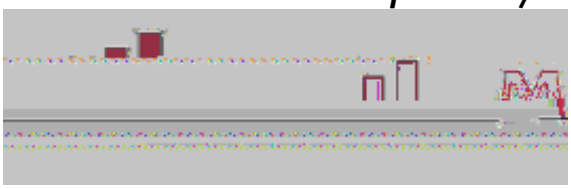
Education and Training Gap Analysis for the Fisheries, Seafood, Maritime Workforce

Prepared for:

University of Alaska

Prepared by:



Juneau • Anchorage

May 2012

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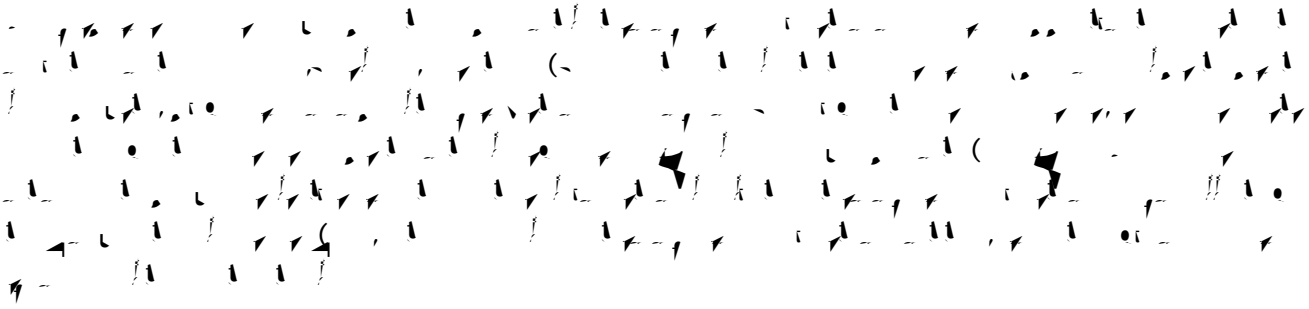
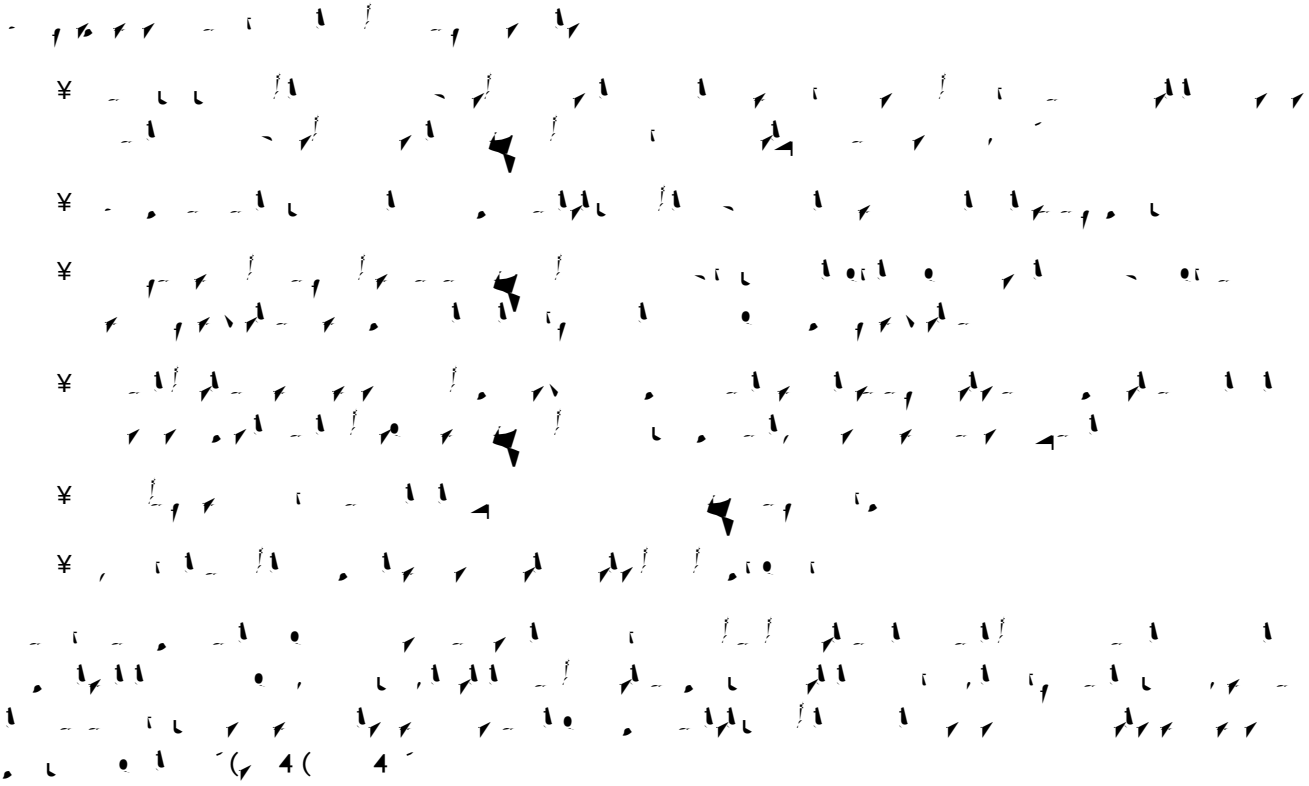
Study Purpose and Methodology

