

The Maritime Economy of Southeast Alaska

Photo Credit: Jo Ellen Wendel alaskafloatsmyboat.com

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Our Ocean-Based Economy

Southeast Alaska's maritime sector is a vibrant spectrum of businesses and organizations dependent on ocean related commerce.

Southeast Alaska is a maritime region. Nearly every element of our economy is intermingled with the maritime economy. We depend on barges to import most commodities, including food and fuel. Our seafood industry depends on the wealth of the sea and the flotilla of 3,000 commercial fishing vessels home-ported in the region. A million visitors come to Southeast Alaska on 500 cruise ship voyages in the summer. Freight ships move logs and ore laden with precious metals to market. Alaska Marine Highway ferries provide transportation between communities.

Government employees regulate the fishing industry, guard our coasts, teach fisheries courses, manage coastal areas, operate docks and harbors, and research ocean species and habitat.

Due to the way economic data is typically quantified, the Southeast Alaska maritime industry has not previously been measured as an independent sector. As a result its contributions to the regional economy have not been recognized. This publication quantifies Southeast Alaska's maritime economy and provides an in-depth focus on one of the region's fastest growing segments: maritime manufacturing in the form of ship & boat building and repair.



HOW MUCH OF SOUTHEAST ALASKA'S ECONOMY IS MARITIME?

Just over one-quarter of all Southeast Alaska wages are directly earned through ocean related employment in 2012. In Southeast Alaska there are 8,200 "blue jobs" as maritime jobs are sometimes called, with \$475 million in associated wages. Taken together, the more than 400 businesses and government agencies that are directly tied to the ocean comprise Southeast Alaska's largest economic sector.

WHAT ARE MARITIME OR "BLUE" JOBS?

Maritime jobs are all jobs related to the ocean. In Southeast Alaska this includes ship and boat builders, fishermen, cannery workers, barge line operators, Coast Guard employees, ferry workers, marine welders, builders of breakwaters, whale watching cruise staff,

marine biologists, fishing lodge owners, sports fishing crew, marine regulation enforcers, kayak guides, boat dealers, salmon hatchery staff, fish permit clerks, fishing gear retailers, and more.

Both private and public sector employment are part of the regional maritime economy, although the region's private sector's contribution is larger. There are nearly three private sector maritime jobs for each public sector job. When all maritime categories are added together, the Southeast Alaska maritime sector directly accounts for 26% of all employment related income and 21% of all Southeast Alaska employment in 2012.

A UNIQUELY MARITIME ECONOMY

Maritime employment sets Southeast Alaska apart from the rest of the United States. Private maritime jobs are **49 times more prevalent** in Southeast Alaska than in the US as a whole according to the Bureau of Labor Statistics. Even excluding commercial fishing, which is 95 times more common here than in the US as a whole, the region's maritime businesses are 35 times more concentrated (or specialized) in Southeast Alaska than the nation as a whole. When economists look at an economy to identify the economic drivers, they look at this "location quotient" in order to understand what makes a region unique compared to national norms. The national average is 1.0, and anything over 2.0 is considered to be significant. Southeast Alaska's maritime sector off the charts.

A Message from Southeast Conference's Executive Director

Greetings-

We think this publication will change the way you think about the regional economy. We have often grappled with the question: What is Southeast Alaska's top economic driver, and what is it that makes the Southeast economy unique? Some said it was government, or fishing, or tourism, or extractive industries.

The ocean and ocean-related jobs play such a big role in our regional communities and we at Southeast Conference wanted to better understand the role of the Southeast Alaska maritime economy as a whole. Until now, no one had quantified just how big and important that role is. This publication marks the first time that all aspects of our maritime economy have been combined and examined together, and it finally answers those questions above.

We are a maritime economy. It is what most marks our identity and what fuels our economic engine. Our maritime economy permeates into every aspect of our economy and includes tourism jobs and fishing jobs; government jobs and natural resource development.

As part of this publication, we want to highlight some of the success stories from across the region related to maritime. Since much has been written about our commercial fishing sector, for this publication we chose to focus on the ship, boat building, and repair sector, as so much exciting growth and change has happened in those areas over the last decade. However, we hope this publication stands as a tribute to all maritime workers and businesses across Southeast Alaska.

New maritime opportunities are emerging across Alaska. Retreating sea ice has increased the accessibility of the Arctic, generating new economic opportunities and an increased US Coast Guard presence. Initiatives, such as those listed in this publication, are occurring that will help us to collaborate as a region and as a State to better recognize the value of maritime opportunities, and to prioritize development of the marine infrastructure necessary to bring higher paying jobs to our rural communities. Success will require industry leadership, strategic planning, and a willingness to work towards new worthwhile opportunities.

Southeast Conference will continue to push forward in this direction on behalf of our membership.

