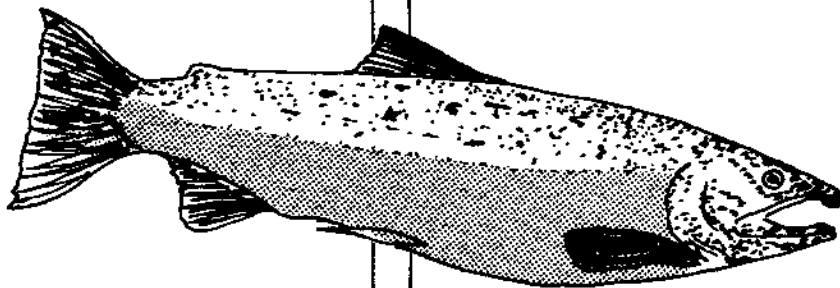


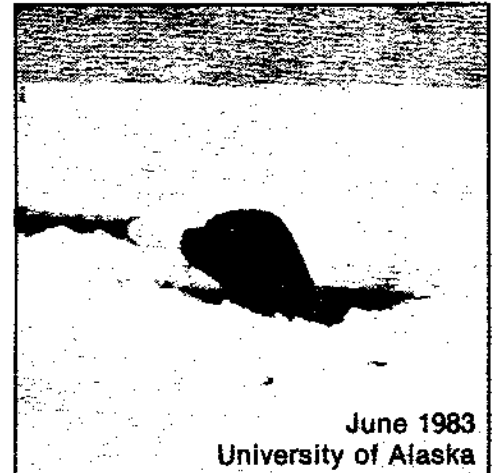
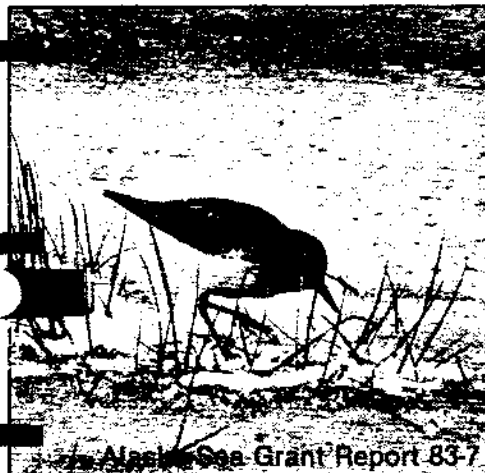

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sea week**
Curriculum Series:VI



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Fish and Fisheries



June 1983
University of Alaska

**Alaska Sea Grant College Program
University of Alaska
Fairbanks, Alaska**

Alaska Sea Week Curriculum Series: VI

Fish and Fisheries

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*If you're short on time, these activities will give you and your students an overview of Fish and Fisheries.

Introduction

Sea Week is a celebration. It's one of those rare school programs that can saturate a class with learning opportunities without intimidating a single child. The hundreds of teachers now participating in Sea Week throughout Alaska have found it to be a highlight of the year: a week of delight and awe, intrigue and excitement. It's a week that translates classroom science, mathematics, language, history, social studies, art and music into the crash of a wave, the scuttle of a crab, the drift of a kayak, the bark of a sea lion, the taste of smoked salmon, the scent of a pier. The only frustrations we've found are among teachers who discover that a week isn't enough. Many have expanded their programs to a month. Several have simply given up on trying to confine Sea Week to a time, and now make use of the curriculum throughout the year. However you design your own program, we're confident that its primary ingredients - Alaska's kids and coastlines - come to you satisfaction guaranteed!

Fish and Fisheries is the sixth of seven Sea Week curriculum guides. The book lends itself well to a fifth grade curriculum, but is not "locked" into that grade level. It has been adapted effectively to preschool, secondary and adult education. Several factors are responsible for the versatility. One is that while student activities in each book are at grade level, the teacher background materials are written at university level, and can be transferred to the classroom at any level the teacher desires. Another is that the curriculum encourages the use of community resource experts, who can gear their talks and tours to anyone from preschoolers to retirees. A third reason for the versatility is that many of the student activities have latitude. When in Volume VI the guide suggests building model boats, for instance, it includes the pattern for a paper cutout. But the same activity can be used by high schoolers constructing complicated models, or by adult students trying their hands at building an actual kayak!

