STATE OF ALASKA
DEPARTMENT OF
COMMERCE
COMMUNITY AND
ECONOMIC DEVELOPMENT

Alaska Marine Trades and Services

Business Retention and Expansion Survey Results

Prepared for: Alaska Association of Harbormasters and Port Administrator's 2012 Annual Conference

Conducted by: Alaska Department of Commerce, Community, and Economic Development

Date: October 2012

Contents

Survey Background and Information

The marine trades and services sector is broadly defined as those businesses that work with and in support of the marine economy. Recently a confluence of events prompted the Division of Economic Development (DED) to direct resources towards the marine trades and service sector.

- The Alaska Ship and Drydock in Ketchikan continued operations and growth, and calls for a state-led workforce development program to develop skilled professionals for the marine trades sector.
- New federal legislation allowed for the replacement of several large fishing vessels that ply Alaska waters. Previously, federal law placed a moratorium on replacing the vessels.
- A statewide economic development initiative called “cluster-based” development emphasizes supporting buyer and supplier networks as an important means to bolster economy activity.
- Several Alaska ports including Kodiak and Seward were making investments in their facilities to have the ability to service larger vessels, while other harbors continued to refine services to meet the needs of other users.
- Coastal Villages Region Fund, a Western Alaska Community Development Quota group, committed to homeport its large at-sea fish processing vessels in Seward.
- Ports and harbors across Alaska are increasing marketing efforts to customers in the Lower 48.
- Interest in the Arctic as a major transportation and shipping corridor continues to increase.

Review of these events more than suggests the marine economy is a potential growth sector in Alaska. In order to take advantage of new opportunities, Alaska’s marine trades and service businesses must be on a competitive playing field with those in other ports and harbors.

Business retention and expansion (BRE) is a common economic development program

An aerial view of Cordova, Alaska. Courtesy of the Alaska Department of Commerce, Community & Economic Development's Division of Community & Regional Affairs (DCRA).

that asserts working with existing businesses that are interested in growth is a cost effective and efficient method to build an economy. One of the first steps in working with and supporting a sector is to understand the threats and constraints in the business environment. A step to help shape this understanding is to perform a BRE survey.

The DED developed a BRE survey in March 2012 with the help of several members of the Alaska Association of Harbormasters and Port Administrators (AAHPA) and members of the marine trades industry. The twenty question survey was released from April through September 2012. It was administered through an online survey tool called Survey Monkey (www.surveymonkey.com). A copy of the survey instrument is in Appendix I.

Statewide notices were sent through key contacts including harbormasters, port directors, chambers, associations, regional development associations, and other groups. One hundred, twenty-seven surveys were completed.

The number of responses from each community is too low to draw absolute conclusions about local business environments. However, the information provides good input to build on local understanding and serves as valuable indication of business opinions.

Location of Primary and Secondary Ports or Harbors

Respondents were asked to identify their primary and secondary ports or harbors. A primary port or harbors was defined as an area of "most activity, headquarters, or other". Table 1 provides the communities listed as primary and secondary ports. Some respondents gave regional descriptors (e.g. "Western Alaska"), while others noted statewide activity. In several instances where the respondent indicated statewide activity, a review of the company led to changing the primary port to "Statewide". These companies were often service companies like marine surveyors, educators, and consultants, where the primary port was their office headquarters and not their area of expertise.

Chart 1 on the following page provides a snapshot of responses from AAHPA communities, along with other communities listed as primary ports.

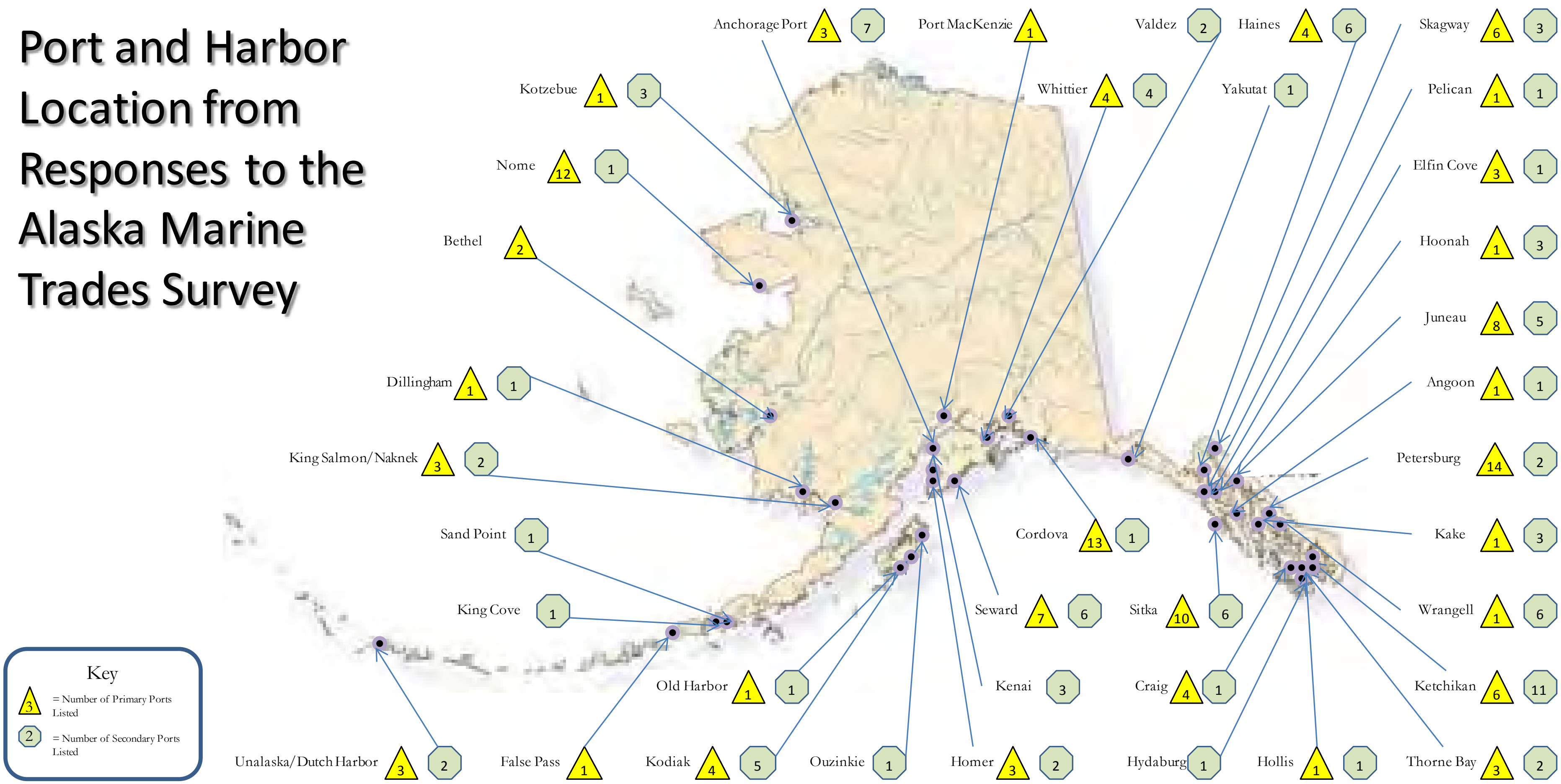
Table 1: Primary and Secondary Ports or Harbors