Shelly Wright
Southeast Conference, Executive Director

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Southeast Maritime Employment & Wages, 2012



	NUMBER OF FIRMS	TOTAL WAGES	ANNUAL AVG. EMPLOYMENT	AVERAGE ANNUAL WAGES
SEAFOOD (INCLUDING SELF-EMPLOYED SOUTHEAST ALASKA BASED FISHERMEN)	93 (+ 2,330 fishermen)	\$245,882,790	4,130	\$59,536
WATER TRANSPORTATION	97	\$39,051,375	755	\$51,724
MARINAS AND BOAT DEALERS	12	\$1,549,550	49	\$31,623
SHIP, BOAT BUILDING & REPAIR	7	\$10,001,800	183	\$54,655
MIXED MARINE RECREATION (SPORTS FISHING, KAYAKING, BOATING, FISHING LODGES, SPORTING GOODS STORES, MARINE RECREATION)	114	\$16,888,750	594	\$28,432
MIXED MARINE CONSTRUCTION, ENGINEERING, MANUFACTURING, & RESEARCH	51	\$12,094,190	192	\$62,991
SUBTOTAL PRIVATE REGIONAL MARITIME	374	\$325,468,455	5,903	\$55,136
FEDERAL MARITIME EMPLOYMENT (NMFS, US COAST GUARD, FISHERIES COMPONENT OF US FISH & WILDLIFE)	4	\$70,120,050	897	\$78,172
LOCAL GOVERNMENT MARITIME EMPLOYMENT (INTER-ISLAND FERRY AUTHORITY, DOCKS AND HARBORS STAFF)	20	\$4,665,990	100	\$46,660
STATE MARITIME EMPLOYMENT (AMHS, UNIVERSITY OF ALASKA - UAF, UAS; FISHERIES COMPONENT OF ADF&G)	4	\$74,192,475	1,300	\$57,071
SUBTOTAL PUBLIC REGIONAL MARITIME	28	\$148,978,515	2,297	\$64,858
TOTAL SOUTHEAST MARITIME JOBS & WAGES	402	\$474,446,970	8,200	\$57,860

Primary Source: Alaska Department of Labor.

Seafood Includes: Mariculture, Seafood Product Preparation and Packaging, Merchant Wholesalers, Seafood Markets (NAICS codes 1125, 1141, 3117, 42446, 44522) 2012.

Water Transportation includes: Water Transportation, Support Activities for Water Transportation, Scenic and Sightseeing Transportation (NAICS codes 483, 4883, 4872) 2012.

Marinas and Boat Dealers includes: Marinas and Boat Dealer (NAICS codes 441222, 71393) 2012.

Ship, Boat Building & Repair includes: Ship, Boat Building & Repair (NAICS code 3366) 2012.

Mixed Marine Recreation includes NAICS codes 42391, 532292, 71211, 71212, 71213, 71399, 721214, 81149 for 2012.

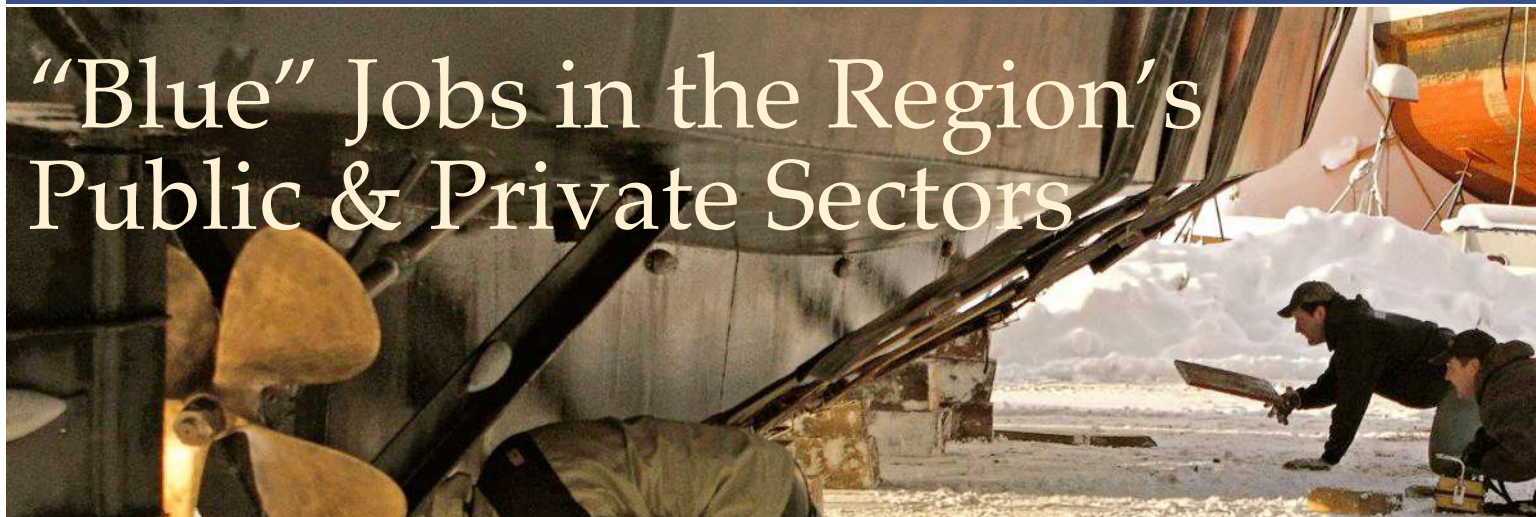
Mixed Marine Construction/Manufacturing/Engineering/Research includes NAICS codes 23621, 2379, 311119, 31491, 332999, 333923, 42383, 54133, 541712, 541990, 611519 for 2012.

Other data sources: **Commercial Fishermen:** Data for this category includes 2011 US Census Nonemployer (self-employment) statistics. **US Coast Guard:** US Coast Guard employment and wage data provided by the US Coast Guard, 2012. **AMHS Employment:** AMHS employment and wage data provided by AMHS, 2012. **Alaska Department of Fish and Game** provided fish related job data, 2012. **US Fish and Wildlife and National Marine Fisheries Service:** Provided by the the United States Office of Personnel Management, 2012. **University of Alaska:** University of Alaska System Institutional Research & Analysis provided wage and labor information for UAS and UAF maritime related employment. **Dock and Harbors City Employees:** Survey by Sheinberg Associates, April 2013. Some rounding has occurred.

