

H B

495

**FISCAL NOTE**

**REQUEST:**

Revision Date: 3-21-88  
Title: fisheries education.  
Sponsor: House HESS  
Requestor: sponsor

Agency Affected: Education  
BRU: Adult and Vocational Education  
Components: Adult and Vocational Education Administration

**EXPENDITURES/REVENUES:** (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES		27.0	27.0	27.0	27.0	27.0
TRAVEL		7.0	7.0	7.0	7.0	7.0
CONTRACTUAL		10.3	10.3	10.3	10.3	10.3
SUPPLIES		.7	.7	.7	.7	.7
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
<b>TOTAL OPERATING</b>	<b>0</b>	<b>45.0</b>	<b>45.0</b>	<b>45.0</b>	<b>45.0</b>	<b>45.0</b>

CAPITAL						
---------	--	--	--	--	--	--

REVENUE						
---------	--	--	--	--	--	--

**FUNDING:** (Thousands of Dollars)

GENERAL FUND		45.0	45.0	45.0	45.0	45.0
FEDERAL FUNDS						
OTHER						
<b>TOTAL</b>						

**POSITIONS:**

FULL-TIME						
PART-TIME		2	2	2	2	2
TEMPORARY						

**ANALYSIS :** (Attach a separate page if necessary)

See attached.

Prepared by: Karen Ryals  
Division: Office of Adult and Vocational Education  
Approved by Commissioner: William G. Demmert  
Agency: Department of Education

Phone: 465-2800  
Date: 3-21-88  
Date: 3-21-88

Distribution (by preparer):  
Legislative Finance  
Legislative Sponsor  
Requestor  
Office of Management and Budget  
Impacted Agency(ies)

HB 495/496

Following is the proposed first year budget to provide leadership in implementing a grant program to develop a statewide fisheries curriculum, instructional materials, and model programs. Administrative services would include providing technical assistance, and preparation and dissemination of printed materials. The budget includes six months' personnel costs for a project assistant and quarter-time clerical support.

Line Item	Description	Amount
100	Personal Services	
	Project Assistant, .5 FTE, Range 16A	\$20,000
	Clerk Typist III, .25 FTE, Range 8B	7,000
200	Travel	
	Technical assistance travel to five sites, one fisheries conference, and one economic development conference	7,000
300	Contractual Services	
	RFP advertising	800
	Printing of curriculum materials and reports	5,500
	Postage, mailings to districts, agencies	2,000
	Resource publications	500
	Telephone, long distance charges	1,500
400	Supplies	
	Stationery, desk supplies, folders, labels	700
	Total FY88 expenses	<u>\$45,000</u>

FISCAL NOTE

REQUEST:

Revision Date: \_\_\_\_\_

Agency Affected: Education

Title: fisheries education

BRU: Adult and Vocational Education

Sponsor: House HESS

Components: Adult and Vocational

Requestor: House HESS

Education Administration

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES		57.9	57.9	57.9	57.9	57.9
TRAVEL		10.0	10.0	10.0	10.0	10.0
CONTRACTUAL		50.0	50.0	50.0	10.0	10.0
SUPPLIES		1.0	1.0	1.0	1.0	1.0
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	118.9	118.9	118.9	78.9	78.9

CAPITAL						
---------	--	--	--	--	--	--

REVENUE						
---------	--	--	--	--	--	--

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	118.9	118.9	118.9	78.9	78.9
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS:

FULL-TIME	0	1	1	1	1	1
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

Personnel services: 1 full-time position, range 21A to develop and implement model fisheries education programs; travel: \$10.0 to enable travel to school districts for program development and monitoring; contractual: \$50.0 for purchase and development of instructional materials;

Prepared by: Marv Hakala

Phone: 465-2800

Division: Commissioner's Office

Date: 3-16-88

Approved by Commissioner: William G. Demmert

Date: 3-16-88

Agency: Department of Education

Distribution (by preparer):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

Commodities: \$1.0 for basic operational supplies (pens, pencils, paper, etc.).

It is estimated that contractual, materials, and development funds will be necessary for the first three years of this program.

Position Title		Education Specialist II		No. of Positions	1	Range/Step	21A	Barg. Unit	6
Time Status	Full time	Staff Months	12.0	Location	Juneau		Election District		
				Justification					
Type of Expenditure				Amount					
1		2		3					
Salary		46,068							
Benefits		11,850							
Premium Pay									
Other									
Total Personal Services				57,918.50					
Travel				*					
Contractual				*					
Commodities				*					
Equipment				*					
Other				*					
Total Cost				57,918.50					
Funding Source for Total Cost									
Federal Receipts		1002							
G. F. Match		1003							
General Fund		1004		57,918.50					
GF Program Receipts		1005							
Other									
				* see fiscal note cost estimates					

**Request For  
New Position**

Agency Department of Education  
 BRU Adult and Vocational Education  
 Component Adult & Vocational Administration

Page	of
Revised Date	

**FY 89**

STATE OF ALASKA  
THE LEGISLATURE

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

LEGISLATIVE AFFAIRS AGENCY  
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May, 1988

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

H HESS                      3-15-88                      8:30 a.m.

H HESS                      3-8-88                      8:30 AM

Original sponsors: Herrmann, Davidson,  
Goll and Wallis

1 IN THE HOUSE

BY THE HEALTH, EDUCATION AND  
SOCIAL SERVICES COMMITTEE

2 CS FOR HOUSE BILL NO. 495 (HESS)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FIFTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to fisheries education; and provid-  
7 ing for an effective date."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 \* Section 1. FINDINGS. The legislature finds that

10 (1) the commercial fishing and processing industry contributes  
11 millions of dollars to the state's economy and employs thousands of people  
12 in the state each year;

13 (2) major segments of the state's commercial fishing and pro-  
14 cessing industry are controlled by interests outside the state and outside  
15 the United States, and a large proportion of jobs in the industry are held  
16 by nonresidents;

17 (3) elementary, secondary, and adult students in the state  
18 generally do not receive coordinated instruction about the importance to  
19 the state of the commercial fishing and processing industry, and about  
20 opportunities for jobs and careers in the industry; and

21 (4) the establishment of fisheries education programs in elemen-  
22 tary, secondary, vocational, and community schools would be of great bene-  
23 fit to Alaskans, to the industry, and to the state's economy.

24 \* Sec. 2. AS 14.30 is amended by adding new sections to read:

25 ARTICLE 5A. FISHERIES EDUCATION.

26 Sec. 14.30.420. FISHERIES EDUCATION PROGRAMS. (a) A school  
27 board may establish a fisheries education program in elementary,  
28 secondary, vocational, and community schools in the district or re-  
29 gional educational attendance area.

1 (b) A school designated by the department under AS 14.35.025(5)  
2 may establish a fisheries education program as a part of its voca-  
3 tional education or vocational rehabilitation plan.

4 (c) Under AS 14.07.020(a)(12) and this section, the department  
5 shall develop and implement model fisheries education programs and  
6 instructional materials. The department shall encourage and assist  
7 schools to develop programs under (a) and (b) of this section.

8 Sec. 14.30.425. FISHERIES EDUCATION FUND AND GRANTS. (a) There  
9 is established in the department the fisheries education fund as an  
10 account in the general fund. The fund consists of (1) money appropri-  
11 ated to it, and (2) federal funds and private grants, endowments, and  
12 contributions for fisheries education that the department may apply  
13 for or accept subject to AS 37.07. Money deposited in the fund may be  
14 used to make grants to develop and implement fisheries education  
15 programs, model programs, and to develop instructional materials.  
16 Money in the fund under (2) of this subsection shall be used for a  
17 purpose that is consistent with AS 14.30.420 - 14.30.435 and applica-  
18 ble federal law or terms and conditions of a private grant, endowment,  
19 or contribution.

20 (b) The department shall adopt regulations for the determination  
21 of entitlement to fisheries education grants, application and approval  
22 of grants, and administration of grants. In making grants under this  
23 section, the department shall consider programs that are designed to  
24 assist in the economic development of the attendance area served by  
25 the applicant and shall give priority to programs in elementary and  
26 secondary schools.

27 Sec. 14.30.430. REPORT. The department shall report to the  
28 governor and the legislature, by January 31 of each year, a summary of  
29 its activities under AS 14.30.420 - 14.30.-35 during the preceding

1 calendar year. The report must include a description of each grant  
2 made under AS 14.30.425.

3 Sec. 14.30.435. DEFINITION. In AS 14.30.420 - 14.30.430 "fish-  
4 eries education program" means a coordinated program of instruction  
5 that includes instruction in one or more of the following:

6 (1) the importance to the state of the commercial fishing  
7 and processing industry;

8 (2) opportunities for jobs and careers in the industry;

9 (3) skills relevant to employment in the industry;

10 (4) other components identified by the department under  
11 AS 14.30.420(c).

12 \* Sec. 3. This Act takes effect immediately under AS 01.10.070(c).  
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# HOUSE COMMITTEE REPORT

(7)

Date referred: 2/15/88

FURTHER REFERRALS: Finance

DATE: 3-15-88

The Health, Education and Social Services Committee has considered HB 495

"An Act relating to a fisheries education curriculum; and providing for an effective date."

**RECOMMENDS:**

- replace with CS HB 495 (HESS)  the same title
- attached amendment(s)  a new title
- do pass
- do not pass
- no recommendation
- individual recommendations
- additional referral to the \_\_\_\_\_ Committee

**ADOPTS:**  \_\_\_\_\_ letter of intent

**ATTACHES NEW FISCAL NOTE(S):**

- fiscal impact  same as previous fiscal note published \_\_\_\_\_
- zero fiscal note  same as previous zero fiscal note published \_\_\_\_\_
- zero with analysis

**SIGNING DO PASS:**

J. H. Ellis

Arthur E. Kopman

W. Stenbeck

David D. Kelly

Debra Stenley

P.C. & P.C.C.

**SIGNING OTHER RECOMMENDATIONS:**

Bill Anderson - no Rec.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

J. H. Ellis  
Co chairman's signature

Arthur E. Kopman

**ALASKA CAREER GUIDE PUBLICATION EVALUATION**

The Alaska Occupational Information Coordinating Committee wishes to make the *Alaska Career Guide* as useful as possible to students and others who are conducting job searches or making career choices. In order to evaluate this publication, we need your help in completing the questions listed below. Please fold the completed evaluation and return it to us postage paid. Thank you for helping us.

**1. Please check the assignment that most clearly describes your position.**

- Student. What level of school are you attending?  
 Middle School       High School       College/University       Other (please specify) \_\_\_\_\_
- Parent (Your interest in the publication is due primarily to its usefulness in helping your own child) Your child is attending which level of school?  
 Middle School       High School       College/University       Other (please specify) \_\_\_\_\_
- Applicant
- Job Placement Counselor (Assists clients in vocational/career decision making.)
- Education/Career Guidance Counselor (In education setting, assists clients in vocational/career decision making.)  
 In what setting do you work?     Secondary School     College/University     Other (please specify) \_\_\_\_\_
- Education Program Planner (Determines/plans/evaluates curriculum for educational programs.)  
 In what setting do you work?     Secondary School     College/University     Other (please specify) \_\_\_\_\_
- Educational Administrator (Administers/manages educational institution/program.)  
 In what setting do you work?     Secondary School     College/University     Other (please specify) \_\_\_\_\_
- Government Administrator (Administers/manages government office or program.)  
 In what setting do you work?     Secondary School     College/University     Other (please specify) \_\_\_\_\_

**2. Does your work deal primarily with urban or rural Alaska?**       Urban       Rural

**3. For what purpose(s) do you use the information in *Alaska Career Guide*?**

- Job Placement       Personal Planning       Vocational/Career Counseling       Educational Opportunities
- Career Changes       Financial Aid Information       Other (please specify) \_\_\_\_\_

**4. Please indicate the major industry activity of your organization. (Please check only one.)**

- Agriculture, Forestry, Fishing       Retail Trade       State Government
- Mining       Finance, Insurance, Real Estate       Federal Government
- Construction       Services       Other (please specify) \_\_\_\_\_
- Transportation, Communications, Public Utilities       Services, Nonprofit
- Wholesale Trade       Local Government, Education
- Other Local Government

**5. Please rank the features in *Alaska Career Guide* according to their usefulness to you.** (Please circle one)

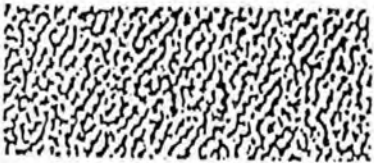
	Not Used	Usefulness of Information				
		(Low)				(High)
OVERALL PUBLICATION.....	NU	1	2	3	4	5
Career Planning Quiz.....	NU	1	2	3	4	5
Self Appraisal.....	NU	1	2	3	4	5
<b>Occupational Guide:</b>						
Occupational Descriptions.....	NU	1	2	3	4	5
Outlook and Pay.....	NU	1	2	3	4	5
Suggested Courses for Training.....	NU	1	2	3	4	5
Training Site Locations.....	NU	1	2	3	4	5
Related Occupations.....	NU	1	2	3	4	5
Hiring Practices.....	NU	1	2	3	4	5
<b>General Information:</b>						
Job Search & Interview Hints.....	NU	1	2	3	4	5
Sample Resumes.....	NU	1	2	3	4	5
Financial Assistance Information.....	NU	1	2	3	4	5
Bibliography.....	NU	1	2	3	4	5
Miscellaneous Articles, please specify: _____	NU	1	2	3	4	5
Other, please specify: _____	NU	1	2	3	4	5

**6. At what time of year would you prefer to receive *Alaska Career Guide*?**

- Fall       Winter       Spring       No Preference

COMMENTS (Please include suggestions for improvements):

Research and Analysis  
P.O. Box 25501  
Juneau, Alaska 99802-5501



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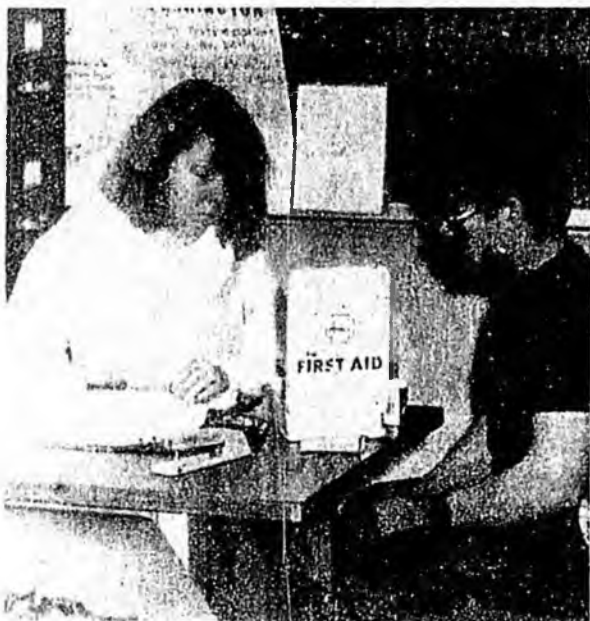


*"Learning navigation is really interesting."*

Neil Galosich  
Junior

The Cordova Aquatic Marketing Association (CAMA) is a co-sponsor of the Commercial Fishing Apprenticeship Program along with the Cordova Public Schools. CAMA is an association of fishermen committed to the promotion of fish sales, the sponsorship of CFAP and providing the fishing fleet with an insurance program.

CAMA assists the students in the CFAP with a Big Brother or Big Sister who answers questions and provides encouragement. CAMA helps match students and skippers for summer employment.



### Commercial Fisheries Apprenticeship Program

Our goal is to better prepare students for jobs in the fishing industry by developing their confidence and skills in safety and survival, knots, anchoring, steering, nautical terminology, weather, navigation, electronics, rules and regulations and basic fisheries biology and management.

Students take classes at the high school and at Prince William Sound Community College. The classes in combination with the field trips prepare students to work in the fishing industry during the summers.

The program is open to Cordova Junior and Senior High School students and to members of the community who want to go back to school or to take individual classes.

Funds for the 1987/88 year's program are provided by the Alaska State Office of Adult and Vocational Education.

Belle Mickelson  
Cordova Public Schools  
P.O. Box 140  
Cordova, Alaska 99574  
907/424-3292

Fathen Graphics

## Alaskan Youth Preparing for a Fishing Future in Alaska



Commercial Fisheries  
Apprenticeship Program  
Cordova, Alaska

The Commercial Fisheries Apprenticeship Program (CFAP) is a three-year program designed to help students be better prepared to enter the fishing industry and get a limited entry fishing permit.



CFAP will help bolster Alaska's economy by keeping permits in the state and giving students outside of fishing families an opportunity to enter the fishing industry. Alaskan youth are preparing to fish in Alaska.