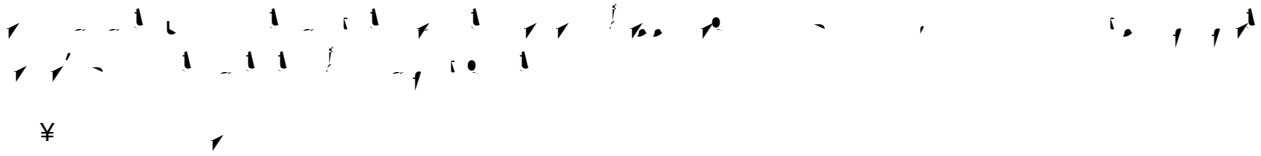
Study Purpose



Assessment Methodology



Overview



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Employment in Alaska Maritime Industries

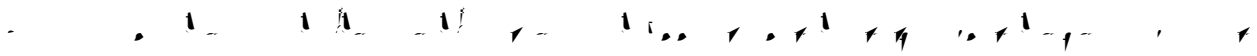
Maritime Sub-Sector	# Workers	Pct. Resident	# of Resident Workers	Wages and/or Earnings ($MM)	Average

Private Sector Wage and Salary Employment in Alaska's Maritime Sector – 2010
by Type of Occupation
(not including government or most guiding and commercial fishing)

All Private Sector Wage/Salary Maritime Industries	Number of Workers
	4

TECHNICAL SUPPORT SERVICES FOR SHORE-SIDE AND AT-SEA FISHING, PROCESSING AND MARITIME OPERATIONS.

SEAFOOD PROCESSING AND MARICULTURE TECHNOLOGIES



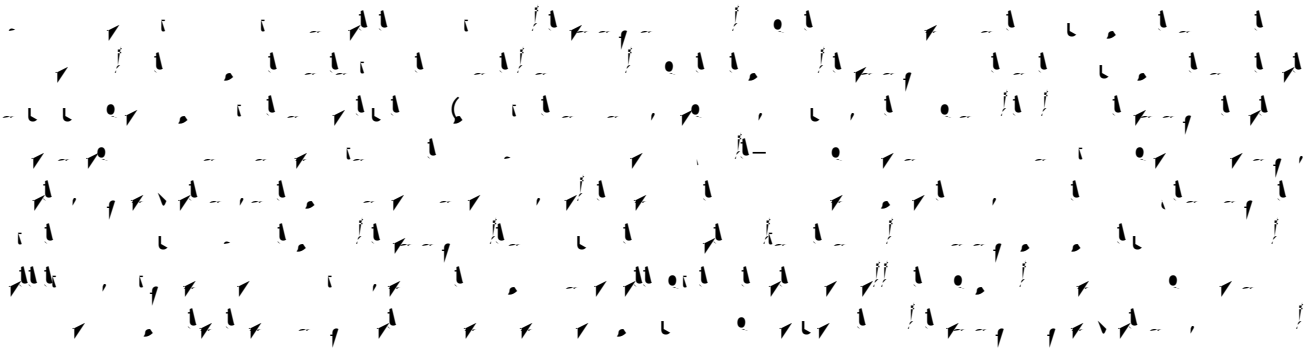
- **In addition to new training courses, training materials might be useful to the sector in other forms**

Training Needs versus Workfor ce Needs

- **Package and promote FSM-oriented offerings to the sector.**

Appendix 1: Summary of FSM Workforce Forum Discussions

Entry-level versus skilled training needs



CHALLENGES

- The private sector competes with ADF&G for employees, and ADF&G competes with NOAA and other federal employers.
- ItÕs hard to find qualified people in rural regions.
- Refrigeration and other technical skills are in short supply. In general, shoreside support for small boats is aging and declining.
- High school graduates have a very limited skill set.
- Students need to be exposed to industry skills and opportunities at a much earlier age (high school o younger). This needs to be a major effort/partnership.
- ADF&G is facing a shortage of biologists and people with educational skills.
- Young people have to see opportunity before they will get excited about skills. Need to sell the range

- Skilled and entry-level cannot be differentiated by number of hours or seasons. Season length can differ by region, and positions adapt.

