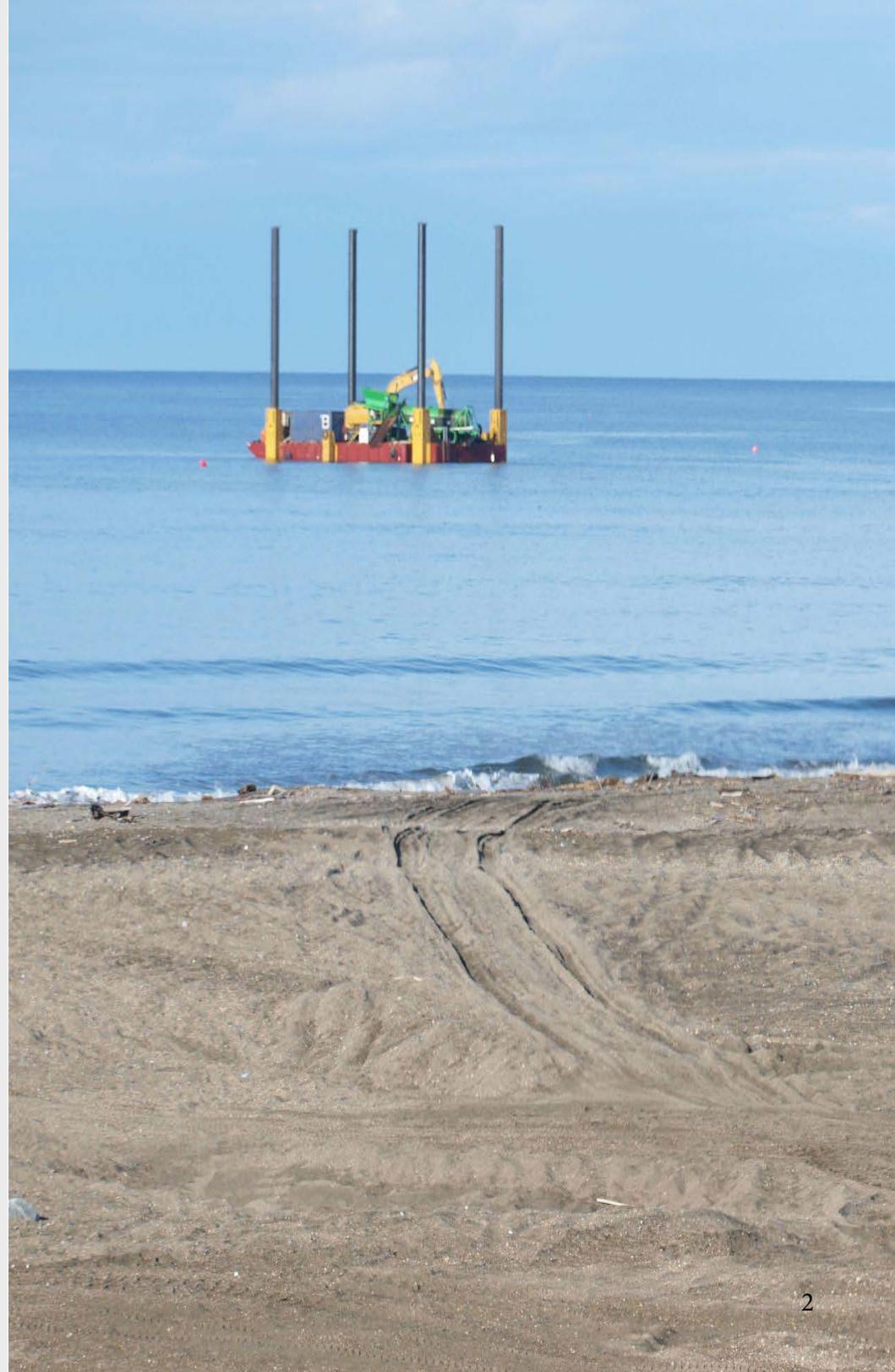
Introduction

THE STATE OF ALASKA'S Department of Natural Resources (DNR) has historically made Nome's East Beach Offshore Public Mining Area available to recreational suction dredge miners since 1998, however increased demand in 2010 prompted DNR to open Nome's West Beach area for recreational suction dredging, followed by a commercial offshore lease sale in 2011.

This study¹ analyzes the current economic impacts of both commercial and recreational dredge mining industries in Nome while identifying potential conflicts and areas of concern. Using data collected from the suction dredge industry and the City of Nome, this study provides data on the positive and adverse aspects of mining activity and replaces information that was previously anecdotal. The analysis has shown areas of both benefit and conflict that must be balanced by the community and industry for regional economic growth. This analysis will serve as a point of reference for local government to evaluate options for increasing city revenues and to communicate to state policy makers regarding future infrastructure and community development needs.

The information presented in this study is largely based on two surveys that evaluated the suction dredge mining industry in Nome. The first survey was conducted by the Alaska Division of Economic Development (DED) in preparation of the 2013 *Alaska's Mineral Industry Report*. The 33rd annual report was produced by Alaska's Division of Geological and Geophysical Surveys (DGGS) and DED. The annual reports are snapshots that provide a uniform measure of mineral industry activity over time in Alaska. A total of 15 responses from suction dredge operations in Nome, including the East and West Nome Beach Public Mining Areas and individual offshore leases, provided data for the report. The second was a survey of permit holders for suction dredge mining in the Nome region. The *Application for Permits to Mine in Alaska* survey gathered information regarding local spending on goods and services by miners. A total of 37 permit holders were asked a series of 28 questions regarding operational and employment expenses.