*"I like the 'hands-on' approach to the class and the field trips. Because this class is small, we get a lot of individual attention from all our teachers."*

Patty Hamelin  
Sophomore

*"I think it is a good class because it is giving us the opportunity to learn about fishing before we get jobs in the summer."*

Teresa Werner  
Senior

With the cost of fishing permits going up and entry into the fishing industry affected by experience as well as money, Cordova's Commercial Fishing Apprenticeship Program is meeting the problem head on with a curriculum and hands-on experience to prepare Alaskan youth for the future, their future in Alaska.

*"I think the class is pretty neat because I'm learning how to be a fisherman. It's a lot easier to learn to tie a knot when someone is right there showing you."*

David Glasen  
Seventh Grader

State loans for fishing permits require three years of experience fishing as well as a down payment. CFAP will give students the experience necessary to obtain such a loan and help them save money for the down payment at the same time.

*"CFAP is helping me learn a lot more about fishing so I'll be better prepared for a good job this summer."*

David Sanders  
Junior

Field trips are an important part of the instruction, allowing students to build their self-confidence in steering, anchoring, navigation, boat cookery, net mending and engine maintenance. The students learn first hand how to handle themselves on the water.



OFFICE OF ADULT AND VOCATIONAL EDUCATION

# NEWS

ALASKA DEPARTMENT OF EDUCATION

## Vocational Education "The Competitive Edge"

New employees with relevant vocational education are more productive, require less on-the-job training, and receive higher wages than new employees without relevant vocational training, according to the National Center for Research in Vocational Education.

A study sponsored by the National Institute of Education, U.S. Department of Education, has produced the following findings. New employees with relevant vocational education:

- \* are 6.5 percent more productive within 6 to 36 months after being hired than those in the same job without it.
- \* require about 20 percent less formal on-the-job training and 10 percent less informal on-the-job training than those in the same job without it.
- \* have wage rates 1.2 to 3.6 percent higher than those workers in the same job without vocational education.
- \* increase the firm's output and reduce its training costs by more than their additional wages paid.
- \* are even more productive and require even less training if they attend a two-year college or vocational training institute.



## Retaining At-Risk Students

*Adapted from Wehlage, G.G., Rutter, R.A., and Turnbaugh, A. "A Program Model for At-Risk High School Students," Educational Leadership, Vol. 44, No. 6 (March 1987)*

Dropouts have bleak prospects for success in the labor market; they likely will become social liabilities and face lifelong unemployment and welfare dependency. At this time, educators know more about who has dropped out, and why, than about effective school efforts to retain students.

A great challenge facing educators is how to provide educational experiences positive enough to change the lives of at-risk youths. From this perspective, the most important issue facing educators is that of developing a concept of schooling that will be attractive enough to hold these students, and effective enough to promote learning and development.

Attractive and effective schooling should offer something positive to both students and society. First, positive school experiences must eliminate the discouragement and alienation that some students have acquired through their previous formal education. Second, these educational experiences should avoid repetitive remediation in low-level, basic skills. The reason for this is clear: to the student, acquiring these skills holds out so little promise of a rewarding future that a life on the street or on welfare seems preferable. Educators must find and implement ways to promote broad personal and social development as well as academic skills and knowledge. If armed--with knowing the characteristics of at-risk students, the components of an effective curriculum, and the benefits of an experiential approach--educators can fight to keep youth in school.

*Continued on page 6...*



# Vocational Education Week February 7-13, 1987

Governor Cowper has proclaimed February 7-13 as VOCATIONAL EDUCATION WEEK. This year the national and state theme will be "The Competitive Edge".

Each district will receive a publicity packet from the Office of Adult and Vocational Education. The packet will assist in planning and scheduling events to enhance the image of vocational education in each community. The packet includes:

- \* A full color 12" x 22" poster-- The message is clear. Vocational education gives you the competitive edge to move ahead of the pack in finding and keeping jobs.
  - \* "Competitive Edge" button-- Spruce up your wearing attire and let people know that you support Vocational Education.
  - \* An illustrated flyer--explaining how vocational education gives people the competitive edge.
  - \* You Can Be What You Want To Be-- Brochure to help high school students narrow their fields of interest.
  - \* Eight Facts Every Parent Should Know About Vocational Education-- Brochure presenting persuasive arguments for parents.
  - \* Press Releases-- designed to be used as models for each district's local releases.
  - \* A sample Vocational Education Week PROCLAMATION to be used by any mayor to declare the week of February 7-13 as a local Vocational Education Week.
  - \* A copy of Governor Cowper's Proclamation designating Alaska Vocational Education Week.
- For other resources see the articles, "Kaleidoscope Of Careers" and "Working".

## Executive Proclamation

By Steve Cowper, Governor

Alaska has provided an opportunity for its citizens to be trained for its workforce. Vocational education is charged with preparing people for work, it is the backbone of Alaska's employment-related education and training programs.

Vocational education in Alaska prepares citizens through a variety of programs that offer related instruction in basic education, career development, general vocational knowledge, improved family living skills, and specialized occupational training.

The State of Alaska recognizes the contributions that the vocational educators, counselors, administrators, advisory members, and the business community have made to vocational programs by creating partnerships for excellence.

NOW, THEREFORE, I Steve Cowper, Governor of the State of Alaska, do hereby proclaim the week of February 7-13, 1988, as ALASKA VOCATIONAL EDUCATION WEEK in Alaska, and urge all citizens to acquaint themselves with vocational programs offered through secondary schools, community colleges, technical centers, private schools, unions, and various agencies.

# Celebrate National School Counseling Week

In school districts from coast to coast, February 1-5, 1988 has been designated National School Counseling Week. The theme, "Sometimes the Learning Program Needs a Helping Hand... Your School Counselor- Someone you can count on", focuses attention on school counselors, their services and programs.

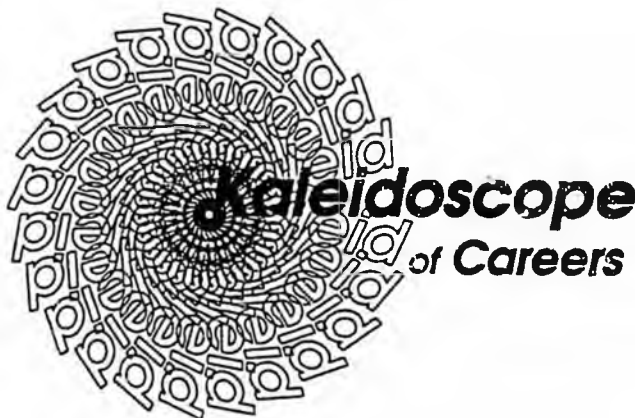
From the elementary through the post-secondary years, school counselors help students answer the all-important question, "Who am I?". Through the curriculum and through specific activities, guidance and counseling programs enhance the learning environment. By working closely together, parents, teachers, administrators, and community members, and school counselors provide invaluable assistance in helping students develop the following:

1. Better understanding and acceptance of themselves their strengths and limitations, aptitudes, needs, values, interests, and worth as unique individuals.
2. Improved relationships on the basis of mutual respect.
3. Decision-making and problem-solving skills.
4. Increased responsibility for their educational, occupational, and avocational development.

To commemorate the week, the Alaska School Counselor Association (ASCA), in its December newsletter, promotes the Celebration Kit as an excellent tool for "showing off some of your favorite projects and building on your base of support in your community and school district."

Developed by the American School Counselors Association, the kit includes sample brochures and posters, certificate of appreciation, "Helping Hand", award, promotional materials and catalogs. A limited number of kits are still available for seven dollars from ASCA, President Lynn McGee, P.O. Box 56116, North Pole, AK. 99705.

Program development activities involving school counselors in FY '88, include; the development of a Comprehensive Guidance Model; and the implementation of COPS (Career Occupational Preference System) in ten pilot sites. For more information contact Naomi Stockdale at 465-4685.



# KALEIDOSCOPE OF CAREERS

"Kaleidoscope of Careers" is a set of five half-hour videotapes that brings careers to students and clients in a contemporary style. The videotapes with occupational and educational information include the following features: Rap music introductions to the 17 clusters; presentation of real work environments that have been taped on the job; voice-over music narratives describing the jobs; equitable race and sex roles; and a user manual with curriculum suggestions.

The video series is perfect for the Vocational Education Week activities, such as career fairs, open house, brown bag lunch programs or mail promotionals.

"Kaleidoscope of Careers" is available on a 30 day loan at no cost, contact Nancy Hilbert, Research & Analysis, Department of Labor, P.O. Box 25501, Juneau, AK 99801-25501, or phone 465-4500.

## Working For Yourself

Working for Yourself - Career Planning Information, like all of the Alaska Career Information System (AKCIS) publications, has been written specifically for people exploring career options. A significant portion of the working population is self-employed. However, being self-employed and owning your own business presents challenges, rewards, and costs beyond those of any specific occupation. When considering careers that include some form of self-employment, it is advantageous to explore the nature of self-employment within those careers as well. This new addition to AKCIS has been designed to allow you to look at your options, interests, and needs related to self-employment and small business ownership.

Working for Yourself, however, is simply a beginning point. It helps you consider a wide range of issues that are important to occupational exploration and career decision-making. If self-employment or small business ownership becomes your work objective, a careful and thorough study of the many available resources is a valuable next step. This program contains a section, "Where to Go for Assistance." Also, following most sections, sources of "Additional information" are noted for further study of a particular topic.

The program is divided into five categories:

"Working for Yourself"- an overview of program and a discussion of the general rewards and costs of working for yourself. This is the place to start if you are just beginning your exploration.

"Self-Employment Options"- discusses five major categories of occupations. Each category has special characteristics that people interested in self-employment should consider. If you have selected an occupation, but are wondering what working for yourself would involve, you may first want to determine in which category your occupation fits.

"Entrepreneurship"- will familiarize you with the nature of entrepreneurship and assist you in thinking of yourself in the environment of the entrepreneur. This section includes an Entrepreneurship Quiz.

"Deciding to Go into Business for Yourself"- takes

you a step further, by discussing some of the basic needs in starting a successful business.

"Making a Business Succeed"- looks at the ongoing requirements of small business operation. It provides a reminder about all of the activities necessary for the small business owner, suggesting the types of skills and knowledge you would want to have or hire in a business venture.

The program contains frequent cross-references to related information so that, no matter where you chose to begin, you may easily go to related information at the appropriate stage of your exploration.

This program is available within the main body of Micro-CIS or is available in a published book by the same name.

## "Working":

### A video guide to the world of work

"Working" is a motivational videotape with information on job-seeking and interview skills conveyed through celebrity interviews and musical sequences. The video tape curriculum covers all phases of the job-hunting and job-retention process. The video has been enthusiastically viewed by thousands of young people. It can be used to help students make the transition between school and the world of work. A copy of "Working" may be borrowed for up to 30 days from the Office of Adult and Vocational Education by contacting Carin Smolin. OAVE, P.O. Box F, Juneau, AK. 99801, or 465-4685.

## Workforce Conference:

March 9-12, 1988

Don't miss the March 9-12 "Preparing Alaska's Future Workforce" conference. The conference is a joint project of the three Private Industry Councils of the Job Training Partnership Act, The Department of Education, and the Alaska Association for Supervision and Curriculum Development. The conference focuses on model programs, teaching methods, curriculum and private sector linkages that help prepare at youth at risk for successful school experiences and employment.

Special features of the conference include methods of developing better self-concept, motivation in school and the workplace, improving work habits and employability skills, and the curriculum changes that need to be made to effectively meet the needs of at risk youth. Other presentation include family and community involvement in dealing with the issues of drug and alcohol abuse, teen suicide and teen parenting. There will also be an opportunity to interact with members of the Governor's Interim Commission on Children and Youth.

The conference begins Wednesday evening March 9, 1988, at the Anchorage Hilton. For registration information contact Susan Doherty at 333- 4457.



# Expanding Horizons:

## Minority Women Attend Leadership Conference

In an effort to promote educational and occupational equity and to encourage young women to develop an informed approach to career options, the Office of Adult and Vocational Education has sponsored the first Southeast Alaska Minority Womens' Leadership Conference.

In partnership with the Northwest Regional Educational Laboratory's Juneau office, the conference focused on minority females in grades nine through twelve. Counselors, teachers, and administrators in fifteen high schools in Southeast Alaska responded to the invitation by recommending twenty-six participants. Combined with fifteen from the Indian Studies Program in Juneau, a total of 41 young women participated. A number above and beyond the thirty that were anticipated.

Patterned after the successful "Expanding Your Horizons" model developed by NWREL, the conference offered an intensive "Leadership Day" focusing on self-image building, presentations by minority women or role models, and a tour of the University of Alaska, Southeast, campus.

The next two days were filled with "Career Day" and "College Fair" at Juneau-Douglas High School. Representatives of colleges, universities, and trade and technical schools were on hand to consult with and encourage participants to explore and make plans for achieving a wide variety of career options.

In evaluating the experience, participants agreed that the results were "beyond our expectations" and that they now enjoy a new feeling of preparedness to "begin planning for the future". For project details contact Naomi Stockdale at 465-4685.



Southeast students participate in Leadership Conference



Teen parents encouraged to stay in school

## New Teen Parent Program: To Start at Juneau-Douglas High School

Young single parents in need of career counseling, and support services are served by a new project at Juneau-Douglas High School. The JDHS Single Parent Project has identified and recruited 20 young women, ages 14 through 21, in the Juneau area. Participants receive tutoring and remedial education, when appropriate to enhance success in the regular school program. Counseling through the high school is available to assist in the completion of graduation requirements, as well as in career planning. Other services include parenting and family life education, independent living skills, reaffirming self-esteem, job-search skills, and assistance with placement at program completion. On-site transportation and on-site child care services are available when necessary for program participation.

A link has been formed between the high school and community resource agencies to provide the needed services. Parent Aide, a local family-oriented organization, will provide trained staff to conduct classes in such parenting and self-help skills as family health care, discipline, and time management. They also act as a support group during the school day. Trainers from the South East Regional Resource Center join forces with school guidance counselors to assist participants in using career information tools such as the Alaska Career Information System (AKCIS) and the Career Occupational Preference System (COPS).

Young single parents are at-risk of dropping out of school and joining the ranks of the chronically under-employed. Many young parents have poor self-esteem, lack motivation and see no place for themselves in the educational system. This project is assisting these young mothers, as well as young fathers, who are the sole support of their offspring, to set personal and vocational goals, to stay in school, and to achieve economic independence for themselves and their families. Naomi Stockdale, 465-4685, will be pleased to provide further information on this and other available single parent programs currently operating statewide with grant funds from the Carl D. Perkins Vocational Education Act.



## Cordova Fishing Apprenticeship Program: Partnership in action

Cordova Public Schools, in partnership with the Cordova Aquatic Marketing Association (CAMA), has, with seed money from the Office of Adult and Vocational Education, launched an impressive and ambitious effort to establish a three-year cooperative commercial fishing apprenticeship program for secondary students.

Due to lack of available training, as well as the prohibitive cost of permits, boats and gear, many young Cordovans are unable to approach the commercial fishing industry.

Endorsed by Superintendent William Fairall, the project targets youth who typically would be discouraged from considering fishing careers, including females, minorities, and those who are academically and economically disadvantaged.

With the cooperation of members of the local fishing community and with access to staff and facilities at Prince William Sound Community College, the Cordova High School staff will work to develop a marine vocational education curriculum. Classes will be conducted both in the classroom and on the water and will include navigation, marine safety, marine electronics operation, marine biology, marine engine maintenance and repair, and fisheries management.

During the commercial fishing season, students will receive intensive on-the-job training as apprentice crew members aboard local fishing vessels.

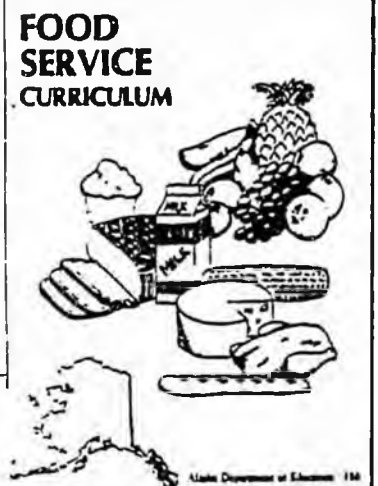
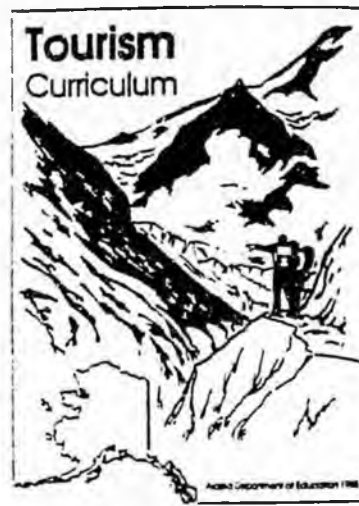
In a magnanimous gesture, many CAMA fisherfolk have volunteered to act as "big brothers" and "big sisters" to students during the course of the program. Students would receive CAMA membership, with special events planned for them and their families.

