# Table of Contents

Module I-C: Discovering the Origins and Opportunities in Aquaculture: Determining Career Opportunities In Aquaculture ........................................... 1

Content and Procedures .......................................................................................................................... 2

Presentation (Key Questions/Summary of Content, Teaching Techniques) ........................................... 3

Review/Application/Evaluation .................................................................................................................. 13

Test .......................................................................................................................................................... 14

Test Answer Key ....................................................................................................................................... 15

Transparency Masters

<table>
<thead>
<tr>
<th>T I-C-1</th>
<th>Discovering the Origins and Opportunities in Aquaculture: Determining Career Opportunities In Aquaculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>T I-C-2</td>
<td>Four Areas of Aquaculture Occupations</td>
</tr>
<tr>
<td>T I-C-3</td>
<td>Aquaculture Occupations in Supplies and Services</td>
</tr>
<tr>
<td>T I-C-4</td>
<td>Aquaculture Finance Occupations</td>
</tr>
<tr>
<td>T I-C-5</td>
<td>Aquaculture Feed and Supplies Occupations</td>
</tr>
<tr>
<td>T I-C-6</td>
<td>Aquaculture Equipment Occupations</td>
</tr>
<tr>
<td>T I-C-7</td>
<td>Aquaculture Construction Occupations</td>
</tr>
<tr>
<td>T I-C-8</td>
<td>Aquaculture Consulting and Services Occupations</td>
</tr>
<tr>
<td>T I-C-9</td>
<td>Aquaculture Rearing Occupations</td>
</tr>
<tr>
<td>T I-C-10</td>
<td>Managing Aquafarms</td>
</tr>
<tr>
<td>T I-C-11</td>
<td>Working on an Aquafarm</td>
</tr>
<tr>
<td>T I-C-12</td>
<td>Aquaculture Inspection/Monitoring Occupations</td>
</tr>
<tr>
<td>T I-C-13</td>
<td>Aquaculture Marketing Occupations</td>
</tr>
<tr>
<td>T I-C-14</td>
<td>Aquaculture Processing Occupations</td>
</tr>
<tr>
<td>T I-C-15</td>
<td>Aquaculture Promotion Occupations</td>
</tr>
<tr>
<td>T I-C-16</td>
<td>Aquaculture Research and Development Occupations</td>
</tr>
<tr>
<td>T I-C-17</td>
<td>Aquaculture Research Occupations</td>
</tr>
<tr>
<td>T I-C-18</td>
<td>Aquaculture Laboratory Occupations</td>
</tr>
<tr>
<td>T I-C-19</td>
<td>Aquaculture Career Ladder</td>
</tr>
<tr>
<td>T I-C-20</td>
<td>Aquaculture Occupational Preparation</td>
</tr>
<tr>
<td>T I-C-21</td>
<td>Aquaculture Occupational Experience</td>
</tr>
<tr>
<td>T I-C-22</td>
<td>Aquaculture Career Success</td>
</tr>
</tbody>
</table>
Module I-C — Discovering the Origins and Opportunities in Aquaculture

**Problem Area:** Determining the Career Opportunities in Aquaculture

**Estimated Time:** 2-4 hours

**Purpose/Goal:** The goal of this problem area is to help students understand the many career opportunities available in the aquaculture industry. This information can be useful as they determine their future educational and occupational aspirations. Certainly, hands-on experience is an important part of making career decisions.

**Learning Objectives:** Upon completing the problem area, students will be able to:
- list five areas of aquacultural occupations;
- describe the nature of occupations in each of the five areas;
- describe the education and experience needed to enter and advance in aquacultural occupations.