¹ This report does not include the production of the reality TV series "Bering Sea Gold;" however, it is an economic driver directly tied to the offshore dredging industry.



Population

LOCATED ALONG THE BERING SEA on the southern coast of the Seward Peninsula, Nome lies about 540 air miles northwest of Anchorage. Nome serves as the supply, service, and transportation center of the Bering Strait region. Before significant European American migration, Nome's residents were almost solely Alaska Native and relied on subsistence activities. The traditional lifestyle began to change when a significant gold strike on Anvil Creek in 1898 brought thousands of miners to Nome and transformed an isolated stretch of tundra into a city of tents and log cabins.² The population swelled; by the 1900 census Nome's population had grown to 12,488 people, up from 41 people in 1890, making it Alaska's largest city at the time. While unofficial population estimates reached as high as 20,000 people during the summer of 1901, the gold rush soon waned. By 1910, Nome had experienced a decrease of nearly 10,000 people over the prior decade. Ten years later, the population had dwindled further to just 852.³ In 2010 Nome had a population of 3,598, with more recent estimates suggesting a slight growth to approximately 3,659.⁴

² Bering Strait Comprehensive Economic Development Strategy 2013-2018, Kawerak Community Planning and Development Program, July 2013.

³ State of Alaska Department of Commerce, Community and Economic Development, Community and Regional Affairs Section, Community of Nome, last updated in 2014, <http://commerce.State.ak.us/cra/DCRAExternal/community/Details/7831002D-CF78-477B-A4F8-B1C9BBA1A96C>.

⁴ State of Alaska Department of Commerce, Community and Economic Develop-

2013 Nome Population and Demographics

	Number of People	Percent of Population
American Indian/Alaska Native	1,971	54.8
White	1,093	30.4
Asian	78	2.2
Black	18	0.5
Pacific Islander	9	0.3
Other	18	0.5
Two or more races	411	11.4

Figure 1. Alaska Department of Labor and Workforce Development



Economic Profile

MORE THAN 100 YEARS AFTER THE GOLD RUSH, mining is no longer Nome's main industry. The Nome economy is mostly based on service industries; government, health care, and social services provide more than 90 percent of jobs and wages.⁵ Tourism is a small but important part of Nome's economy. From June to September 2014, two cruise ships made port calls in Nome, bringing in an estimated 885 passengers.⁶ The City of Nome hosts the finish line of the annual Iditarod Trail Sled Dog Race, an event that attracts visitors from all over the world. The Iron Dog, a long-distance snow-machine race, also stops in Nome and attracts visitors each year. A number of tour operators cater to independent summer travelers and offer a variety of outdoor activities including gold panning, hunting, fishing, and bird watching.⁷ In 2013, per capita income in Nome was \$31,695, which is marginally lower than the statewide average of \$32,537. Median household income amounted to \$71,516, which is higher than the statewide average of \$69,917. Median family income was \$77,283.⁸ About 9.78 percent of the city's total population lived below the poverty level, which is slightly above the statewide average. More than 40 percent of wage earners in Nome had incomes of \$50,000 or more a year.⁹

ment, Community and Regional Affairs Section, Community of Nome, last updated in 2014, <http://commerce.State.ak.us/cra/DCRAExternal/community/Details/7831002D-CF78-477B-A4F8-B1C9BBA1A96C>.

5 Alaska Department of Labor and Workforce Development, "Nome Census Area," Economic Trends, December 2012, <http://labor.alaska.gov/trends/dec12.pdf>.

6 Cruise Line Agencies of Alaska; "Cruise Ship Calendar for 2014," last updated February 14th, 2014. <http://clalaska.com/wp-content/uploads/2013/11/Nome-NOM-2014.pdf>.

7 Alaska Department of Labor and Workforce Development, "Nome Census Area," Economic Trends, December 2012, <http://labor.alaska.gov/trends/dec12.pdf>.

8 "American Fact Finder," U.S. Department of Commerce, United States Census Bureau, Advanced Search: Alaska, accessed November 18th, 2014, <http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>.

9 State of Alaska Department of Commerce, Community and Economic Develop-

2013 Nome Resident Workers by Industry

	Number of Workers	Percent of Total Employed
Educational and Health Services	430	25.0
Trade, Transportation and Utilities	312	18.2
Local Government	262	15.3
State Government	209	12.2
Leisure and Hospitality	87	5.1
Construction	81	4.7
Financial Activities	65	3.8
Manufacturing	48	2.8
Professional and Business Services	30	1.7
Information	18	1.0
Natural Resources and Mining	16	0.9
Other	159	9.3

Figure 2. Alaska Department of Labor and Workforce Development. Please note, this chart only depicts the profession of Nome residents and does not include employees who work in Nome and live elsewhere.

Port of Nome Infrastructure

THE PORT OF NOME plays an essential role in regional transportation—fuel, building supplies, vehicles, and equipment are offloaded at the port. Nome also has a small boat harbor, which houses about 25 commercial fishing vessels and a large offshore mining fleet.¹⁰ The impacts from increased offshore mining are evident at both the port and the small boat harbor.