Upon successful completion of the three year program, students will receive staff assistance in applying for State, low-interest loans for Limited Entry permits, vessels, and equipment.

Developed for the specific needs of the Cordova student population and of the community as a whole, this initiative is made possible by the spirit of partnership between public and private sectors. For more information contact Naomi Stockdale at 465-4685.

## Risks And Rewards

New from EMC Publishing is a practical introduction to the world of entrepreneurship. "Risks and Rewards of Entrepreneurship" was developed in cooperation with the National Center for Research in Vocational Education at Ohio State University. It is an ideal tool for assisting students in examining their self-employment interest or potential. The materials offer an interesting variety of practical activities and exercises to help students understand what it takes to venture off on their own. An abundance of case studies, featuring real-life trials and tribulations of actual entrepreneurs, gives students an up-close view of the world of small business ownership. "Profiles", an innovative set of activities found throughout each of the four sections of the program, enables students to collect personal information that can be assembled in a portfolio at the end of the course. The content has been thoroughly classroom tested with more than 12,000 students. The set consists of a student text workbook, teachers resource guide, and a set of posters for only \$59.00. For more information contact EMC Publishing Toll-Free 800-328-1452 or Linda VanBallenberghe at 465-4685.



## America's Hospitality Industry

A videotape for use in your vocational guidance program that adds a new perspective on the variety of occupations and the career ladder in the hospitality industry.

The hospitality industry is growing very rapidly. Although it already employs 10 million Americans, government figures indicate that it is outgrowing its labor supply. Hotels, restaurants and supplier companies will be searching for qualified employees during the years ahead. Competition for the right people will mean good working conditions, rising compensation and rapid promotion.

This videotape is available upon your request from the Office of Adult and Vocational Education, Carin Smolin at 465-4685.

## At-Risk Students (cont.)

Students from low socioeconomic backgrounds have the highest dropout rate. According to the authors, low socioeconomic status coupled with minority group status are strong predictors of dropping out. Other demographic factors that influence the dropout rate include: a single-parent family, a large family, and living in a city or in rural areas. While these factors clearly are important in understanding students' problems, schools cannot change demographics. However, educators need to consider these factors as they develop strategies for providing worthwhile schooling for at-risk youth.

A somewhat different view of the data reveals that students' low expectations of receiving either good schooling or good grades often accounts for their dropping out. Both of these negatives tie in with their disciplinary problems, of which truancy is the most common offense. Before dropping out of school, at-risk students demonstrate low self-esteem and a sense of having lost control of their future. They perceive that teachers do not show much interest in them. A majority of dropouts and potential dropouts also believe that the school's disciplinary system is neither effective nor fair (Wehlage and Rutter, 1986).

### Components of a Model Curriculum

Educators are not likely to help the at-risk student unless they can change fundamental school-student interactions. The reform agenda requires a major effort to engage those who have become alienated.

Reversing this alienation begins with the establishment of a positive social bond between teachers and students. This bond can be formed in an environment where curriculum and teaching are substantially different, at least in certain respects, from that which is ordinarily found in high schools. Individuation, an active role for students, prompt feedback, and clear objectives are some of the dominant features of a model curriculum. Although basic skills are given attention, the level of skills mastery on the part of students dictates where teachers begin teaching.

### The Experiential Learning Approach

To complement their bond with teachers, at-risk youths need social experiences with other adults who exemplify characteristics of responsibility, the work ethic, and the ability to build positive human relationships. Those qualities are taught through planned experiential learning.

Experiential learning helps students become active and reflective. Typically, students are involved as volunteers at day care centers, nursing homes, elementary schools, or centers for the handicapped. Students are involved in real work, in tasks that genuinely need to be done because the people in these settings need help. The work is geared to make success more likely. A second type of experiential learning occurs when students, as a group, gut and renovate an old house under the supervision of skilled tradespeople. Other experiences involve student internships in hospitals, with law enforcement, or with various social service agencies. Such group experiences

teach cooperation, responsibility, the work ethic and, incidentally, introduce youth to possible careers.

Internships offered near the end of a program can help students make a commitment to a particular vocation, make youths employable at the end of high school, or encourage them to continue their education.

### Educators' Strategies

Educators fighting to retain the at-risk student can influence a student's negative beliefs and attitudes about school. When educators change school policies and practices, they can change students' perceptions as well.

Educators also can use inventive curricula to provide students with knowledge, services, and experiences that stimulate cognitive, personal, and social growth and help students become successful adult citizens. By retaining at-risk students in school, educators can claim victory in the first battle--preventing dropouts with bleak prospects and preparing at-risk students with better prospects in the labor market, society, and the world.

#### Reference-

Wehlage, G.G., and Rutter, R.A. "Dropping Out: How Much Do Schools Contribute to the Problem?" *Teachers College Record*, Vol. 87, No. 3 (Spring 1986)

## What Is Micro-SKILLS?

The Micro-SKILLS Inventory was developed in Fall of 1980 by the California Career Information System (EUREKA). It was developed out of the need to provide a better and more relevant tool for career counselors to use with adults in assessing their skills. During this process the clients identify their skills; then, a computer uses their skills to identify occupations which use the client's skills. Unlike most inventories, the Micro-SKILLS Inventory requires clients to complete a rather complex process involving a worksheet as a preparatory step. On this worksheet the client uses past achievements to decide which skills are most satisfying, then ranks the five most satisfying (Very Satisfying), the next ten (Moderately Satisfying), and up to twenty other skills which the client is willing to offer to an employer (Somewhat Satisfying).

The skills are then entered into the computer and the computer does a rating for each of the 390 occupations. This rating measures the "goodness of fit" between the client's skills and the skills needed by each occupation. The computer then selects the 30 highest rated occupations and lists them for the client. For more information please contact Jan Throwell at: 465-4685.



# Alaska Education Calendar 1988

## JANUARY 1988

- |       |   |                           |
|-------|---|---------------------------|
| 14-15 | Job Training Partnership Act Education Coordinating Committee mtg., Anchorage | Welles Gabier 465-2980    |
| late  | Fairbanks Assn. for Educ. Young Children Fairbanks                            | Patty Merritt 479-0900    |
| 21-22 | Gov. Interim Commission on Children and Youth, Juneau                         | Annie Calkins 465-2841    |
| 25-26 | State Board of Education meeting-Juneau                                       | Rosemary Hagevig 465-2800 |
| 28-29 | Gov. Council on Career & Vocational Education mtg. Anchorage                  | Rosie Peterson 586-1736   |

## FEBRUARY 1988

- |          |   |                           |
|----------|---|---------------------------|
| 3-5      | Bilingual/Multicultural Education conf. Anchorage | Mike Travis 465-2970      |
| 29-Mar.1 | State Board of Education meeting Anchorage        | Rosemary Hagevig 465-2880 |

## MARCH 1988

- |       |   |                          |
|-------|---|--------------------------|
| 5-8   | Ak. Library Assn. & Ak. Council of School Librarians conf., Fairbanks | Roz Goodman 624-3611     |
| 9     | Adult-Vocational Education Administrators meeting Anchorage           | Susan Doherty 333-4457   |
| 9-12  | Youth Conference (for people serving youth at-risk)                   | Verdell Jackson 465-4685 |
| 11-12 | Grants Management/Supplemental Programs workshop, Anchorage           | Ray Minge 465-2824       |
| 16-17 | State Job Training Coordinating Council meeting -Juneau               | Bill Mailer 563-1955     |
| 17-18 | Gov. Interim Commission on Children and Youth -Juneau                 | Annie Calkins 465-2841   |
| 17-19 | Vocational Student Leadership Org's Anchorage                         | Kathleen Castle 333-4457 |

## APRIL 1988

- |       |   |                           |
|-------|---|---------------------------|
| 4-5   | State Board of Education meeting Juneau                                     | Rosemary Hagevig 465-2800 |
| early | Anchorage Assn. for Education of Young Children conf.                       | Marilyn Webb 279-2511     |
| 14-15 | Job Training Partnership Act Education Coordinating Committee mtg., -Juneau | Welles Gabier 465-2980    |
| 17-19 | Superintendents Fly-In -Juneau  | Steve McPhetres 586-9702  |
| 20-23 | Future Farmers of America -Fairbanks  | Kathleen Castle 333-4457  |

## May 1988

- |       |  |                           |
|-------|--|---------------------------|
| 2-3   | State Board of Education Meeting- Juneau           | Rosemary Hagevig 465-2800 |
| 18-19 | State Job Coordinating Council meeting - Anchorage | Bill Mailer 563-1955      |

## June 1988

- |      |  |                         |
|------|--|-------------------------|
| 6-10 | Seward Wellness I (school health promo. conf.)   | Helen Mehrkens 465-2841 |
| 9-10 | U. of Alaska Board of Regents meeting -Fairbanks | Edee Rohde 474-7272     |

## Cooperative Education: It Works!

Chad Kinney, Juneau-Douglas High School, Cooperative Education student intern has prepared the copy for this issue of the N E W S. Chad works in the Office of Adult and Vocational Education two hours a day during the regular school term. We extended his hours to assist us during Christmas vacation.

In the process of preparing this issue Chad learned a new desktop publishing program called the "Pagemaker". With this expertise, other experience, and skills Chad has become a more valuable employee. Thanks Chad!

We'll use his new expertise to assist in future newsletters.  
Acting Administrator of OAVE, Karen Ryals



## Alaska Career Guide: The Untrivial Pursuit

This 52 page newspaper tabloid provides information to assist students and those making career choices or conducting job searches. Information for more than 250 occupations includes a job description, employment outlook, approximate pay, suggested training, training sites in Alaska, related occupations, and hiring practices. Pertinent information about preparing for the world of work and seeking employment is also included. This tabloid is an executive summary of the Alaska Career Information System, (AKCIS), and is not designed to replace AKCIS. Rather it provides occupational and career information that can be used outside of the career counseling mode. Last summer more than 50,000 copies were distributed to the following:

- \*Junior and Senior High Schools
- \*Community Colleges and Universities
- \*Job Service Offices
- \*Women's Resource Centers
- \*JTPA Offices

A second issue is expected to be available late in 1988. To help the Alaska Department of Labor and the Alaska Occupational Information Coordinating Committee improve this product we are distributing copies of the evaluation for this tabloid. Those of you who are familiar with this publication are encouraged to complete the postage paid evaluation and return it to the Department of Labor. If you would like to obtain a copy of this publication please contact: Alaska D.O.L. (907) 465-4500.

**Chad C. Kinney, Editor**  
Office of Adult and  
Vocational Education  
P.O. Box F  
Juneau, Alaska 99811  
(907) 465-4685





# COOPERATIVE EXTENSION SERVICE

## UNIVERSITY OF ALASKA, USDA & SEA GRANT COOPERATING

MARINE ADVISORY PROGRAM, PO BOX 10048, DILLINGHAM, ALASKA 99576

March 7, 1988

Rep. Adelheid Herrmann  
Alaska State Legislature  
Pouch V  
Juneau, AK 99811

Dear Rep. Herrmann,

I am writing in support of HB 495 and HB 496, which support the development of fisheries education curriculum. I am commenting on behalf of the Marine Advisory Program, a subset of the School of Fisheries and Ocean Sciences at the University of Alaska Fairbanks. The region I serve includes Bristol Bay and the Alaska Peninsula/Aleutian Islands communities.

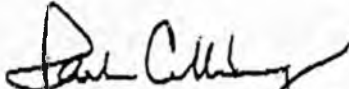
The lack of access to fisheries education has lately been a major topic of discussion in Southwest Alaska. The bottomfish boom in the Bering Sea has clearly indicated that right now, Alaskans are just not prepared to actively participate in this million dollar industry. Bristol Bay has the highest drain on high priced salmon permits leaving the region in the state, pointing out to residents that becoming a fisherman will not be an option for many local young people.

A recent meeting of the Southwest Alaska Municipal Conference focussed on the lack of access to fisheries classes and course materials within the region. A workshop at the 1987 Bristol Bay Fisheries Conference brought together educators from four school districts to assess needs for fisheries curriculum in the region. Only two of the four school districts in Bristol Bay offer any sort of fisheries classes. Many other communities are interested.

The limiting factor has been coordination and development of curriculum materials and training time for teachers who are unfamiliar with the industry. The Marine Advisory Program agents throughout the State have and are working with school districts to encourage this development. HD 495 and 496 are the tools needed to implement the programs.

Fisheries are the major source of private income in all of the coastal communities in the State. Local residents have the opportunity to become not just harvesters of the resource, but biologists, processors, accountants and managers in the fishing industry of Alaska. It is vital that the State invest in this important contribution to our economy. Clearly the best way to do this is to present students with the range of opportunities and the route to get there.

Sincerely,



Paula Cullenberg  
Marine Advisory Program

RESEARCH REQUEST

by

Representative Adelheid Herrmann

(insert date)

This research request originates from a paper prepared for me by Bill Hall entitled "Education and Training as a Solution to the Problem of Alaska Hire in the Alaska Seafood Industry". In that paper Mr. Hall made the following recommendations.

The primary goal of the state's fishery education program should be to equip Alaskans with the employment and entrepreneurial skills necessary to fulfill the present and future needs of the state's seafood industry."

If the foregoing proposition can be accepted by state government officials and industry leaders, then the problem of organization becomes primarily a problem of defining educational goals in terms of industry needs and market opportunities.

As a first step in defining this problem, I met with a group called the Seafood Industry Advisory Group within the Department of Labor to request their assistance in defining the educational and training needs of the industry. That group has agreed to develop a description of present and developing job skills and to serve as a steering committee for industry's participation in the development of a state program.

As a second step I am requesting that the House Research Agency conduct a study for the purpose of producing an overview of seafood educational programs in other parts of the world, and in the United States. This information could then be used

as one basis for evaluating Alaska's seafood industry educational program in terms of its present and future goals, structure, content and performance. It will also be useful in considering how Alaska might improve the present system or possibly create a new one.

As a starting place, please read the enclosed copy of Mr. Hall's paper with specific regard to sections 2 and 3 on pages 17 and 18. I have discussed this research request with him, and he has agreed to work with you on my behalf in the development of the particulars for the study. He also has some information that may be of use to you in beginning your research. His telephone number is (907) 276-2007.

EDUCATION AND TRAINING AS A SOLUTION

to

THE PROBLEM OF ALASKA HIRE

in

THE ALASKA SEAFOOD INDUSTRY

by

A. W. HALL

June 10, 1987

## INTRODUCTION

This proposal has been prepared at the request of Representative Adelheid Herrmann. It is the result of conversations between the author and certain Representatives of the Alaska Legislature, specifically Representatives Herrmann, Koponen, and Martin, regarding a lack of Alaska hire in the state's seafood industry.

The problem of Alaska hire while important is only a part of the larger problem of maximizing the Alaskan share of benefits generated by the utilization of the state's fisheries resources. A Fisheries Policy Task Force Report submitted to Governor Bill Sheffield in June of 1983 addressed this issue when it concluded a discussion on the state constitution's section on natural resources with the following statement.

It would appear from the foregoing that if the State is to fulfill its constitutional responsibilities of managing its fisheries resources to serve the maximum public interest and to provide the maximum benefit to the people, then it must adopt a State fisheries policy that incorporates biological, social and economic goals, and it must reorganize the structure of state fisheries programs so as to facilitate the efficient realization of those goals.

The report continued by recommending adoption of the following goal statement as the foundation of a state fisheries policy.

It is the policy of the State of Alaska that the goal of all government activities involved with or related to the fishery resources of the State shall be to perpetually produce the maximum economic and social benefits for the people of the State.

The topic of this paper then is the examination of education and training as one solution to the broad problem of increasing the Alaskan share of benefits generated by the Alaska seafood industry. The program envisioned is a program of education and training the purpose of which is to equip Alaskans with the employment and entrepreneurial skills necessary to fulfill the present and future needs of the state's seafood industry. But before addressing the specifics of an educational program, a limited examination of the potential employment and entrepreneurial opportunities available to Alaskans should be made.