Notes: The goal of this analysis is to incorporate and measure the entire Southeast Alaska maritime economy. However, there is maritime-related employment in the supply chain base that provides specialized goods and professional services to the maritime industry that these figures do not include, such as plumbing and heating businesses that work on homes as well as boats, locksmiths with marine clientele, seafood restaurants, and employment agencies that hire ferry workers. Nor do these figures take into account the multiplier effects of maritime jobs on the region—each maritime dollar spent or job created leads to additional spending and employment as dollars working their way through the regional economy.

The 26% percent of work income from chart on page one is based on \$1.85 billion earned. This is slightly lower than the “Southeast by the Numbers” value because self-employment data (other than commercial fishing) could not be analyzed in enough detail to separate maritime from non-maritime employment, and thus was excluded from this analysis.

"Blue" Jobs in the Region's Public & Private Sectors



Southeast Alaska's maritime industry and related economic activity comprise the regional "Blue Economy."

Photo Credit: Jo Ellen Wendel alaskafloatsmyboat.com

PRIVATE SECTOR MARITIME JOBS AND WAGES

There are 5,900 private sector employees and commercial fishermen in Southeast Alaska, earning \$326 million annually, whose livelihood is linked to maritime industries. Their earnings account for 30% of all Southeast Alaska private sector employment income.

Some private sector "blue" jobs are solely linked to the oceans. These include commercial fishermen, and those employed by seafood plants, mariculture operations, barge and marine freight services, whale watching and other ocean-based excursions, charter fishing, marinas, boat dealers, and ship and boat building and repair craftsmen.

A smaller component—representing about 10% of private maritime employment—is mixed maritime; where jobs cannot be seamlessly separated from non-maritime jobs. Examples are construction firms that do work in marine construction (breakwater and seawall work, dock repair, pile driving, or boat lift installation) as well as non-marine construction; or "commercial recreational" lodges, which is a category that includes fishing lodges as well as hunting lodges. Other ocean-dependent businesses included in mixed categories are fishing guide services, sailing clubs, marine engineering, oceanographic research, boat and kayak rentals, marine and fishing equipment suppliers, dry-bag manufacturers, marine surveyors, and outboard motor repair shops. Employment in this category is more likely to be connected to the visitor industry and is highly seasonal.

GOVERNMENT SECTOR JOBS MARITIME AND WAGES

The public sector also has a significant amount of maritime employment, including 2,300 government jobs with a direct maritime component.

STATE MARITIME EMPLOYMENT

The largest share of these public sector



maritime positions—1,300—are with the State of Alaska. This is linked to the enormous investment the State has made in marine public transportation.

The Alaska

Marine Highway System has 900 employees in Southeast Alaska. Among the many duties AMHS employees are responsible for include operating ships, providing shore support, ensuring that engine rooms are operating properly, and providing housekeeping services. In 2012, 263,000 passengers and 85,000 vehicles sailed on ferries in Southeast Alaska.

The Alaska Department of Fish and Game provides a significant number of State maritime jobs in the region. These jobs include boat officers; fisheries biologists, scientists, and analysts; and serve the Commercial Fisheries Entry Commission, and the divisions of the Sport Fisheries, Habitat,

Subsistence, or support the Board of Fish. The University of Alaska's School of Fisheries and Ocean Science also has a small presence in Southeast Alaska, and other University employment are the UAS professors who teach Marine Technology, Diesel, and Fisheries Technology courses.

FEDERAL MARITIME EMPLOYMENT

Forty percent of all federal wages paid to Southeast Alaskans are maritime wages. There are 700 US Coast Guard personnel stationed in Southeast Alaska—including both active duty and civilian staff, with associated wages of \$51 million.



The National Marine Fisheries Service (NMFS) also is a significant employer here, with 180 average annual employees. Most NMFS employees are involved in scientific research of fish stocks, fish habitats, or the chemistry of marine environments through the Ted Stevens Marine Research Institute laboratories, opened in Juneau in 2007.

US Fish and Wildlife maritime positions round out this category, albeit with a smaller presence than the other two federal organizations with maritime employment.

LOCAL GOVERNMENT MARITIME EMPLOYMENT

Two percent of all local government wages are directly tied to maritime employment. These include our municipal docks and harbors staff and Inter-Island Ferry employees.

Our Rich Maritime Heritage



State of Alaska Digital Archives: Mr. Lawson standing in front of combination fishing seine and tugboat that he built in 1938.

10,000 YEARS OF A MARITIME ECONOMY

The most dominant feature of Southeast Alaska is its ocean. Southeast Alaska consists of a narrow strip of mainland and a chain of 1,100 islands that make up the Alexander Archipelago. While the region stretches just 500 miles from the southern Dixon Entrance waters to Yakutat in the north, the saltwater shoreline of Southeast Alaska is approximately 18,500 miles. Nearly every community in the region is next to the ocean, and many places in Southeast are accessible only by boat or seaplane.

Maritime jobs are not new to Southeast Alaska. Southeast Alaska's maritime sector is the region's largest sector as well as its oldest. Southeast Alaska has been a maritime economy for over 10,000 years linked to the seafaring, canoe building and tidal wealth of the Tlingit, Haida, and Tsimshian—the Alaska Native groups that dominated the region for millennia. In modern times, the sea was a critical element in the rise of most of our industries. Indeed, every economic turn of the region's history was either enabled by, or directly resulting from, the region's connection to the ocean.