**Instructional Resources:**

The following instructional resources are needed to complete this problem area:

**Essential:**
- Overhead transparencies made from the masters attached to this teaching plan.
- Resource persons from aquaculture industry and one or two sites for field trips where students can observe people at work in aquaculture.
- The following book:
  
  *Aquaculture: An Introduction*,
  *by Lee and Newman.*

**Additional:** Literature that describes the nature of occupations, such as the current edition of the Occupational Outlook Handbook, published periodically by the United States Department of Labor. The guidance counselor may have the Occupational Outlook Handbook as well as other materials about aquaculture occupations.
AQUACULTURE

CONTENT AND PROCEDURES

Preparation
(Interest Approach):

This interest approach prepares students for learning about the career opportunities available in the aquaculture industry. Two options are included (the instructor may use one or both). Interest Approach One involves students in a classroom activity. Interest Approach Two involves bringing a resource person to class.

---

INTEREST APPROACH ONE. This interest approach has students trace how a product gets from the producer to the consumer. The students should identify places along the way where humans are involved.

Suggested Procedure:

1. Have students name one aquaculture food available locally. (This should be a food they eat, not necessarily one produced locally.) Write the name of this food on the chalkboard. (Example: rainbow trout)
2. With student input, develop on the chalkboard the sequence followed to get the product from producer to consumer. For example, trout served in a restaurant could be traced as follows:
   - Rainbow trout:
     - Grown in Idaho
     - Processed in Washington
     - Shipped to a distributor in a large city near you
     - Delivered to the local restaurant
3. After the product is traced, identify the inputs needed to produce the product, such as feed equipment, facilities, and related areas. Have students name and describe what they think is involved. Also, have them describe the work occurring during each step.

4. Summarize by indicating that providing aquafood involves a sequence of events, activities, and people. The people fill important roles and often need specialized preparation for their work.
5. Lead a discussion and list the objectives for this problem area.

INTEREST APPROACH TWO. This interest approach brings a resource person to the classroom to discuss working in aquaculture. The individual selected should be qualified to speak to the class and have sufficient depth to give a meaningful presentation. Several days before the class visit, the resource person should be instructed to give an overview of the career opportunities in aquaculture. The individual should pay particular attention to those available locally.

(Note: The use of resource persons is mentioned several places in the teaching plan. Perhaps one would be sufficient at this time. The teacher may select the strategy that is best for the class.)

This interest approach should lead into listing the objectives for the problem area.
Presentation

Key Questions/Summary of Content

This teaching plan helps students develop an understanding of the type and nature of aquaculture occupations and the education required for initial job entry.

Teaching Techniques

Present the objectives by using T 1-C-1 or by writing the information on the chalkboard. Allow time for the students to write the objectives in their notebooks.

I. What are five areas of occupations in the aquaculture industry?

A. The aquaculture industry requires a large number of people to provide the aquaculture products desired by consumers.
   1. Providing aquaculture products involves an infrastructure of suppliers, producers and marketers.
      • Infrastructure is the underlying base or network of the aquaculture industry.
      • Complex and essential relationships exist among the processes and individuals involved in getting products to consumers in the desired forms.
   2. Uninformed individuals are often only aware of the production (on farm) areas of aquaculture.

B. Aquaculture occupations are in the following five areas:
   1. supplies and services;
   2. rearing (producing);
   3. inspection/monitoring;
   4. marketing;
   5. research and development.

A. Ask students how the needs of the aquaculture industry for workers is related to tracing a product from the producer to the consumer, as presented earlier.

B. Use T 1-C-2 or the chalkboard to list the five occupational areas in the aquaculture industry.
C. Supplies and services include occupations that support farm production and provide the inputs needed to be productive.

1. Financing — provides capital (money) to establish and operate aquaculture facilities; provides loans and other forms of financial assistance for aquafarming.

- Examples of occupations:
  - Banker
  - Loan officer
  - Farm credit association employee

- The work is located in or near areas where aquaculture is important.

- A good knowledge of aquaculture as well as finance is needed.

- Typical duties include arranging loans, locating sources of credit, helping fill out application forms, advising on financial management of an aquafarm and collecting debts.

- Responsibilities in aquaculture may be only a part of the duties of an individual working in finance. They may have other areas, such as agriculture.

2. Providing feed and other supplies — includes manufacturing, hauling, selling, storing and purchasing feed, feed ingredients and other supplies.

