



DETAILED INFORMATION ABOUT YOUR FIELD TRIP

Explorer Fisheries Cruise - *Two Hours

**Estimated time distribution: Majority of program on estuary & river with 15-30 minutes on the ocean - as conditions permit.*

- ◆ **Safety talk and life jacket demonstration**
- ◆ **Bottom Trawl** –Tow a net along the bottom of the estuary. Learn about the different types of fish and invertebrates that call the estuary “home” as your students identify and sort the catch.
- ◆ **Plankton Tow** - Collect tiny plants and animals from the estuary. View the “catch” on the monitors inside the cabin using the on board video microscopy.
- ◆ **Navigation Technology** - Visit the wheel-house and learn about the equipment used to navigate the boat. Satellite and radar technology is featured, including a GPS (global positioning system) and computer link. Students can “get behind the wheel” and help steer the DISCOVERY!
- ◆ **Harbor Tour** – Explore maritime industry while viewing Oregon’s largest coastal port—from the commercial fishing fleet & fish processing plants to our coast guard station.
- ◆ **Sea Life Viewing** – Look for California Sea lions, harbor seals, harbor porpoise, gray whales and sea birds.

WE LOVE STUDENT VOLUNTEERS!

Please discuss participation and the description of jobs before the trip, so students can begin thinking about what they would like to do when they get here.

☺ **Student Volunteer Jobs** ☺

- ◆ Help set the trawl net.
- ◆ Fill the aquarium tanks with water to prepare for the animals that are collected in the trawl (*These students must be good listeners and able to follow directions*).
- ◆ Pull the trawl net & collection aboard.
- ◆ Return animals to bay after we’re done learning about them –“catch & release.”
- ◆ Set plankton net from stern.
- ◆ Pull net in.
- ◆ Prepare plankton sample for viewing.
- ◆ Help “swab” and clear the decks.

Chaperone Participation: We want chaperones to have fun, too!

Chaperones can ensure a positive experience for everyone!

- Chaperones will be part of “**Team Discovery**” with easy instructions from our naturalists, before we board and during the program. It’s fun & a great way to connect with the students.
- Each chaperone will be in charge of a small group of students. We recommend an average group size of 7-10 students (equal-size groups, please).

**Chaperones must stay with their group at all times,
for safety reasons and to ensure appropriate student behavior.**



Suggested Classroom Discussion Topics to prepare for field experience:

(Use amount of detail appropriate for your group – age, parallels, etc)

2011 Scholarship Thanks: 26 programs sponsored by Bandon Submarine Cable Council – a group of Oregon Trawl Fishermen and AT & T’s fiber optics division (technology under the surface of our oceans!).

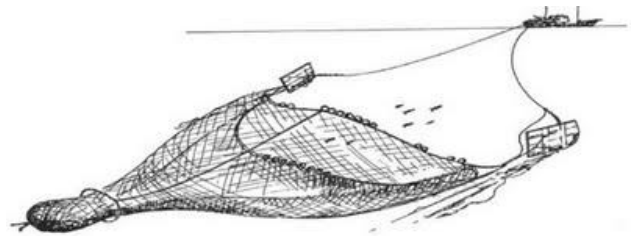
ESTUARY:



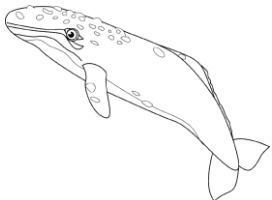
- ♦ Estuaries -- definition, function, human uses & influences; animal uses; concept of estuary as one part of the coastal ecosystem and the role physical characteristics of the water plays in the distribution of wildlife.
- ♦ **Animals often seen in the Yaquina Bay estuary:** Harbor seals, California sea lions, heron, cormorants, gulls (14 different species) and migratory, summer, or winter birds.
- ♦ Food chains and adaptations. Human role in food chain (e.g. fishing industry – from the wild to the table).
- ♦ “Filter-feeders” – Oregon Pacific Oysters (harvesting and farming), razor clams, cockles, gapers (horsenecks).
- ♦ Plankton – definition; plants vs. animals; how to identify; importance to the ecology of the estuary; part of food chain; seasonal changes.

Bottom Trawl:

- ♦ **Animals often caught in the bottom trawl:** flatfish, crab, shrimp, sculpins, gunnel fish, sea stars, amphipods, and marine worms. Discuss what they eat, where they fit into the food chain, life cycle, etc.
- ♦ Learn all about crab -- life history; adaptations to live as bottom dwelling scavengers; how to tell males from females.



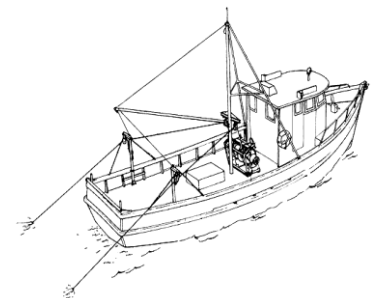
OCEAN:



- ♦ Ocean habitat areas, including rocky reefs, sandy bottom, and open waters.
- ♦ Migration, behaviors and life history of Gray whales, harbor porpoise, jellyfish, marine birds & fishing seasons (crab, shrimp, whiting and albacore).
- ♦ Ocean dynamics – waves (swell vs. sea conditions), tides, upwelling, currents and rip tides.
- ♦ Fiber optic cables on the ocean floor – what do they do; where do they go; why do fishermen need to work with technology partners?

FISHERIES ELEMENT:

- ♦ Fish Awareness – Favorite fish to eat? Where does seafood come from? How do Oregon fishermen catch it?
- ♦ Coastal Culture – Modern fishermen’s partnerships with science & resource management; Lifestyles of a commercial fisherman: seasons/hours and conditions of work, required skills.
- ♦ Fishing Boats & Gear Types –Each boat represents a small family business. Anyone have a commercial fisherman in the family or a friend? Brief discussion identifying fishing activity based on observing gear/rigging. Bycatch solutions/gear size.
- ♦ Identify the different “sea foods” that are trawl-caught on Oregon’s coast.



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