CHALLENGES

- Entry level jobs hard to fill and have high turnover.
- Processors would like to attract more people to entry-level work who have interest in and potential for advancement.
- Seasonal nature of industry
- Remote nature of industry
- Current online and urban recruiting methods are not effective in rural Alaska.
- Both companies and workers need a better understanding of what kinds of training and recruiting tools are available.
- Most employers are not familiar with training providers. Need a statewide inventory of whatÕs available.

FUTURE NEEDS

- Better place0.24( ) 2 (a) -2 (v) -3 (a) -2 (i) 1 (l) /F15.0 6 Tc 4 95.089 469.0115 (t) 5 (0 0 Õ) a0.2ata0

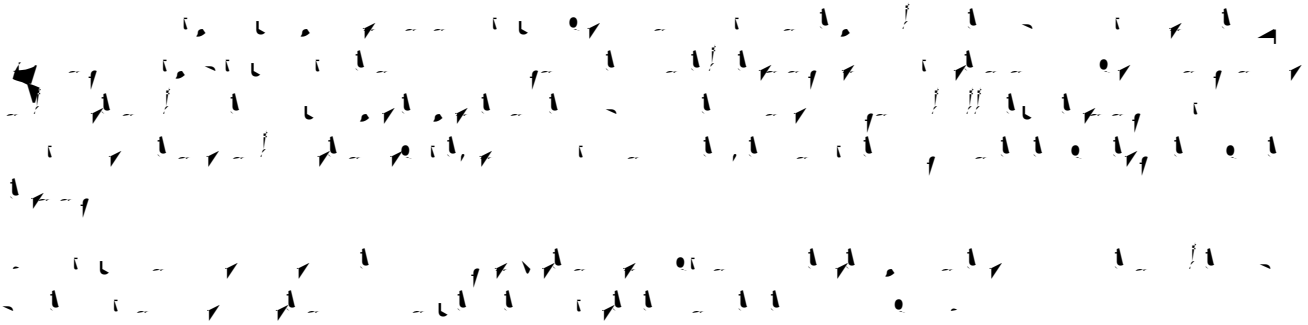
- AK has lack of industry recognition
- Need for screening and employability skills among entry level workers
- AK maritime operations must be viewed in a global context.
- Young people not aware of opportunities

FUTURE NEEDS

- Look at transferability of training to other positions, including seasonal shifts in location for some positions.
- Need strong industry support and input for this to work
- Look at on-the-job career paths as well as formal/academic paths.
- Need to start young in middle school and high school.
- Guidance counseling (secondary and post-secondary) is important.

- Employability and basic skills
- Basic analytical skills
- Career paths
- Centralized career/job/training information
- Understand the structure of the Maritime sector better
- Look at gaps and what others are doing. Design complementary and cooperative training
- DonÕt lose track of demand. Look at what the workforce really needs.

Appendix 2: Online Survey Responses



Customer Service

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Trades/Technical

- Highly skilled people to work on/repair fishing vessel (e.g. diesel mechanic, electrician, fiberglass, welder)
- General ship mechanics (electrical work, plumbing, engine mechanics, refrigeration, fabrication, etc)
- Instructors
- Marine surveyor
- Millwrights, Tech professionals
- Refrigeration Engineers, Millwrights, Port Engineers (skilled in both vehicle and vessel repair)
- Refrigeration Technicians, Quality Control Specialist and Environmental Compliance personnel
- Refrigeration technicians, Machinists (can line), Electricians, QA managers, Production Managers, Maintenance workers
- Refrigeration
- Safety officer, Welding Foreman, Ship fitters, Machinists, Mechanics, Electricians, and Bookkeepers
- Chief Engineers, Refrigeration Techs, Electricians
-

- Knowledge of the industry
- Experience in fisheries management/economics
- Historical knowledge of resource management issues, current knowledge of resource management issues

Interpersonal skills/Guiding

- Customer Service
- Customer service, interpretive guide
- Experienced naturalists/guides
- Mainly the service related positions

