Yaquina Head Outstanding Natural Area
Teacher's Guide

Contents

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A Checklist of Things to do Prior to Your Visit

Many months before your visit

☐ Make your reservation

A few weeks later

☐ Received your confirmation letter? If not, contact John Miller at (541)574-3146

A month or two prior to your visit

☐ Schedule a unit on marine biology for your class

☐ Come up with relevant activities and exercises for your class to carry out during their visit

A day or two before your visit

☐ Go over the objectives for the field trip and the activities they will engage in at Yaquina Head with your class

On the day of your visit

☐ Do you have your confirmation letter with you with you?

☐ Get together with adult chaperones to go over their role and responsibilities during the field trip

An hour or so before your visit

☐ Have the kids been cooped up on a bus or indoors for an extended period? If so, stop somewhere to let them "blow off steam" before they arrive at Yaquina Head

A few minutes before your scheduled time

☐ Arrive at Yaquina Head Interpretive Center , so we can get you checked in and ready for your visit

On the bus ride home, or a day after your visit

☐ Have the class review the results of the trip

Dear Marine Educator: The Basics

Why are reservations required at Yaquina Head?

Each year more than 80,000 visitors explore the natural and accessible intertidal areas at Yaquina Head Outstanding Natural Area (YHONA). As many as 10,000 of these visitors are from schools and similar institutions. As a result, the Bureau of Land Management (BLM) has a reservation system for scheduling group visits to the intertidal area. Our intent is to spread out the visitor use of this fragile habitat by limiting the number visiting the intertidal area to 100 students (not including teachers and chaperones) at a time. Each group will be scheduled for only one hour, so that we can accommodate as many groups as possible. Please arrive a few minutes before your scheduled time, so you can get the maximum time possible at the tidepools. Late arriving groups will not be allowed to infringe on subsequent groups' time.

Plan your visit early

RESERVATIONS ARE MANDATORY.

In order to schedule your group, you will need to contact John Miller between 8:00 am and 4:00 pm Monday - Friday at (541)574-3146. John will help you plan your visit. **Prime slots near the end of the school year generally fill up early, so make your reservations far in advance.**

Young students (say kindergarten through third grade) do not need very low tides to have a satisfying tidepool experience. If you are a teacher of one of these grades, consider scheduling your group at offpeak tides, to allow older students access at the lower low tides.

Tide table information is available on the Hatfield Marine Science Center website at:
http://hmsc.oregonstate.edu/weather/tides/tides.html

General information on visiting Yaquina Head is available at:
http://www.or.blm.gov/salem/yaquina

Do Your Homework before Arriving

A classroom introduction to the marine environment before your trip will greatly enhance the students' learning experience. When visiting the tidepools at Yaquina Head, students and chaperones should have concrete activities to carry out. This will ensure that they get the most from their visit. A vague assignment, such as "Head out and find as many different creatures as you can" is not sufficient.
Students will learn relatively little from a nebulous assignment, are more likely to get injured rushing from place to place, and are more likely to damage the tidepools in the process. For suggestions see Study Ideas, pages 12-17

Chaperones

Adult supervisors (chaperones) are required with all school groups. Chaperones are responsible for monitoring the behavior of the students, to ensure that they don't do any harm to the tidepools or their inhabitants. Of paramount importance is that **CHAPERONES MUST TAKE RESPONSIBILITY**

FOR THE SAFETY OF THE STUDENTS. See that they don't run, jump, or do anything else that might cause an injury. We do not have enough rangers to supervise the groups. We rely on teachers and adult chaperones to do that. The rangers are available as a resource to answer questions about the tidepools.

Recommended minimum adult/student ratios are:

Grades K-2	1:4
Grades 3-5	1:5
Grades 6-12	1:10

Chaperones should also participate actively in the students' educational experience.

When you arrive for your visit:

Bring your confirmation letter with you. This is your proof that you are scheduled to visit, should there be any confusion.

Upon your arrival, an interpreter will talk with your group about safety and conservation, answer any questions, and then assist you in the tidepools.