#### THE ALASKA FISHING INDUSTRY

##### The Washington State Perspective:

There is no publication presently available that provides a contemporary economic overview of Alaska's commercial fisheries. However, there is a publication entitled "Commercial Fishing and the State of Washington" written by Natural Resource Consultants (NRC) of Seattle, Washington that is subtitled "A Contemporary Economic Overview of Local and Distant Water Commercial Fisheries - 1986". This publication has relevance to Alaska's interests because it devotes a substantial part of its contents to the fisheries of the North Pacific and the Bering Sea. Regardless of whether these fisheries are called Washington State fisheries or Alaskan Fisheries they nevertheless

constitute an activity that is located in the same geographic area and that exploits the same fishery resources. This commonality of interest is based in the origins and development of the North Pacific fisheries, and is described by NRC in the following statements that are excerpted from the section entitled "History of Washington Fisheries".

As the demand for seafood increased, the fishermen and processors of Washington expanded their activities to the south and north. In particular, they would become a dominant force in the development of the fisheries of Alaska.

The extensive distant water fisheries which developed in Alaska reflected the trade and economic interdependence which linked the Puget sound region and the Alaska territory.

Over time, a unique symbiotic relationship has evolved between the Washington and Alaska (salmon) fishing segment; harvesting and processing largely occurs in Alaska while marketing, distribution and corporate management takes place in the Puget Sound region.

The following excerpts from "Commercial Fishing and the State of Washington" further serve to illustrate and document the economic magnitude of the fisheries off Alaska's extensive coastline as well as the relationship that exists between the two states.

#### Distant Water Fisheries

In 1985 for example, distant water fisheries (of Washington State) were conducted by a fleet numbering more than 1,300 vessels having a current capitalized value of at least \$770 million. These vessels, ranging from 32-foot salmon gillnetters to a 300-foot factory trawler, provide work for more than 6,000 fishermen (see table on page 33). This diverse fleet in 1985 logged catches exceeding 2.1 billion pounds. This impressive harvest was valued at some \$290 million at the fisherman level or about 2.6 times the ex-harvester value of all local fishing and aquaculture production.

Except for joint venture groundfish, which are sold as round fish for processing aboard foreign ships, most of the distant water fish and shellfish catches are processed, at least to a preliminary extent, in Alaska, and about 90 percent of this processing work is completed in facilities owned by companies headquartered in Washington.

### Salmon Fisheries

In recent years, close to 770 vessels valued at over \$95 million have formed the distant water salmon armada.

In 1985, the value of the \$108 million catch about equaled the total exharvester value of the combined local Washington fisheries.

The vast majority of the distant water salmon catch is taken in Alaska state waters or waters adjacent to them. The remainder is harvested by troll fishermen off Oregon and California. The Washington fishermen's share of the Alaska salmon harvest has increased from 24 percent in 1981 to 30 percent in 1985.

Over 2,000 Washington fishermen are involved in the distant water salmon harvest, most of them participating in the Alaska fisheries.

### Trawl Fisheries

In total, the distant water trawl fleet landed over 1.8 billion pounds of food fish worth over \$141 million at the wholesale level in 1985, the largest component of Washington distant water operations in terms of poundage. Although some distant water trawl fishing has been conducted off Oregon and, prior to the extension of Canadian territorial waters, off British Columbia, the vast majority of the current Washington fleet operates in the Gulf of Alaska and Bering Sea. The chief target species for these operations is Alaska pollock, followed by yellow fin sole, Pacific cod and smaller quantities of other species.

In 1985, an estimated 92 Washington - based vessels participated in distant water trawling. Ranging in length from 70 - 300 feet, and having a collective capitalized value of close to \$280 million, the vessels employ over 700 fishermen and processing crew members, many of whom spend five to six months at sea each year.

### Crab Fisheries

The Washington king and Tanner crab fleet is perhaps one of the most modern fishing fleets in the world, and its production record is overwhelming. During the ten-year period from 1974-1983, the largely Puget Sound-based fleet

landed more crab than any other fleet of crab vessels in the world.

Fleet size peaked between 1979 and 1980 when 260 vessels were involved in the fishery. Most of these vessels were between 91 and 165 feet in length and were built at a cost of \$2 million - \$7 million each. Since the rapid decline of both king and Tanner crab stocks in the early 1980's, the fleet size has declined to about 109 vessels - the remainder having converted to joint venture trawl operations. This fleet has an estimated capitalized value of over 163 million and employs over 500 (Washington) resident fishermen. There are also an additional 25 catcher-processors and mobile processors worth \$138 million involved in the fishery each year. These vessels engage an additional 550 fishermen/processing workers.

#### The Longline Fisheries

In 1985, approximately 250 Washington - based halibut and sablefish longliners ranging in length from 40 to over 100 feet and carrying an average crew of six, participated in fisheries from California to Alaska. This fleet has an estimated Capitalized value of \$86 million.

In 1985 the Washington distant water longline fleet landed a total of 15 million pounds of halibut and 11.6 million pounds of sablefish worth a total of \$20.9 million at the ex-vessel level. Of this, 10 million pounds of halibut worth over \$7.5 million and 11.4 million pounds of sablefish worth over \$7 million were landed in Alaskan ports, while 5 million pounds of halibut valued at over \$6 million and a small amount of sablefish were landed in Washington ports.

Washington boats have taken an increasing share of sablefish landings from waters off Alaska since 1981.

#### Processing and Trade

Washington is also the base of operations for approximately 130 seafood processing/wholesaling and 33 seafood wholesale and cold storage companies. Together, these companies operate 250 primary processing and wholesale plants within the state and over 120 shore - based and at - sea processing operations in Alaska. The local operations employ over 4,000 people seasonally and about half that number throughout the year. Washington owned plants operating in Alaska employ 8,000 people seasonally. Fully one-half of the plant workers are from Washington.

Last, Washington seafood companies process and market a major portion of Alaska seafood exports.

## Overview and Conclusions

92% of seafood harvested by Washington Fishermen comes from waters off Alaska.

70% of fleet's revenue is spent in Washington State. 15% is spent in Alaska.

A significant share of the labor employed in Alaska's seasonal salmon and crab fisheries is normally resident in Washington and Oregon. In addition, ownership, management, transportation and marketing activities of these firms are largely Washington - based. A large but essential undocumented part of the value added by processors of fish and shellfish in Alaska thus accrues as direct and indirect income to residents of the Northwest.

### The Alaskan Perspective:

It has previously been stated that there is no publication presently available that contains a comprehensive economic overview of Alaska's fisheries. There are however, several publications that do serve to describe the Alaskan perspective as it relates to the seafood industry. One of those publications is entitled a "Fisheries Policy Task Force Report to Governor Bill Sheffield" which is dated June, 1983. The report contained the following statement.

In summation, the committee and the Task Force are convinced the overall economic health of Alaska's fishing industry hinges on stability, diversification, and development. In order to establish a viable, healthy industry which does indeed maximize benefits to all Alaskans, we must complement and expand our existing fisheries with new product forms and new fisheries. This is within our grasp. The benefits, the jobs, the income, the stability -- all the other associated amenities -- are currently being received, but not by Alaska. It's time to bring our resource home for our own benefit.

Another more recent report that relates to the subject is entitled "Nonresidents Working in Alaska in 1985" which was published by the Alaska Department of Labor in January of 1987. This report contained the following statements.

-The food processing industry (of which 94% of the firms are in seafood processing) had the highest number of nonresident employees (13,512), the highest percent of wages paid to nonresidents (55%), and the highest percentage of nonresident employees (68%).

The magnitude of nonresident hire in the seafood industry is much greater than the foregoing suggests if the harvesting sector of the industry is considered. Because most commercial fishermen are considered self employed for income tax reporting purposes, they are not included in the Department of Labor statistics. Also, those fishing and processing operations taking place outside of the state's territorial waters (3 miles) are not subject to Alaska law, and are therefore not included in the Dept. of Labor statistics. Categories of employment that might be considered in the harvesting sector include (1) self employed fishermen who are the owner operators of fishing vessels most of whom are required to hold permits from the Alaska Commercial Fisheries Entry Commission, (2) crew members on commercial fishing vessels, and (3) crew members on tendering vessels and floating catcher-processors.

A report entitled "Changes in the Distribution of Permit Ownership in Alaska's Limited Fisheries 1975-1985" published by the Alaska Commercial Fisheries Entry Commission (CFEC) in June of 1986 contained the following statement.

By the end of 1985, the number of permanent permits had decreased to 12,509 due to the revocation of 142 Alaskan permits and 30 Nonresident permits. As a result of transfers, migrations, and loan foreclosures, Alaskan residents owned 145 fewer permits than they had been originally issued and Nonresidents owned 135 more. Ten of the 39 permits repossessed by the Department of Commerce and Economic Development had not been resold at year-end 1985. Thus, the percentage of permits owned by Alaskans had declined to 79.7% (9,963) and the percentage of permits owned by Nonresidents had increased to 20.3% (2,536).

The CFEC has also produced a draft report entitled "Employment and Gross Earnings in Alaska's Commercial Fisheries: Estimates for All Participants and Residents of Alaska, Washington, Oregon and California, 1983-1984". The publication reports that although Alaska residents constituted 74.7% of the participants in the 1984 fisheries, their share of the income from those fisheries was estimated at only 59% of the total.

#### OPPORTUNITIES FOR ALASKANS

An industry generates its primary economic benefits for people in the form of earnings from employment and investment. The opportunity for Alaskans to increase their share of employment and investment earnings produced by the seafood industry is limited by the potential for expansion of the industry and by the ability of Alaskans to replace non-Alaskans within the existing industry. As the foregoing has demonstrated, Washington State interests constitute the largest share of the non-Alaskan owners and workers in the seafood industry. These interests cannot be expected to share their benefits without

fair consideration and compensation. Any attempt to alter the economic structure of the industry for the purpose of increasing benefits to Alaskans must be done in cooperation with our neighbors from the state of Washington. And, one of the most promising opportunities for such cooperation is in the development of an educational and training program for Alaskans who wish to participate in the seafood industry.

Potential benefits to seafood businesses located in the state of Washington and operating in the waters off Alaska would include the following.

1. Availability of a trained work force with the cost of training paid for by the State of Alaska.
2. Decrease in transportation and housing costs for employees imported from out side of Alaska.
3. Decrease in employee turn over due to employment of people resident to the area of employment who are acclimated to the circumstances of the northern environment.
4. Greater productivity of workers due to training and education.

Industry's need for a trained work force and the implied opportunity for Alaskans is contained in the following two excerpts from the Alaska Department of Labor report on nonresidents working in Alaska.

Sixty percent of employers contacted in a Department of Labor survey said their industries hire nonresidents because available Alaskans lack required training or experience.

Thirty-five percent of employers contacted stated that their industries hire nonresidents because there are no Alaskans available. This reason was most commonly cited by employers in food processing.

## EDUCATION AND TRAINING

### The Present System:

Before addressing the specifics of a new program a few comments about the state's existing fisheries educational programs are in order. And again, the 1983 Fisheries Policy Task Force Report is a good place to start. The report contains the following statements regarding fisheries education in the state of Alaska.

While the University of Alaska has fisheries programs of various types, including Sea Grant, fisheries technology and fisheries biology, it is the overall assessment of the Task Force that Alaska's state university is not fully addressing the academic and technical aspects of the State's largest industry.

There appears to be an inadequate variety of programs offered by the University. For example, one can learn how to mend nets through the University system, but you cannot learn how to become a business or plant manager in Alaska's largest industry. The educational and research roles have been filled primarily by the University of Washington and other institutions to the South. Because of this, the Alaska industry often finds itself defenseless when competing for resource allocations with our southern neighbors.

We have neither the academic, technological or research capabilities to compete at this point. This is emphasized by a recent report which showed that 70 percent of the income of the fishermen of the State of Washington is derived from Alaskan waters.

The Task force recommends that the University offer a greater variety of programs on the academic, technological, research and applied levels in the form of a curriculum that integrates the disciplines of scientific biological research, fishery management and business management programs specifically directed at the seafood industry. The Task Force would like to see more economic analysis of fisheries, more science and technology, and more fisheries industry management emphasis.

England, Norway, Iceland and Japan have extensive educational and research and development programs that make information and training available to members of the industry for a nominal expenditure. Today, the majority of Sea Grant monies nationwide is committed to the University of Washington. More of these monies should be directed at developing the fisheries of the North Pacific by providing additional training, information and research.

Existing training along with research and development programs need to be coordinated and expanded throughout the state university and community college system. Such programs need to be coordinated with the Alaska Fisheries Development Foundation, the National Marine Fisheries Service, and the proposed Fisheries Technology Center in Kodiak.

Training and research and development programs need to be developed, funded and implemented as soon as possible. Special attention should be paid to increase funding of the Fisheries Industrial Technology Center as soon as possible. The University should make a concerted effort to win a larger share of the Sea Grant monies distributed nationally.

#### Goals for a New System of Fisheries Education in Alaska:

The primary goal of the state's fishery education program should be to equip Alaskans with the employment and entrepreneurial skills necessary to fulfill the present and future needs of the state's seafood industry.

Such skills will require both vocational and academic programs. Examples of some existing employment opportunities are as follows.

1. Trawler vessel captains to replace Koreans recently employed by U. S. vessel owners in violation of U.S. law. It is possible that a program to prepare Alaskans for training in the fishing schools of other countries might fill this need.

2. Trained technicians to maintain and repair the modern fish processing machinery that are being employed in the bottomfish and surimi operations. This machinery includes German manufactured gutting, skinning and filleting machines as well as Japanese manufactured computers that control the operations of surimi processing equipment. And there is also the existing canned salmon processing equipment to be cared for.

3. Seafood quality control technicians.

4. Office managers, administrators, plant supervisors and processing workers both on shore and on factory trawlers and floating processors.

5. Commercial fishermen trained for service on high seas trawling and longlining vessels.

6. Refrigeration technicians capable of installing and maintaining equipment both on shore and on floating processors and fishing vessels.

In addition to the foregoing, most of the state's existing fishermen would benefit from comprehensive training in business management including record keeping, accounting, cash flow management, risk management, quality control and marketing. Don't forget the statistic from the CFEC that suggests Alaskans are less productive as a group than nonresidents.

The secondary goal should be the creation of a research and analysis capability in fishery economics for the purpose of developing and promoting the state's interest in fishery resource allocation and utilization. This need was previously referred to in the following excerpt from the Fishery Policy Task Force Report to Governor Sheffield.

The educational and research roles have been filled primarily by the University of Washington and other institutions to the South. Because of this, the Alaska industry often finds itself defenseless when competing for resource allocations with our southern neighbors.

A third goal should be the development of a research and development capability in the area of food processing, food technology and aquaculture. One institution that serves by example to demonstrate the potential of this goal is the University of California at Davis and its activities in the

field of agriculture. The importance of the seafood industry and its contribution to the Alaskan economy is certainly comparable in kind if not in magnitude to California's agriculture industry.

#### Goal Development and Implementation:

The previous section described a program whose primary and fundamental purpose is to create economic benefits for Alaskans from the utilization of fishery resources. It is a purpose that expresses itself in the practical applications of education and research. It is not an academic activity. It is not a program that should be driven by academic goals or by academicians. Rather, it is a program that should be driven by the industry that generates the benefits, and thereby serves the interests of Alaskans.

If the foregoing proposition can be accepted by state government officials and industry leaders, then the problem of organization becomes primarily a problem of defining educational goals in terms of industry needs and market opportunities. Such a process should begin with representatives of the seafood industry participating in an effort to identify the means by which an educational program could serve their needs and thereby achieve the program goals.

In regard to vocational and training needs, the industry should identify and define those job skills that it presently requires and those that will be developing in the future. Furthermore, industry should make the commitment to provide employment opportunities for persons completing the specified courses of study and training.

In regard to the need for research in the area of economic development, the disciplines of economics and biology should be utilized to develop an economic model and strategy that serves to redefine the state's role in fishery utilization from one of a resource colony to one of increased industrial and commercial activity within the state.

In regard to the need for research and development in seafood processing, seafood technology and aquaculture; representatives of the seafood industry should identify development needs based on market opportunities. Programs should then be developed to fill those needs.

Only after the preceding goals have been defined and accepted by government and industry can the process of program development be initiated.

### Program Development:

The development of a seafood industry educational and vocational program in Alaska is the proper function of all government agencies responsible for education within the state, including the secondary, vocational and academic sectors. And, a comprehensive program to address the needs of industry can only be created through the cooperative efforts of all the educational administrators and educators who exist throughout the many levels of state and local government.

Preceding sections of this paper have included quotations that criticize existing programs for a variety of failures. Those quotations also contain a number of recommendations for the development, implementation, coordination and expansion of programs. However only after industry has defined the needs, purposes and goals to be served by a seafood education program, then and only then, should government begin the process of program development.