Officials at the Port of Nome reported a trend away from multiple smaller dredges and toward mega-dredge operations; proprietors have partnered together on bigger dredges that often utilize jack-up rigs. The jack-up rigs and large excavator barges present an complicated impact as they require use of Nome's causeway docks primarily used for a barge/tanker fleet moving cargo, fuel and gravel through the hub facility and the region. This commodity traffic, when combined with the regular ship fleet, result in congestion that requires vessels to anchor outside the port and wait for their turn. The larger offshore mining fleet adds further congestion to the facility. Officials have noted an increase in oil spills within the harbor since the offshore mining boom. Port officials attributed this trend to the increased number of boats using the same area of water, as well as the lack of dredge design standards, increasing the likelihood of fuel spills. In recent years the oil spills and rescues have placed additional strain on Port and City emergency response crews.

The State of Alaska provided \$4 million in the general obligation bond package in 2012 for port upgrades and improvements. City officials have voiced their desire to secure a deep water port in Nome, which would extend the existing causeway 2,150 feet, demolish the existing spur breakwater, construct a 600-foot concrete caisson dock, extend utilities to the caisson dock, and dredge the outer channel.

ment, Community and Regional Affairs Section, Community of Nome, last updated in 2014, <http://commerce.State.ak.us/cra/DCRAExternal/community/Details/7831002D-CF78-477B-A4F8-B1C9BBA1A96C>.

¹⁰ Alaska Department of Labor and Workforce Development, "Nome Census Area," Economic Trends, December 2012, <http://labor.alaska.gov/trends/dec12.pdf>.

In 2014, the harbormaster reported 95 dredges registered at the small boat harbor, and 22 support vessels.¹¹ The harbormaster indicated that the influx of activity has increased revenue from the collection of tariffs and dock fees; officials approximate mining-related activity generated an increase of \$50,000 in annual revenue from docking permits and \$75,000 in storage fees since 2010. A shortage of harbor space is a future concern. City officials have said that as space runs out, they will develop upland storage space. The city purchased 18 acres of uplands for future cargo and mining infrastructure development and two smaller shore-side properties to develop access for smaller mining operations. The upland space is expected to generate revenue once fully developed. The city has also spent funds dredging the river for additional moorage brought on by the increase in offshore mining vessels.

¹¹ Diana Haecker, "At end of mining season, DNR commissioner visits Nome," *Nome Nugget*, October 16, 2014, <http://www.nomenugget.net/archives/2014/10.16.14%20NN.pdf>.



Gold Resource and Past Activity

THE SUBMARINE OFFSHORE Nome placer resource extends parallel to the Nome coastline for approximately 16 miles from the present-day beach to just past Alaska's 3-mile shoreline limit. In the Nome offshore resource area, gold is present throughout the upper 65 feet of sediment at low quantities, however, portions of the sediment have sufficient gold to be economical for dredging. Results of seismic surveys and drilling campaigns by the U.S. Geological Survey, U.S. Bureau of Mines, and private industry indicate gold is concentrated in submerged sand and gravel on the ocean floor. The highest gold contents are generally within 3 to 4 feet of the present seafloor. There are numerous geological complexities including cross-cutting depositional features and post-deposition faulting which complicate resource estimation. Total proven and probable resources in nine separate deposits comprise 585,000 ounces gold at a grade of 0.025 ounces per cubic yard.

Historical Gold Prices

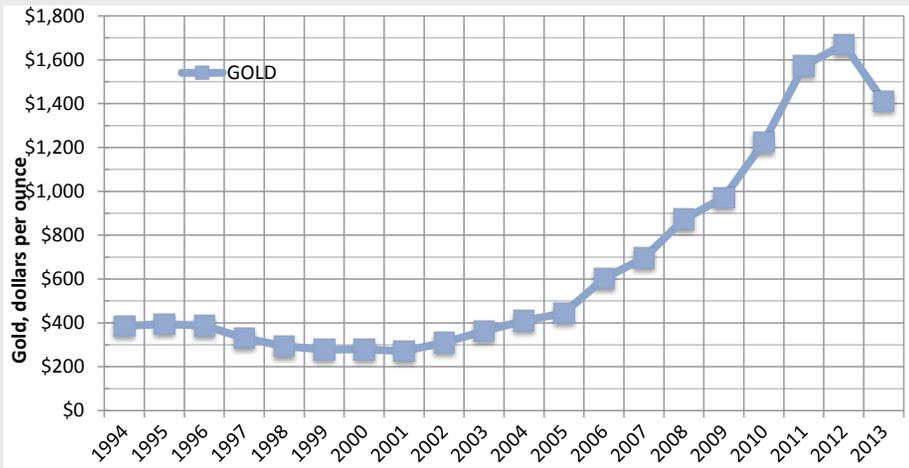


Figure 3. Alaska Mineral Industry Report 2013.



Suction Dredging in Nome

SUCTION DREDGES are commonly used in Alaska by small recreational and commercial gold placer miners. It is a popular form of recovering gold from placer gravels in freshwater streams and the ocean floor. Suction dredges are categorized by the size of the intake hose (i.e., nozzle) and by the horsepower of the pump engine, which vacuums material and sediment from the ocean floor. The material is pumped to the surface into a sluice box that is capable of recovering extremely fine particles of gold.