Specific Technical

- Commercial divers that have experience with boat husbandry
- Engineers, refrigeration technicians, plant managers (high turnover). Hard to retain processors (high turnover)
- Fish picking skills
- Food sciences and up-to-date, sophisticated process skills
- Common sense
- Unique repairs skills related to canning machinery; ability to cope with 7 days per week min 11 hour per day schedule for up to 90 days straight
- Engineering
- Qualified people to repair onboard freezers, weld, fabricate, repair fish, perform shipwright; above all finding shipyards that support work on commercial fishing vessels is increasingly a problem
- Chief engineer
- Employees able to work on the fish processing specific equipment we have in our plants
- Aquaculture and Fishery Research techniques, scientific or formal report writing/communication
- Fisheries managerial positions, Plant Managers, QA, Chief Engineers with Ammonia Certification
- Security
- Shipwrights
- Since the rationalization of the BSAI Crab fisheries we are lucky to have among the highest skilled crewmembers of any fishery in the nation. What concerns me are the lack of mechanics, welders, refrigeration technicians, and other shore-based workers that the crab industry depends upon to keep operating.
- Diesel mechanics, electrical, refrigeration
- The tradesmen need more background knowledge in the theory of fabricating constructing etc. Bookkeepers need better knowledge of the fundamentals of running a small business office and the type of software programs required to do it efficiently

Good Workers/Basic Education

- Drug-free employees
- Maintenance, attention to detail, High school education, simple math skills
- Information Technology
- Safety, ability and drive to work in remote operations at basic line production work
- Ability to work only 3 months
- For the vessels I represent, its finding people who are willing to work long hard hours

Mariners

- USCG Licensed and experienced mariners
-

Hiring Graduates of Education and Training Programs

DOES YOUR COMPANY/ORGANIZATION REGULARLY HIRE GRADUATES OF AN EDUCATION OR TRAINING PROGRAM RELATED TO THEIR JOB, EITHER IN ALASKA OR ELSEWHERE?

Name of position hired	Name of program or organization providing the training	Location of program or organization	Degree, credential or certification (if applicable)	Approx. # hires per year of graduates from this program
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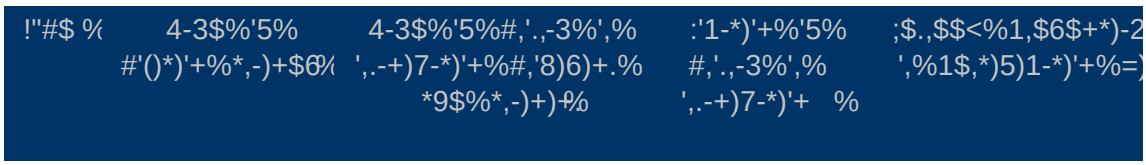
External Training of Existing Workforce

DOES YOUR COMPANY/ORGANIZATION REGULARLY SEND EXISTING EMPLOYEES TO AN EDUCATION OR TRAINING PROGRAM (INCLUDING AN ONLINE PROGRAM) EITHER IN ALASKA OR ELSEWHERE?



Regional Employment and Training Needs

DOES YOUR BUSINESS/ORGANIZATION HAVE SPECIAL EMPLOYMENT OR TRAINING NEEDS IN PARTICULAR REGIONS OR COMMUNITIES IN ALASKA?

Type	Location	Special Employment Need
CDQ	Aleutian/Pribilof Region	Community development
CDQ	Western Alaska	Biology and general field technician skills
F	Wrangell	Vessel repair, Diesel mechanic, Electrician
F/A	Cook Inlet	Fish picking, net hanging and mending, outboard motor repair, knot tying, welding
F/A	Kodiak Island	Certification programs on trawl gear design and repair. Certification programs on refrigeration operation and maintenance. Certification programs on marine electronics, new generation of communication equipment, hydro-acoustic fish finders, fisheries and oceanographic data collection
F/A	South Central	Continued Education in commercial fishing fields
H	Kodiak	Fisheries Research Techniques; Basic and Advanced Fisheries Biology (salmon), Fish Culture techniques, Worker Safety, first aid/emergency medical training; Welding
H	Nanwalek, Port Graham	Fisheries Technicians and Hatchery Operations
H	Rural Southeast Alaska	Small hydropower operation, maintenance and repair
M	All maritime (including interior) region	Willingness to travel
M	Ketchikan	Customer Service in Seasonal Visitor Industry
M	Sitka, Alaska - Allen marine Shipyard	Qualified aluminum welders, Mechanics and Marine Electricians
M	SE Alaska / Ketchikan	Trained and licensed Mariners

Continued on next page

M	Statewide	Entry-level construction and employability skills (NCCER LEVEL 1 - 2
M	Unalaska/Dutch Harbor	HAZWOPPER, confined space, shipyard competent person training
M/A	Glacier Bay and Tracy Arm	Ice maneuvering
S	Bristol Bay	Refrigeration engineers, Diesel Mechanics, Welders, fiberglass workers
S	Floating processors	Finding skilled and non-killed workers willing to work in remote areas of Alaska
S	Naknek, Ketchikan	Refrigeration, Electrician, Millwright
S	Southeast	Smokehouse, retort, canning, packaging, shipping, filleting