Undoubtedly, much can then be achieved through a reorganization of existing programs and resources. And, much can undoubtedly be achieved through a coordination of existing programs. However optimum efficiency and program productivity will be difficult to achieve if fishery educational programs continue to be spread in a fragmented fashion throughout a multitude of government jurisdictions. Such fragmentation can

only serve to dilute resources, diffuse responsibility, and ultimately defeat the purpose of the program. In order to maintain the link with private industry that is fundamental to its purpose, a seafood industry educational program must have an identity of its own. It must have an identity and an existence that is manifest in an institution or an agency with clearly defined responsibilities and the authority to respond to the advice, recommendations and requests of industry.

#### RECOMMENDED PLAN OF ACTION

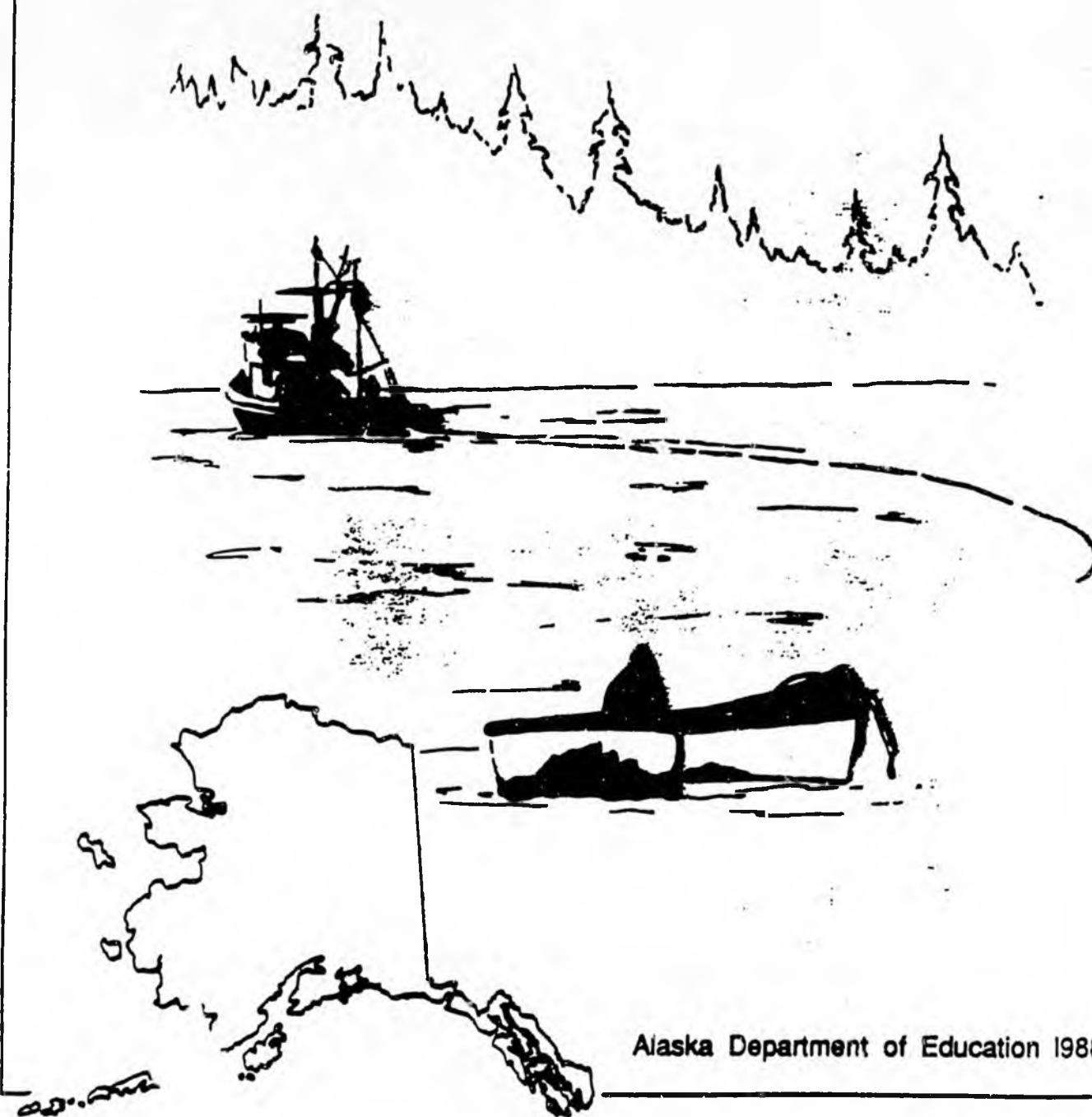
The following actions are recommended as a plan of action for creating a seafood industry education program in Alaska.

1. Invite representatives of the seafood industry to participate in a meeting for the purpose of defining industry needs that can be satisfied through an educational program, and organizing a Seafood Industry Educational Development Council.
2. Request the House Research Agency to conduct a study of the seafood industry educational programs of other major fishing nations of the world, including Norway, Great Britain, Canada, and Japan. The study should include examinations of the programs' purposes, structure and content as well as their record of accomplishments.

3. Request the House Research Agency to conduct a study of the manner in which the land grant colleges of the nation have served the needs of the agriculture industry, and compare that with the conduct of the Sea Grant program. Include an analysis of the Sea Grant program's relationship to the seafood industry both on a national and an Alaskan basis.

4. After completion of the foregoing, hold a symposium for the purpose of defining an action plan for the development of an industry driven seafood education program in Alaska. The symposium should be attended by representatives of the many organizations and interests in the seafood industry as well as representatives of the University of Alaska, the Department of Education, the secondary schools of the state, the Department of Labor and the Department of Commerce and Economic Development. The symposium should be hosted either by the Governor's Office or by a legislative entity so as to ensure that no educational institution or agency is permitted to dominate the program development process in a self serving manner.

# Renewable Natural Resources/ Agriculture Curriculum



Alaska Department of Education 1988

# Renewable Natural Resources/ Agriculture Curriculum

**Secondary and Postsecondary  
Articulated Curriculum**

**State of Alaska**  
Steve Cowper, Governor

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Developed by the  
**ALASKA DEPARTMENT OF EDUCATION**  
Adult and Vocational Education

William Demmert, Commissioner

Karen Ryals, Acting Director for Vocational Education

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# Fishing and Fisheries



(A) Denotes more advanced competency or task.

## I. Work with the Resource.

**Competency:** Identify employment and educational opportunities in fishing and fisheries

**Tasks:** Identify educational and occupational opportunities  
Locate resources for finding employment  
List prospective employers  
Identify and implement SOEP, Coop, or OJT  
Identify work in:

a. fisheries enhancement	d. equipment and facility maintenance
b. hatcheries	e. fish and game biology
c. commercial fishing	f. fish and wildlife protection
d. canneries	g. sports fishing
e. cold storages	h. fisheries laboratories

## II. Use the Resource.

### A. Safety

**Competency:** Practice personal safety and accident prevention

**Tasks:** Prepare for vessel emergencies  
Explain emergency procedures for: fire, collisions, capsizes, foundering, man-overboard and personal injuries:

- alert crew
- issue personal flotation and immersion protection devices
- administer first aid to prevent shock and control bleeding
- administer CPR
- don survival suit
- launch and operate lifeboat and life raft
- close emergency fuel shutoff valves
- extinguish Class "C" fire
- act as lookout to keep person in sight who has been lost overboard
- secure engine room to prevent spread of fire
- send out distress signals
- sound abandon-ship alarm

Use cold-water survival skills  
Treat victims for hypothermia  
Apply first aid  
Explain preparation for helicopter rescue  
Use life raft survival  
Explain survival suit use  
Identify shore survival techniques  
Identify sources of water and food in a wilderness setting

**Competency: Use boating safety and seamanship skills**



- Tasks:**
- Explain the basic terms and principles of seamanship
  - Use basic knot techniques
  - Describe boating laws
  - Explain navigational aids and charts
  - Use nautical equipment including:
    - a. barometers
    - b. CB
    - c. compasses
    - d. dividers
    - e. fathometers
    - f. loran
    - g. marine radios
    - h. radar
    - i. sextants
    - j. sonar
  - Use marine VHF, using proper procedures, etiquette, and channels
  - Obtain and explain a current weather forecast
  - Recognize changes in weather conditions
  - Recognize importance of US Coast Guard
  - (A) Complete a USCG license course

## **B. Seamanship.**

**Competency: Use a tide book, nautical chart, and coast pilot**

- Tasks:**
- Determine tide for a given location
  - Explain how to determine tide from a known tide level
  - Use the "Rule of Twelve" to determine tide level at any point in tidal cycle
  - Identify symbols used on nautical charts
  - Plot and find directions and distances on a chart
  - Read current tables

**Competency: Check out and get a vessel underway**

- Tasks:**
- Develop and follow a check list for getting underway
  - Engage bilge and engine room blowers and bilge pumps
  - Maintain proper level of coolant in expansion tank
  - Determine if all navigation lights are functioning
  - Tighten engine mounts
  - Inspect fire-fighting equipment for wear, location, and type
  - Secure deck equipment, lashings, hausers, or mooring lines
  - Inspect personal flotation devices for number, fit, integrity, and location
  - Inspect survival suits for number, fit, integrity, location and type
  - Inspect vessel for fuel leakage
  - Prepare list of equipment to be checked for oil leakage
  - Secure watertight doors, hatches, vents, and skylights
  - Bleed air compressor of water
  - Check and maintain batteries
  - Determine fuel levels
  - Inspect water level indicators for cleanliness
  - Test radio equipment
  - Inspect antennas
  - Determine if hydraulic steering equipment is free of air and water
  - Determine that rudder stuffing box is functioning properly
  - Tighten propeller stuffing box
  - Determine if proper voltage is being generated
  - File a float plan

**Competency:    Maneuver a vessel**

- Tasks:**    Observe the "rules of the road"  
Follow safe boating practices  
Pilot using dead reckoning, time, distance, and speed  
Use various forms of running fixes including:  
    a. 45-90  
    b. 22 1/2-45                      c. 26 1/2-45  
Pilot using a cross bearing  
Use navigational aids, tide and current charts and equipment  
Maintain adequate safety margins regarding weather and sea conditions



**Competency:    Use the rules of the road**

- Tasks:**    Identify marine vessel boundaries  
Identify terms and definitions related to marine charts and rules of the road  
Use steering and sailing rules including:  
    a. rules when approaching sailing vessels  
    b. rules for vessels meeting, nearing a bend, leaving berth  
    c. rules for passing a vessel head on  
    d. rules for overtaking a vessel  
    e. general prudential rule  
Identify special situation lighting and signals  
Plot a course on a chart and convert true bearings to compass bearings  
Identify day markers and fog signals  
Identify distress signals

**Competency:    Use modern electronic systems**

- Tasks:**    Use echosounders and depthfinders to:  
    a. differentiate among types  
    b. interpreting signals  
Use Radio Direction Finders (RDF) to:  
    a. identify range of equipment available  
    b. install loop antenna  
    c. use RDF aboard small craft  
    d. identify marine radio beacon stations and systems  
    e. plot radio bearing and finding position with RDF  
Use RADAR including:  
    a. install, identify components of, and operate RADAR  
    b. use RADAR as a navigational aid  
    c. interpret RADAR signals  
    d. pilot using RADAR  
    e. monitor RADAR beacons (RACON)  
    f. identify radiation hazards  
    g. install and use RADAR reflectors  
Use LORAN C or OMEGA including:  
    a. explain hyperbolic navigation systems  
    b. differentiate among groundwaves and skywaves  
    c. characterize LORAN C and OMEGA receivers  
    d. navigate with LORAN C

**Use SONAR**

- a. install, identify components of, and operate SONAR
- b. interpret SONAR signals
- c. navigate and find fish with SONAR



**Competency: Use marine lights and sound signals**

**Tasks:** Explain when marine lights are needed

Identify rules for the following situations:

- a. steam vessel underway
- b. steam vessel towing and pushing
- c. sailing vessel and vessels in tow
- d. small vessels
- e. pilot vessels
- f. fishing vessels
- g. stern lights
- h. anchor lights
- i. signals to attract attention

Sound signals for the following situations:

- a. steam vessels underway
- b. sailing vessels underway
- c. vessels at anchor
- d. vessels towing or being towed
- e. speed in fog

**Competency: Get along with other members of crew**

- Tasks:** Explain common causes of strife aboard vessels  
Explain the importance of getting along with others while at sea  
Utilize stress-reduction techniques  
Utilize communications techniques  
Practice communications techniques with others  
Explain how to take a grievance to the captain

**Competency: Anchor vessel**

- Tasks:** Anchor vessel by using anchor winch or windlass  
Secure anchor on bottom  
Retrieve and secure anchor and stack (tier) anchor chain in locker

**Competency: Dock a vessel**

- Tasks:** Assign tasks and stations for vessel mooring  
Maneuver to dock  
Secure mooring lines to dock and/or other vessels  
Secure engine room and secure propeller shaft  
Release towing gear

**C. Building, handling, and maintaining gear**

**Competency: Build, mend and repair nets and lines**

**Tasks:** Define terms related to net and line construction and repair

Build, mend and repair lines including:

- a. corkline
- b. leadline
- c. weedline
- d. breastline

Melt, tape, or whip line ends to prevent unraveling

Mend nets by:

- a. using 1, 2, and 3-bar hole repair
- b. trimming problem area
- c. initiating starter knot
- d. using pick up sider and bar
- e. maintaining proper net length with repair

Patch nets by:

- a. trimming problem area
- b. splitting edges
- c. squaring repair patch
- d. lacing twine

Complete complicated net and line repairs



**Competency: Operate and maintain gear hydraulics**

**Tasks:** Define basic principles of hydraulics  
Diagram vessel hydraulic systems  
Use proper hand signals while operating hydraulic equipment

**Competency: Maintain and operate processing equipment**

**Tasks:** Explain the maintenance and operating procedures for:

- a. freezing equipment
- b. canning equipment
- c. ice-making equipment
- d. auxiliary power generating equip.
- e. seafood cleaning equipment
- f. conveyor and product handling equip.
- g. chilling and cooling equipment
- h. testing and quality control equipment

## **D. Vessel operation and maintenance.**

**Competency: Conduct deckhand duties**

**Tasks:** Wear proper clothing for duties  
Hand or hoist equipment and supplies aboard  
Cast vessel off  
Coil lines  
Work riggings such as nets, slings, hooks, cables, booms, and hoists  
Stand lookout, steering, and engine room watches  
Operate dories, dinghies, and skiffs  
Attach accessories, such as floats, weights, and markers to nets and lines  
Pull and guide nets and lines onto vessel  
Wash deck, conveyors, knives, and other equipment, using brush, detergent, and water  
Lubricate, adjust, and maintain engines and equipment

**Competency: Maintain vessels**

**Tasks:** Arrange for grid, dry docking, or haul-out  
Change brushes in auxiliary engines  
Change lube oil and fuel filters on auxiliary engines  
Determine if motor bearings are excessively worn  
Clean electric motor  
Prepare list of hoses, valves, connections, gaskets, and tanks needing repairs  
Determine if const-a-voltage regulator is functioning properly  
Determine if drive belts on air compressors are excessively loose  
Tighten panel box fittings to prevent vibration  
Clean keel cool strainers, oil coolers and oil strainers in marine gears

Drain water out of fuel traps  
Tighten fuel and oil line connections on engines  
Inspect day tanks containing fuel for leaks  
Lubricate deck and engine room equipment  
Determine vessel's manning requirements  
Splice eye into line  
Wash down vessel's superstructure and decks  
Inspect and maintain hull, keel, and rudder assembly



**Competency: Prevent marine corrosion problems**

**Tasks:** Explain how electrolysis causes marine corrosion  
Design appropriate bonding systems for vessel components  
Wash, brush, and paint problem areas

## **E. Other duties and skills.**

**Competency: Prepare meals aboard the vessel**

**Tasks:** Plan menus  
Order supplies  
Store food properly  
Prepare a balanced meal  
Clean galley deck, woodwork, cabinets, dishes, glasses, flatware, trays, pots and pans  
Practice safety with oil stoves  
Use a microwave  
Use a fire extinguisher

**Competency: Maintain and analyze records related to fishing**

**Tasks:** Maintain trip record  
Maintain ship's log  
Maintain business ledger  
Record catch  
Record income  
Record fish sales records  
Keep expense records  
Use checking account  
Reconcile bank statement  
Inventory assets  
Analyze profits and losses including:  
    a. variable and fixed costs  
    b. opportunity cost  
    c. return to labor, management investment  
Determine net worth  
Apply skills to SOEP, Coop, or OJT