Remember: Field trips to the area can include more than intertidal studies. Yaquina Head also offers a resident harbor seal colony, migrating and summer gray whales, a seabird rookery during the spring and summer, an interpretive center with exhibits and a gift shop, and much more. If you have any questions or are planning a trip to Yaquina Head that doesn't include the intertidal area, please contact us at (541) 574-3146 so we can assist your group.

We hope you enjoy your scheduled visit to Yaquina Head. Link to Fifth Grade Education Program page

Sincerely,
Joe Ashor
Manager

Tips for Interpretive Center Visits

Based on our experience with school groups visiting the Yaquina Head tidepools each year, we offer these suggestions for planning a class visit to the Yaquina Head Interpretive Center. These can also be adapted to your tidepool visit.

1. Schedule appropriately. The month of May is our busiest month for school groups; we suggest you consider any other month to avoid crowding and interference with other groups.

2. Come prepared. We strongly encourage teachers to come to the Yaquina Head Interpretive Center as a planned educational field trip. Center staff will not assume responsibility for your class, instructionally or behaviorally, but will make every effort to help you make your outing a success.

3. Encourage use of the senses. There are a few hands-on activities to help you do this directly, but other exhibits can appeal to the imagination too.

4. Encourage analysis and expression. Aided by the labels and text panels, your students can blend their experiences and what they have read into a summary, or expression, of their understandings through art, writing, or other forms. Students who go through the Center with a fill-in-the-blanks questionnaire (names, dates, quantities, and other isolated facts) seem to get a narrower slice of the Center's offerings. Students who are challenged to process their experiences into some form of expression achieve a broader, more integrated understanding of what they have seen.

5. Work with manageable groupings. The maximum size group allowed in the Center at one time is 40 students, accompanied by 5 - 8 adults. Groups will then usually divide into subgroups. *Preparation* is the key to effective subgrouping. Whether each group has an adult or not appears to be less important than whether the students (and their adult chaperones) have a clear understanding of the objectives of the field trip and the product(s) that are expected from them.

6. Include non-teaching adult participants in the trip planning. When adults are assigned to groups, they need to be prepared to be part of the program. Brief them on the learning objectives you have for the trip and the product(s) you expect the students to produce. Share any trip guides or assignment sheets with them before the trip. Please be sure the other adults understand the rules for the trip – both yours and ours. It is especially important that they know that it is illegal to disturb, damage, or remove any natural or cultural feature from the center or area.

We have seen two strategies used effectively for adults with groups:

a. Adults are assigned to groups and rotate through the exhibits with the students. This method works best when adults are briefed in advance, but it suffers when the adult overplays the role of "tour leader"... students lose the direct experience.

b. Adults are assigned to different exhibits and the groups of students rotate from one attended exhibit to the next. With this strategy, the adult is better able to master the information of the exhibit and provide more knowledgeable assistance to the students. The students' experience may vary more from exhibit to exhibit (natural vs. cultural), and they need to be clear about the route they are to travel at the Center.

7. Writing surfaces are few and far between in the exhibit wing, and we don't have clipboards or pencils in the public area. Consider bringing your own.

8. Discipline problems are rare, but we will contact the group leader should any occur. If students' actions endanger themselves, others, or the exhibits, or excessively interfere with other visitors' enjoyment of the Center, our staff will bring the problem to your attention. If they have to approach a student directly to stop a dangerous activity, they will let you know immediately. Continued problems may result in individuals or an entire class being asked to leave the Center.

The Yaquina Head Interpretive Center welcomes comments and suggestions from you; we are in a constant process of trying to make the Center's offerings more valuable to the visiting public. Please contact the interpretive staff for scheduling and other information: (541) 574-3146.