TLINGIT TRADING: The coastal lands of Southeast Alaska provided an ideal setting for the Tlingit—often called the "Tides People"—to thrive. The ocean provided abundant fish and sea mammals, as well as a transportation corridor. Highly-skilled navigators, the Tlingit developed ocean trade routes, using large ocean-going canoes for trading, visiting neighboring villages and waging war—



Canoe travelers arrive at the 2013 Chief Shakes Tribal House rededication

building onshore aids to navigation to help Southeast's first people find their way. In contrast to other indigenous peoples who often struggled just to survive, the Tlingit spent relatively little time harvesting and storing easily obtained marine foods and instead were able to focus on becoming sophisticated traders and craftsmen.

FUR TRADE: When the Russians descended on the region in the eighteenth century in a fleet of boats in pursuit of fur-bearing animals, they brought with them ship-building skills and operations. During the period of Russian control of the region, Sitka became a global destination for ships, making repair and marine fabrication skills essential during the Russian period.

SEAFOOD: Fishing and fish processing have long historical roots in the region. By the late 1800s, commercial fishing and canneries had become the largest economic driver in Southeast. Today seafood related jobs to account for 12% of all regional earnings.



Hecla Photo: Miners waiting for the boat to take them to Juneau from the Greens Creek Mine.

MINING: The discovery of gold brought thousands of miners and their families to the area by ship. By 1920, the Juneau-based AJ Mine was the largest low-grade gold mine in the world. Today, nearly a million tons of zinc, lead, gold, and silver continue to ship out of Southeast Alaska annually by ore carrier freight ships.

TIMBER: Once the economic backbone of the region, timber operations have always relied on waterways to move logs to market. Logging camps themselves were often floating communities, built directly on the ocean. In 2011, log carriers made 31 port calls to Southeast Alaska communities to ship timber.



TOURISM: Visitors have been coming to Southeast Alaska via marine transport since John Muir wrote about the region in the 1870's. In 1890, steamships brought 5,000 travelers. In 2013, cruise ships will bring more than a million passengers to the region on separate 500 voyages. The volume of visitors attracted to the region has given rise to a rich variety of local visitor businesses that benefit from the sea, from sports fishing to whale watching to guided kayak tours and more.

Growing Businesses: Southeast Alaska's Shipbuilding, Ship Repair & Industrial Fabrication



One of the region's fastest growing sectors is a component of the larger maritime industry. Ship and boat building businesses are primarily engaged in operating shipyards and boatyards where they construct boats and ships, and repair vessels among other specialized services. More than half of statewide employment in this sector is in Southeast Alaska. This growth was not accidental, but resulted from strategic planning and investment. As this sector grows, it is transforming Southeast Alaska into a premier maritime support center for vessels operating from the North Pacific to the Bering Sea, strengthening regional manufacturing activity, and attracting family wage jobs to the region. The following pages will tell three of these stories, profiling success stories from this maritime segment.

Community Profile: Wrangell: Timber Town Reinvents Itself as a Maritime Service Center

WRANGELL DRAWS ON ITS HERITAGE

For most of the 20th century, Wrangell's economy was predominately tied to timber and seafood. When the Alaska Pulp Company sawmill closed in 1994, it accounted for a quarter of Wrangell jobs, and a third of all direct local wages. Complicating matters, salmon prices fell to a point that commercial fishing was no longer economically viable and the largest seafood processor went out of business as well.

Reeling from these losses, the community focused on its maritime resources. Immediately the community set about enhancing its locally-based seafood and marine services sector: building a new boat harbor, upgrading the local seafood processing infrastructure, and investing in its boatbuilding and repair facilities. Over the past five years, deliberate investment in the maritime industry as part of that transition has revitalized the community, and the population increased by six percent, to nearly 2,500 in 2012.

Boat building and repair did not represent a new direction for the port community, but was a return to its gold rush roots when the Stikine River was used as a route to reach the

Klondike, and boat building was a key part of the economy.

LEARNING FROM PORT TOWNSEND

The City of Wrangell intended to build upon Wrangell's reputation for quality marine industry work and take advantage of local talent and history. Wrangell already provided a wide variety of maritime services, including aluminum fabrication, welding, woodworking, and diesel mechanics. Wrangell officials did not want to waste time making avoidable mistakes, so they looked to another town that had successfully transitioned from a pulp mill economy to a marine center: Port Townsend—a Washington community best known for its maritime center and industry. Wrangell based its plans for its Marine Service Center on Port Townsend's 30 years of achievements in developing a maritime industry and boat repair sector, adopting Port Townsend's best-practices, bylaws, and shipyard rules; and bringing up its manager to advise in the planning process. Wrangell took advantage of the 5-acre former mill site, literally building its marine center—complete with tunnel freezer, cold storage, vessel haul-out, and boat storage—on top of the sawdust ruins left behind.

FIVE YEARS OF SIGNIFICANT IMPROVEMENTS

The challenges were considerable. The yard was in poor shape and without electricity. Taking advantage of a \$14 million public investment, the first step was to significantly improve the community's ability to bring boats out of the water for service and repair. Until that time, the community had depended on the gridiron and occasional use of forklifts in order to conduct out-of-water boat work. In 2006, a 150-ton travel lift was installed. Sixty boats were expected annually, but in the first year alone, 160 vessels used the boatlift, and that number has increased by 12% each year to 300 boats in 2012.