Port or Harbor	Primary	Secondary
Adak	0	1
Alitak	0	1
Anchorage Port	3	7
Angoon	1	1
Baranof	0	1
Bethel	2	0
Bristol Bay Borough/Naknek	3	2
Cordova	13	1
Craig	4	1
Dillingham	1	1
Edna Bay	0	1
Elfin Cove	3	1
Excursion Inlet	0	1
False Pass	1	0
Haines	4	6
Hollis	1	1
Homer	8	6
Hoonah	1	3
Hydaburg	0	1
Juneau	8	5
Kake	1	3
Kasilof	0	1
Kenai	0	3
Ketchikan	6	11
King Cove	0	1
Klawock	0	1
Kodiak	4	5

Port or Harbor	Primary	Secondary
Kotzebue	1	3
Larsen Bay	0	2
Naukati	0	2
Nikiski	0	1
Nome	11	1
Northern Prince of Wales Island	0	1
Old Harbor	1	1
Ouzinkie	0	1
Pelican	1	1
Petersburg	14	2
Port Lions	0	1
Port MacKenzie	1	0
Sand Point	0	1
Seward	7	6
Sitka	10	6
Skagway	6	3
Southeast region	0	2
Statewide	6	2
Tenakee	0	1
Thorne Bay	0	2
Unalaska/Dutch Harbor	2	3
Valdez	0	2
Western Alaska Region	0	1
Whittier	4	4
Wrangell	1	6
Yakutat	0	1
Yukon-Kuskokwim Delta	0	1

Chart 1

Port and Harbor Location from Responses to the Alaska Marine Trades Survey



Businesses Categories and Activities

One hundred, twenty-seven businesses and non-profits completed the survey. Respondents classified their business through a list of provided activities. Respondents routinely identified several business activities, averaging 2.65 business activities per survey.

Business Categories

The business activities were grouped into five basic categories: marine trades, marine goods suppliers, marine related businesses and services, marine related technical services, and government, non-profit, education and research. Table 2. Survey results indicated businesses often work between several categories. For instance, a marine trades business would also sell goods or perhaps provide a separate related service. If any conclusions may be drawn from this review, it is that these businesses tend to conduct a wide array of activities and are generally well diversified.

Detailed analysis of each respondent determined which broader category was a “best fit” for the business. Based on this analysis, the number of businesses fell into the five categories as:

- Marine Trades, 30
- Marine Goods Supplier, 8
- Marine Related Businesses and Services, 53
- Marine Related Technical Service, 16
- Government, Non-Profit, Education, and Research, 20

The focus of this report is mainly on the marine trades, goods suppliers, and related businesses and services. The report also looks at data specifically from harbormaster surveys.

Sportfish lodges at Elfin Cove. Courtesy of DCRA.

Table 2. Number and Type of Business Activities by Business Category

Marine Trades Businesses

Business Activities	# of Responses	Business Activities	# of Responses
Boat building / repair	17	Boat cleaning/detailing	3
Carpentry	4	Boat lettering & graphics	1
Electrical repair	9	Carpeting / interior / upholstery	4
Engine repair	15	Cleaning (tank, boilers, bilges)	5
Fiberglass repair	7	Dock and marine construction	3
Manufacture sewn products for fisheries and marine application	1	Metal/machine shops - metalwork, fabrication, welding	13
Hydraulics	5	Shipbuilding / repair	6
Fishing gear (includes net makers)	4	Wood repair	6

Marine Goods Suppliers

Business Activities	# of Responses	Business Activities	# of Responses
Boat building supplies / chandlers	6	Fishing bait	3
Engine sales	7	Fuel	8
Propellers	5	General hardware	4
Marine electronics & communications	11	Ice	5
Safety equipment / supplies	4		

Marine Related Businesses and Services

Business Activities	# of Responses	Business Activities	# of Responses
Commercial fishing	17	Fish buyers & processors	10
Boats for hire IFQ/charter/tender	18	Tug & barge	11
Salvage	5	Boat/gear hauling & storage	12
Shipping	10	Port agent	5
Laundry / bathrooms	2	Tour guide	6
Aquaculture / mariculture	3	Passenger transportation	4
Longshore worker / stevedore	2	Cold storage	2

Marine Related Technical Services

Business Activities	# of Responses	Business Activities	# of Responses
Brokers (permits/boats/IFQ)	1	Engineering firms	4
Marine surveyor	4	Financial institutions	6
Marine architecture	3	Environmental and safety consulting	3
Business and legal consulting	3	Mining and minerals related companies	2

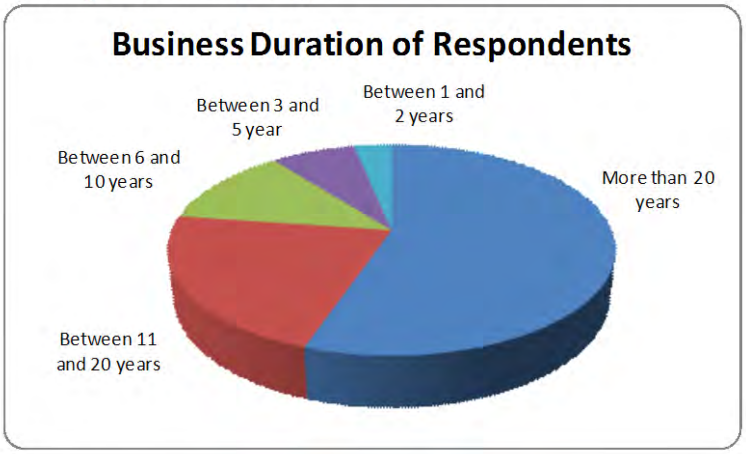
Government, Non-Profit, Education, Research

Business Activities	# of Responses	Business Activities	# of Responses
USCG licensed officers (deck)	5	Education and training	6
USCG licensed officers (engineer)	1	Marine organizations / associations	4
USCG licensed seaman (ordinary or able	1	Non-profit	12
USCG licensed engineer rating	1	Harbormaster	10
Government agency	7	Research	1
Other federal offices	2		

Business Age

Respondents were asked to select a range of years they have been in business. The overwhelming majority of respondents operated for more than eleven years at 77 percent. An estimated average age for all businesses was 16.3 years.[1]

Chart 2: Age of Businesses in Survey



[1] This analysis assigned a mean "years worked" for each range given. The mean years worked for each range was "More than 20 = 21 years", "Between 11 and 20 years" = 15.5 years, "Between 6 and 10 years" = 7.5, "Between 3 and 5 year" = 4, and "Between 1 and 2 years = 1.5 years. The mean years worked were multiplied by the number of responses for each range, summed and then divided by the total number of responses.

Marine Trades Survey Results

The thirty businesses placed in the marine trades business category came from fourteen primary locations. Table 3. The marine trades businesses engaged in a number of activities. The most prevalent is machine shops followed by engine repair and boat building. Table 4.

Marine trades businesses also function in some of the related business categories, including selling marine related goods. The average number of business activities reported by these businesses was 4.4 per applicant, a significantly higher number than the total response average of 2.65 listed earlier.

Table 3. Marine Trades Business Locations

Primary Location	Number
Anchorage Port	1
Cordova	1
Craig	1
Elfin Cove	1
Haines	2
Homer	3
Ketchikan	1
Kodiak	3
Nome	2
Petersburg	6
Seward	3
Sitka	4
Skagway	1
Unalaska/Dutch Harbor	1
Total	30

Figure 1 Boat cleaning at the Kodiak Shipyard. Photo courtesy of the City of Kodiak, Port and Harbor website.