**(A) Competency: Secure loans from bank and state agencies**

**Tasks:** Differentiate among types of credit:  
    a. commercial credit  
    b. production credit  
    c. state loans

Explain the procedure for obtaining a limited entry permit  
Keep records related to loan



**(A) Competency: Compute the tax liabilities of a fisherman**

**Tasks:** Calculate estimated tax payments  
Calculate depreciation of vessel and other equipment  
Calculate investment credit  
Calculate sale and exchange of assets  
Calculate deduction and substantiation

## **F. On-board fish handling.**

**Competency: Understand the importance of fish quality**

**Task:** Explain the importance of maintaining on-board fish quality  
Maintain fish quality

**Competency: Handle fish correctly aboard the vessel**

**Tasks:** Explain the importance of good handling practices  
Relate catching rates to correct fish handling  
Correctly bleed and gut fish  
Wash fish  
Store fish on the vessel  
Unload fish from vessel

**Competency: Practice vessel sanitation**

**Tasks:** Explain the importance of vessel and product sanitation  
Use sanitation tools  
Use chemical sanitizers  
Identify potential sanitation problems

**Competency: Store fish aboard the fishing vessel**

**Tasks:** Explain the importance of chilling seafood  
Store fish without refrigeration  
ice fish  
Store fish with chilled sea water  
Store fish with refrigerated sea water  
Freeze fish at sea

## G. Marine products processing.



**Competency: Process fish**

- Tasks:** Describe both shore-based and floating processing operations  
Use processing procedures including:
- |                             |                                |
|-----------------------------|--------------------------------|
| a. assembly-line processing | j. canning                     |
| b. beheading                | k. cooking                     |
| c. gutting                  | l. drying                      |
| d. skimming                 | m. smoking                     |
| e. scaling                  | n. foil wrapping               |
| f. cleaning                 | o. freezing                    |
| g. icing                    | p. maintaining quality control |
| h. chilling and cooling     | w. shipping live               |
| i. crating                  |                                |
- Explain steps involved in roe processing

**Competency: Handle and process marine products**

- Tasks:** Store fish products using icing and refrigeration  
Clean seafood  
Use quality control in processing  
Keep seafood cool, clean, moist and moving  
Pack fish eggs for shipping  
(A) Trace marine products from the ocean to the retailer  
(A) Explain economics of seafood processing  
(A) Explain marketing considerations involved in proper seafood handling

**Competency: Maintain fish quality during storage and shipping**

- Tasks:** Explain the importance of chilling seafood  
Define fish processing and refrigeration terms  
Identify fish processing sanitation principles and procedures  
Determine how long various marine products can be preserved by refrigeration  
Identify potential chemical, biological and bacteriological problems in the fishing industry
- |  |
|--|
| a. conduct bacteria tests  |
| b. identify problems by sight and smell  |
| c. dispose of contaminated marine products                                       |
| d. recognize how to anticipate and prevent sanitation problems before they occur |
- Explain upper and lower refrigeration temperature limits for the various marine products
- |  |
|--|
| a. recognize potential sanitation problems |
| b. explain disinfecting procedures         |
| c. plan stock rotation to insure freshness |
| d. control temperature during processing   |
- Control/modify atmosphere storage of product  
Freeze product  
Ship processed product

**Competency: Sanitize seafood plant**

- Tasks:**
- Explain the importance of cleaning and sanitizing seafood plant
  - Use cleaning equipment
  - Use chemical sanitizers
  - Control pests
  - Maintain personal health and hygiene



## **H. Actively fish.**

**Competency: Net fish**

- Tasks:**
- Explain principles and techniques associated with various net fisheries
  - Locate quarry using equipment available
  - Operate and maintain net fishing equipment such as dip, diver, gill, hoop, lampara, pound, trap, reef, trammel, and travel nets
  - Operate and maintain seine equipment such as purse seine, haul, drag, or beach seine and power skiffs
  - Insert and attach hoops, rods, poles, ropes, floats, weights, beam runners, other boards, and cables to form, reinforce, position, set, tow, and anchor net as required
  - Tow net to location and anchor in place
  - Attach appropriate flags and lights to buoys to mark and identify nets
  - Haul net with appropriate gear
  - Remove catch using appropriate techniques and equipment such as dip net, brail buckets, hydraulic pumps, conveyor, lifting net, blocks, tackles, and dumping catches
  - Clean, store and transfer catch appropriately
  - Sort and clean fish, throwing undesirable and illegal catch overboard
  - Stow catch in hold or transfer to tender
  - Repair fishing nets and gear
  - Complete minor repairs of engines and equipment
  - Wash deck and equipment

**Competency: Line fish**

- Tasks:**
- Define line fishing terms
  - Explain principles and techniques associated with various line fisheries
  - Lay out gear
    - Attach:
      - a. hooks
      - b. bait
      - c. sinkers
      - d. anchors
      - e. floats
  - Anchor bottom line for bottom fishery
  - Cast line into water and hold, anchor, or troll for troll fishery
  - Retrieve gear onto boat deck by hand, reel, or winch
  - Haul line by hand or reel and winch onto deck
  - Unload fish from boat
  - Clean, pack and store catch appropriately
  - Silt fish, remove viscera, wash cavity and prepare for storage
  - Wash deck and equipment using brush, detergent and water
  - Lubricate and make minor repairs to engines and equipment

**Competency: Pot and trawl fish**



**Tasks:**

- Define pot fishing terms
- Explain pot fishing techniques
- Rig boat and deploy gear such as pots, floats and markers
- Tie marker float to line, attach line to pot, fasten bait inside pot, and lower pot into water
- Retrieve gear and remove catch
- Hook marker float with pole and haul up pot
- Remove catch or dump catch on deck
- Measure catch with fixed gauge
- Place legal catch in container and return illegal catch to sea
- If applicable, rig and lower dredge (rake scoop with bag net attached), drag dredge behind boat to gather marine life from water bottom, and hoist it to deck by hand using block and tackle
- Store catch aboard vessel

**(A) Competency: Plan and implement mariculture venture, SOEP, Coop, or OJT**

**Tasks:**

- Gain capital securities
- Obtain required permits and necessary statements
- Complete business plan including:
  - a. five-year cash flow plan
  - b. production system
  - c. construction and operating costs
  - d. expected problems and solution
  - e. projected market supply and demand
  - f. projection of overall stability and flexibility

**(A) Competency: Analyze economic factors related to a mariculture venture**

**Tasks:**

- Analyze economic factors including:
  - a. tenure of site
  - b. initial capital investment for constructing and operating
  - c. environmental conditions which will affect production cost
  - d. level of security needed
  - e. transportation means and distance to marketplace
  - f. local competitors
  - g. type and cost of personnel

**(A) Competency: Select species for mariculture venture**

**Tasks:**

- Analyze viability of species including:
  - a. sources and availability of stocking species
  - b. stocking density and rates
  - c. feeding requirement and sources, availability, cost, quality, quantity, etc.
  - d. growth rates
  - e. behavioral response to environmental stress, handling, and transporting
  - f. vulnerability to disease and predators, and response to treatment
  - g. behavior patterns which will influence management strategies
  - h. harvesting strategies and frequencies

- Analyze marketability of selected species including:
- a. demand throughout the year and its stability
  - b. supply throughout the year and degree of saturation
  - c. wholesale and retail prices
  - d. consumer's preferences
  - e. similar and substitute products
  - f. expenses and cost
  - g. gross and net profits
  - h. rate of return



**(A) Competency: Locate feasible mariculture site**

- Tasks:** Analyze environmental resources including:
- |   |  |
|---|--|
| a. sea conditions                           | f. accessibility throughout the year                                     |
| b. bottom conditions                        | g. activities of surrounding area  |
| c. topography of site and surrounding areas | h. other marine resources present and impacts of mariculture development |
| d. climatic conditions                      |  |
| e. other uses of site                       |  |

**(A) Competency: Construct and maintain mariculture site**

- Tasks:** Examine area
- Sketch out design, taking into account:
- a. biological needs of the cultured species
  - b. ecological needs of the cultured species
  - c. utilizing topography and environment so as to minimize operating costs
  - d. keeping harvesting methods efficient
  - e. keeping construction costs minimal
- Remove obstacles which may interfere with operations
- Select appropriate type and size of cage to:
- a. meet the biological need of the cultured species
  - b. withstand the elements
  - c. endure pressure of water current and when transporting
  - d. screen out predators
- Examine unit cost per cage in relation to operating, harvesting, yields, and net profit
- Design cage lay-out system considering:
- |                                      |                           |
|--------------------------------------|---------------------------|
| a. position of cages in water column | e. ease of cultivation    |
| b. water quality and circulation     | f. ease of transportation |
| c. predators                         | g. unexpected problems    |
| d. disease                           | h. security               |
- Construct cages to endure interaction with environment
- Install and secure cages
- Maintain cages

**(A) Competency: Stock and maintain species in cages**

- Tasks:** Calculate proper stock density considering:
- a. natural productivity
  - b. the need for supplemental feeding and/or fertilizer
  - c. the size of the cages
  - d. biological characteristics of the target species
  - e. economic (profitability) factors
- Check that stocking material are healthy

Acclimate stocking material to sea water and sea water temperature and release  
Determine available natural food source by analyzing:  
a. quality of food present  
b. quantity of food present  
c. environmental influences including temperature, sunlight, and water chemical characteristics  
d. characteristics of the cage

Clean cages of undesirable sea life  
Select feeds to meet nutritional requirements of target species  
Determine feeding rates and amount  
Mix, mince, dry, and/or cook foods as needed  
Store foods  
Apply feeds manually, mechanically, and/or automatically



**(A) Competency: Harvest mariculture fish and/or material**

**Tasks:** Net, trap and/or lift material from cages  
Process fish and/or material, including:  
a. sorting and grading  
b. chilling or putting fresh material in tanks  
c. freezing whole, tails only, or fillets, depending on market  
Transport fish and/or material to market

**(A) Competency: Increase production as feasible**

**Tasks:** Increase production by:  
a. expanding numbers of cages  
b. manipulating stocking frequency and rates  
c. sorting population size and/or ages, then segregating into different ponds  
d. using supplemental feeding techniques and formulas  
e. altering harvesting techniques

### **III. Manage and Protect the Resource.**

**Competency: Understand the important state and federal regulations and regulatory agencies pertaining to fisheries**

**Tasks:** Identify the role of:  
a. State Board of Fisheries  
b. fishery advisory committees  
c. International Halibut Commission  
d. Alaska Department of Fish and Game  
e. Alaska Division of Fish and Wildlife Protection  
f. U.S. Coast Guard  
Identify rules pertaining to catch and size for local fishery - include throwing illegal catch overboard

**Competency:** Understand the important state and federal regulations and regulatory agencies pertaining to navigation



**Tasks:** Identify different classes of vessels including:

- a. Class A
- b. Class 1
- c. Class 2
- d. Class 3

Register vessel and display number on boat  
Explain how vessels and/or captains may take passengers for hire  
Explain enforcement of rules of navigation  
Identify the role of the U.S. Coast Guard  
Explain rules pertaining to distressed vessels

**Competency:** Understand fish management practices

**Tasks:** Assess fish stock  
Explain concepts of sustained yield fishery  
Explain concepts of limited entry fisheries  
Identify the consequences of fishery over-exploitation  
Explain the future of local and statewide fisheries  
Trap and strip fish  
Maintain rear ponds  
Stock lakes and streams  
Rehabilitate waters  
Explain how to rescue fish  
Survey fish  
Remove rough fish  
Improve spawn areas  
Explain enforcement of proper fishing harvest laws and fish habitat protection laws

**(A) Competency:** Define important factors for hatchery placement

**Tasks:** Contrast early salmon hatcheries with contemporary ones  
Explain the need for salmon hatcheries  
Explain a hatchery's need for a steady water supply  
Explain environmental factors of salmon hatchery placement  
Explain the importance of proximity to good fish habitat

**Competency:** Define important hatchery techniques

**Tasks:** Explain salmon hatchery spawning  
Explain salmon hatchery incubation  
Explain the feeding of salmon fry  
Explain the issue of fish disease in hatcheries  
Explain how hatchery smolt are released

**Competency:** Work in a hatchery

**Tasks:** Complete paperwork related to hatchery  
Construct and maintain incubation system  
Collect adults to serve as brood stock  
Transport milt and eggs  
Fertilize eggs  
Monitor eggs during incubation

Identify various developmental stages  
Remove dead fish and eggs  
Determine survival rates at various stages of development  
Maintain environmental factors promoting the development  
and survival of eggs, fry, and adults  
Collect and analyze samples from incubation water  
Mark released fry  
Monitor return runs to establish survival rates  
Collect, record, and analyze data obtained



**Competency: Care for fish in a hatchery**

**Tasks:** Explain salmon development from unfertilized egg to adult salmon  
Define anadromous  
Identify salmon hatchery procedures  
Identify internal and external characteristics of salmon anatomy  
Identify environmental factors affecting salmon survival  
Identify natural events and cycles affecting salmon survival

**Competency: Manage salmon**

**Tasks:** Identify agencies involved in management of Alaska's salmon  
Explain different methods for assessing the fishery  
Identify the goals of salmon management

#### **IV. Define the Resource.**

**Competency: Understand Alaska's water resources**

**Tasks:** Explain the origins of the oceans  
Examine the geology of Alaska's sea bottom  
Point out major tidal areas in Alaska  
Explain possible effects of water pollution on Alaska's water resources  
Point out locations of major Alaskan fisheries  
Identify major Alaskan seaports  
Identify major Alaskan watersheds

**Competency: Identify attributes of Alaska's commercial fish species**

**Tasks:** Understand attributes of salmonids including:

- a. external anatomy
- b. internal anatomy
- c. classification
- d. distinguishing characteristics
- e. life histories including:
  1. embryology
  2. life history stages

Identify attributes of bottomfish including:

- a. anatomy
- b. classification
- c. distinguishing characteristics
- d. life history including:
  1. embryology
  2. life history stages

Identify attributes of dungeness, tanner, and king crabs including:

- a. anatomy
- b. classification
- c. distinguishing characteristics
- d. life history including:
  1. embryology
  2. life history stages

Identify attributes of shrimp including:

- a. anatomy
- b. classification
- c. distinguishing characteristics
- d. life history including:
  1. embryology
  2. life history

Identify the natural foods of fish including:

- a. aquatic insects
- b. plankton

Age fish by:

- a. scales
- b. otoliths
- c. bones
- d. back calculations (growth)

Use plankton net in studying microscopic water life

Use hand dredge for examination of bottom samples

Use seines for identification of small forage fish

Identify Alaska's under-utilized marine resources

**Competency:** Understand the life cycles of Pacific salmon

**Tasks:** Explain the:

- a. hatching process of salmon
- b. life processes of salmon fry
- c. life processes of adult salmon
- d. reproductive phase of salmon
- e. importance of dead salmon to stream replenishment
- f. issue of man-made hindrances to salmon reproduction

## V. Understand the Importance of the Resource.

**Competency:** Understand the economic importance of fishing to Alaska

**Tasks:** Understand the importance of marketing fisheries resources to the viability of Alaska's fishing industry

Identify the relative dollar value of the Alaskan fishing industry

Locate important Alaskan fishing ports on a map

Identify potential expansion in the fishing industry including:

- a. salmon farms
- b. oyster farms
- c. other shellfish and finfish mariculture developments
- d. bottom fishery

Explain the importance of seafood in the life and economy of Alaska

Contrast life histories of the major commercial fishery species of Alaska

Contrast methods, vessels and gear involved in the Alaskan commercial fisheries

Explain how fisheries managers attempt to regulate the fisheries to the mutual benefit of the resource and the fisherman



Compare and contrast the following fisheries:

- a. salmon
- b. halibut
- c. herring
- d. king crab and tanner crab
- e. bottom fish
- f. shrimp and other invertebrates
- g. shellfish



Identify different species within each fishery  
Identify gear and vessels used for each fishery

**Competency:** Understand the traditional importance of fishing to Alaska

**Tasks:** Trace the history of the marine harvest in Alaska including:  
a. historic Native harvest                      c. turn of the century canneries  
b. Russian fur trade

Relate the importance of fishing to Native Alaskan cultures  
Contrast the Native salmon fishery past and present with the non-Native salmon fishery  
Project future trends in Alaska's fisheries

**Competency:** Understand the international importance of fishing to Alaska

**Tasks:** Identify foreign fishing fleets which frequent Alaskan waters  
Identify international rules and regulations which pertain to fishing in Alaskan waters  
Identify boundaries of U.S. fishing regulations

## VI. Understand Competing Uses.

**Competency:** Understand the role of fisheries management

**Tasks:** Explain the importance of fisheries management  
Identify general management policies related to fish species  
including:  
a. sport fish    c. forage fish  
b. rough fish  
Identify general management policies related to fish habitat management

**Competency:** Understand forces competing for Alaska's fishery resources

**Tasks:** Identify state, national, and international groups competing for Alaska's fishery resources  
Explain the introduction of shellfish and finfish mariculture on traditional fisheries



# KEMP PACIFIC FISHERIES, INC.

P.O. Box 70647 • Seattle, Washington 98107-0647 • Phone (206) 283-6808

January 27, 1988

A.W. Hall  
Alaska Commercial Fishing and Agricultural Bank  
2550 Denali Street  
Suite 1201  
Anchorage, AK 99503

Dear Bill:

Thank you for the information you provided me regarding the Alaska Seafood Industry. Both papers represented extended research on your part. Not being familiar with any of the resource references you made, I found some new sources for information.