Type Codes:

CDQ =	CDQ Group
F =	Fisheries
F/A =	Fisheries Association
H =	Hatchery
M =	Maritime
M/A =	Maritime Association
S =	Seafood

WHAT TYPES OF TRAINING THAT YOU EITHER NEED NOW OR EXPECT TO NEED IN THE NEXT TEN

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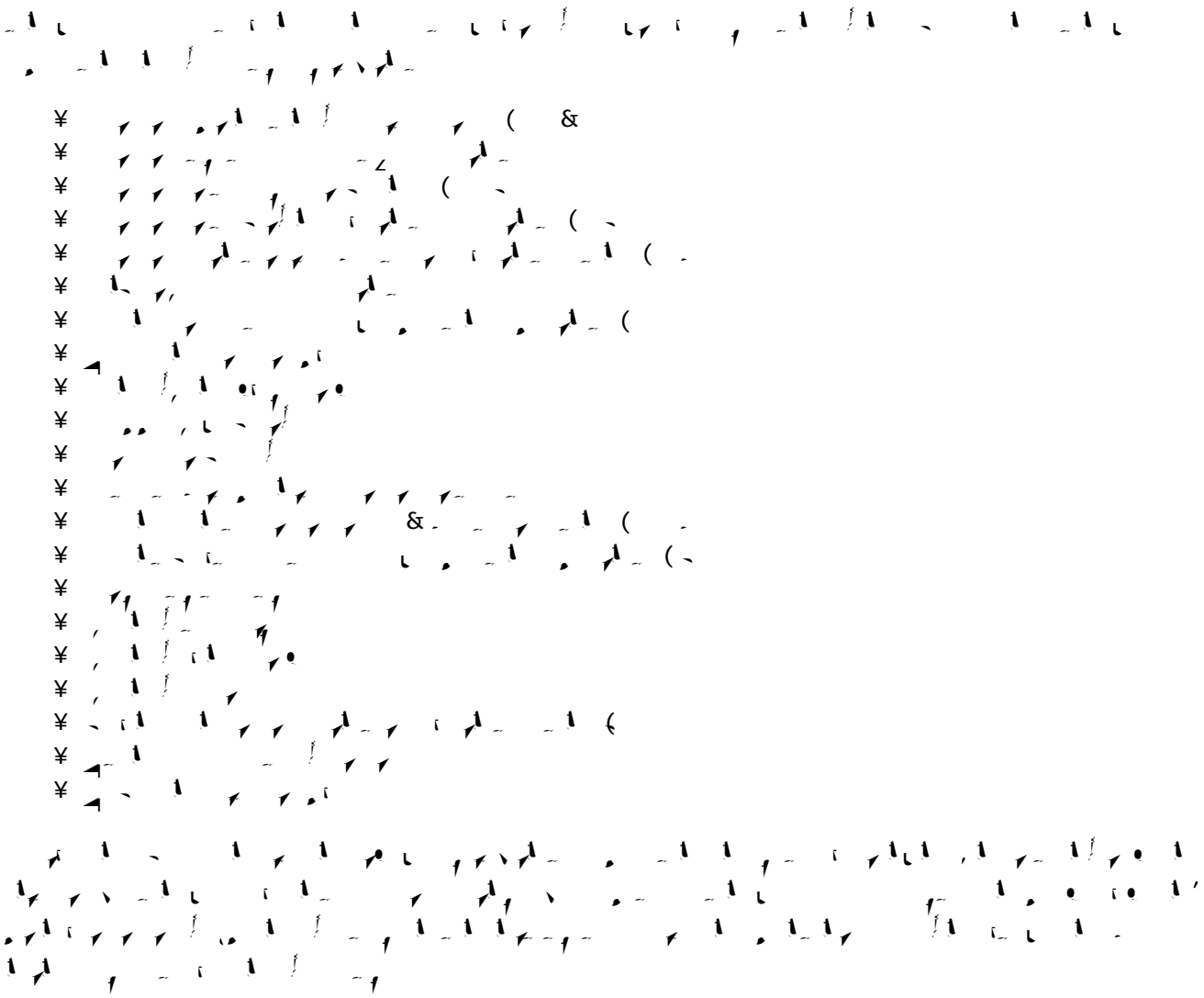
Appendix 3: Interviews with FSM Sector Participants



WORKFORCE DEVELOPMENT GOALS

- *A UA FSM workforce development program should work, in part, to raise the profile of FSM occupations. Make people aware of opportunities.*
- *Be aware of, and realistic about, the number of positions available for graduates of upper level training programs. Some segments of the FSM sector will never have large management contingents in Alaska.*
- *Trainees in rural areas often need connections with employers outside the region.*