Commercial operations are only allowed on offshore mining leases. The East and West Nome Beach Public Mining Areas have the distinction of being the only areas where recreational suction dredging for gold on public land is permitted without a mining lease; operations in these areas do require an Application for Permits to Mine in Alaska. No person or business may hold an interest in the operation of more than one suction dredge in the two public mining areas combined. Individuals or companies may rent multiple dredges for use in the public mining areas, but the dredges must be rented at a set rental rate with no royalty on production.¹²

At West Beach Public Mining Area, miners are limited to suction dredges with suction nozzles that are six inches or less with no more than 23 horsepower pump engines. This limitation is to maintain the small/recreational mining character of the public mining area and to extend the life of the resource in the new area. At East Beach Public Mining Area, suction dredge miners are limited to nozzles that are eight inches or less with no more than 46 horsepower pump engines.¹³

¹² State of Alaska, Nome Dredgers Resource Guide, August 2014, http://dnr.alaska.gov/mlw/mining/nome/Nome_Dredgers_Resource_Guide.pdf.

¹³ State of Alaska, Nome Dredgers Resource Guide, August 2014, http://dnr.alaska.gov/mlw/mining/nome/Nome_Dredgers_Resource_Guide.pdf.



Special Topic: *Pre-2011 Activity and 2011 Lease Sale*

The State of Alaska set aside a portion of Nome's beaches for recreational miners, allowing individuals to use small dredges and hand mining techniques along the shorelines. The East Nome Beach Public Mining Area was established in 1998. The depletion of gold resources in the public mining area coupled with significant increases in the price of gold in the mid-2000s led to an increased interest in mineable tracts in the Nome area. DNR met

the demand by designating the West Nome Beach as a Public Mining Area in 2010.

Due to lack of interest and the limited revenue collected from earlier sales, lease tracts were not offered for the Nome offshore area between 1999 and 2011. The rise in gold prices and subsequent increase in demand for mining areas was cause for DNR to hold a competitive sale on September 28, 2011 for offshore mineral leases off the coast of Nome.

During the sale, bids were submitted by a range of individuals and types of companies. The state divided its offering into two groups – 53 smaller, near-shore parcels, ranging from 40 acres to 160 acres and 31 larger tracts measuring up to 2,794 acres. The larger tracts were located in the deeper waters roughly one to three miles off the coast.



Number of miners/ permits

MINERS OPERATING in either of the public mining areas must confine their operations to those public mining areas. There is no winter (i.e., under-ice) dredging allowed in the East and West Recreation Areas.

In 2013, DNR issued 207 offshore mining permits, up 51 permits from the previous year. Of the permits issued in 2013, eight permitted mining under the sea ice. In 2014, 218 offshore mining permits were issued. Of the DNR permit holders in 2014, 25 percent were Alaska residents or had an in-state mailing address. 120 authorizations were for the recreational areas and 60 authorizations were for lease tracts. An additional 38 authorizations were for lease tracts, recreational areas, and mining claims. The 37 surveyed permit holders in the DED *Nome Suction Dredge Study* reported a total of 94 employees, averaging 2.5 employees per mining operation.¹⁴ DNR estimated out of the 207 permitted outfits in 2013, only 60 to 80 dredges actually worked throughout the season.¹⁵ All permits for offshore suction dredging expire at the end of the calendar year.¹⁶

¹⁴ The survey did not include the residency of mining employees.

¹⁵ Diana Haecker, "Second season of offshore gold rush nears its end," *Nome Nugget*, October 24, 2013, <http://www.nomenugget.net/archives/2013/10.24.13%20NN.pdf>.

¹⁶ Diana Haecker, "At end of mining season, DNR commissioner visits Nome," *Nome Nugget*, October 16, 2014, <http://www.nomenugget.net/archives/2014/10.16.14%20NN.pdf>.

Residency of Nome Permit Holders

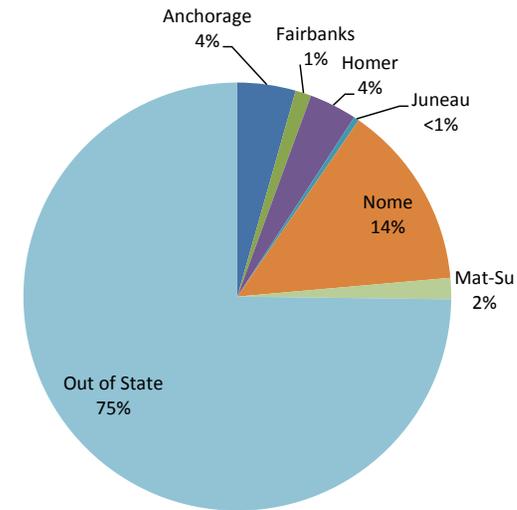


Figure 4. Alaska Department of Natural Resources



Revenues to the State of Alaska

ALASKA REQUIRES A PRODUCTION ROYALTY on all revenues received from minerals produced on state land, including East and West Nome Beach Public Mining Areas. “Minerals produced on state land” include any mineral extracted or leached in-place from the surface or subsurface and sold or removed from the state. The royalty is 3 percent of net income, as determined under the mining license tax. A production royalty return must be prepared for the previous calendar year and submitted by May 1.¹⁷ In 2013, total rents paid to the state on offshore mining leases and submerged land mining claims within the Norton Sound area was approximately \$50,000; total royalties were approximately \$8,000. In addition to royalties, the state received approximately \$7.6 million from winning bonus bids from the 2011 offshore lease sale.¹⁸ 25 percent of the total offshore lease sale amount went to Alaska’s Permanent Fund, which is managed on behalf of all Alaskans. The State of Alaska also collects a corporate income tax; however none of the mining companies in Nome matched payments in the State’s corporate income tax data. This does not necessarily indicate the amount of corporate income tax from Nome offshore operators is zero, but it is likely a small amount which is unable to be estimated accurately. Of the remaining \$5.125 million of the total offshore lease sale amount, \$4 million was provided by the State of Alaska to the Port of Nome as part of the port improvement plan included in the 2012 general obligation bond package.¹⁹

