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Alaska Sea Grant College Program
University of Alaska
Fairbanks, Alaska

Alaska Sea Week Curriculum Series: VII

Marine Mammals, Coastal and River Issues

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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 frustration we've found is among educators who discover that a week isn't enough. Many teachers 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, rivers and coastlines--come to you satisfaction guaranteed!

Marine Mammals and Coastal Issues is the seventh of seven Sea Week curriculum guides. This book lends itself well to a sixth grade curriculum, but is not "locked" into that grade level. It has been adapted effectively to 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 flexibility 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 Alaska waters. And Alaska's coastal zones, both onshore and offshore, 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 overseas to the mill, real estate salesmen get more money for property with an ocean view, and school teachers 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 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.

Because of such interconnections between wetlands and the sea, with this edition the Sea Week Curriculum 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 Marine Mammals, Coastal and River Issues, 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 at the end of this volume. Note that each unit begins with a list of objectives that specify which activities are designed to accomplish those objectives, as well as a key picture that can be used to introduce, review or evaluate the unit.
- . Student worksheets have been placed together at the end of the book, 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.
- . Many more ideas are included than can be used in a week, but we wanted to give you a selection so you can potentially expand to Sea Fortnight, or "Sea Year"! We suggest at a minimum that you do the Community Inventory and Journal Activities (Unit 1); select one of the issues (Units 2-6); do a few review activities (Unit 7); and try Sea Week camping (Unit 8).
- . Make lesson plans, selecting those activities most appropriate for your students, with consideration for local history and culture. Survey your students to find out what issue (Units 2-6) they are most interested in exploring. 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 or Sea Week Camping experience. Arrange to take parents, older students or resource experts as helpers.
- . Check through the "materials" list of each unit, then make, buy, scrounge or order any equipment you might need.
- . Order films early!
- . Talk to your librarian about books to back up your studies. Suggestions are included in the general bibliography at the end of this book.

In the Field

- . Plan at least one field trip. Decide on a place, time and means of transportation. Biologists, long-time residents, parents or bilingual staff may have field trip suggestions. Invite one or more of these people to go along on your field 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).

The first hour of the field trip is often the most productive, so you may want to begin with a structured activity. On the other hand, if the class has rarely been to that type of habitat before, you may want to let them explore first, so they will settle down for a more productive, structured activity later. Or you may want to combine discovery time with a structured activity by having students look for certain species and interrelationships. If you're taking a bus, make up a game, or a checklist of things to watch for so as to develop a learning atmosphere for the trip.

. Write a letter to parents. Include requests for field trip assistants, materials, ideas, and permission slips.

Dear Parents:

We are celebrating Sea Week May 6-11. All our classes that week will focus on the sea. We'll be emphasizing marine mammals, coastal and river issues as we solve sea-related math problems; write sea themes; read sea stories; have a seafood snack and take a three-day trip to Halibut Cove. Can you help with any of the following items?:

- ___ provide a seafood snack
- ___ assist with a Sea Week art project
- ___ talk to the class on the following sea themes: _____
- _____
- ___ show the class your collection of _____
- ___ help with Sea Week planning and preparations
- ___ go on the trip to Halibut Cove

Thanks so much! And happy Sea Week!

I give my permission for _____ to go to Halibut Cove for three days (depending on weather) during the week of May 6-11.

signature of parent or guardian

- . If possible, visit the camping or field trip site ahead of time with your assistants. Explain what you'll be doing and answer questions. (Older students make great helpers, in addition to parents and interested community members.) Field trips generally work best if you can break your students into groups of five to six.

Promote conservation by emphasizing the protection and wise use of natural resources. Ask students how they can help take care of animals and plants they encounter in field and classroom studies. Through their concern for life and habitat, have students develop some rules:

- 1) step softly and quietly while observing animals,
 - 2) replace rocks or logs after looking underneath (to keep the roofs on animal homes),
 - 3) handle animals gently,
 - 4) fill in holes after looking for clams (to prevent suffocation of the animals next door),
 - 5) do not take live animals or plants away from their homes.
- . So that future students 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. Be sure to return any living animals to their natural habitats as soon as possible. Preserve for classroom specimens only those animals that are already dead.
 - . Encourage students to leave the beach, river or wetland cleaner than when they arrived.
 - . Remember safety. For field trips:
 - 1) have a plan for keeping students in groups through a buddy system or adult supervision.
 - 2) Take a first aid kit.
 - 3) Discuss hypothermia.
 - 4) Take matches and tinder for starting a warm-up fire if necessary.
 - 5) Make sure all participants dress warmly and take extra clothes and rain gear (plastic trash bags will do in a pinch, but remind students about the danger of suffocation from plastic).
 - 6) Wear life jackets on boat trips.
 - 7) See Units Seven and Eight for additional suggestions.