- Examples of occupations:
  - Feed sales person
  - Feed truck driver
  - Feed mill equipment operator
  - Feed mill purchasing agent
  - Feed mill scales operator
  - Nutritionist
  - Aquaculture chemical sales person

- The work is located in areas where aquafarms are found.

C. Use T I-C-3 or the chalkboard to present the five supplies and service areas in aquaculture occupations.

1. Use T I-C-4 or the chalkboard to outline occupational information in financing. Ask students to name individuals in the local community who are employed in these occupations.

- Ask students to explain why people in supplies and services occupations, particularly financing, need a good knowledge of aquaculture.

2. Use T I-C-5 or the chalkboard to outline occupations involved in providing feed and other supplies. Ask students to name individuals in the local community employed in these occupations. If there are none locally, use the example of a feed mill that produces livestock feed.

- Assign students to visit a feed mill and report on their observations. (Note: Instruct students to make contacts, follow instructions and be courteous. All safety practices should be observed.)
• The types of knowledge required vary depending on exact responsibilities. Truck drivers need to know how to safely operate the truck on highways and on fish farms. Feed mill personnel need to know how to operate the equipment. Nutritionists must understand the nutritional requirements of each species and what nutrients each feedstuff provides.

• Typical duties include operating equipment, identifying feed ingredients, making careful measurements, following instructions and consulting with aquafarmers.

3. Providing equipment — includes manufacturing, selling, hauling and installing equipment used in aquafarming.

• Examples of occupations:
  - Aquafarm equipment engineer
  - Manufacturing plant worker
  - Aquafarm equipment sales person
  - Aquafarm equipment installer

• The work is located in areas where aquafarm equipment is manufactured and/or used.

• The knowledge needed varies considerably with the exact occupation. In general, a mechanical aptitude is needed. Skills in various areas, such as welding, electricity and hydraulics are important.

• Typical duties include working in plants to assemble equipment, traveling to farms to deliver and/or install or repair equipment.

4. Constructing aquafarm facilities — involves designing facilities, laying out designs (such as ponds), operating equipment to construct earthen facilities, installing water facilities and constructing buildings.

3. Use T I-C-6 or the chalkboard to outline aquaculture equipment occupations. Ask students to name examples of equipment found on aquafarms.

• Have students visit an aquafarm or business that provides equipment. They should note the kind of equipment and its use. If possible, have them collect a set of equipment brochures from the supplier.

4. Use T I-C-7 or the chalkboard to outline the occupations available in constructing aquafarm facilities.

• Have students name the kinds of facilities found on an aquafarm and identify some of the skills required to construct the facilities.
- Examples of occupations:
  - Bulldozer operator
  - Carpenter
  - Surveyor
  - Electrician
  - Water well driller
- The work is located in areas where aquafarms are operated.
- The knowledge needed varies considerably with the kind of job performed; mechanical aptitude is essential.
- Typical duties include: operating heavy equipment, laying out facilities, cutting construction materials, making electrical connections and installing pipe.

5. Consulting — advising aquafarmers on how to establish, operate and manage aquafarms.
- Examples of occupations:
  - Aquaculture consultant
  - Extension aquaculture specialist
  - Veterinarian
- The work is located in aquafarming areas.
- The knowledge varies with the kind of crop produced; a bachelor’s (four-year) degree or higher is needed; practical experience with the aquacrop is essential.
- Typical duties include making on-farm visits, holding meetings, providing information to groups and individuals, making close examinations of aquacrops and advising on a wide range of subjects on aquaculture.

D. Rearing includes all of the occupations associated with reproducing, growing and harvesting an aquacrop.
1. Managing an aquafarm — includes planning, organizing, staffing, directing and controlling farm activities.

5. Use T I-C-8 or the chalkboard to outline aquaculture consulting occupations.
- Have students name individuals who are aquaculture consultants.

D. Use T I-C-9 or the chalkboard to list examples of occupations available in rearing aquacrops.
1. Use T I-C-10 or the chalkboard to outline the occupational area of aquafarm management.
• Examples of occupations:
  - Farm manager
  - Hatchery manager
  - Site manager
• The work is located on aquafarms.
• Individuals need skills in a number of areas of management and supervision. A thorough understanding of how a particular aquacrop is produced is needed.
• Typical duties include hiring workers, providing directions to workers, keeping records, making decisions, buying supplies, selling the crop and meeting government regulations.