¹⁷ State of Alaska, “*Nome Dredgers Resource Guide*,” 2014.

¹⁸ J.E. Athey et al., “Alaska’s Mineral Industry Report 2013,” October 2014, <http://137.229.113.30/webpubs/dggs/sr/text/sr069.pdf>.

¹⁹ Diana Haecker, “At end of mining season, DNR commissioner visits Nome,” *Nome Nugget*, October 16, 2014, <http://www.nomenugget.net/archives/2014/10.16.14%20NN.pdf>.



Revenues to the City of Nome

AFTER THE 2010 OPENING of the West Nome Beach Public Mining Area and the 2011 offshore lease sale, the increase in mining activity brought significant economic growth to Nome. The influx of commercial and recreational mining activity has increased city tax revenue and added a new sector to Nome's seasonal tax base. While there is no way to determine what portion of the tax increase was due to mining activity, the 2013 Alaska Minerals Industry Report survey indicates that mining played a role in the increase. In the Alaska Minerals Industry Report survey, 15 dredging operators reported they paid a total of \$9,496.94 in taxes to the City of Nome in 2013, averaging \$633.13 per respondent. Monthly sales tax revenue from Nome in 2013 shows that the highest grossing months are July, August, September, and October which correspond with seasonal mining activity.

During the 2010 to 2014 timeframe, the city population remained relatively unchanged, increasing by 1.6 percent.²⁰ Outside of the construction of the Norton Sound Regional Hospital, which was completed in 2012, no other large economic drivers entered the region. From 2010 to 2013, sales tax revenue increased by 21 percent, rising from \$4,443,756 to \$5,373,835. Total property taxes (excluding oil and gas property taxes) increased by 68 percent, rising from \$1,577,427 to \$2,653,922. The local bed tax increased by 25 percent, growing from \$126,575 to \$157,913.

²⁰ Alaska Department of Labor and Workforce Development, Research and Analysis Section, Last updated on August 26, 2014, <http://live.laborstats.alaska.gov/alari/details.cfm?yr=2013&yr=2012&yr=2011&yr=2010&yr=2009&dst=01&dst=03&dst=04&dst=06&dst=12&dst=09&dst=11&dst=07&r=4&b=17&p=228>

RECOMMENDATION: The City of Nome should consider retaining a personal property assessor if financially feasible. While dredges are a required property tax filing, it has proven difficult for officials to track all seasonal visitors and vessels. Currently, the city uses existing personnel to handle the tracking and there is a loophole if miners fail to self-report. If the city retained a personal property assessor, more accurate tracking of all seasonal visitors and vessels could occur. The feasibility of position would be dependent on the additional revenue collected from the property tax filings. While estimates show that the potential additional revenue at the current time would not likely cover the city's personnel costs for such a position, the city should reassess the feasibility in the future.

City of Nome Sales and Property Tax Revenue (2010 -2013)

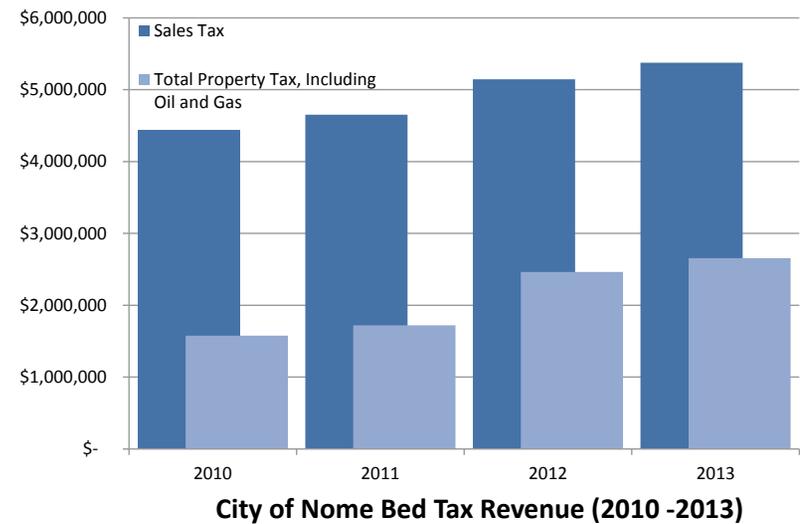


Figure 5. Alaska Department of Labor and Workforce Development

City of Nome Bed Tax Revenue (2010 -2013)