The Marine Center's yard is no longer an area of muddy rubble, but is paved with utilities and sidewalks. There is a large boat and equipment storage area, wash down pads, electrical outlets, covered workspace, and lease lots.

In the spring of 2014, a 300-ton boatlift will be installed to enable haul-out of boats up to 180-feet long. As the Marine Center continues to expand, it may be limited only by space.



Wrangell Community Profile Continued

Currently the community is exploring the idea of building a warehouse with bay doors to accommodate additional indoor repair and maintenance activity. It is also making longer-term plans to use a vacant 100-acre former mill site as the community continues to expand its maritime services and industry.

WRANGELL CRAFTSMEN HAVE BOAT AND SHIP REPAIR EXPERTISE

As Wrangell's marine services expand and the yard's capabilities improve, the reputation and use of Wrangell's maritime facilities has also grown. Wrangell possesses excellent craftsmen who provide services for yachters and the commercial fleet. There are approximately 50 people employed through shipyard activities such as metal fabrication, wooden shipwrights, fiberglass workers, machinists, steel welders, commercial painters, sandblasters, along with those with expertise in hydraulics, electronics, and refrigeration.

Wrangell is centrally-located in Southeast Alaska, allowing fishermen to access emergency repairs while remaining close to fishing grounds. Southeast Alaska vessel owners are taking advantage of the ability to have their repairs completed close to home, thereby saving time and expense by not traveling south to Puget Sound for repair work and winter storage.

A WORKFORCE DEVELOPMENT STRATEGY TO GROW WRANGELL'S MARINE SERVICE CENTER

Local government, the Wrangell Port Commission, and the high school are collaborating on ways to build upon and improve opportunities for Wrangell's youth to become skilled at jobs related to the maritime economy. Business owners participate in the

on-the-job-training program with the Wrangell High School shop class. These efforts help meet the demand for marine services by developing a local skilled labor pool to continue Wrangell's reputation for quality service in maritime jobs.

SVENDSEN MARINE

One of Southeast Alaska's most prolific boatbuilders, Svendsen Marine has designed and built 366 boats in Wrangell over 35 years. These welded aluminum boats are made to order, and range in size from small skiffs to a 45-foot sport cruiser. Dave Svendsen grew up in Wrangell, the son of a Norwegian shipwright, and fell in love with the craft. Despite no storefront, he keeps five to six employees busy without advertising. In addition to boat building, Svendsen Marine makes aluminum-fabricated products including dock ramps, top houses, pilothouses, bulwarks, decks, fuel tanks, masts, trolling poles, and other custom orders.

THE WRANGELL BOAT SHOP

Founded in 1928, the Wrangell Boat Shop repairs more than 200 boats annually. Business has increased significantly over recent years. According to Wrangell Boat Shop owners, the Wrangell travel lift facility has made the community a destination for boat repairs. Before the travel lift was installed, work on only two boats at a time was possible. Now there are no limits. Five years ago the shop had three employees, and now has 10 to keep up with demands. The Shop expects growth to continue as a second, larger boat-lift is installed.

Community Spotlight: Yachting in Petersburg

Petersburg has a population of just under 3,000 people and 1,100 registered boats, according to the Petersburg Economic Development Council. In 2011 Petersburg ranked as the 13th largest port by value and 15th largest port by volume for seafood harvested in the United States, and understandably has an identity as a fishing community. This year however, Petersburg is gaining a new title: **Top Yachting Community**. Each year the magazine Yachting selects the best towns for yachting in America and in 2013, Petersburg Alaska is poised to be named the top boating community in the US (or will at least be in the top 10). Affordable docking fees, three protected harbors within walking distance of downtown Petersburg, and Southeast Alaska's beauty are cited as reasons for the designation.

Community Spotlight: Haul Out in Hoonah

Other communities in Southeast are also working to expand or enhance their capacity to haul out and serve the region's large resident and transient fleets. For example, in 2010 the City of Hoonah opened its significantly expanded Marine Industrial Center with three acres of uplands, a 220 ton haul-out and other features. In 2013, Hoonah handled over 90 vessel haul-outs. In 2013, Juneau installed a self-propelled hydraulic boat lift for vessels up to 65 feet and 45 tons. In 2013 Yakutat installed a 55-ton hydraulic trailer system to haul out medium-sized vessels. These highlight just a few new facilities around the region.

Industry Spotlight: Vigor Alaska Ship and Drydock



Significant investments have positioned Ketchikan, home of the Alaska Ship and Drydock, as a destination for larger shipbuilding and repair in the Pacific Northwest. Image credit Alaska Ship and Drydock current view & planned development.

FROM SMALL OPERATION TO STATE-OF-THE-ART FACILITY

In the 1970s, the Ketchikan Shipyard started out as an abandoned 16-acre cannery site and a vision to build a regional shipyard for the Alaska Marine Highway System (AMHS).



Sunny Point Cannery 1977. Site of Alaska Ship and Drydock.
Photo by Rick Hawkinson.

By the 1970s the first nine ferries of the AMHS fleet had been constructed or purchased to serve as the region's marine highway, but Alaska did not have the capacity to maintain these modern, steel vessels. The Ketchikan shipyard was developed to repair and store the AMHS ships.

Following some initial setbacks—including a two-year closure—Alaska Ship and Drydock (ASD) took over operations of the state-owned shipyard in 1994. Over the next two decades the shipyard grew from a smaller single purpose operation to a state-of-the-art industrial marine facility.