2. Working on an aquafarm — involves a wide range of work including unskilled as well as highly skilled and educated individuals.
• Examples of occupations:
  - Unskilled laborer
  - Skilled laborer
  - Fishery technician
  - Biologist
  - Truck driver
  - Seine operator
  - Water technician
• The work is located on aquafarms.
• The knowledge needed varies but all require practical experience; some require considerable education (often at the baccalaureate level); some require good physical skills.
• Typical duties include checking water quality, moving fish, harvesting, feeding, hauling seines, operating equipment and working in water and with fish.

E. Inspection/monitoring is the area of aquaculture occupations concerned with issuing permits to farmers; checking for compliance with regulations, such as water quality; checking use of chemicals; and monitoring processing facilities for sanitation standards.

2. Use T I-C-11 or the chalkboard to outline the content of working on an aquafarm.
• Ask students to name individuals they know who work on aquafarms.
• Have them describe the nature of their work.

E. Use T I-C-12 or the chalkboard to define inspection/monitoring and list examples of occupations.
1. Examples of occupations:
   - Water tester
   - Laboratory technician
   - Food inspector
   - Game conservation officer
   - Soil conservation officer
2. These occupations focus on assuring quality products for consumers and maintaining the environment.
   - The work often involves enforcing government laws and regulations.
   - Contact with farmers, processors and others often involves considerable human relations skill.

F. Marketing includes all activities connecting the aquafarm with the consumer.
1. Processing — processing aquacrops prepares a crop for the consumer. Many of the occupations are in processing plants.
   - Examples of occupations:
     - Unskilled laborer
     - Skilled laborer
     - Plant manager
     - Supervisor
     - Quality control specialist
     - Personnel officer
   - The work is located in processing plants — often in assembly line settings.
   - Some positions in a plant require considerable experience; others involve performing repetitive activities that can be learned in a short time.
   - Typical duties include working with live and dead fish, handling fish, operating equipment, cleaning facilities, working around water, going into refrigerated areas and inspecting fish and fish products.
   - Describe dressing a fish. If practical, demonstrate to the class. (Dressing involves several processes that prepare a fish for consumption, including removing skin, head and internal organs; cutting into portions and washing.)
2. Promoting aquacrops — this includes advertising, public relations, selling, analyzing markets and demonstrating food preparation.
   • Examples of occupations:
     - Sales person
     - Advertising or public relations account representative
     - Aquafarm writer
     - Association executive
   • The work may be located near aquafarming areas or far removed in large cities.
   • The work usually requires a practical knowledge of aquaculture; education in areas of marketing, communication and advertising may be appropriate. The ability to "talk the language of aquaculture" is important.
   • Typical duties include dealing with people, making sales presentations, writing articles, planning advertising campaigns, placing orders and keeping careful records, preparing reports and promoting the consumption of aquacrops.

G. Research and development involves finding new ways of producing a product in the forms desired by consumers and profitable to produce.

1. Researching aquaculture — Identifies new and better aquacrops and ways of producing aquacrops.
   • Examples of occupations:
     - Aquaculture research scientist
     - Aquaculture research technician
     - Fish nutritionist
   • The work is located at research facilities operated by government agencies or private industry; often involves on-farm trials of new techniques and varieties.

2. Use T I-C-15 or the chalkboard to outline the occupational area of promoting aquacrops.
   • Have students name people in the local community involved in aquaculture promotion.

G. Use T I-C-16 or the chalkboard to present information on research and development occupations.

1. Use T I-C-17 or the chalkboard to outline the occupational area of research.
• The work may require considerable education in fishery biology and related areas; some positions require doctorates and others much less. Practical experience is beneficial.

• Typical duties include planning research activities, designing facilities for research, selecting fish or other aquacrop, handling fish, working in water, working in laboratories with aquaria and other water devices, and reporting data.