Your paper on Alaska Hire has inspired me to do two things: First, I will send a copy to our plant managers. I want all our people to be aware of the Alaska hire problem in our industry. Secondly, I am having our human resource department study and review your papers and develop a program that Kemp Pacific Fisheries can follow.

Hopefully I will be able to report some positive results the next time I see you in Alaska.

Thanks again.

Regards,

KEMP PACIFIC FISHERIES, INC.

Stephen Smith  
President

RSS/be

*Dear Adelheid & Blona,*

*Our shared efforts to promote a better education program in fishing appear to have some value despite the lukewarm reception of the Dept of Labor Seafood Industry Advisory Group.*

*Regards,  
Bill Hall*

# STATE OF ALASKA

STEVE COWPER, GOVERNOR

## DEPARTMENT OF EDUCATION

OFFICE OF ADULT AND VOCATIONAL EDUCATION

GOLDBELT PLACE  
801 WEST 10TH STREET  
P.O. BOX F  
JUNEAU, ALASKA 99811-0500  
PHONE: (907) 465-4685

March 1, 1988

RECEIVED MAR - 4 1988

Representative Adelheid Herrmanns  
Alaska State Legislature  
Box V  
Juneau, AK 99811

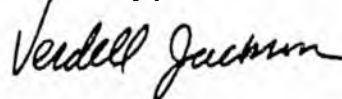
Dear Representative Herrmanns:

Your assistant called and indicated that you had expressed interest in the Youth-At-Risk Conference scheduled for March 9-12, at the Anchorage Hilton. Enclosed is an agenda. She also said that you were interested in our curriculum development effort. Enclosed is a copy of the latest vocational curriculum developed by the Office of Adult and Vocational Education. It has been sent to all secondary schools and to the campuses of the University of Alaska. We are optimistic that this curriculum will stimulate student interest and encourage schools to develop programs relevant the Alaska's job market.

This year we developing curriculum in Tourism, Welding, Small Engine/Marine Mechanics, and Nonrenewable Natural Resources. We have given the Lake and Peninsula School District (Frank Hill) a grant for \$5,000 to work on a secondary fisheries curriculum with the understanding that our office can adapt it (if necessary) for state-wide distribution. These curriculums are scheduled to be printed this summer and distributed before school starts in the Fall See the enclosed brochure.

If you have questions or want to examine other curriculum products we have developed, please contact me at 465-2980.

Sincerely,



Verdell Jackson  
Curriculum Specialist for  
Vocational Education



# SOUTHWEST ALASKA MUNICIPAL CONFERENCE

Box 89 • Unalaska • Alaska 99685

## RESOLUTION 88-11

A RESOLUTION OF THE SOUTHWEST ALASKA MUNICIPAL CONFERENCE (SWAMC) SUPPORTING THE DEVELOPMENT OF FISHERIES AND SEAFOOD INDUSTRY EDUCATION AND TRAINING OPPORTUNITIES AT THE UNIVERSITY OF ALASKA.

WHEREAS, the commercial fishing industry is the largest private employer in the State of Alaska; and

WHEREAS, in the rural, coastal communities of Southwest Alaska the fishing industry is the only private source of employment; and

WHEREAS, these fisheries and the majority of the income and employment opportunities in the industry are currently held by urban Alaskans or non-State residents; and

WHEREAS, lack of trained, skilled local Alaskan residents is one of the major reasons cited by the industry in preventing local hire.

NOW, THEREFORE, BE IT RESOLVED that the SWAMC urges the University of Alaska to recognize its responsibility toward fisheries education and training in SW Alaska by:

- Designating fisheries training as a major segment of its vocational-technical program and funding;
- Establishing an industry advisory committee capable of assessing educational and training needs directly linked to employment possibilities;
- Working together through the School of Fisheries and Ocean Sciences and the Alaska Vocational Technical Institute to establish coordinated fisheries training.

NOW, BE IT FURTHER RESOLVED that the University of Alaska research and develop scholarship programs designed to allow rural Alaskans the opportunity to benefit from these training opportunities.

THE PRECEDING PAGES WERE TREATED AS  
A UNIT IN THE ORIGINAL FILE.

Alaskan Youth  
Preparing  
for a  
Fishing Future  
in  
Alaska

Commercial Fisheries  
Apprenticeship Program  
Corporation, Alaska



Patty Hamelin practices her steering skills on the Enchantress.

## The Commercial Fishing Apprenticeship Program

by Belle Mickelson

Students in Cordova, Alaska are gearing up this year for a commercial fishing program. Cordova is a small commercial fishing town (pop. approximately 2500) on Alaska's southcentral coast. City officials recently became concerned because limited entry permits for the salmon gillnet and seine fisheries are leaving the community. So a committee was formed and a grant written to the state's Office of Adult and Vocational Education, jointly sponsored by the Cordova Aquatic Marketing Association (CAMA) and the Cordova Public Schools. The goal of this \$63,800 grant is to give local students a chance to enter the fishing industry. It's a pilot program anxiously being watched by other coastal communities around the state of Alaska.

Recently, on an evening cruise on the *M/V Discovery*, a 65' charter boat, I asked students why they'd signed up for the program. "That's easy," they said, "jobs...money." They laughed.

And it's true. In Cordova in the summertime, netmending, cannery work, or a job as a crew member pays much, much more than babysitting. And yet many young people in Cordova, unless a parent has a fishing boat — just don't have a chance for these jobs. And even if they do get a summer job, it's just too expensive to think of getting their own boat and limited entry permit sometime in the near future. Some students are looking at the program as a way to get some training in marine biology, or to pay their way through college or vocational school. And after all, there's a lot of folks in Cordova with Master's and PhD degrees, who after years of schooling and other jobs, decided they'd just rather "be fishing."

The Commercial Fisheries Apprenticeship Program is designed to

better prepare students for these fishing jobs. It's being set up as a three year program — though some students may want to take longer. Here are the basic components:

1. Students will take a variety of courses at the high school and community college during the school year. Many topics will be integrated into

regular high school classes such as welding; (building aluminum skiffs); power mechanics (inboard outboard motors); marine biology; vocational math (navigation); home economics (boat cookery); science (fisheries biology, oceanography, weather, wetlands); physical education (safety and survival); health (boat living); personal finances (break even analysis income



16-year-old Gwynn Thomas at the wheel of a Cordova gillnetter.  
Photo by Brian Trani, Cordova High School senior.

# THE COMMERCIAL FISHERIES APPRENTICESHIP PROGRAM

October 5, 1987

The Commercial Fisheries Apprenticeship Program is designed to help students be better prepared to enter the fishing industry--and get a limited entry permit. The program is being set up right now as a 3-year program--though some students may want to take longer. Cordova Aquatic Marketing Association (CAMA) is working with the Cordova Public Schools and the City of Cordova in this effort. Here are the basic components:

1. Students will take a variety of courses at the high school and college during the school year.
2. Students will work on fishing vessels during the summer. A CAMA screening committee will match students and skippers.
3. A portion of the students' earnings will be set aside in a trust fund--earmarked for each student. Upon successful completion of the program requirements (coursework and crew experience), students will meet the State's requirements for eligibility to apply for low interest financing to obtain a Limited Entry Permit, vessel and gear--and these trust funds can be used for this purpose.
4. Each student will be assisted by a CAMA big brother or big sister who will help them with their program. In addition, the Project Director, Belle Mickelson, and Administrative Assistant, Marilyn Leland, and all the teachers and instructors will be working with the students.

The Commercial Fisheries Apprenticeship Program is designed for success. Students will have numerous opportunities to go out on boats, try out survival gear in the pool, work on engines, design and build boats, practice boat cookery as well as learning about fisheries and marine biology, weather, Coast Guard rules and regulations, personal finance, boat loans and insurance. Important concepts will be repeated and integrated to ensure success.

If you would like to participate in the program, please fill out the following form and return to Belle Mickelson, 424-3292, Supt. Office, Box 140, Cordova, AK 99574 or Marilyn Leland, 424-3559, CAMA, Box 359, Cordova, AK 99574.

-----  
NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE \_\_\_\_\_ GRADE \_\_\_\_\_

I would be available to take a Seamanship/Fisheries class next semester:

\_\_\_\_\_ During the school day  
\_\_\_\_\_ After school  
\_\_\_\_\_ Evenings

I can't sign up for the full program right now, but I'm interested in taking some of the courses.

I am interested in fisheries because \_\_\_\_\_

\_\_\_\_\_

The Commercial Fishing  
Apprenticeship Program  
will help keep  
ownership of permits  
in Alaska

This will bolster our economy!



Project Director Belle Mickleson and CFAP students David Sanders, Teresa Werner, David Glasen, Marcos Vogelpohl, Neil Galosich, (back row) Jim Bass, Andy Billings, Patty Hamelin, Josh Billings, Roger Havens and Jerry LeMasters get ready for another field trip.



# commercial fish NEWSBREAK

A publication of the Commercial Fishing  
Apprenticeship Program

November 1987 Belle Mickelson,  
editor

## CFAP GOES TO FISH EXPO



News of CFAP (the Commercial Fishing Apprenticeship Program in case you were wondering) was displayed at the recent Fish Expo in Seattle. Cordova High School students were featured in photos and storyline as communities along the coast wait to see how our program develops. Fish Expo is attended by people in the fishing industry from around the nation--and by foreign lands as well. Marilyn Leland, who organized the CFAP display as part of the CAMA (that's the Cordova Aquatic Marketing Association) booth, will be back next week with news of what happened there. She also scheduled meetings with Seattle insurance agents who will hopefully be able to answer questions about insuring students on boats.

## STUDENT/PARENT MEETING PLANNED THIS MONTH

Students interested in the Commercial Fishing Apprenticeship Program will be invited to bring their parents to the CAMA office sometime this month (watch for news of the date) to meet the CAMA members and talk about the Program. Refreshments will be served.... And we would like to plan an OVERNIGHT BOAT TRIP to study boats and motors, anchoring, fishing techniques. More on that later.

## A VOYAGE ON THE M/V DISCOVERY

Imagine a sunny day in the midst of rain and storm; killer whales so close we could hear them blowing; jellyfish on parade; marine biology sampling; chili, cornbread, and ice cream; fishing stories and some fiddle tunes. It was a wonderful experience and a chance to talk about the direction the Commercial Fishing program will be heading.

Ask Dea Church, Teal Copeland, Neil Galosich, Adam Garland, Melanie Guerrero, Patty Hamelin, Roddy Havens, or Gwynn Thomas if you want to know more... Dan Bilderback, Riki Ott, Ken Adams, Pete Nispell, Belle Mickelson, Marilyn Leland, Rebecca Horn, and (naturally) the crew of the DISCOVERY were there, too.

## ASSEMBLIES INTRODUCE CFAP TO STUDENTS



Students in grades 7-11 had a chance to learn about the fisheries program Oct. 12 & 13. Jerry McCune, Riki Ott, Marilyn Leland, Belle Mickelson, Ken Adams, and Gloria Clark explained the program and then students watched a few minutes of a Sea Survival film. Gloria's netmending was the highlight--together with the news that she was making \$25/hr. Speaking of which, mark your calendar. Gloria will be teaching two netmending classes:

NETMENDING at the College Nov. 20-21 or Jan. 15-16.



Call the College or see Belle Mickelson (at the Superintendent's Office 424-3292) if you'd like to sign up.

Fees will be covered for students enrolled in the Commercial Fisheries Apprenticeship Program. Gloria will schedule more classes if these fill up.

## NEXT SEMESTER

Many aspects of the Commercial Fisheries Apprenticeship Program will be integrated into high school classes next semester (and this semester as much as possible). Topics will include inboard/outboard motors, welding aluminum skiffs, navigation, boat cookery, safety and survival, break even analysis, fishing issues, fisheries biology, weather, and ocean life. We would like to offer a seamanship/fisheries course in-class and/or after school. Belle Mickelson is working on curriculum and instructors for that course. Prince William Sound Community College may also be offering additional courses. We're very open to suggestions on how the program should be designed. In preparation for students getting jobs in the fishing fleet this summer--we want to give them many opportunities for practical experience in safety and survival, anchoring and running boats, navigation, and rules of the road.

It takes three years of  
experience on a fishing vessel  
and  
a down payment  
to qualify for  
a State Loan

You can only purchase a permit  
with a State Loan or a CFAB loan.

In 1988

the cost of permits

is approximately

\$80,000 for a gillnet

\$110,000 for a seine

and

\$30,000 for a set net



CFAP students David Glasen and Julie Quailes check items for their survival kit when aboard a fishing vessel.

The Commercial Fishing  
Apprenticeship Program

trains Alaskan Youth

in

welding, power mechanics,  
biology, navigation, cookery,

safety and survival,

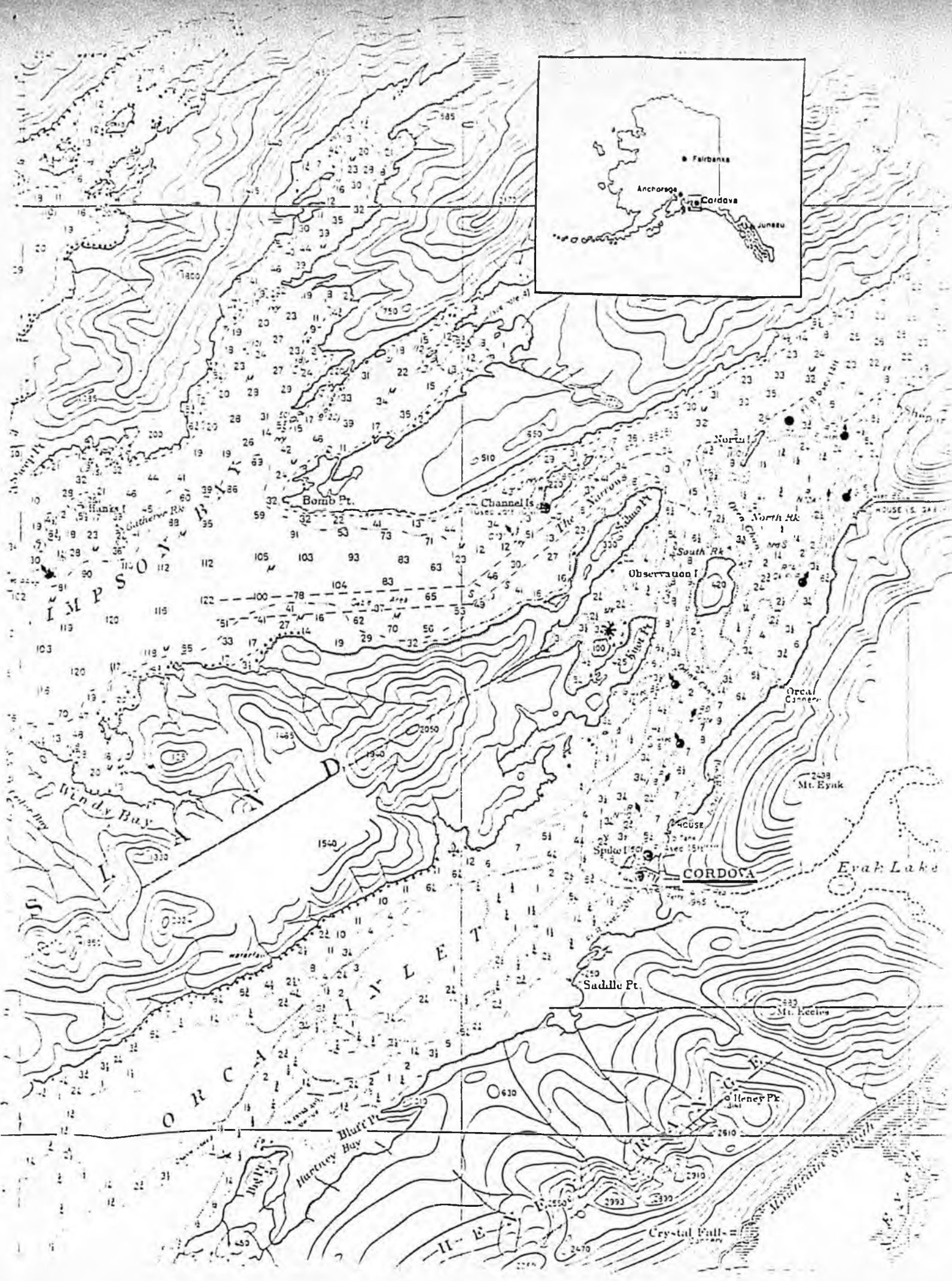
taxes and loans,

and

marketing



CFAP student Roger Havens with CAMA Administrative Assistant Marilyn Leland go over the necessary first aid equipment for a fishing vessel.