Table 4. Marine Trades Business Activities

Marine Trades Business Activities	
Business Activity	No.
Boat building / repair	11
Boat cleaning/detailing	1
Boat lettering & graphics	1
Carpentry	4
Carpeting / interior / upholstery	4
Cleaning (tank, boilers, bilges)	4
Dock and marine construction	3
Electrical repair	9
Engine repair	11
Fiberglass repair	6
Fishing gear (includes net makers)	4
Hydraulics	5
Manufacture sewn products for fisheries and marine application	1
Metal/machine shops - metalwork, fabrication, welding	13
Shipbuilding / repair	6
Wood repair	5

Other Business Activity Categories	
Business Activity	No.
Boat building supplies / chandlers	5
Engine sales	6
Marine electronics & communications	6
Propellers	5
Safety equipment / supplies	3
General hardware	2
USCG licensed officers (engineer)	1
USCG licensed engineer rating	1
Engineering	1
Marine architecture	1
Commercial fishing	1
Boat/gear hauling & storage	2
Salvage	3
Tug & barge	3
Laundry /bathrooms	1
Tour guide	1
Cold storage	1

Workforce Profile

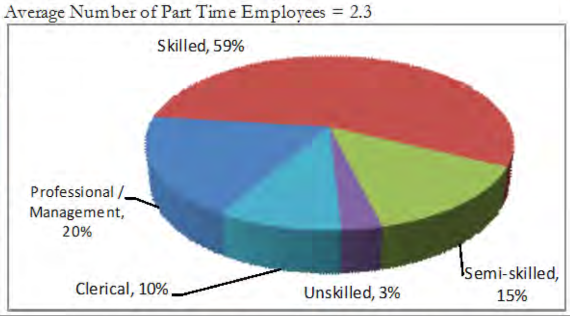
In the marine trades category the average number of full-time and part-time employees, was 8.1 and 2.3, respectively. Table 5. Businesses projected almost 60 percent of their workforce was skilled labor with another 15 percent listed as semi-skilled. Twenty percent of the businesses labor force was devoted to professional/management employees.

Table 5: Marine Trades Employee Profiles and Quality of Labor Pool

Number of Employees	Full Time	Part Time
None	0	16
Less than 3	14	10
Between 4 and 10	7	2
Between 11 and 20	3	1
More than 20	6	1

Employee Type	Percent	Quality of Local Labor Pool*
Professional / Management	20%	Fair to Good
Skilled	59%	Poor to Fair
Semi-skilled	15%	Fair to Good
Unskilled	3%	Good to Fair
Clerical	10%	Fair to Good

Average Number of Full Time Employees = 8.1
Average Number of Part Time Employees = 2.3



* Respondents were asked to rate the quality of the local labor pool. The possible responses were weighted on a scale of Poor (-1), Fair (0), Good (1), and Very Good (2). The average rating for Skilled employees was -0.7, a Poor to Fair rating.

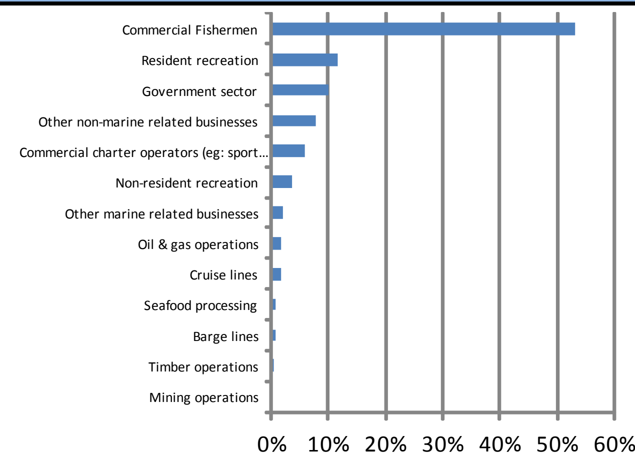
Customer Base

The marine trades businesses surveyed provided information on the type of customer they typically worked with and where the customer was from. The biggest customers of marine trades businesses are commercial fishermen. Resident recreational users and government were second and third. Table 6 provides the customers and estimated percentage of businesses.

Perhaps not surprising is that most of the customer base is local clientele at 60 percent with 16 percent more from customers within their region. In total, statewide resident customers were projected at 88 percent of the

Table 6. Marine Trades Customer Base by Activity

Customer Base	Percent
Commercial fishermen	53%
Resident recreation	12%
Government sector	10%
Other non-marine related businesses	8%
Commercial charter operators (eg: sport fishing or whale watching)	6%
Non-resident recreation	4%
Other marine related businesses	2%
Oil & gas operations	2%
Cruise lines	2%
Seafood processing	1%
Barge lines	1%
Timber operations	1%
Mining operations	0%



total business with only 12 percent coming from out of state. Table 7

When asked if they had difficulty finding local clientele, twenty-two of thirty marine trades businesses said they had little to no difficulty. Only one response found it was a significant problem.

Table 7. Marine Trades Geographic Location of Customers

Customer Base	Percent
Local resident	60%
Regional resident	16%
Statewide resident	12%
Domestic US	11%
International	1%

These are important findings when viewed against other sector statistics. The Alaska Commercial Fisheries Entry Commission lists the 2011 statewide gross fishing earnings for Alaska permit holders at 42 percent of the total fisheries value, and only 20 percent of the total volume harvested.[2] Considering local commercial fishermen make up a majority of the marine trades customer base, it suggests a significant amount of the existing commercial fishing capacity is not widely worked on in Alaska. There are infrastructure challenges for Alaska ports to working on the large vessels, and in recent years Alaska ports are responding to new opportunities.

An aerial photo of the Alaska Ship and Drydock in Ketchikan. Photo from Vigor Industrial website.

Commercial fishing aside, there remains other significant business that could be earned by Alaska. Vessels in the visitor industry, transportation, oil and gas, and other sectors remain to be tapped. If we consider two findings 1.) marine trades have little trouble finding business, and 2.) most of the business is local, it suggests if Alaska is successful at attracting more marine trades business it will become a large field for growth. On the other hand, it also means Alaska is currently poorly situated to accommodate more business.

Growth Expectation

The marine trades businesses in this survey expressed strong interest in growth with 87% either somewhat or very interested. Of these businesses, those very interested in growth found a lack of customers was more of a problem than those businesses less interested in growth. Those very interested in growth were also the most interested in identifying local customers.

The survey sought to learn about growth expectations related to overall business size, plant size, and employment numbers. The businesses interested in growth expected their overall business size to grow at moderate to significant levels over the next 10 years. Those businesses very interested in growth held expectations that plant size and employment levels would both find moderate to significant growth. Table 8 provides a weighted average of the overall expectations for growth of the marine trades category.

[2] The Alaska Commercial Fisheries Entry Commission provides annual earning and volume figures by state, town and census area for all of the Alaska permitted fisheries. The 2011 total harvest volume was 4.852 billion pounds and ex-vessel value was $1.758 billion. Alaskans were reported to harvest and earn 1.011 billion pounds and $742 million, respectively.