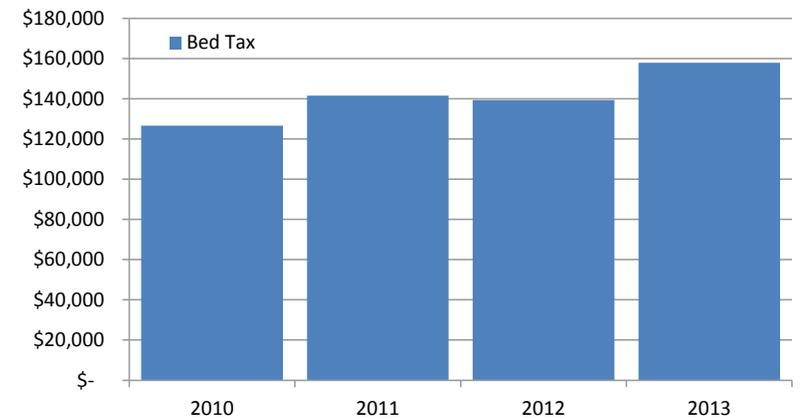


Figure 6. Alaska Department of Labor and Workforce Development

Monthly Sales Tax Collection in Nome (2013)

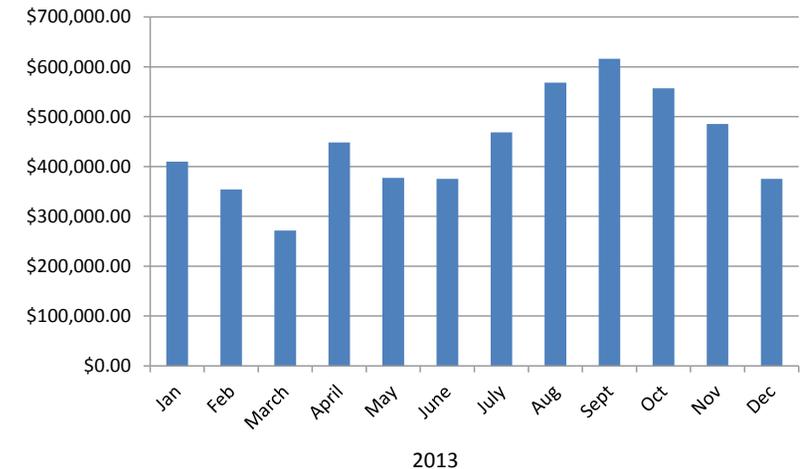


Figure 7. City of Nome

Safety Challenges

CITY OF NOME SAFETY SERVICES, including the Nome Volunteer Fire Service and Ambulance Departments, have seen an increase in calls for service since 2011. Incidents encompass both personal safety and environmental degradation. The city has responded to vehicles stuck on breaking sea ice, a hydraulic oil spill into the recreational mining area, and a dredge drifting five miles offshore without any means of communication. Such mining-related emergencies are not isolated incidents. These emergency responses occupy a significant portion of responders' resources and time and divert emergency response from full-time residents of Nome. At this time, a breakdown of expenditures dedicated to emergency response for the offshore mining industry is not available. Anecdotally, the most utilized special equipment in rescue efforts was The Guardian rescue vessel which was launched in several response efforts. Between 2013 and 2014, there were 15 fire department callouts related to offshore mining, of which 6 were designated false alarms. Only one workers' compensation claim has been filed for a miner who used city emergency response services; there are several unpaid claims resulting from mining incidences.

A primary safety concern expressed by city officials is the quality of vessels used in dredging operations and the limited maritime knowledge of their operators. Port officials observed day-to-day harbor operations and concluded that only half of the offshore miners are proficient in maritime knowledge, indicating a need for basic safety training classes for dredgers conducted by the U.S. Coast Guard (USCG).²¹ The USCG conducted outreach, education, and boardings during the summer of 2014. The USCG also offers voluntary dockside safety checks during limited time periods and may conduct underway boardings on dredge vessels to ensure compliance with federal regulation. Port officials also suggested that more collaboration between the state government and the USCG would be beneficial when establishing minimum standards for the industry.²² The USCG sets safety standards for recreational and commercial vessels and maintains jurisdiction over offshore dredging operations in the region.²³ Beyond these standards, there are no regulations that address the specialized vessels often used in dredging operations.

21 Diana Haecker, "At end of mining season, DNR commissioner visits Nome," *Nome Nugget*, October 16, 2014, <http://www.nomenugget.net/archives/2014/10.16.14%20NN.pdf>.

22 Diana Haecker, "At end of mining season, DNR commissioner visits Nome," *Nome Nugget*, October 16, 2014, <http://www.nomenugget.net/archives/2014/10.16.14%20NN.pdf>.

23 *Vessel Safety Requirements for Offshore Dredge Operations for the Captain of the Port, Western Alaska Zone*, June 2014.

RECOMMENDATION: DNR and the City of Nome should advocate for the USCG to offer basic safety training classes to dredgers and to create minimum standards for dredging industry maritime knowledge. DNR's Office of Boating Safety conducts maritime knowledge training courses; the office could offer an Alaska Water Wise course in Nome to provide the education necessary to meet newly implemented minimum maritime knowledge standards. Additionally, the Alaska Miners Association or the Department of Commerce, Community and Economic Development could possibly sponsor a USCG instructor to conduct a training for miners in the region.

RECOMMENDATION: DNR should consider including stipulation on approval of permits/plans of operations for offshore mining activities that requires any watercraft used for mining operations undergo an annual safety inspection by the USCG.