2. Assisting in laboratories — involves helping research scientists with their work.

• Examples of occupations:
  - Laboratory assistant
  - Unskilled assistant

• The work is located at private and government-operated laboratories. These are often near aquafarms.

• The work may require some specialized education in aquaculture. Being precise with data is essential. Following directions and being punctual for work are important.

• Typical duties include using laboratory equipment, assisting research scientists, working in water, handling aquacrops, cleaning facilities, keeping records and monitoring facilities.

II. What education and experience may be needed to enter and advance in aquaculture?

A. Requirements vary considerably depending on the level of work.

1. In nearly all cases, practical work experience in aquaculture is most beneficial.

2. Moving up the career ladder depends on education and productivity.

• "Career ladder" is the term used to describe the progression of jobs a person goes through from the entry-level job first taken to the advanced position at the peak of his or her career.

2. Use T I-C-18 or the chalkboard to outline laboratory assistant occupations.

• Tour a laboratory and observe the work of laboratory technicians.

A. Use T I-C-19 or the chalkboard to outline career ladder requirements.
• Education and having the appropriate skills is important in gaining job entry.
• Productivity is important in gaining advancement.

B. Preparation for entering aquaculture occupations includes formal education as well as practical experience.
1. High schools provide important skill development.
   • General education helps all people become good employees.
   • Specialized education in aquaculture is offered by some high schools.
   • A high school education is adequate to enter lower-level aquaculture occupations.
   • Most high school programs in aquaculture provide supervised experience in various areas of aquaculture for students.
2. Community colleges and other postsecondary schools provide education beyond the high school level.
   • Programs are often specialized and based on practical experience in aquaculture.
   • The education may focus on technician-level occupations.
3. Some colleges and universities have bachelor’s (four-year) degree or graduate (beyond bachelor’s degree) programs in aquaculture.
   • Many universities offer courses in aquaculture or related areas.
   • Specialized institutes and laboratories affiliated with universities have highly specialized programs.

C. Experience in aquaculture provides the opportunity to learn valuable job competencies.
1. Experience may be gained as part of an educational program or a part-time job can provide valuable experience.

B. Use T I-C-20 or the chalkboard to outline the types of formal education available.
• Have students name local programs or those in the state that provide education in aquaculture. Write these programs and request admission information and other details.

3. Invite a faculty member from an aquaculture program at a local college or university to discuss the degree programs offered and the admission requirements.

C. Use T I-C-21 or the chalkboard to outline types of practical experience.
• Ask students if they think they could drive an automobile by reading about it in a book. Certainly, behind-the-wheel experience is essential. On-the-farm experience is needed in aquaculture.
2. Combining experience with formal education is excellent preparation.
3. Experience should include a variety of duties and the opportunity to develop new skills.

D. Success in an aquaculture career involves setting goals, getting the needed education and experience, and applying these skills to become a productive employee.

1. Education and experience do not guarantee success.
   - Hard work and productivity are essential.
   - Developing good human relations skills is important in advancing.
   - Practicing good work ethics, such as being at work on time and staying on the assigned task until it is efficiently and effectively completed, makes a person productive.

2. Success involves making the employer a profit.
   - Employers cannot afford to pay employees who are not productive.

1. Use T I-C-22 or the chalkboard to outline tips for success.
   Ask students to discuss what the tips mean and have them offer examples of good and poor attitudes toward work.
Review

Have students demonstrate their mastery of the objectives. Present the objectives using T I-C-1 and asking students to explain the content related to the objectives.

Field trips to observe first-hand the various areas of aquaculture described in this plan will certainly be beneficial. Inviting resource persons to class can be used in several occupational areas. Field trips and resource persons can provide excellent content review and provide the students with a practical orientation to a portion of the work in aquaculture.

You might also assign each student an occupation in aquaculture. Have them research the nature of the work, education required, etc., and give a report to the class. In some cases, students might be given a camera with slide film and assigned to prepare a slide presentation showing persons at work in the occupation they selected. (Note: The teachers should carefully instruct students in the details of how to make contacts and observe workers on the job.)