Table 8: Marine Trades Expectations for Future Growth

Overall Business Size in:					
Current Year*	5 Year	10 Year		Plant / Facility Size	Employment Quantity
0.80	1.13	1.07		0.90	0.93
* Numbers based on weighted average of the following scale:					
Survey answer	Significant Decline	Moderate Decline	Remain the Same	Moderate Growth	Significant Growth
Weight	-2	-1	0	1	2

Survey respondents did not know the responses would be assigned a numerical value and rated on a scale. Knowledge of this treatment may have changed the response.

Constraints on Growth

There are a number of factors that can improve or inhibit a business's ability to grow. The respondents were asked questions related to business environment conditions. Table 9 provides an overview of all of the responses.

Workforce concerns easily top the list as a major constraint for marine trades businesses. Businesses were polled about a range of workforce challenges and determined the quality of the workforce is the most pressing concern with 23 of 30 listing it as a moderate or significant challenge to business activity. In the question of recruitment challenges, inadequate skills again ranked as a top concern.

Among the biggest challenges to business viability was available land to expand, government regulations, and transportation costs. Regarding the costs and availability of utilities, communication and transportation, only transportation's cost appeared to be a huge barrier. Availability of these essentials business elements were not viewed as an impediment to growth.

Table 9: Marine Trades Challenges and Threats To Business Activity

Challenges to Business Activity

Topic	Significant Challenge	Moderate Challenge	Little or No Challenge	Don't Know
Workforce Quality	12	11	5	2
Workforce Availability	12	10	7	1
Government Regulation	10	10	8	1
Financial Resources	6	15	7	1
Taxation	7	10	11	1
Fisheries Management	2	10	11	4

Workforce Recruitment Challenges

Topic	Significant Problem	Moderate Problem	Little or No Problem	Don't Know
Skills Not Adequate	16	7	4	2
Affordable Housing	15	7	6	2
Labor Supply Shortage	11	12	4	3
Available Housing	13	6	9	2
Distance to Job Site	4	6	16	2

Threats to Business Viability

Topic	Severely Threatens	Somewhat Threatens	Little or No Threat	Don't Know
Available land to expand	10	12	8	0
Workforce Quality	6	15	8	1
Government Regulation	8	11	10	1
Transportation Cost	5	16	8	1
Workforce Quantity	6	13	9	2
Workforce Cost	6	10	12	2
Utilities/Services Cost	8	6	16	0
Access to Capital	3	15	11	1
Environmental Issues	5	9	14	2
Local Taxes	5	8	17	0
Business Activity in your area (3 - 5 years)	0	16	11	2
Federal/State Taxes	6	5	18	1
Lack of Available Marketing Dollars	2	12	14	2
Utilities/Services Availability	4	6	20	0
Telecommunications Cost	2	10	18	0
Business Activity in your area (next 2 years)	0	13	16	0
Competition	1	11	17	1
Transportation Availability	3	7	19	0
Product Demand	2	7	18	3
Telecommunications Availability	1	8	20	1
Production Process	0	7	17	4

Each section is sorted by greatest to least constraint.

False Pass dock. Photo courtesy of DCRA.

Ports and Harbors

The survey received ten responses from harbormasters and port directors from around the state. Table 10. This represents just under a third of the harbors and ports listed as members of AAHPA.

Depending on the location, harbors provided several services. Table 11. Boat and gear storage was a common service, along with boat repair and shipping/tug & barge. Other activities included fuel, ice, laundry / bathroom services, and financial services.

Table 10. Harbor and Port Locations

Primary Location	#
Bethel	1
Haines	1
Homer	1
Hoonah	1
Juneau	1
Ketchikan	1
Kodiak	1
Nome	1
Petersburg	1
Skagway	1

Table 11. Harbor and Port Activities

Business Activities	No.
Boat /gear hauling and storage	4
Boat building / repair	3
Shipping	2
Fuel	1
Ice	1
Fish buyer	1
Tug & barge	1
Port agent	1
Laundry /bathrooms	1
Financial	1

Workforce Profile

Harbors employ on average just over seven full-time workers and are in the practice of hiring even more part-time employees, almost eight on average. No responding harbors indicated more than 20 full time employees. Table 12.

Table 12: Harbor and Port Employee Profile

Number of Employees	Full Time	Part Time
None	0	0
Less than 3	3	3
Between 4 and 10	3	3
Between 11 and 20	2	1
More than 20	0	1

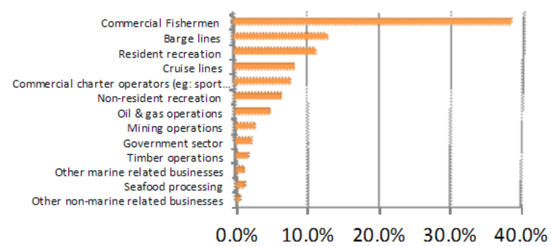
Weighted Average Number of Full Time Employees = 7.25
Weighted Average Number of Part Time Employees = 7.94

Customer Base

Harbormasters and port directors report a different clientele than the marine trades sector. While commercial fishermen remain their top customer at 38 percent of the total business, barge lines and cruise lines make up a much greater percentage. The customer base information from the harbormasters and port directors provides a good breakdown on the nature of harbor activity in the state and shows what business could be obtained by the marine trades sector if it diversified beyond commercial fishing customers. Table 13.

Table 13 Harbor and Port Customer Base by Activity

Customer Base	Percent
Commercial fishermen	38.2%
Barge lines	13.0%
Resident recreation	11.3%
Cruise lines	8.3%
Commercial charter operators (eg: sport fishing or whale watching)	7.8%
Non-resident recreation	6.6%
Oil & gas operations	4.9%
Mining operations	2.8%
Government sector	2.3%
Timber operations	1.8%
Other marine related businesses	1.2%
Seafood processing	1.2%
Other non-marine related businesses	0.6%



Growth Expectations

Ports and harbors are expecting growth in the future. Table 14. Over the next five to ten years, harbormasters are expecting moderate to significant growth in business size, including the size of the harbors and ports. These respondents are also projecting greater numbers of employees needed to operate the facility.

Table 14: Harbormaster's Expectations on Growth

Overall Business Size					
Current Year	5 Year	10 Year		Plant / Facility Size	Employment Quantity
0.50	1	1.4		1.4	0.9
Scale	Significant Decline	Moderate Decline	Remain the Same	Moderate Growth	Significant Growth
Weight	-2	-1	0	-1	-2

Survey respondents did not know the responses would be assigned a numerical value and rated on a scale. Knowledge of this treatment may have changed the response.

Constraints on Growth

As harbormasters anticipate future growth, it is important to understand the constraints. Harbormasters and port directors reported their biggest concerns were a lack of capital, government regulations, and workforce related issues. Available land and the high cost of transportation were also noted as a constraint on growth.

Harbormasters indicated financial resources were a challenge to business activity and access to capital was a threat to business viability. This makes sense as governments constantly stretch budgets to meet current operating needs. Harbors will need to find other means to generate revenues. Government regulations, likely linked to permitting, ranked as a moderate concern for business viability. Workforce concerns relate to inadequate skills and a shortage of available housing. Table 15.

A view of Pelican's boat harbor. Photo courtesy of DCRA.