The lives of all Alaskans are touched often by the sea: literally, aesthetically, productively. To begin with is the sheer immensity of the Alaska coastline. It stretches and twists, pounds and lies placid along two oceans and three seas for 6,640 miles - more than half that of all the contiguous United States. Islands, inlets, bays, fjords and delta regions add another 28,000 miles of saltwater shoreline for a total of 34,640 miles - a distance almost equal to twice the circumference of the earth. Alaska's continental shelf covers more than 830,000 square miles, more than 75 percent of the U.S. total. More than 90 percent of the fish caught in the U.S. come from Alaskan waters. And Alaska's coastal zones, both onshore and off shore, contain an estimated 75 billion barrels of petroleum and 380 trillion cubic feet of natural gas - amounts that would equal 50 percent of the nation's remaining petroleum reserves.

More than three-quarters of Alaska's almost half-million people live along its coastline. Their careers are generally sea-related. Grocers sell to the fishing fleet, lumbermen float their log rafts oversea to the mill, real estate salesmen get more money for property with an ocean view, and schoolteachers

find that one of the most effective ways to spark interest in a child's eyes is to turn those eyes seaward.

The bulk of Alaska's culture is so closely interlaced with the sea that in many cases the sea is Alaska culture. The seven volumes of the Sea Week Curriculum Guide series escort youngsters through the crafts, arts, music and oral and written literature of the coastal Haida, Tlingit, Koniag, Chugach, Aleut, Yupik and Inupiat to the poetry, literature and artwork of Alaska today.

And even the lives of that one quarter of Alaska's folk who don't live along the coastline are linked to the sea. They are consumers of sea products, of course; and beneficiaries of seacoast oil wealth, and even occasional visitors to the sea. But more importantly they are linked to the sea by Alaska's myriad rivers and wetlands: Alaska's vast interior, which its inhabitants call "The Golden Heart" of the state, includes hundreds of thousands of miles of rivers and streams, and 390,941 square miles of wetlands. That's two thirds of the state, all linked to the coastline by freshwater systems that serve as nurseries for Alaska's salmon and waterfowl, as transportation arteries to and from the coast, and as the nutrient-rich replenishers of the ocean currents.

It is because of such interconnections between wetlands and the sea that with this edition, the Sea Week Curriculum Guide series has been expanded to include units on Alaska's wetlands and the traditional Athabascan and contemporary peoples who inhabit them.

The resulting series is the foundation of the most comprehensive marine education program ever developed in the Northland. We hope that you will find it as valuable and motivating as it is intended. We hope, too, that through Sea Week, the youngsters of your classrooms will come to more deeply respect and appreciate the environments for which they will soon be responsible. The insights they gain in your classrooms will become the votes and legislation, the lifestyles and attitudes, the wisdom and understanding - the sea harvest - of tomorrow.

Tips for Teachers

Welcome to Sea Week! Here's a checklist of tips designed to help familiarize you with the contents of Fish and Fisheries, and to assist your Sea Week planning.

- If you haven't scanned the book already, we suggest you get a sense of its format by glancing through the Table of Contents, the different units containing teacher background and student activities, the student worksheets, and the bibliography.
- Note that each unit is headed by a list of objectives that specify which activities are designed to accomplish those objectives.
- Student worksheets have been placed together at the end of the book. But they are numbered to correlate to the units they complement. Thus Worksheet 1-A is the first worksheet (A) listed among the activities in Unit 1; Worksheet 2-C is the third worksheet (C) assigned in Unit 2, and so on. Some teachers like to copy the worksheets en masse and bind them into student activity books. Other prefer to insert the worksheets into the corresponding units of the text, then distribute them one by one as the appropriate topics are covered.
- Many more ideas are included than can be used in a week, but we wanted to give you a selection and so you can expand to Sea Weeks. But if you are short on time, we've starred a good selection of activities in the Table of Contents.
- Brainstorm Sea Week ideas with other teachers and parents. Use the Sea Week Planning Sheet beginning on Page x to list the names of parents and local resource people who can help make your Sea Week a success. You'll find most people are pleased to be asked, and more than happy to help.
- Involve your bilingual staff as you identify such community resources as speakers (fishermen or women, net menders, Coast Guardsmen, boat captains, village elders, artists, musicians) and field trip sites (beaches, harbors, canneries, seafood markets, salmon spawning streams, marshes, hatcheries, museums).
- Plan your school's Sea Week at a time best suiting your location. Teachers in southwestern, southcentral and southeastern Alaska are finding it best to consult tide tables and plan beach trips at low tide. In northern, central and western Alaska, Sea Week activities are proving most successful when there's open water, or when they are planned to coincide with a longstanding community fishing or whaling season.
- Order films early, and plan well in advance for school and community events.
- Make lesson plans. Preview the units more thoroughly, selecting those activities most appropriate for your students. You may want to juggle the order to suit your existing class format. Note that we've included