In Your School and Community

- . One of the best aspects of Sea Week is involving all the students, teachers and community residents, so that everyone works together. The whole school is decorated; one class inspires another; older students do programs for younger ones and vice versa; community residents help with field trips and speakers. An air of excitement pervades halls and classrooms! But don't hesitate to try Sea Week on your own or with just a few other teachers. By next year, when they've had a chance to see what you've done, others will be ready to try Sea Week, too!

- . Plan your school's Sea Week at a time best suited to 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 seasonal activity, such as fishing or whaling.
- . Brainstorm Sea Week ideas with other teachers and parents. Use the Sea Week Planning Sheet beginning on Page ___ 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, net menders, Coast Guard personnel, boat captains, community elders, artists, musicians) and field trip sites (beaches, harbors, canneries, seafood markets, salmon spawning streams, marshes, hatcheries, museums).
- . One or more parents or teachers can be appointed to coordinate speaker schedules, movies and field trip transportation, and to present your Sea Week plan to school district officials for approval.
- . Contact your chamber of commerce, village council/borough government, and other community groups, inviting them to sponsor complementary Sea Week events such as festivals, seafood dinners, slide shows, speakers.
- . If your school is inland, consider exchanges with a coastal school. Send it 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 acquire a saltwater aquarium for your school.
- . Field trips and other Sea Week activities make bright news features. Consider contacting your local newspaper, television or radio station. Reporters often enjoy going to the beach as much as students do! Provide as much information as possible to all community media, and be sure to present it in a professional way.

Follow-up

- . Write thank you notes to speakers.
- . Ask students, teachers, parents and community participants to evaluate Sea Week.

The sea is important to me because...

To me, the best part of Sea Week was...

The part of Sea Week I didn't like was...

My suggestions for making Sea Week better are...

Overall, Sea Week was:



poor



ok



great

- . Write a brief report--including sample student work, evaluation forms, and news articles--for your administrators. Send a copy to the Sea Week project coordinator either in your own region or at the University of Alaska, Fairbanks, Alaska 99701. We like to keep informed of what you are doing. And we'll share your good ideas with other students, teachers and administrators.
- . Photocopy your lesson plans and stick them in this guide, so you'll be ready for next year!
- . If you'd like to learn more, consider requesting a Sea Week inservice or 1-credit course for your school. Contact Alaska Sea Week, Department of Education, University of Alaska, Fairbanks, Alaska 99701; or the School of Extended and Graduate Studies, Outreach Division, University of Alaska, Juneau, Alaska, 99802; or Talent Bank, Department of Education, Pouch F, Juneau, Alaska 99811.

SAMPLE BUS CHECKLIST

COPPER RIVER DELTA FIELD TRIP

(give yourself 1 point for each box checked--
except as noted!)

- | | |
|---|---|
| <input type="checkbox"/> Copper River Railroad
Historical Marker | <input type="checkbox"/> glaucous-winged gull |
| <input type="checkbox"/> Eyak Lake | <input type="checkbox"/> mew gull |
| <input type="checkbox"/> Eyak River | <input type="checkbox"/> arctic tern |
| <input type="checkbox"/> avalanche chute | <input type="checkbox"/> Canada goose |
| <input type="checkbox"/> flood plain | <input type="checkbox"/> duck |
| <input type="checkbox"/> wetland _____
(name) | _____ |
| <input type="checkbox"/> pond | <input type="checkbox"/> bear (3 points) |
| <input type="checkbox"/> braided river | <input type="checkbox"/> moose (3 points) |
| <input type="checkbox"/> glacial silt | <input type="checkbox"/> toad |
| <input type="checkbox"/> Scott Glacier | <input type="checkbox"/> eagle |
| <input type="checkbox"/> Sheridan Glacier | <input type="checkbox"/> shore bird |
| <input type="checkbox"/> Sherman Glacier | _____ |
| <input type="checkbox"/> gravel | 3 points extra if you
can identify it! |

- eagle nest
- sun
- clouds
- rain
- invertebrate _____
(name)
- salmon
- stickleback
- alder
- willow
- spruce
- berries _____
(name)

TOTAL POINTS