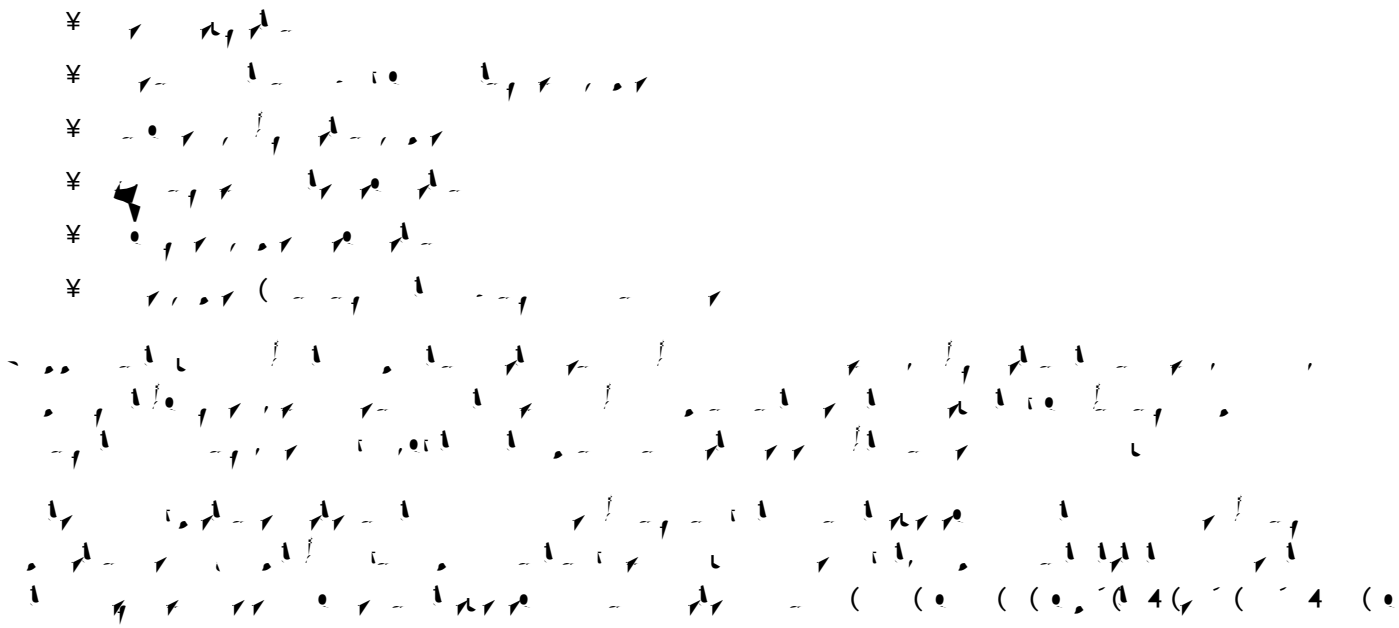
TRAINING NEEDS

- *Work readiness and drug/alcohol screening are important, especially to processors and other seasonal employers.*
- *Skills are needed at the management level, as well. Product development, marketing, QA, etc.*
- *Growing demand for icing/freezing technology.*
- *There may be unmet demand for 6-pack training. Too expensive for smaller training organizations.*
- *Port directors say vessel-support skills are hard to find, especially during the summer season, refrigeration, electronics, fiberglass, etc. A winter training program might provide some of these services to boat/permit owners during the off-season.*
- *Demand for safety-related training is significant and will increase with new USCG drill-instructor regulations.*
- *One reason for shortage of technical vessel support is that everyone needs them at once. Can training be used to extend availability of vessel services in places like Bristol Bay beyond the season?*
- *There is no particular shortage of highly trained technical crew such -36 (tC) -1 (an) 12 3 ( )300Tm /F2.01 -5 (t)6*

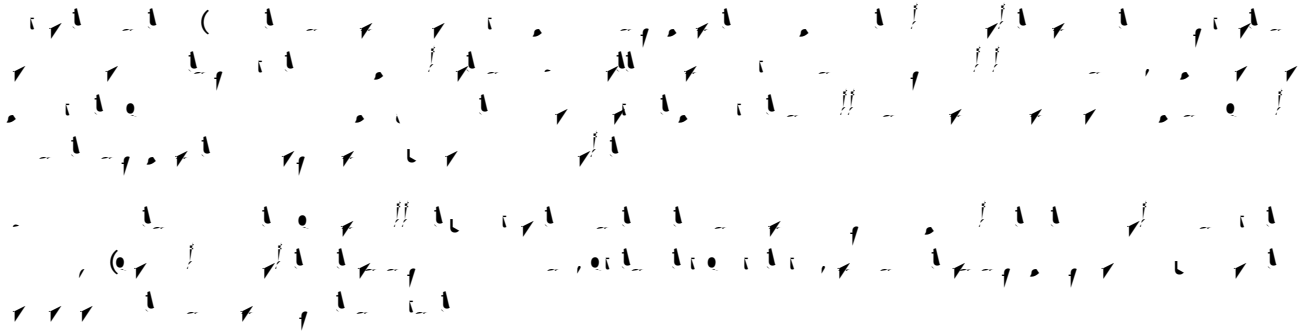
equipment such as their ship and fire training simulators, and ongoing partnerships with the Pilots Association, cruise industry and US Coast Guard.