Table 15: Challenges and Threats To Business Activity

Challenges to Business Activity

Topic	Significant Challenge	Moderate Challenge	Little or No Challenge	Don't Know
Financial Resources	4	3	1	1
Workforce Quality	3	4	5	1
Government Regulation	2	4	4	0
Taxation	1	3	3	2
Workforce Availability	2	2	5	1
Fisheries Management	0	5	3	1

Workforce Recruitment Challenges

Topic	Significant Problem	Moderate Problem	Little or No Problem	Don't Know
Affordable Housing	6	1	3	0
Skills Not Adequate	4	3	3	0
Available Housing	4	2	4	0
Labor Supply Shortage	1	6	3	0
Distance to Job Site	0	2	4	0

Threats to Business Viability

Topic	Severely Threatens	Somewhat Threatens	Little or No Threat	Don't Know
Access to Capital	5	3	2	0
Workforce Quality	2	6	2	0
Transportation Cost	3	4	3	0
Available land to expand	3	4	3	0
Environmental Issues	2	4	4	0
Government Regulation	3	1	5	1
Lack of Available Marketing Dollars	2	3	4	0
Workforce Quantity	1	5	4	0
Workforce Cost	1	5	4	0
Utilities/Services Availability	1	4	4	1
Transportation Availability	1	4	4	0
Utilities/Services Cost	1	4	5	0
Telecommunications Availability	1	2	7	0
Telecommunications Cost	1	2	7	0
Business Activity in your area (3 - 5 years)	0	3	6	1
Federal/State Taxes	0	3	7	0
Local Taxes	0	3	7	0
Production Process	0	2	6	2
Business Activity in your area (next 2 years)	0	2	7	1
Competition	0	2	8	0
Product Demand	0	2	8	0

Each section is sorted by greatest to least constraint.

Bait and gear shop in Coffman Cove on Prince of Wales Island. Photo courtesy of DCRA.

Marine Goods Suppliers and Related Businesses

Almost half, 61 responses, of the survey respondents were classified as marine goods suppliers or marine related businesses and services. Table 16. Marine good suppliers sold items like fuel, marine communications and electronics, and marine-related goods. These businesses also worked into the trades professions with some frequency. In total, the survey collected information from eight suppliers.

The marine-related businesses were oriented towards commercial fishing, charter operators, shipping and transportation, gear storage, and fish buying. The crossover activities generally related to marine trades or goods supply. This category is important because these businesses tend to make up a large portion of current or potential clients of the marine trades professions. What this category of businesses reports about the business environment directly impacts the profitability of the marine trades sector.

Table 16. Goods and Related Locations

Primary Location	Number
Anchorage	1
Angoon	1
Bristol Bay Borough / Naknek	2
Cordova	11
Craig	2
Elfin Cove	1
Haines	1
Hollis	1
Homer	3
Juneau	3
Kake	1
Ketchikan	2
Kotzebue	1
Nome	5
Old Harbor	1
Pelican	1
Petersburg	6
Port MacKenzie	1
Seward	2
Sitka	5
Skagway	4
Statewide	1
Unalaska / Dutch Harbor	1
Whittier	4

Table 17. Marine Related Businesses - Business Activities

Marine Related Businesses and Services	
Business Activity	
Commercial fishing	16
Boat/gear hauling & storage	4
Boats for hire IFQ/charter/tender	18
Fish buyers & processors	8
Salvage	1
Shipping	8
Tug & barge	5
Port agent	4
Aquaculture / mariculture	3
Tour guide	5
Longshore worker / stevedore	2
Cold storage	1
Mining and minerals	2
Passenger transportation	4

Marine Goods Suppliers	
Business Activity	
Boat building supplies / chandlers	1
Engine sales	1
Marine electronics & communications	4
Safety equipment / supplies	1
Fuel	3
General hardware	2
Ice	1

Other Business Activity	
Boat building / repair	1
Engine repair	1
Fiberglass repair	1
Wood repair	1
Fishing bait	3
Fuel	3
Ice	3
USCG licensed officer	5
USCG licensed seaman	1
Government agency	2
Non-profit	6
Other federal agency	1

Other Business Activity	
Boat building / repair	1
Boat cleaning/detailing	1
Engine repair	2
Government agency	1
Engineering	1
Boat/gear hauling & storage	1
Tug & barge	1

Workforce Profile

Businesses that responded in this category tended to have a smaller workforce than others and relied almost as much on part-time workers (5.3 employees) as full-time (5.9 employees). Part of the low workforce numbers may relate strongly to the large number of commercial fishermen in this section. Small boat commercial fishermen generally will have crews between 1 to 4 people.

Another difference in this category was less reliance on skilled workers. These businesses tend to need more professional / management, semi-skilled and unskilled workers than other categories.

Data also suggests contrasting needs for skilled workers between these two categories and the marine trades category. Marine trades businesses rated the quality of the skilled labor pool as “fair to poor” while the marine goods and related businesses rated it as “fair to good”. This suggests the two sectors require much different skill sets for employees.

Customer Base

The customer mix for these categories was diverse. Suppliers listed all the customer categories except for timber operations and other non-marine related businesses. The marine related businesses and services were even more diverse with all customer categories.

Table 18 Marine Goods and Related Businesses & Services: Employee Profile

Number of Employees	Full Time	Part Time
None	13	12
Less than 3	27	28
Between 4 and 10	14	9
Between 11 and 20	3	6
More than 20	4	5

Weighted Average Number of Full Time Employees = 5.9

Weighted Average Number of Part Time Employees = 5.3

Employee Type	Percent	Quality of Local Labor Pool*
Professional / Management	26%	Fair to Good
Skilled	37%	Fair to Good
Semi-skilled	19%	Fair to Good
Unskilled	12%	Fair to Good
Clerical	5%	Fair to Good

There are key differences between the two categories. Marine goods suppliers listed the non-marine related business, government sector, and mining operations as their biggest customer. Marine related businesses listed commercial fishermen, charter operators, and seafood processors as their business customers. It is interesting to note a number of the respondents were commercial fishermen which adds seafood processor's to the customer category.

Unlike the other categories of businesses, this group's customer location of residence is highly diverse with much more non-Alaska companies. Results indicate 45 percent of the customer base is with non-Alaska and international companies. This group shows the lowest reliance on local customers with only 32 percent.

Table 19: Marine Goods and Related Business and Services - Customer Base by Activity

Customer Base	Percent
Commercial fishermen	21.6%
Commercial tour and charter operators	14.2%
Seafood processing	12.2%
Other non-marine related businesses	9.7%
Non-resident recreation	7.5%
Barge lines	6.6%
Resident recreation	5.9%
Government sector	5.7%
Mining operations	5.2%
Other marine related businesses	4.9%
Cruise line Companies	3.9%
Oil & gas operations	2.7%
Timber operations	0.1%

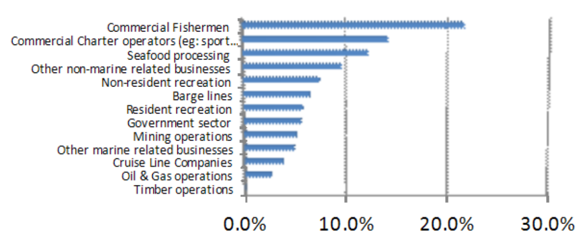
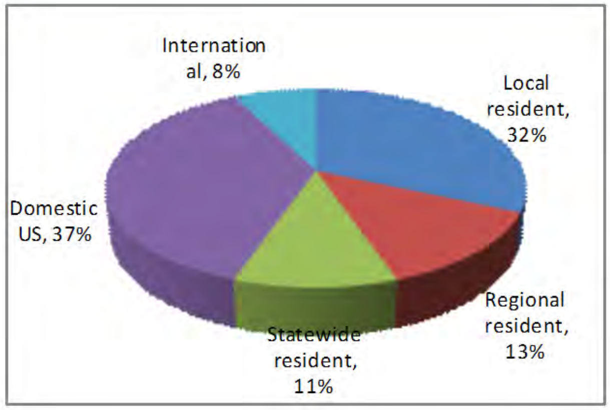


Table 20. Marine Related Businesses - Geographic Residence of Customers

Customer Base	Percent
Local resident	32%
Regional resident	13%
Statewide resident	11%
Domestic US	37%
International	8%



Growth Expectations

This group of businesses demonstrate a strong interest in growth with 81 percent showing as somewhat to very interested. That said, their expectations on growth were somewhat more moderate. Business size growth over the next five to ten years suggested less than moderate growth, while expectations on plant/facility size and increases employment were positive, but barely so. Table 21.