PRINCE WILLIAM SOUND  
COMMUNITY COLLEGE  
COPPER BASIN - CORDOVA - VALDEZ  
ALASKA

COURSE OUTLINE  
for  
COURSE APPROVAL

Course Title: Fishing and Fisheries I  
Credits: 3  
Prerequisites: Interest in fishing as a career

Date: January 12  
Course Outline  
Developed by:  
Belle Mickelson

Course Objectives: To better prepare students for jobs in the fishing industry by developing their confidence and skills in safety and survival, knotting, anchoring, steering, terminology, weather, navigation, electronics, rules and regulations and basic fisheries biology and management.

Course Content By Topics: (Topic Outline) The course will include an overview of the fishing industry, safety and survival, fish and fisheries--plus textbook and actual experience with nautical terminology, knots, seamanship, marine engines, weather, navigation, electronics, vessel requirements and an introduction to rules of the road.





# FISHING AND FISHERIES I

## Unit 1. The Fishing Industry

1/2 week

Competency: Identify employment in fishing and fisheries

Tasks: Identify educational and occupational opportunities

Locate resources for finding employment

Confer with prospective employers

Identify work in:

- |                          |                                       |
|--------------------------|---------------------------------------|
| a. fisheries enhancement | g. equipment and facility maintenance |
| b. hatcheries            | h. fish and game biology              |
| c. commercial fishing    | i. fish and wildlife protection       |
| d. canneries             | j. sports fishing                     |
| e. cold storages         | k. fisheries laboratories             |
| f. factory trawlers      |                                       |

Resources: Local skippers and The North Pacific Deckhands & Alaska Cannery Workers Handbook.

Competency: Identify the economic importance of fishing to Alaska

Tasks: Identify the relative dollar value of the Alaskan fishing industry to the state

Point out locations of major Alaskan fisheries and fishing ports on a map

Identify potential expansion in the fishing industry, including:

- Salmon farms
- Oyster farms
- Other shellfish and finfish mariculture developments
- Bottom fishery

Discuss the importance of marketing fisheries resources to the viability of Alaska's fishing industry

Identify the importance of seafood in the life and economy of Alaska

Contrast methods, vessels and gear involved in the Alaska commercial fisheries

Explain how fisheries managers attempt to regulate the fisheries to the mutual benefit of the resource and the fisherman

Compare and contrast the following fisheries:

- |                              |                                   |
|------------------------------|-----------------------------------|
| a. salmon                    | e. bottom fish                    |
| b. halibut                   | f. shrimp and other invertebrates |
| c. herring                   | g. shellfish                      |
| d. king crab and tanner crab |                                   |

Identify different species within each fishery

Identify economic rises and falls for each fishery

Identify the following knot parts

- a. Standing part
- b. Bight
- c. Turn
- d. Round turn
- e. Bitter end

Tie each of the following knots:

- a. Overhand
- b. Figure-eight knot
- c. Two half-hitch
- d. Square knot
- e. Clove hitch
- f. Anchor bend
- g. Sheet bend
- h. Double becket
- i. Bowline
- j. Timber hitch

Demonstrate the following splices:

- a. Short splice
- b. Eye splice

Coil and throw line

Utilize blocks and tackle

- a. Block structure
- b. Mechanical advantage

## Unit 4 Nautical Terminology

1/2 week

Competency: Use the proper vessel terminology at sea and in port

Tasks: The student will demonstrate the ability to locate or identify on a vessel or a picture the following vessel locations:

- a. Port
- b. Starboard
- c. Aft
- d. Bow
- e. Amidships
- f. Below
- g. Overhead
- h. Forecastle
- i. Deck
- j. Topside
- k. Bilge
- l. Waterline
- m. Stern
- n. Rubrail

The student will demonstrate the ability to use the following terms to describe a location outboard from a vessel.

- a. Dead ahead
- b. Starboard bow
- c. Abeam, starboard beam
- d. Starboard quarter
- e. Aft, astern
- f. Port quarter
- g. Port beam
- h. Port bow

The student will demonstrate the ability to identify the following dock types.

- a. Dock
- b. Wharf
- c. Pier
- d. Finger Pier
- e. Slip
- f. Mooring

## Unit 5. Vessel Requirements/Right of Way

1 week

Competency: Locate and identify requirements for vessel operations

Tasks: Demonstrate the ability to locate and identify the requirements for commercial vessel operation as follows:

- a. Motorboat
- b. Motor-vessel
- c. Navigation lights and shapes
- d. Backfire flame control
- e. Special operating requirements
- f. Boarding
- g. Work vest
- h. Crew requirements

Describe reasons for carrying the following optional equipment:

- a. Anchors
- b. Bilge pumps
- c. Extra line
- d. Charts
- e. Flashlight

Competency: Use the rules of the road

Tasks: Identify marine vessel boundaries

Identify terms and definitions related to marine charts and rules of the road

Use steering and sailing rules including:

- a. Rules when approaching sailing vessels
- b. Rules for vessels meeting, nearing a bend, leaving berth
- c. Rules for passing a vessel head on
- d. Rules for vessel meeting, nearing a bend, leaving berth
- c. Rules for passing a vessel head on
- d. Rules for overtaking a vessel
- e. General prudential rule

Identify special situation lighting and signals

Plot a course on a chart and convert true bearings to compass bearings

Identify day markers and fog signals

Identify distress signals

Competency: Use marine lights and sound signals

Tasks: Explain when marine lights are needed

Identify rules for the following situations

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| a. steam vessel underway             | f. fishing vessels              |
| b. steam vessel towing and pushing   | g. stern lights                 |
| c. sailing vessel and vessels in tow | h. anchor lights                |
| d. small vessels                     | i. signals to attract attention |
| e. pilot vessels                     |                                 |

Competency: Maneuver a vessel

Tasks: Obtain and explain a current weather forecast  
Observe the rules of the road  
Follow safe boating practices  
Maintain adequate safety margins in regards to weather and sea conditions  
Handle vessel in a variety of sea conditions while underway  
Handle vessel in a variety of sea conditions while actively fishing

Competency: Anchor vessel

Tasks: Maneuver vessel to anchorage  
Anchor vessel by using anchor winch or windlass  
Secure anchor on bottom  
Retrieve and secure anchor and stack (tier) anchor chain in locker

Competency: Dock a vessel

Tasks: Assign tasks and stations for vessel mooring  
Maneuver to dock  
Secure mooring lines to dock and/or other vessels  
Secure engine room and secure propeller shaft  
Release towing gear

Competency: Conduct deckhand duties

Tasks: Wear proper clothing for duties  
Hand or hoist equipment and supplies aboard  
Cast vessel off  
Coil lines  
Work riggings such as nets, slings, hooks, cables, booms, and hoists  
Stand lookout, steering, and engine room watches  
Operate dories, dinghies, and skiffs  
Attach accessories, such as floats, weights, and markers to nets and lines  
Pull and guide nets and lines onto vessel  
Wash deck, conveyors, knives and other equipment, using brush, detergent and water  
Wash and clean RSW tank and chill system with chlorine or iodide  
Lubricate, adjust, and maintain engines and equipment

Competency: Conduct basic inboard & outboard engine troubleshooting

Tasks: Put together a tool box with spare parts and tools  
Do a routine engine check before leaving dock  
Identify engine parts and describe their function  
Identify causes of outboard and inboard engine problems  
Perform pre-season and post-season routine maintenance on outboard and inboard engines

Tow net to location and anchor in place  
 Attach appropriate flags and lights to buoys to mark and identify nets  
 Haul net with appropriate gear  
 Remove catch using appropriate techniques and equipment such as dip net, brail buckets, hydraulic pumps, conveyor, lifting net, blocks, tackles, and dumping catches  
 Clean, store and transfer catch appropriately  
 Sort and clean fish, throwing undesirable and illegal catch overboard  
 Stow catch in hold or transfer to tender  
 Repair fishing nets and gear  
 Investigate costs of net repair machine  
 Complete minor repairs to engines and equipment  
 Wash deck and equipment

**Competency:** Identify the importance of improving fish quality

**Tasks:** Explain the importance of improving fish quality  
 Identify whom improving fish quality benefits  
 Identify methods for improving fish quality including:  
 a. intrinsic quality  
 b. extrinsic quality  
 Explain ways fish quality is lost including:  
 a. bacterial decomposition      d. physical damage  
 b. enzymatic breakdown          e. dehydration  
 c. chemical changes                f. contamination

**Competency:** Handle fish correctly aboard the vessel

**Tasks:** Explain the importance of good handling practices  
 Relate catching rates to correct fish handling  
 Correctly bleed and gut fish  
 Wash fish  
 Store fish on the vessel  
 Unload fish from vessel  
 Identify whom improving fish quality benefits  
 Compare prices for fish "in the round", toll dressed, "J" cut, princess dress, western dressed

**Competency:** Practice vessel sanitation

**Tasks:** Explain the importance of vessel and product sanitation  
 Use sanitation tools  
 Use chemical sanitizers  
 Sanitize refrigeration equipment  
 Identify potential sanitation problems

## Unit 8. Weather/Navigation/Electronics

2 weeks

Competency: Describe local weather patterns

Tasks: Identify local weather stations & reports

Explain current barometer readings

Describe cloud patterns

- a. Cirrus
- b. Alto
- c. Stratus
- d. Cumulus
- e. Nimbo

Measure wind direction and speed

Characterize storm warnings

Describe typical weather patterns in Prince William Sound

Competency: Read navigational charts

Tasks: Describe magnetic variation and deviation

Explain compass compensation

- a. Electrical problems
- b. Internal adjustments
- c. External adjustments

Practice reading gyro-compass headings

List sources of nautical charts

Explain latitude and longitude

- a. Original of navigational grid
- b. Rough determination of positions
- c. Identifying and finding positions

Read chart symbols

- a. Symbols of man-made shore structures
- b. Symbols of natural shore features
- c. Bathymetry and bottom features
- d. Hazard symbols
- e. Symbols of navigational aids

Pilot using dead reckoning, using time, distance and speed

Use various forms of running fixes including:

- a. 45-90
- b. 22 1/2-45
- c. 26 1/2-45

Pilot using a cross bearing

Use navigational aids, tide and current charts and equipment

Competency: Use modern electronic systems

Tasks: Use echosounders and depthfinders, including:

- a. Differentiating among types
- b. Interpreting signals



Commerical Fisheries Apprenticeship Program students on a recent field trip aboard the United States Coast Guard Cutter Sweetbrier, stationed in Cordova, Alaska.

Students observed navigational aides being serviced as well as navigation, steering, and other skills.



At an Open House held Nov. 19, Bob and Nell Galosich talk with program coordinator Belle Mickelson about the Fisheries Apprenticeship Program. (Cordova Times)

## Courses stress safety, seamanship

By Rebecca Hom

With an eye toward summer employment for high school students and a goal of increasing the number of locally-owned limited entry permits, the Cordova Fisheries Apprenticeship Program will begin offering classes in January at the high school.

Program director Belle Mickelson described the project as a three-part program. "For any program to go well it has to be well-rounded. The apprenticeship program will have a good course where students are drilled on safety and seamanship, a big brother/big sister aspect, and summer employment on

local fishing crews," said Mickelson.

"We're also designing courses at the college level to offer to the community to round out the program."

"We hope local fishing people will get involved in one of two ways," Mickelson said. "Either

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as big brothers or big sisters to students, or by hiring students on their crews for the summer."

She added that because of the hectic pace of the summer season, the big brother/big sister part of the program would occur more during the winter. "We'd like the big brother or sister to take their students down to their boat if they have some engine work to do, or some painting. Most just talk fishing."

The big brother or sister is not encouraged to hire their students for their summer crews. "We want this to build into a support network for the student, so they have another adult to talk things over."

The most unusual aspect of the program is the potential for students to buy their limited entry permits after completion of the course curriculum. "We're suggesting that students put back half of their summer's salary into a trust fund," Mickelson explained.

"At the end of a three-year program, they'll be able to approach the state with a substantial amount of money and three years experience and training. We think this is just an incredible opportunity for students coming out of high school," said Mickelson.

Other coastal communities are watching the success of Cordova's program, she said. "Many communities have been concerned about the number of permits leaving the community. A program like this is a good way

to keep the permits in the community, and to encourage young people to get involved in the fishing industry."

Courses in the program's curriculum will cover marine biology, marine welding and personal finance. "A lot of these are just basic skills that people living in a coastal community need for daily life," Mickelson said. "A lot has already been covered, but we're just making sure that things like weather, safety and seamanship are integral parts of the program."

The program might serve as an incentive for some students to stay in school. "We're hoping to provide motivation to keep these kids in school," said Mickelson. "To be a successful fisherman or woman, you need your English and math skills because fishing means doing lots of bookkeeping, preparing or at least understanding taxes, and reading to stay on top of new technologies."

"One thing we want to do in addition to the classes, is take students out on field trips," she added. "We want to make the program as much hands-on as possible, so they'll have a chance to coil the rope, steer the boat, plot the chart. I don't think you really learn it until you've done it yourself."

The Cordova Fisheries Apprenticeship Program is jointly sponsored by Cordova Public Schools, the City of Cordova, and the Cordova Aquatic Marketing Association.



Skipper Pete Blake instructs Teresa Werner and Josh Billings on the correct way to coil the rope as they untie the boat prior to departure.

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Students from the Fisheries Apprenticeship Program gather on the deck of the Coast Guard buoy tender Sweetbrier during a recent field trip. Those pictured include Dave Sanders, Teresa Werner, David Gleason, Marcos Vogelwohl, Nell Galosich, instructor Belle Mickelson, Jim Bass, Andy Billings, Patty Hamelin, Josh Billingshzi Havens, Jerry LaMaster.

# Two field trips on the *Discovery* enjoyed by students

By Rebecca Hom

Nine students from Cordova High School received a first hand look at marine biology aboard the vessel *Discovery* last Thursday night. The trip to Windy Bay on Hawkins Island introduced those students interested to the Commercial Fisheries Apprenticeship Program.

The students conducted experiments in water turbidity, algae growth using secchi discs, and water pH. They also got to see several orcas (killer whales), sea otters and seals.

The unique program, co-sponsored by the Cordova Aquatic Marketing Association (CAMA), Cordova Public Schools

and the City of Cordova, is designed to prepare students for entry into the fishing industry. They will enroll in courses at the high school and Prince William Sound Community College and, in the summers, will work as apprentice crewmembers on local fishing vessels.

When asked by program director Belle Mickelson what the students liked most about the program, the unified response was, "JOBS!" Local fishermen Ken Adams, Dan Bilderback, Pete Nippell and Ricki Ott accompanied the students on Thursday's trip to talk about the "fishing life" and discuss oppor-

tunities in the commercial fishing industry.

An unexpected opportunity for the students to see some marine rescue techniques occurred when the crew of the *Discovery* assisted a small pleasure boat, owned by Dr. Larry Ermold. The vessel had hung up on a rock in Windy Bay but was successfully pulled off and, apparently, only sustained minor damage.

On Thursday morning, a larger group of general science students from Cordova High School enjoyed a four hour field trip on the *Discovery*. The vessel will be leaving Cordova shortly for Southeast Alaska where it will host sportfishing clients.



Students Melanie Guerrero and Dea Church work with Ricki Ott, a local gillnetter and fisheries and marine



Students lower the Van Dorn bottle — a tool used to collect subsurface water samples — with instructions from Belle Mickelson, director of the Commercial Fisheries Apprenticeship Program. (Photo by Rebecca Hom)



Belle Mickelson and Ricki Ott explain and assist at some of the field

Alaskan Youth  
Preparing  
for a  
Fishing Future  
in  
Alaska

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