RECOMMENDATION: The City of Nome should attempt to recoup operational costs from mining operators who utilize city safety services. The city should charge fees for fire department responses, akin to the fees collected for ambulance services. The city safety services providers should coordinate with the port to identify miners who use port facilities and have unpaid bills with the city, including ambulance bills. The city should also incentivize offshore leaseholders to require individuals operating on their claims to carry workers' compensation and/or health insurance, potential instruments for the city to recoup the cost of emergency response services.

Housing Challenges

LACK OF HOUSING AND ACCOMMODATIONS is a pressing issue in Nome. Nome suffers from both a high cost of living and a housing shortage. Of the 1,503 housing units in Nome, the homeowner vacancy rate is 2.2 percent. The rental vacancy rate is 8.8 percent, which is higher than the 6.6 percent statewide vacancy rate.²⁴ The vacancy rate is measured over the course of a year and does not accurately reflect housing shortages specific to the mining season.

Nome Vacancy Rates

Total housing units	1,503
Homeowner vacancy rate	2.2%
Rental vacancy rate	8.8%

Figure 8. Alaska Department of Labor and Workforce Development

The lack of housing has impacted both the mining industry and local residents. Based on the 2014 Nome Suction Dredge Study, finding affordable and adequate housing was a major challenge for many in the industry. Operators reported a wide range of accommodations. The most common form of housing was seasonal use of local area campgrounds; 11 miners reported camping as their primary lodging. Until 2013, miners were able to live at the Dredge 6 Campground and gravel pit area on Nome Gold Company land. However, the company decided to discontinue leasing its land to seasonal gold miners because of recent property damage. Miners have reported utilizing beach areas for camping, which has led to concern from city officials regarding the refuse and human waste associated with long-term beach camping. six miners indicated they were local homeowners and an additional seven miners reported utilizing rental accommodations. The remaining miners reported other living arrangements.

Lack of housing is not a unique issue to miners; it is a citywide concern. In 2012, the local hospital expansion drew an influx of healthcare workers to Nome. Potential expansion of port operations and USCG facilities may also add to long-term housing shortages. Several factors have contributed to a lack of housing options, including difficulty acquiring construction financing and available land. Local experts estimate the cost of construction between \$250-325 per square foot.²⁵ New housing stock has been slow to develop; only six new housing units were built in 2013.

²⁴ <http://live.laborstats.alaska.gov/alari/details.cfm?yr=2013&yr=2012&yr=2011&yr=2010&yr=2009&dst=01&dst=03&dst=04&dst=06&dst=12&dst=09&dst=11&dst=07&r=4&b=17&p=228>

²⁵ Diana Haecker, "Summer expected to worsen Nome's Housing Crunch," *Nome Nugget*, April 26, 2012, <http://www.nomenugget.net/archives/2012/042612nn.pdf>.

RECOMMENDATION: DNR should require offshore mining applicants to provide the location and size of any proposed camp facilities to better help the City of Nome respond to potential concerns. DNR can also help mitigate the effects of camping by encouraging miners and crew members to secure housing before the beginning of each offshore mining season.

RECOMMENDATION: The City of Nome should incorporate public toilet and shower facilities into the expansion plans for the Port of Nome. If cost effective, the inclusion of toilet and shower facilities at the Port of Nome and other locations could mitigate the effects of beach camping, namely human waste and refuse. The facilities could also be utilized by residents of Nome and workers in other industries.

RECOMMENDATION: The City of Nome should pursue a strategy and framework aimed at finding solutions for regional housing supply. New housing stock would alleviate the city's perennial shortage of accommodations.