Reasons for this difference in growth expectations versus the marine trades businesses could be linked to a more competitive business environment. When asked if a lack of customers was currently a problem for their businesses, twenty-two of the thirty marine trades businesses, or 73 percent, said it was little to no problem. With the marine goods suppliers and related businesses, only 41 percent reported it was little to no problem.

Table 21. Growth Expectations for Marine-Related Businesses

Overall Business Size					
Current Year	5 Year	10 Year		Plant / Facility Size	Employ ment Quantity
0.16	0.74	0.67		0.38	0.38
Scale	Significant Decline	Moderate Decline	Remain the Same	Moderate Growth	Significant Growth
Weight	-2	-1	0	-1	-2
Survey respondents did not know the responses would be assigned a numerical value and rated on a scale. Knowledge of this treatment may have changed the response.					

Constraints to Growth

The most obvious concern among this group is government regulations. When asked if it is a challenge to business activity, "government regulations" ranked as the most significant by far. When asked if government regulations were a threat to business viability, again this group offered it was the biggest concern. Upon closer review of those indicating it was a significant challenge, it was found with no surprise to be the commercial fishing and charter vessel operators. Both of these groups are highly tied to resource management issues and reliant on government decisions for allocation purposes. Fisheries management as a category also showed as a moderate to significant challenge for respondents.

Issues related to workforce development did not rise to the same level of concern for this group. Affordable housing was the highest ranked problem. Skills and labor supply, while a moderate challenge to businesses, did not have the same high rankings compared to the marine trades sector.

Somewhat in conflict with assumptions made in the "Growth Expectations" section, when asked if "competition" is a threat to business viability, this group ranked it fairly low. Table 22.

Old processing infrastructure in South Naknek. Photo courtesy of DCRA.

Table 22: Marine Goods and Related Businesses & Services: Challenges and Threats To Business Activity

Challenges to Business Activity

Topic	Significant Challenge	Moderate Challenge	Little or No Challenge	Don't Know
Government Regulation	27	23	9	0
Fisheries Management	19	13	16	7
Workforce Quality	18	17	24	0
Financial Resources	11	22	25	0
Taxation	11	19	26	1
Workforce Availability	13	16	30	0

Workforce Recruitment Challenges

Topic	Significant Problem	Moderate Problem	Little or No Problem	Don't Know
Affordable Housing	27	13	17	4
Skills Not Adequate	15	26	18	2
Available Housing	16	17	23	5
Labor Supply Shortage	10	24	24	3
Distance to Job Site	7	11	39	4

Threats to Business Viability

Topic	Severely Threatens	Somewhat Threatens	Little or No Threat	Don't Know
Government Regulation	25	22	12	1
Transportation Cost	14	27	18	1
Environmental Issues	16	19	24	2
Utilities/Services Cost	15	17	26	3
Workforce Quality	9	25	22	5
Workforce Cost	8	27	22	3
Local Taxes	11	17	32	1
Business Activity in your area (3 - 5 years)	6	26	27	2
Federal/State Taxes	9	20	31	1
Available land to expand	10	15	33	3
Competition	3	28	27	3
Transportation Availability	10	14	34	1
Access to Capital	9	16	33	2
Business Activity in your area (next 2 years)	6	21	32	1
Workforce Quantity	4	23	29	5
Telecommunications Cost	7	19	35	0
Lack of Available Marketing Dollars	8	14	36	3
Utilities/Services Availability	5	19	33	3
Telecommunications Availability	5	14	40	2
Product Demand	4	13	42	2
Production Process	3	10	40	7

Each section is sorted by greatest to least constraint.

Appendix I – Alaska Marine Trades Business Survey

Appendix II – Survey Responses on the Three Greatest Challenges to Your Business

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
Capitalization/lines of credit	Affordable lease rates to expand	Skilled labor when ready to expand
Finding customers	Transportation costs	Communications costs
Family	Time	Weather
Land to expand	Money to expand and maintain infrastructure	Labor for maintenance
Providing enough space for various uses	Funds to upgrade facilities	User fees v. depreciation
Pebble Mine		
Finding clients	Paying the bills	Finding the right people
The cost of electricity	The cost of heating fuel	The cost of fuel in general
Our ages without affordable healthcare	Damage to fish stocks	Withdrawal of commercial air transportation subsidies
Government regulations for direct marketing fish	Fuel cost	Insurance cost
Government regulations	Harbor dock quality	
Fishery management	Price of fuel	Storage
Fisheries product demand	Competition among fish processors	
Market depends on the health of the economy		
Market price of salmon	Fisheries management	Environmental degradation
Personal use/subsistence allocation	State wide king salmon problems/ocean survival	Cordova harbor needs rebuild (new harbor side)
Fuel expense	Government regulations	Foreign competition
Government regulations		
Getting perishable product to market in lower 48- cost and reliable service	Excessive city tax on fish process costs	Local utility bills are very high
Land to expand	Finances to build	Focused and motivated employees
NOAA halibut regulations	NOAA halibut regulations	NOAA halibut regulations
Staying healthy	Staying healthy	Staying healthy
Fisheries regulation	Local taxation	General economy
Available Projects		
Available customers	Harbor too full of vessels that don't ever move for there to be room for visitors, rude fishermen chasing off tourists, no control of the harbor	
Finding the time to do all that I am asked to do.	Shipping expenses	Availability of materials