In 1994, there were 21 employees and gross revenues of \$2.4 million. By 2012, there were 120 employees and \$37 million in annual revenues. While the initial purpose was to maintain and lay-up AMHS ferries, the scope broadened as the shipyard attracted clientele. The shipyard negotiated contracts with the U.S. Coast Guard, NOAA, state research vessels, as well as fishing and tourism vessels and workboats.

Since 2002, the shipyard has constructed four vessels and is currently completing a fifth—including a tank barge, a fishing longliner and three ferries—the most significant of these was the 1,000-ton M/V Susitna—the world's first twin hulled ice-breaker, a landing craft capable of traveling at 5 knots in two feet of ice and traveling to remote locations without port infrastructure.

The Ketchikan Shipyard is a five-way public-private partnership. The State of Alaska Industrial Development and Export Authority (AIDEA) owns the shipyard land and buildings and has financial MOUs with the Borough & City of Ketchikan. Vigor Industrial purchased Alaska Ship & Drydock (ASD) in March of 2012—adding the location to Vigor's six shipyards across the North West—while retaining ASD as a subsidiary.

In 2004, the Alaska Governor moved AMHS headquarters from Juneau to Ketchikan so that state ferry engineers and managers would be in the same community as the shipyard.

THE FACILITY GROWS, 2007-2013

The sale to Vigor came amidst a major upgrade to the Ketchikan Shipyard, modeled after best-global-practices for ship building and repair.

In 2007, a \$12 million dry dock was constructed and installed as part of a land-level ship transfer system. The next year, a \$9 million land-level berth was installed in order to transfer ships off the dry dock and onto land. The \$31 million 70,000 square-foot ship assembly and adjacent five-story production hall opened in 2012.

A \$10 million steel module facility—scheduled for completion in the fall of 2013—will transform steel plates into three dimensional

ship sections. Eventually, a large ship repair hall will be added where, among other things, ships can be painted in a controlled environment.

THE FUTURE OF THE SHIPYARD

Together, these improvements mean that the shipyard can build 500-foot ships and increase its capacity and competitiveness—better positioning it and Southeast Alaska to pursue complex high volume ship repair and building projects.

The shipyard's modern facility, skilled and cross-trained workforce, and strategic location make it an ideal support facility for many ventures, including:

- Ice-strengthened ships for the Cook Inlet and Arctic oil and gas industry
- The replacement and rebuilding of the Bering Sea ground fishing fleet
- Construction of new AMHS ferries
- Support for Arctic shipping and ocean sciences

The Ketchikan Marine Industry Council has identified a rich supply chain base of businesses in Ketchikan that support the shipyard and other local marine activity.

The shipyard's expanding portfolio could transform Southeast Alaska into a premier marine transportation and industrial hub; however, industry-wide name recognition remains a challenge. The Ketchikan Shipyard must become more well known as a destination for high-quality industrial marine services. Achieving this will take public-private partnership, and the support of the region.

Industry Spotlight: Allen Marine



Allen Marine Inc.'s Admiralty Dream in a floating dry dock made of marine grade aluminum. Both the dry dock and ship were built by Allen Marine in Sitka.

One of the largest boatbuilding operations in Alaska is more closely associated with the visitor industry than the manufacturing industry. Allen Marine provides Southeast Alaska tours and cruises on a fleet of 30 vessels. It also builds aluminum boats and structural products at its boat shop in Sitka, while Allen Marine vessels and aluminum marine structures have been sold world-wide, and they think of themselves as one of the largest exporters of manufactured goods in the region.

In the late 1960's, the Allens—a family with five young children—purchased a boat repair shipyard in Sitka and started servicing local vessels, embarking on a path that would combine boat building and tourism. The family restored a sunken vessel and used it to provide tours. By the 1980's, the family had outgrown the boats they were using, and wanted to expand their marine tourism ventures to meet growing visitor demand. However, they realized that in order to obtain precisely the vessels they wanted, they would need to build the boats themselves.

Allen Marine developed its trademark Allen Marine Aluminum Catamaran design in the design and manufacture of its first several boats. On their fourth ship, Allen Marine designed and built the first four-engine four-waterjet propulsion system.

MAJOR INDUSTRIAL MANUFACTURING

Of the first 20 boats constructed, 18 were for use in Allen Marine's own touring operations. For this work, Allen Marine developed a sophisticated boat building team and facilities. For its next major assignment—19 passenger ferries commissioned for New York Waterway—the company was able to build on this expertise. During this project, Allen Marine needed to build five catamarans simultaneously in order to deliver all 19 ferries in four years. These ferries became famous in 2009 when Flight 1549 crash-landed on the Hudson River, and the fast and highly maneuverable Allen Marine ferries played a major role in the rescue effort (shown below).



Sitka Alaska built Allen Marine ferries (along with others) saving airline passengers whose jet crash-landed on the New York Hudson River.

SEISMIC OIL EXPLORATION VESSELS

In 2010 Allen Marine delivered its most recent large order—three 64-foot aluminum catamarans built for seismic oil exploration in the Beaufort Sea. These vessels are uniquely designed to be dismantled into 8-foot wide sections for convenient truck transport. The Allen Marine team shipped the vessels to the Beaufort Sea, and met them there to reassemble. After a successful season of seismic survey work, the team disassembled

the boats, and then met them in the Gulf of Mexico where the catamarans are currently engaged. Allen Marine credits Alaska Ship and Drydock with connecting them to this project—and stresses that attracting ship and boat building and repair contracts to Southeast Alaska is a regional operation.