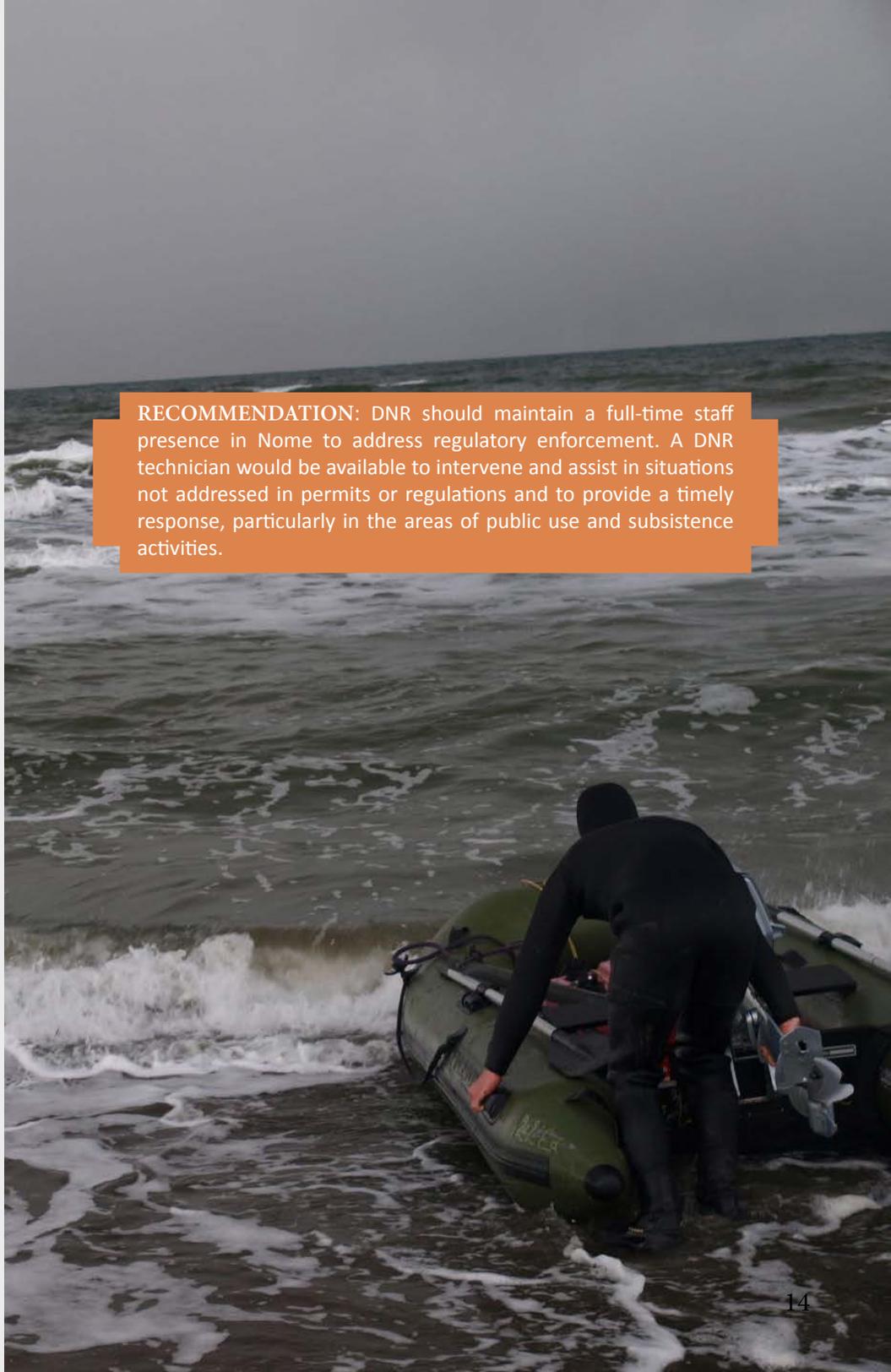
Public Access Challenges

NOME RESIDENTS have long relied on fishing and subsistence activity. Subsistence and personal use set netting occurs in both the East and West Nome Beach Public Mining Areas as well as in other locations offshore of Nome. Sport fishing using a rod and reel may occur in drainages along the Nome coast. All mining is prohibited within a 0.5 mile radius from any anadromous river mouth.

Upon reasonable evidence that a miner operating in either of the public mining areas or offshore lease areas is not in compliance with the fishing and subsistence requirements, the miner's permit may be revoked and the miner will not be allowed to operate.²⁶ If a mining operator damages a set net, they are required to report the damage to the Department of Fish and Game.

Small and slow-moving, suction dredges present a navigational hazard to harbor traffic and fisherman. The City of Nome has received several complaints about dredges along the beach that are perceived to be limiting access of subsistence users. DNR is responsible for imposing penalties for any interference with subsistence activities. DNR stationed a non-permanent natural resource technician in Nome from May to October during 2012 and 2013. According to city officials, the presence of this staff in Nome was helpful. In 2013, the technician intervened in several situations that were not addressed in permits or regulations. In 2014, DNR extended the duration of the technician's presence to year-round, dependent on funding availability.

²⁶ State of Alaska, "Nome Dredgers Resource Guide."



RECOMMENDATION: DNR should maintain a full-time staff presence in Nome to address regulatory enforcement. A DNR technician would be available to intervene and assist in situations not addressed in permits or regulations and to provide a timely response, particularly in the areas of public use and subsistence activities.

DNR Permitting Considerations

IN RESPONSE TO CONCERNS from the City of Nome, DNR has implemented changes to the permitting process. Beginning in 2015, each offshore mining lease will be required to submit a plan of operations. DNR will no longer process Applications for Permits to Mine in Alaska from operators planning to mine within the boundaries of an offshore mining lease owned by another individual or company. The plans of operations will encompass all proposed mining activities within the lease tract including the proposed activities of all individual operations within the lease. This permitting change will make lease owners accountable for all mining activities occurring in their leases, which will help streamline oversight and enforcement.

RECOMMENDATION: DNR should assess the changes to the permitting process to determine whether they result in the anticipated improvement in management and enforcement.



Summary

OVERALL, offshore mining has financially benefited the City of Nome and its residents and will continue to play role in the region's future. Tax revenue trends show that the city has significantly increased collections since the influx of miners began in 2011. The exact direct costs of city services related to mining are not known; however, the increase in service calls appears to be nominal and the city has options to recoup the costs.

Resource depletion in Nome will eventually lessen recreational interest in the offshore public mining areas, but the economically viable placer gold found in large offshore lease tracts will most likely sustain a long-term commercial mining industry. Both the city and the mining industry need to assume responsibly within their respective arenas. The City of Nome must work to upgrade and add infrastructure, while the mining industry must work to minimize operational hazards and to ensure Nome's public spaces are readily accessible to all residents. If the city and mining community work together to mitigate negative impacts of the offshore dredging industry, Nome will be better poised to appreciate the economic benefits that the industry generates.

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