Yaquina Head Outstanding Natural Area Safety And Conservation Guidelines

Yaquina Head Outstanding Natural Area (YHONA) is a heavily used natural preserve. The results of a 1991 Human Impact Study of the intertidal zone suggests that Yaquina Head's tidepools can be classified as a heavily trampled site. For your safety and to minimize human impact on this fragile area, the YHONA staff would appreciate your assistance in following these guidelines:

1. Arrive a few minutes before your scheduled time, so a ranger can talk to your group before they go to the tidepools.
2. Be aware of an incoming tide and watch for large "sneaker" waves. Use your ears as well as your eyes, and don't turn your back on the ocean.
3. Students should stay with their assigned group.
4. Dress appropriately - suitable footwear for the intertidal zone is boots or tennis shoes with a good grip. Sandals and bare feet are not practical in this setting. WALKING IN THE TIDEPOOLS IS NOT ALLOWED. Waders are NOT recommended. Be prepared for inclement weather. An extra change of clothes is advised.
5. COLLECTING IS PROHIBITED AT YAQUINA HEAD OUTSTANDING NATURAL AREA. Remember to leave the plants, flowers, rocks, animals, shells, and other natural features for others to enjoy. The use of observation containers, such as buckets, plastic trays, and/or plastic bags, is not ALLOWED. Prying tools DO NOT belong in the tidepools, please leave them at home!
6. Walk at a safe slow pace and try to step on bare spots, not organisms, or marine algae (seaweed/kelp) that can be very slippery and may also be covering marine life. Learn to recognize barnacles, mussels, and snails to avoid stepping on them.
7. Most plants and animals live in restricted zones. To avoid injuries to animals, DO NOT pick them up, pry them up, or forcibly remove them from the rocks. It is best to observe them in their natural state. The Hatfield Marine Science Center and the Oregon Coast Aquarium offer hands on labs for close up examination of organisms..
8. DO NOT move rocks. If you accidentally move a rock, please place it the way you found it, so you won't injure or kill any organisms living on or under the rocks.
9. YHONA is a natural preserve where the plants and animals are protected. DO NOT try to feed or scare the birds and wildlife. To avoid trampling vegetation, stay on paved paths. Please obey all signs.
10. For the safety of the intertidal animals and other visitors, DO NOT throw rocks on the beach or into the water.
11. So that everyone may see and enjoy watching the harbor seals, DO NOT approach close enough to disturb the seals or cause them to leave their haul-out rocks. (Disturbing harbor seals is a violation of the Marine Mammal Protection Act.) NOTE: During periods of extreme low tides, a barricade of signs will be set up to assure a close but safe viewing distance. If no barricade is present, approach seals slowly, and back off if they react to your presence in any way. In any case, stay at least 75' away from any seal.
12. YHONA has no picnic facilities. Plan to eat on your bus or at a nearby area with picnic facilities, such as Otter Rock, Beverly Beach State Park, Agate Beach Wayside, and Yaquina Bay State Park.
13. Please set an example for your students and others by carrying away any trash that you find. If picking up trash is a class assignment, students are unlikely to leave any of their own litter.

If you have any questions, please call the YHONA staff at (541) 574-3100. We hope you will enjoy your visit and gain some valuable knowledge about the coastal marine environment. Please instill respect for our natural resources. "TREAD LIGHTLY."

Yaquina Head Outstanding Natural Area Quiz

True or False:

1. Every seventh or ninth wave is larger. - FALSE - There is no way to predict individual wave heights, so NEVER turn you back on the ocean.
2. Nesting seabirds are easily frightened off of their eggs.- TRUE - And if they leave, the eggs may be smashed or eaten by other birds or predators.
3. If you are very careful, you can remove animals from the rocks to look at them, as long as you put them back exactly as they were found. - FALSE - Many animals attach themselves very tightly to rocks to avoid being torn off by waves. Sea stars, sea urchins, chitons, and limpets are examples of animals that should NEVER be forcibly pulled or pried off of the rocks. Removal WILL damage and may kill them.
4. The offshore rocks and islands are a good place to explore during low tide. - FALSE - The rocks and islands are part of the Oregon Islands National Wildlife Refuge. They are CLOSED to the public to protect seabirds, harbor seals and sea lions.
5. Seaweed can be very dangerous in the tidepool areas. -TRUE - Seaweeds are not only slippery, but they often cover pools of water, as well as animals. WATCH where you step. ALWAYS try to step on bare spots.
6. The plants at YHONA have been toughened by weather so they can withstand human impact. -FALSE - The plants are adapted to weather, but can easily be damaged by foot traffic.
7. Tidepool animals are so specialized that changing their environment only slightly is likely to kill them. - TRUE - Leaving a rock overturned may kill all the animals on both sides of the rock.
8. You will see more if you walk fast and cover more area. - FALSE - Actually you will see more if you go at a safe slow pace and take time to study the pools.
9. If you take ONLY one rock, shell, or crab, it shouldn't make a difference. - FALSE - When you multiply your one item times the other thousands of visitors who think the same way, over time the effect will be appreciable. Too many animals have been taken from the intertidal zone in supposedly empty shells. PLEASE don't take home what others come to see.
10. Even if I'm not as careful as I should be, it won't make a difference since I'm only visiting here for a short time. - FALSE - How you conduct yourself during your visit has a direct impact on the intertidal zone; even short visits can have a long-lasting effect. Remember that the intertidal zone is VERY FRAGILE.
11. If I see someone not being careful or taking something home, should I remind them that this is a NO COLLECTING area? - TRUE - These are your tidepools, and others should be reminded of the impact they cause. If you don't feel comfortable doing this, let the ranger talk with them.
12. Crab races are a lot of fun and don't harm the crabs. - FALSE - Many injuries to crabs occur when careless visitors search for them. Also they are NEVER put back in the same location.
13. Its alright to walk in the pools if I'm careful. - FALSE - Too many animals are crushed by supposedly careful visitors. That's why walking in the tidepools is NOT ALLOWED.
14. Treasure hunt field trips are the best way to explore tidepools. - FALSE - This only promotes racing around the tidepools checking off as many plants and animals as you can find during your visit. It is better to study fewer plants and animals and really learn how they live in this harsh environment.
15. If you're careful, climbing the cliffs is a good way to enjoy your visit. - FALSE - Because the cliffs are so unstable, climbing is prohibited at Yaquina Head for the visitor's safety.
16. Sea urchins and sea anemones use shells and rocks to protect them from the drying effects of the sun. - TRUE - For this reason please do not pull these shells off, because it will expose the urchins and anemones and possibly cause injuries to them.

Multiple choice:

17. When exploring the intertidal zone, the following rules of etiquette apply:
    a. go slowly and don't walk in the tidepools.
    b. step on bare spots, not plants and animals.
    c. observe plants and animals in their natural surroundings without picking them up.
    d. all of the above.
18. Yaquina Head lighthouse is:
    a. the tallest along the Oregon coast.
    b. no longer active.
    c. the oldest along the Pacific coast.
    d. staffed by a lighthouse keeper.
19. The California gray whale:
    a. is 100 feet long.
    b. has teeth.
    c. has a dorsal fin.
    d. feeds on the bottom of the ocean.
20. The Pacific harbor seals at Yaquina Head:
    a. migrate in the spring.
    b. walk like sea lions.
    c. live at Yaquina Head throughout the year.
    d. live on the cobble beach.
21. When is the best time to see nesting seabirds:
    a. anytime of the year.
    b. winter.
    c. fall.
    d. spring and summer.

Tidepooling at Yaquina Head

This activity sheet has been provided by the Bureau of Land Management staff at Yaquina Head Outstanding Natural Area. We hope it will help educate your group and help promote the proper tidepool etiquette. Remember this sheet can also be used for post-trip activities. Please contact us for additional information or comments at (541) 574-3100.

The tidepools at Yaquina Head are home to a diverse group of intertidal plants and animals. The cracks and holes in the rocky shore create many surfaces that are ideal for plants and animals that have special attaching devices and need a stable home. They attach themselves to the rocks so they can withstand the movement of the waves. When the tide level drops, it leaves pools of water where the animals can survive until the tide returns.

Intertidal plants and animals have to be able to live in and out of water. Some can only survive a short time out of the water, others longer. Because of these differences, most organisms are found in narrow bands or zones in the intertidal area. This is what is referred to as zonation.

At low tide, the zones often look like layers on the exposed rocks. On a gently sloping surface, they may be less distinct. These layers are the spray, high, middle and low tide zones.