As of 2013, Allen Marine had built 90 vessels in Southeast Alaska: 55 larger vessels, and approximately 35 smaller boats. In addition to its catamarans, Allen Marine builds fishing boats for the charter market in Southeast Alaska, government vessels, utility boats, barges, and landing craft as well as fabricated aluminum structures, such as floating dry docks, and aluminum stairs and walkways.

When working on a major contract, the Allen Marine boatyard employs a staff of up to 100. Although no boats are currently under construction, there are approximately 40 Allen Marine employees engaged in boat maintenance and aluminum fabrication work. Most training at Allen Marine is done in-house and on-the-job. Employees who want to learn the trade are matched with seasoned professionals to learn about welding, electrical work, and other elements of boat construction. Some of those trained at Allen Marine have gone on to start their own, smaller-scale businesses in Sitka, thereby increasing the number of businesses locally involved in boat building and repair.

Presently, Allen Marine is less focused on the boatbuilding side of its operations. It recently purchased four small cruise ships and a lodge, and has expanded into the overnight and multi-day tour business. While it is not currently advertising its marine fabrication talents, it is still taking orders.



Image Credit: Alaska Marine Lines

Industry Spotlight: Barge & Tug Operations

From a shipping perspective, it can be said that almost 100% of the Southeast Alaska economy is a maritime economy, because nearly every household and business relies on marine transport to function on a daily basis.

Only three of Southeast Alaska's 35 communities have road connections to the contiguous United States (Hyder, Haines and Skagway) meaning that Southeast Alaska's communities are dependent on barge and tug activity for most of our basic commodities—from text books to diapers to vegetables to concrete—and everything else a family fills a home with or a business needs to operate.

In 2012, freight barges made more than 200 voyages from the lower-48 to Southeast Alaska to deliver goods, supplying the region with 90 to 95% of our freight. A typical load carries 5 to 8 million pounds of freight, meaning the barges brought in nearly a billion and a half pounds of freight to the region in approximately 150,000 containers last year.

On their return trips barges carry fish, regionally brewed beer, and household goods, among other items. For most Southeast Alaskans this process of loading and unloading is invisible, but if regular barge service were to be disrupted, the economic ramifications would be immediate and enormous.

Three barge companies provide service to the region: Lynden, Northland Marine Service, and Samson Barge and Tug. Currently Lynden and its Alaska Marine Lines subsidiary is in the process of buying Northland Marine Services. Regulatory oversight of a major consolidation like this provides an opening for the Sitka-based Samson Barge and Tug—the only major shipper headquartered (and founded) in the region—to acquire assets and expand its Southeast services.

VALUE ADDED MARITIME MANUFACTURING

Other Examples of Maritime Products Manufactured in the Region

There are nearly 100 Southeast Alaska companies involved in manufacturing, with more than 2,000 average annual jobs, and \$64.6 million in wages. Maritime manufacturing dominates this category, accounting for 86% of Southeast Alaska's manufacturing jobs and wages. Most (three-quarters) are in the seafood product preparation and packaging.

In 2012, 49 shore-based seafood processors in 17 Southeast Alaska communities processed 196 million pounds of seafood, with a wholesale value of \$519 million. Most products are manufactured by conducting the primary processing in Southeast Alaska (heading, gutting and freezing the salmon) and the secondary processing is conducted in other countries such as China. Southeast Alaska



Ocean Beauty's Petersburg seafood plant produces salmon caviar, canned salmon, as well as Chum, Coho and Sockeye salmon for fresh & frozen markets.

is in a good position to invest in primary and value-added manufacturing, and there are a growing number of businesses developing specialty items locally, such as hot and cold smoked salmon, salmon ikura, frozen salmon fillets and portions, salmon jerky, salmon oil, oyster products, and fertilizer.

Some examples include Alaska Protein Recovery, which manufactures hydrolyzed fish protein and fish oil from salmon by-products on a movable processing barge; while Dejon Delights "practices the art of hand-crafted Smoked Salmon and Smoked Halibut" in Haines. Taku Smokeries of Juneau has developed 35 seafood products that are manufactured in Juneau, and shipped around the world.

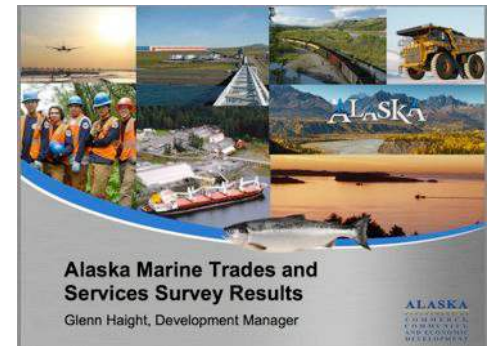


	FIRMS	WAGES	ANNUAL AVG. EMPLOYMENT
TOTAL SOUTHEAST ALASKA MANUFACTURING	97	\$75,666,771	2,056
SOUTHEAST MARITIME MANUFACTURING	59	\$64,569,454	1,777

Source: Alaska Department of Labor 2012.