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
Customers	State regulations fishing	Federal regulations fishing
Too much work not enough time spread too thin		
Overhead	Limited customers	Finances
Labor	Skilled labor	Labor
Revolving debt, cost of doing business, bad debts	Building/site to do the work	Managing working capital
Government permitting regulations	Skilled labor	Utility cost
Transportation costs	Communication	Availability of qualified labor
Skilled labor	Materials shipping	
Increasing federal regulatory requirements	Overall us economic recession	Skilled labor shortage
Competition		
Fuel cost	Local govt corruption/cost	Resource management
Government regulation, permitting	Environmental lawsuits, as a business impediment goal	Restart of Alaska's Costal Zone Review Program, associated expenses
Finding funding for facilities expansion	Maintaining current facility	Keeping rates current with inflation in a public owned and operated enterprise
Offshore competition the textile markets/ie cheap china crap	Finding and retaining quality work force.	Marketing our products statewide, we have built this business one happy customer at a time.
Staying out of the red	Keeping employees	Filling the harbor
Skilled labor	Long-term committed labor force	Government regulation stability
Sustainable funding	Skilled personnel	Technology progress and keeping abreast
Available capital for maintaining existing facilities	Qualified & motivated labor force	Regulations
Stagnant economy	Fuel prices	Lack of qualified employees
Sales and income tax	Regulatory overload	
North Pacific Fisheries Management Council	NOAA Fisheries Management Enforcement	Lack of State and Local support for Charter Fishing
Location	Skilled labor	Shipping
Maintaining a core clientele	Challenges to clients that indirectly impact me	My age
Adequate/educated/skilled labor	Fuel cost	Transportation cost
Finding available workers with the right skills.	Need administrative staff	Community awareness of economic development issues & principles
Completion of planned infrastructure to optimize opportunities	Continuous access to new, qualified local workers	Access to high value marine operators working in Alaska
High operating costs (personnel, fuel)	Stagnant revenue generation	Regulatory changes (environmental, training, safety)
Funding for capital improvements		
Weather protected work space	Lack of funds to construct a large building	
Quality of Workforce. It is hard to get imports to stay so there needs to be a focus on more in-state vocational technical training	Electricians are in short supply.	

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
Government regulation	Environmental regulation	Stupid politicians
Need workers to be skilled and productive.		
Need to move to a different space		
Market size	Market diversity	High cost of doing business/freight
Nome harbor expansion	Lack of skilled workforce	Increasing cost of fuel
Fuel cost	Docking availability	
Demand of too many users	Expanding at a rate equal to demand growth	Managing environmental issues in absence of state & federal agencies
Local tax structure	Limited local port infrastructure	Increased regulatory requirements/high cost
Land availability	Cost of land	Cost of transportation
Remoteness of community we are located in and related costs/challenges	Consistent work force availability	Weather and environmental risk
Small business hard to be competitive	Cost of doing business	Finding the customers
Changing times		
Rising cost of heating oil and freight	Less expendable money of customers	
Need more local jobs		
Marketing	Skilled work force	Cost of utilities, permits, transportation
Availability of skilled boat repair	Access to freezer capacity for bait storage	Lack of affordable lodging when doing boat repair in regional ports
Balance of time	Maintaining capital improvements and affordability	Weather
Skilled labor pool	Affordable housing for above	Funding for expansion
Cost and availability of parts & engines	Cost of doing business	Taxes
Available projects	Competition for projects	Skilled labor
Generating sufficient sales volume.	Controlling costs - labor and utilities	
Poor regional resource management		
Fishng quotas	Fuel cost	Good employees
Shipping costs	Not enough time in the day	
Skills training for existing employees	Locating skilled subcontractors	Inventory control
Finding enough space to expand our business	Finding the funds to expand our business	Buying the fish we need to produce our products
Decline in population	Lack of economic diversity	Bad year in fishing industry
Government regulations	Fisheries politics	Capable workforce
Funding depreciation on the facility	New capital project funding	Over lapping governmental regulations concerning Compensatory Mitigation Rule of 2008
Obtaining grants for expansion	Environmental regulations	Permitting
Motorized equipment	Petroleum	Weather
Quality of workforce	Taxes	Insurance
Finding reliable office help	Government answer before a question is asked=No	Alaskan weather, indoor space/sheltered areas
Qualified apprentices	Seasonal nature of business;	

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
	inconsistent cash flow	
Clients lack of funds	Finding qualified local hire	Cheap unskilled or unqualified competition
Lack of funding for public port and harbor projects	Government agencies doing all the design work--not farming it out to contractors	Lack of funding for port and harbor projects.
Health issues	Cost of doing business	Labor solutions
Hiring and paying costs associated with technician	Unknown costs due to government mandates	
Shortage of professional workforce	No younger workers taking up trade	Cost of energy
Off season cash flow (Jan.-Feb.)		
Expansion of chum salmon programs	Wilderness Area ANILCA Title 13 Lands	
Trade	Location	Shipping
Lack of private funding	Lack of government funding	Skilled management personnel
Finding someone to assist me in managing the shop	Finding capable employees	Keeping expenses and shop billing rates under control
Lower 48 economy	Harbor rate increases	
Working with various government permits		
The state is funding boat yards in Wrangell and Hoonah and as a private yard in Sitka we cannot complete with their rates		
Dollars to bring in skilled labors	Parts and supplies being shipped to us	Heated building to work year round
Qualified labor pool	Utilities/services available	Cruise ship congestion
Winter shipping expansion (Ore Ships)	Port facility expansion	Continued cruise ship stability
Land ownership	Overall economy	
Funding	Construction cost	
Cost of air travel to island	Shortage of housing for residents	High cost of living
Finding quality employees	Housing our employees	Government regulation
Economic activity in general	Government spending at all levels (local, borough, state, federal)	
Cost of Diesel	Cost of equipment	
Availability of fish	Adverse weather	Equipment repair
Alaska Department of Fish & Game	ADF&G Shellfish biologist	Economy
Lack of support of local city government	Lack of enforcement by State and Federal agencies	Under the table illegal operators competing for customers
Competition	Legal liability issues	Cost of transportation
Fuel cost	Utility costs/surcharges	Quality employees
Finding new customers	Funding construction / renovation of maritime (port) infrastructure	Attracting customers outside the region

Appendix III – Survey Responses on the Three Greatest Challenges to Your Industry

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
Government regulation	Environmental regulation	Energy costs
Skilled labor	Financing expansion	Professionalism
Interest	Funding	Transportation
Distance to fish buyer	Quota share	Share split between commercial and charter
Funds	Environmental	Labor
Providing enough room for everybody safely		
Fishery regulations	Mining threats	Fishing pressure on streams
Pollution from big mining & big oil	Politics of sport fishermen	High seas fish interception
Government regulation	Harbor dock quality	
Fishery management	Cost of power	
City of Cordova	State and fed management of resource is under funded	
Government regulations	Foreign competition	Conflicting interests from other gear groups
Competition from farmed fish		
Bycatch and intercept by factory trawlers of salmon	Fuel costs	Getting product directly to consumers
Climate change	Climate change	Climate change
NOAA halibut regulations	NOAA halibut regulations	NOAA halibut regulations
Health of the ocean	Global warming	Availability of fuel
Fisheries regulation		
Available projects		
Lack of skilled workmen	Availability of materials	
Regulations	Cost of delivering product	Lack of customers
overly complicated regulatory environment		
Lack of skilled workforce	Lack of willing to work people	Shipping
Fuel supply	Skill Labor	
Environmental restrictions	Materials costs linked to petroleum product prices	Employees willing to do the work
Government permitting	Government regulation	Cost of fuel
Transportation Costs	Available seed	Available labor
Fish prices	Competition	
Increasing federal regulatory requirements	Overall US economic recession	Skilled labor shortage
Regulations		
Resource management	Fuel cost	Capital