- *A role for UA would be to offer short courses of technical instruction that support other programs, for example apprenticeships.*
- *Training needs to be accessible, affordable and credible, typically with a significant hands*

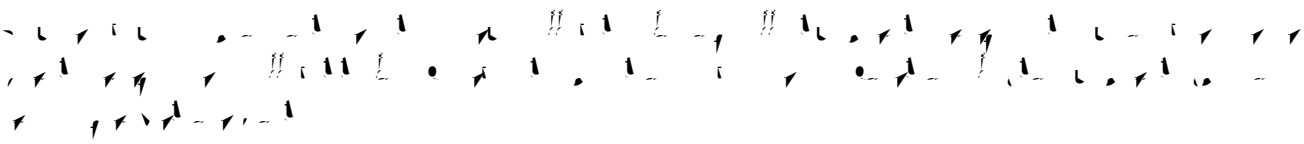
Appendix 4: Overview of Education and Training Needs by FSM Subsector



Quality Control Technicians, Food Regulation Experts, and Efficiency Auditors



Plant Managers



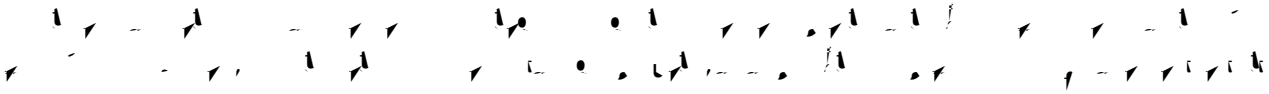
Employment in Alaska Seafood Processing and Marketing Industry, 2010

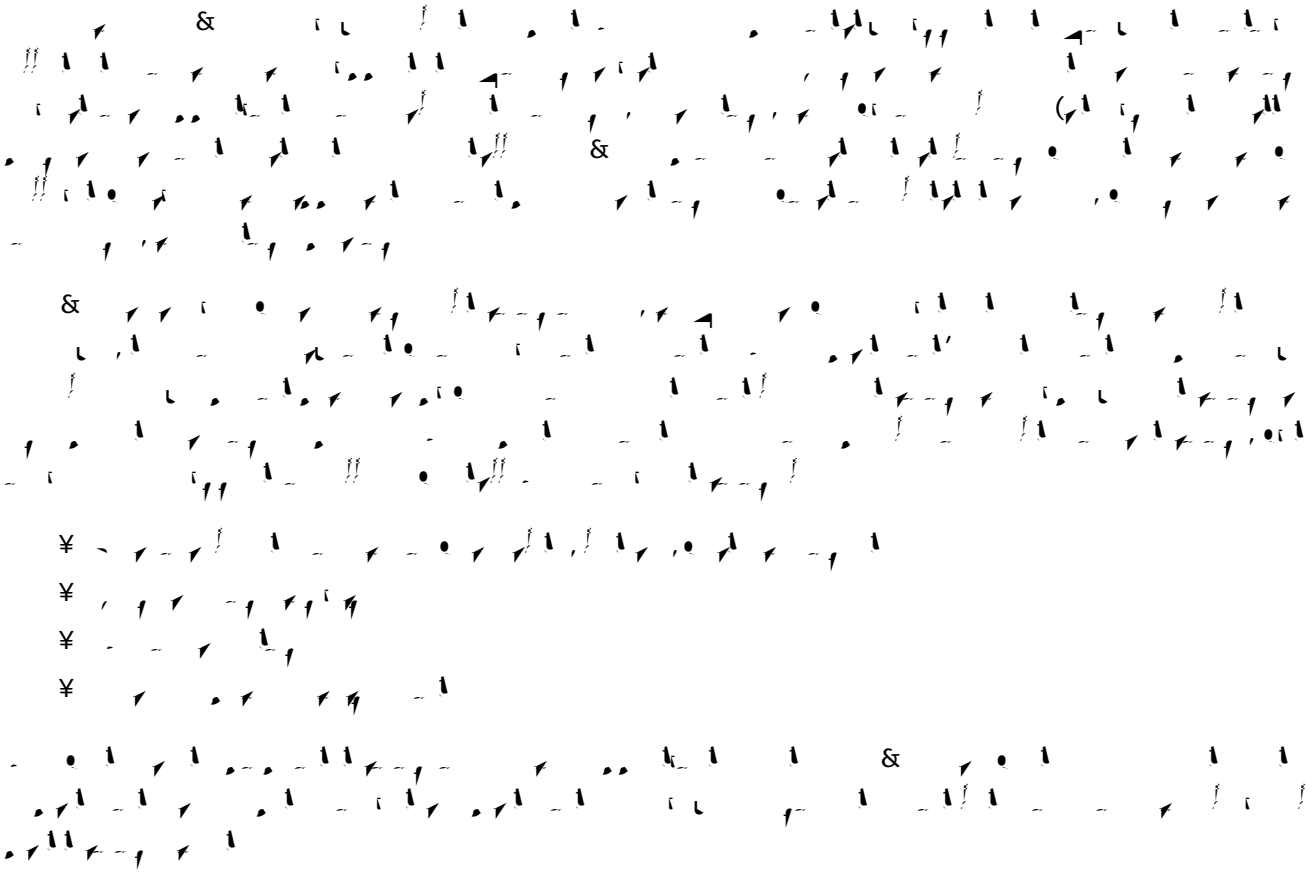
	Number of Workers	Pct. Resident	Average Quarterly Wage	Average Age