Application

Application should focus on making career decisions. Students should gather information and make decisions about education and career choices that are realistic to their personal abilities and interests.

Activities associated with the review of the problem area are helpful in providing application.

Evaluation

Evaluate how well the students have achieved the specific learning objectives by:

- Asking students to describe the nature of aquaculture occupations.
- Having students prepare posters depicting various aquaculture careers.
- Observing how students respond when making career decisions.
- Giving a written test (example included).
Discovering the Origins and Opportunities in Aquaculture

Problem Area: Determining Career Opportunities in Aquaculture

Instructions: Answer the following questions. Be sure to spell correctly and provide the most complete information you can. Name __________________________

1. Match the items on the right with the corresponding items on the left. Place the letter in the space by your choice.
   
   ____ the underlying base of aquaculture as an industry __________________________
   a. marketing
   ____ occupations that support farm production __________________________
   b. career ladder
   ____ activities connecting producer with consumer __________________________
   c. infrastructure
   ____ progression of jobs a person goes through __________________________
   d. supplies and services

2. Use an “X” to indicate the occupations found on an aquafarm.
   
   ____ public relations administrator __________________________
   ____ aquafarm manager __________________________
   ____ feed mill manager __________________________
   ____ processing plant worker __________________________
   ____ hatchery manager __________________________
   ____ research laboratory assistant __________________________

3. Using an “X”, indicate which of the following may be important to an individual who wishes to work in aquaculture.
   
   ____ education in aquaculture __________________________
   ____ experience in military service __________________________
   ____ bus drivers license __________________________
   ____ experience on an aquafarm __________________________
   ____ human relations skills __________________________
   ____ dedicated work ethic __________________________

4. Select one of the following occupations and write a description of the nature of the work, education required, and experience needed. If you need additional space for your answer use the back of this page. (Place an “X” by your selection.)
   
   ____ fish feed truck driver __________________________
   ____ aquacultural consultant __________________________
   ____ aquafarm manager __________________________
   ____ processing plant personnel director __________________________
Discovering the Origins and Opportunities in Aquaculture

1. C the underlying base of aquaculture as an industry  
   D occupations that support farm production  
   A activities connecting producer with consumer  
   B progression of jobs a person goes through  
   a. marketing  
   b. career ladder  
   c. infrastructure  
   d. supplies and services

2. ___ public relations administrator   X aquafarm manager   ___ feed mill manager  
   ___ processing plant worker   X hatchery manager   ___ research laboratory assistant

3. X education in aquaculture   ___ experience in military service   ___ bus drivers license  
   ___ experience on an aquafarm   X human relations skills   X dedicated work ethic

4. Note: The student may select any of the following occupations. This answer key shows an example response if aquafarm manager is selected
   ___ fish feed truck driver   ___ aquacultural consultant  
   X aquafarm manager   ___ processing plant personnel director

Managing an aquafarm includes planning, organizing, staffing, directing and controlling farm activities.
Discovering the Origins and Opportunities in Aquaculture

Determining Career Opportunities in Aquaculture

OBJECTIVES

- List five areas of aquaculture occupations
- Describe occupations in the five areas
- Describe needed education and experience
Five Areas of Aquaculture
Occupations

• Supplies and services
• Rearing (producing)
• Inspection and monitoring
• Marketing
• Research and development
Aquaculture Occupations in Supplies and Services

- Occupations that support aquafarming
- Areas:
  - Finance
  - Feed and other supplies
  - Equipment
  - Construction of aquafarm facilities
Aquaculture Finance Occupations

- Provide loans for aquafarming
- Examples:
  - Banker
  - Loan officer
  - Farm credit association employee
- Work is near aquaculture
- Knowledge of aquaculture is beneficial
- Variety of duties relating financing to aquaculture
Aquaculture Feed and Supplies Occupations

- Includes feed and supply manufacturing and delivery
- Examples:
  - Feed mill worker
  - Feed sales person
  - Aquaculture nutritionist
  - Aquaculture chemical sales person
- Work is where aquafarms are located
- Aptitude and education needs vary
- Duties include wide range of producing and delivering feed/supplies to the aquafarm
Aquaculture