Maritime Workforce Development Efforts Currently Underway

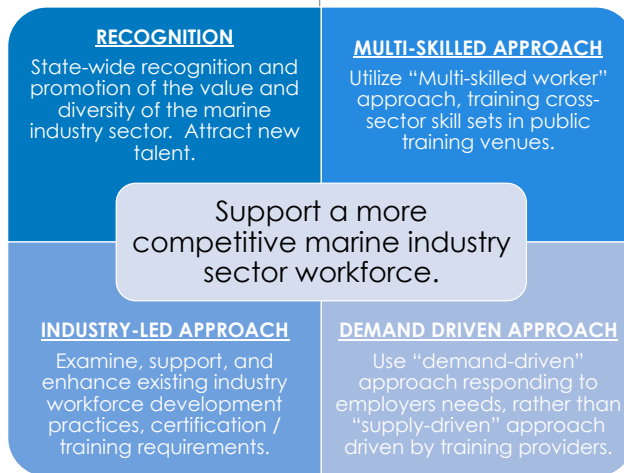
As resources and attention have turned towards the region's marine industries, several efforts are underway to increase the infrastructure, workforce, and understanding of the economic significance of Southeast Alaska's maritime sector.



Ketchikan Maritime Industry Council Initiative

Ketchikan Marine Industry Council (KMIC) is an industry-led initiative supporting growth and expansion of Ketchikan's diverse maritime economy. In order to understand the full extent of the economic activities and needs of this local maritime cluster, KMIC is tracking Ketchikan businesses that support marine activity. KMIC activities include marketing, policy development, and research. The organization has offered to assist other Southeast Communities in applying the KMIC model across the region to help identify local goods, services and supplier networks for the maritime industry.

www.ketchikanmarineindustry.com



KMIC Chart

UA Fisheries, Seafood and Maritime Initiative

The goal of the University of Alaska Fisheries, Seafood and Maritime Initiative is to develop training programs that will help Alaska meet the current and emerging workforce needs in the maritime sector. The University has reached out to private, public and nonprofit partners. Major efforts have been completed on behalf of this

initiative, including a gap analysis by the McDowell Group identifying training and education needs and opportunities related to maritime industries, and an Occupational Needs Assessment survey. By early 2014, the University hopes to develop a statewide, comprehensive, industry-led plan that will identify specific strategies for the maritime sector.

www.alaska.edu/fsmi

Alaska Marine Trades and Services Business Retention and Expansion Survey Results

The Alaska Department of Commerce, Community, and Economic Development conducted a business retention and expansion survey of the state's maritime business and manufacturing industry in 2012. DCCED noted that several Alaska ports are making investments to service larger vessels, and there is increased interest in the Arctic as a major transportation and shipping corridor. The survey found growing opportunities for marine trades businesses and workforce programs as the marine services sector expands. Survey findings indicate that a lack of available skilled workforce is among the biggest challenges for maritime businesses. A final report detailing the survey findings was published in April of 2013.

www.dced.state.ak.us/ded/dev/seafood/seafood.cfm

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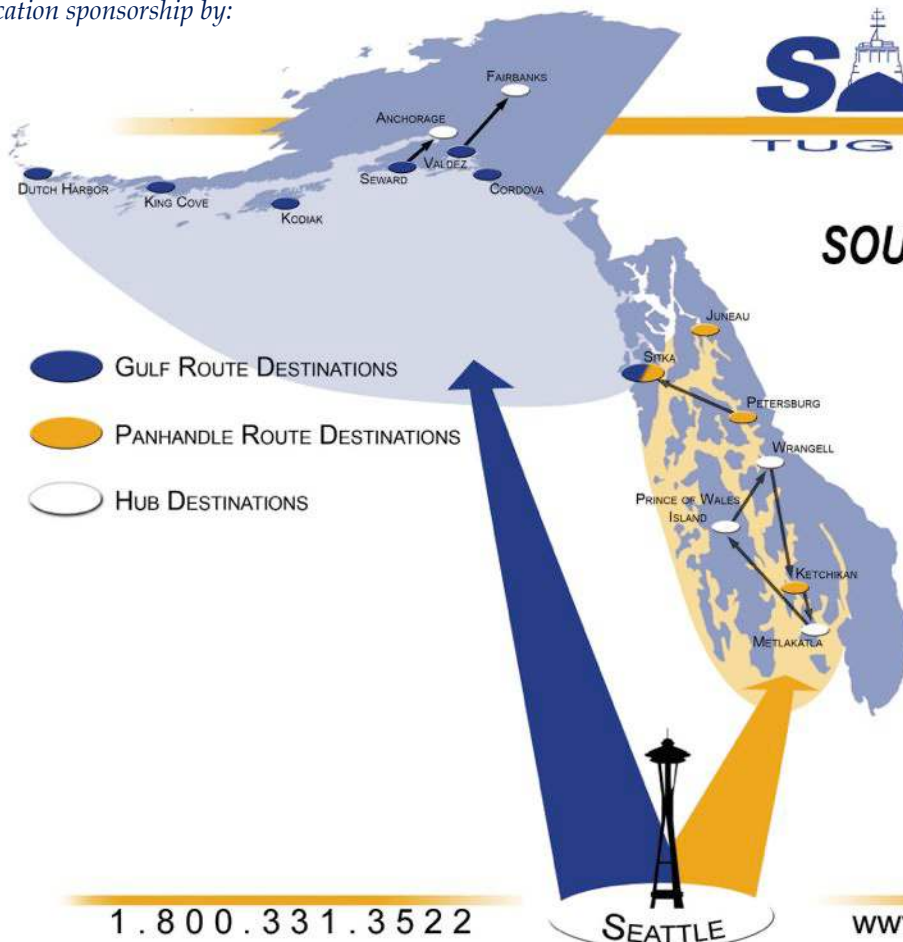
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