Employment in Alaska Water Transportation Industry by Education and Sub-Sector - 2010

	Number of Workers	Pct. Resident	Average Quarterly Wage	Average Age
By Education (Private Sector Only)				
Private Sector Total	**4,056**			

Salmon Hatcheries





Summary of FSM Employment by Size of Employer

Appendix 5: FSM Private Sector Workers and Education Requirements by Occupation Code

This table shows the number of workers (in 2010) in private-sector FSM occupations along with education and on-the-job training (OJT) requirements developed by DOLWD for each occupation.

Occ. Code	Occupational Title	Count of Workers	Education Required	OJT Required
111011	Chief Executives	34	Bachelors degree	None or N/A
111021	General and Operations Managers	134	Associate degree	None or N/A
112011	Advertising and Promotions Managers	2	Bachelors degree	None or N/A
112021	Marketing Managers	6	Bachelors degree	None or N/A
112022	Sales Managers	14	Bachelors degree	None or N/A
113011	Administrative Services Managers	21	HS diploma or GED	None or N/A
113021				

359099	Food Preparation and Serving Related Workers, All Other	28	Less than HS	Short-term
371011	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	5	HS diploma or GED	None or N/A
371012	First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers			

	Workers, All Other			
451011	First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers	100	HS diploma or GED	None or N/A
452011	Agricultural Inspectors	7	Bachelors degree	Moderate-term
452041	Graders and Sorters, Agricultural Products	96	Less than HS	Short-term
452093	Farmworkers, Farm and Ranch Animals	62	Less than HS	Short-term
452099	Agricultural Workers, All Other	167	Less than HS	Short-term
453011	Fishers and Related Fishing Workers	875	Less than HS	Moderate-term
471011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	5	HS diploma or GED	None or N/ A
472031	Carpenters	49	HS diploma or GED	Apprenticeship
472051	Cement Masons and Concrete Finishers	1	Less than HS	Moderate-term
472061	Construction Laborers	145	Less than HS	Short-term
472073	Operating Engineers and Other Construction Equipment Operators	11	HS diploma or GED	Moderate-term
472111	Electricians	63	HS diploma or GED	Apprenticeship
472141	Painters, Construction and Maintenance	31	Less than HS	Moderate-term
472152	Plumbers, Pipefitters, and Steamfitters	5	HS diploma or GED	Apprenticeship
472211	Sheet Metal Workers	2	HS diploma or GED	Apprenticeship
472221	Structural Iron and Steel Workers	10	HS diploma or GED	Apprenticeship
473012	Helpers--Carpenters	2	Less than HS	Short-term
473013	Helpers--Electricians	4	HS diploma or GED	Short-term
473019	Helpers, Construction Trades, All Other	27	Less than HS	Short-term
474011	Construction and Building Inspectors	3	HS diploma or GED	Moderate-term
474031	Fence Erectors	2	0 0 sc q 0.24 0 0 0.24 365	

493031	Bus and Truck Mechanics and Diesel Engine Specialists	46

513092.02	Fish Roe Technicians	133	None or N/A	None or N/A
513093	Food Cooking Machine Operators and Tenders	3		