Aquaculture Equipment Occupations

- Providing aquaculture equipment
- Examples:
  - Aquafarm equipment engineer
  - Aquafarm equipment sales person
  - Aquafarm equipment installer
- Work is usually near aquafarming
- Work often requires mechanical aptitude
- Variety of duties with equipment
Aquaculture Construction Occupations

- Design and construct aquaculture facilities
- Examples:
  - Bulldozer operator
  - Carpenter
  - Electrician
  - Plumber
  - Water well driller
- Work is typically on aquafarms
- Mechanical aptitude needed
- Wide variety of work duties
Aquaculture Consulting and Services Occupations

• Provide information and assistance to aquafarmers
• Examples:
  – Aquaculture consultant
  – Extension aquaculture specialist
  – Veterinarian
• Work is where aquaculture occurs
• Considerable education and experience needed
• Wide range of duties; considerable human relations skills necessary
Aquaculture Rearing Occupations

- Includes all occupations associated with reproducing, growing and harvesting aquacrops
- Areas are:
  - Managing an aquafarm
  - Working on an aquafarm
Managing Aquafarms

- Includes planning, organizing, staffing, directing and controlling farm activities
- Examples:
  - Farm manager
  - Hatchery manager
  - Site manager
- Work is on aquafarms
- Need aquaculture and management knowledge
- Wide range of duties in overseeing aquafarming
Working on an Aquafarm

- Involves wide range of work with aquacrops
- Examples:
  - Laborer
  - Fishery technician
  - Biologist
  - Seine operator
- Work is on aquafarm
- Experience needed; education varies
- Variety of duties on equipment, in water, etc.
Aquaculture Inspection/Monitoring Occupations

- Concerned with issuing permits and compliance with regulations
- Examples:
  - Water tester
  - Laboratory technician
  - Food inspector
  - Game conservation officer
  - Soil conservation officer
Aquaculture Marketing Occupations

• All of the activities connecting the producer to the consumer
• Areas include:
  – Processing
  – Promoting
Aquaculture Processing Occupations

- Preparing product for consumption
- Examples:
  - Skilled laborer
  - Plant manager
  - Quality control specialist
  - Personnel officer
- Work is in processing plants
- Level of education varies; often need physical stamina
- Work with fish, fish parts, etc.
Aquaculture Promotion Occupations

- Encouraging consumers to buy aquaculture products
- Examples:
  - Sales person
  - Advertising and public relations account representatives
  - Aquafarm writer
  - Aquaculture association executive
- Work may be far from aquafarming areas
- Specialized education and practical experience are needed
- Variety of duties with emphasis on human relations and communications skills
Aquaculture Research and Development Occupations

- Seek new ways of producing aquacrops and new forms for consumers
- Areas include:
  - Researching aquaculture
  - Laboratory technicians
Aquaculture Research Occupations

• Attempt to find new and better ways to produce, process and market aquacrops

• Examples:
  – Aquaculture research scientist
  – Fish nutritionist
  – Aquaculture research technician

• Work is at a research facility

• Need high level of education; practical experience beneficial

• Duties include designing and carrying out research
Aquaculture Laboratory Occupations

- Involves helping research scientists
- Examples:
  - Laboratory assistant
  - Unskilled assistant
- Work is in laboratory setting
- Some specialized education may be needed
- Duties include using lab equipment, cleaning and recording data
Aquaculture Career Ladder

• Progression of jobs from entry level to advanced position
• Example:
  – Young person begins as aquafarm worker and progresses to manager
Aquaculture Occupational Preparation

- Education:
  - High School
  - Vocational Technical School
  - Community College
  - University
Aquaculture Occupational Experience

- Experience may be gained:
  - As part of educational program
  - Summer or part-time jobs
  - School internships
  - Full-time
Acquiculture Career Success

- Be a productive employee
- Strong work ethic
- Develop human relations skills
- Acquire education and experience
- Set goals