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
Government regulation	Transportation costs	Time loss caused by government agencies
Getting the State and Federal government to recognize the value of funding port and harbor projects	Meeting all State and Federal regulations required for port operations	Derelict vessels, we need a cradle to grave plan for all vessels.
New EPA rules/ how to comply over time to meet water/air quality	DEC How to get the work done, pay attention to safe practices	Too much government
Staying out of the red	Keeping employees	Filling the harbor
Government regulation stability	Transportation	
Tourism bust	Harbor partrons willing to pay harbor rates	Recruiting qualified job applicants
Stagnant economy	Fuel prices	Lack of qualified employees
Sales and income tax	Regulatory overload	
Lack of a fair and equitable halibut quota	Lack of representation on NPFMC	Lack of representation on IPHC
Government regulation	Skilled labor	Market share
Poor technology / knowledge transfer	Low level of government commitment to modern, valu maximizing development / management policy in fisheries	Ill conceived environmental activism
Labor	Transportation cost	Updated/competitive procedures
Establish adequate ports and harbors in Alaska to attract more vessel homeporting	Establish a continuous supply of qualified workers	Establish globally competitive capacity for non-Jones Act vessels
High Operating Costs (Personnel, Fuel)	Continued funding (government subsidy)	Regulatory changes
Funding for capital improvements		
Cost of labor		
Coast Guard standardization of ship building standards.	A potential fish stock collapse	Domestic steel prices. A healthy US steel industry would be helpful.
Competition	Lack of skilled & reliable employees	Increasing extreme weather conditions
Fuel costs	Port availability	
Available funding for expansion	Managing operating costs vs user fees	Managing maintenance costs
increasing high resale inventory costs		
afforable taxable housing for low income	Fuel costs	cost and availability of land
Government regulation	Government regulation	Government regulation
Economy	Working together in industry	Too much administration time and costs
Changing times		
Large online and catalog retail outlets	Costs of product going up	People have less money to spend on products
Alcohol and drug problems		
Over regulation	Transportation	Cost of utilities
Of increasing costs of keeping up with government regulations	Transfer of harvest rights away from commercial fishing base	Lack of coordination with multiple boat repair businesses
Talent pool	Capital investment	Diversification

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
Cost and Availability of Parts & Engines	Cost of doing business	Taxes
Skilled Labor force	Environmental restrictions	Government regulations
Poor regional resource management		
Fishing quotas	DNR lease to my tide lands for my dock	
Shipping		
Nationwide economic uncertainty	Multi-disciplinary skills required by technical advancements	Rising raw materials costs
Unpredictable salmon runs	Unpredictable financing	Balancing labor and fish and supplies.
Federal regulations	Non-profit competition	
Government regulation	Fisheries politics	Capable workforce
Funding depreciation	Capital project funding	Mitigation Rule & Environmental specifications on new & maintenance dredging projects
Funding for expansion and maintenance	Environmental regulations	Permitting
Motorized equipment	Petroleum	weather
Workforce quality	Insurance	taxes
Skilled labor	Equipment costs and availability	Grant availability to remain competitive with lower 48
Aging workforce	Lack of qualified apprentices	
Clients lack of funds	Permitting process and time requirements	Clients ability to forecast their needs 5 years out
Lack of funding for port and harbor projects.	Lack of funding for port and harbor projects.	Lack of funding for port and harbor projects.
Regulations on halibut industry	Lack of tourist and customers	Price of fuel for boat
Technical changes and new regulations.	Training	
Government regulation	Local government apathy	
Expansion of chum salmon programs	Wilderness Area ANILCA Title 13 Lands	
Shipping	Skilled labor	Semi skilled labor
Lack of enforcement of safety regulations	Quality of instructional safety staff in ports	Workforce quality
Freezer trollers	Postal Service downsizing	Dwindling rural populations
Adequate boat haulout facility in Sitka	Fisheries issues-price and management	Workforce challenges
Lower 48 economy	Harbor rate increases	
Environmental regulations on wash water discharge		
Skilled labor	Demands of environmental requirements	Safety
Shipping growth	Port expansion	Qualified employee base
Economy	Commodity prices	
Funding	Construction cost	
Skilled workforce	Dependable air service	Cost of energy
Economic activity in general	Government spending at all levels (local, borough, state, federal)	

Greatest Challenge	Second Greatest Challenge	Third Greatest Challenge
Markets		
Availability of fish	Regulations regarding fish	Adverse weather
Farmed fishing	Environmental issues	Economy
Fuel prices	Lack of reliable marine services in the South Central area	Marine resource depletion
Outsourcing		
Need more public investment in port / harbor infrastructure	Need to market SE Alaska's maritime opportunities to businesses in the lower 48	Need an abundance of reasonably-priced electricity to help attract/retain businesses and capable employees

Appendix IV – Category Comparison

Statistic	Marine Trades	Marine Goods Suppliers	Marine Related Businesses and Services	Marine Technical Services	Government, Non-Profit, Education and Research
Number of Surveys	30	8	53	16	20
Average Business Age	18.0	18.8	15.6	16.5	15.5
Average Number of Business Activities	4.4	2.6	2.1	1.8	3.1
Average Number of Employees					
Full-time	8.1	6.6	4.3	6.3	6.3
Part-time	2.3	3.3	1.3	2.4	6.1
Subcontractor	2.2	4.2	0.4	1.3	3
Percentage of Workforce By Employee Type					
Professional	20%	18%	28%	76%	38%
Skilled	59%	42%	37%	11%	31%
Semi-skilled	15%	10%	21%	6%	17%
Unskilled	3%	19%	11%	1%	7%
Clerical	10%	12%	3%	6%	7%
Top Three Customers					
First (% of business)	Commercial fishermen 53%	Other non-marine related businesses 24%	Commercial fishermen 24%	Government sector 26%	Commercial fishermen 31%
Second (% of business)	Resident recreation 12%	Mining operations 17%	Commercial tour and charter operators 16%	Commercial fishermen 25%	Other non-marine related businesses 10.0%
Third (% of business)	Government sector 10%	Government sector 16%	Seafood processing 14%	Other non-marine related businesses 13%	Government sector 9.8%
Customer Base Location by Percent					
Local (Cumulative)	60% 60%	67% 67%	26% 26%	38% 38%	50% 50%
Resident (Cumulative)	16% 76%	11% 78%	14% 39%	22% 60%	15% 66%
Alaska (Cumulative)	12% 88%	10% 88%	11% 50%	22% 82%	13% 78%
Domestic (Cumulative)	11% 99%	7% 95%	42% 92%	12% 95%	19% 98%
International (Cumulative)	1% 100%	5% 100%	8% 100%	5% 100%	2% 100%
significant problem 3 = little to no problem	2.7	2.1	2.1	2.6	2.2
Interest in Business Growth (1 = Little or no interest, 3 = Significant interest)	2.5	2.3	2.3	2.4	2.2
Business size expected to increase in Current Year (-2 = Significant decrease, 2 = Significant increase)	0.8	0.1	0.2	0.6	0.5
Expected Increase in 5 Years	1.13	1.0	0.7	0.6	1.1
Expected Increase in 10 Years	1.07	1.0	0.6	0.3	1.3
Expected Increase in Facility Size	0.9	0.4	0.4	0.1	0.9
Expected Increase in Employees	0.93	0.4	0.4	0.3	0.8
Top Challenge to Business Activity	Workforce quality	Workforce quality	Government regulations	Workforce availability	Financial Resources
Top Workforce Recruitment Challenge	Skills	Skills inadequate	Affordable housing	Skills inadequate	Affordable
Top Three Threats to Business Viability					
First	Available land to expand	Workforce quality	Government regulations	Workforce quality	Transportation Cost
Second	Workforce quality	Transportation cost	Transportation costs	Transportation cost	Access to Capital
Third	Government regulations	Government regulation and	Environmental issues	Workforce cost and Competition	Workforce Quality