activities to sharpen skills in language arts, science, social studies, math, music, art and physical education so that all aspects of education during Sea Week can focus on Alaska's ocean, river and wetland environments.

- Plan your field trips. Decide on a place, time and means of transportation. Arrange to take parents, older students or resource people as helpers. The most successful trips usually have one adult per five or fewer students. If possible, visit the field trip site ahead of time with your helpers. If you're taking a bus, make up a game or checklist of things to watch for to develop a learning atmosphere for the trip.
- Develop an outline for your field trip. Suggested inclusions:
 - A. Discovery and exploration time.
 - B. Structured learning activities.
 - C. Snacktime.
 - D. Organized games, treasure hunts, litter pickup.
 - E. Review of the day's events (which can be as simple as having each student and parent telling what he or she enjoyed most).
- One or more parents or teachers can be appointed to coordinate in scheduling speakers, movies and field trip transportation, and in presenting your Sea Week plan to school district officials for approval.
- Talk to your librarian about books to back up your studies. Suggestions are included in the general bibliography at the end of this book.
- Field trips and other Sea Week activities make bright news features. Consider contacting your local newspaper, television or radio station. Teachers usually find that reporters generally enjoy going to the beach as much as do the students!
- Check through the "materials" list of each unit; then make, buy, scrounge or order any equipment you might need.
- Write a letter to parents. Include requests for field trip assistants, resources, ideas, and permission slips.
- Promote conservation - the protection and wise use of our natural resources. Ask children how they can help take care of animals and plants they encounter in their field and classroom studies. Through their concern for life and habitat, have students develop some rules: step softly and quietly while observing animals, replace rocks or logs after looking underneath (to keep the roofs on animal homes), handle animals gently, fill in holes after looking for clams (to prevent suffocation of the animals next door), and don't take live animals or plants away from their homes.

- So that future children can enjoy the area, too, it is a good idea to discourage personal collections of any natural items, living or nonliving. Limit collections to educational purposes such as art projects or aquarium study - and return any living animals to their natural habitats as soon as possible. Preserve for classroom specimens only those animals which are already dead.
- Encourage students to leave the beach, river or wetland cleaner than when they arrived.
- Remember safety. For field trips, have a plan for keeping students in groups through a buddy system or adult supervision. Take a first aid kit. Discuss hypothermia. Take matches and tinder for starting a warm-up fire if necessary. Make sure students dress warmly and take extra clothes and rain gear (plastic trash bags will do in a pinch). And wear life jackets on boat trips.
- If your school is inland, consider exchanges with coastal schools. Send them a selection of items found on your field trips, a class story, or perhaps photos. Maybe they can send you fish stories, pieces of net, floats, seaweed, beach sand. Most activities in this book can easily be adapted for inland schools. Try to get a saltwater aquarium for your school.
- Follow up your Sea Week with thank-you notes, student evaluations, and a brief report or copy of a news article for your administrators.
- Photocopy your lesson plans and stick them in this guide, so you'll be ready for next year!

Sea Week Planning Sheet

Resource People: Speakers, craftsmen, field trip leaders.

Name	Expertise	Phone
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Field Trip Possibilities:

Location	Habitat (Beach, river, pond)	Transportation Arrangements
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Volunteers: To help with field trips, seafood meals, classroom activities.

Name	To Help With:	Phone
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Books:

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Equipment:

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