The spray zone is the highest area on the beach. It gets flooded when there are high storm waves. Usually it gets only sprays from the waves and is dry much of the time. Spray zone animals must be able to retain moisture for long periods of time, tolerate rapid changes in salt content of water, and withstand extreme changes of temperature. Plants and animals of this zone include sea hair and black lichen seaweeds, rock louse, periwinkles, and finger limpets.

The high tide zone is normally uncovered except during high tides. The animals are more conditioned to air than water. Like the spray zone these animals must deal with extreme changes in temperature and exposure to the salty water. They must depend on the tides and waves to carry in food for them. This zone often looks white because of the barnacles. Rockweed and sea lettuce seaweeds, acorn barnacles, and black turban snails can be found in this zone.

The middle tide zone gets covered and uncovered twice a day with the tides. Many of the animals depend on the rise and fall of the tides. Fluctuations in temperature and salinity are less extreme than in the higher zones. This zone often looks dark because of the extensive mussel beds that may occur there. Plants such as sea cabbage and animals like the common sea star, black leather chiton, leaf (goose) barnacles, aggregating anemones, and mussels are found in the middle tide zone.

The low tide zone is almost always under water except at very low (minus) tides. Few variations in temperature, exposure, or salinity occur here. This area supports more plants and animals than any other, including surf grass, green sea anemones, sea urchins, sunflower stars, and sea cucumbers.

The following are some ideas for careful and educational ways to explore this very unique environment.

Tidepool Etiquette: Proper manners for responsible tidepooling. Please follow these guidelines so the tidepools won't be overly impacted while exploring this VERY FRAGILE and slippery environment. Please make sure that everyone in your group understands and follows these guidelines.

1. Go slowly, step on bare spots, not organisms.
2. Do not walk in the tidepools.
3. Do not pry or pull plants and animals off of the rocks.
4. Be careful not to move rocks carelessly.
5. No collecting.

Explanation: The tidepool animals are very delicate and easily damaged by prying them off rocks, picking them up, turning them over, stepping on them , or poking them. Please consider what would happen to the following animals if they were carelessly handled.

Sea star and sea urchin: Both have many tube feet (suction cups) for clinging to rocks, manipulating food and other items, and walking. Picking them up tears tube feet impairing their ability to do these things. If picked up, it takes time for them to reattach themselves to the rocks. Sea stars and urchins can wind up being battered against the rocks by waves, or becoming food for the gulls.

Chitons and limpets: These animals have a muscular foot for clings to the rocks, which can be damaged if pried up. During low tide, they cling tightly to the rocks to avoid drying out. When they are picked up that seal is broken and they may become heat-stressed or die.

Snails: Many snails experience the drying effects from exposure when picked up or left overturned.

Sea anemones: Sea anemones retain water within their bodies to stay wet until the next high tide. Poking an anemone to make it squirt not only could damage the animal's body, but it loses precious water it needs to survive.

Hermit crabs: Their survival depends on living in an empty snail shell. Many can die when they become overly stressed and drop out of their shell while being handled.

Study Ideas

Have students work in groups of five answer questions or do activities from the following list:

1. What makes a tidepool a tidepool?
2. How many different kinds of plants and animals can you find in a single tidepool?
3. Draw a tidepool.
4. Draw your favorite animal.
5. Why is tidepool etiquette important.
6. Make a list of problems that tidepool animals deal with on a daily basis. How are they different for animals that are exposed to the air at low tide?
7. What is zonation? Can you identify zones based on differences in species present as you get further from shore?
8. Define the following and list an example: Predator, prey, filter feeder, grazer, scavenger.
9. Why are there more animals living in the rocky beaches than sandy ones? Can you name animals that live at sandy beaches?
10. When you are looking for different animals on rocks, why is it important to return the rock to its original position?
11. What are some of the things intertidal animals compete for?
12. What advantages do plants and animals living under rocks have over those living on the top of the rock when the tide changes?

Answer the questions below for each of the following animals: sea star, mussel, snail, sea anemone, hermit crab, barnacle, limpet, sculpin and chiton

1. Where do they live (which zone), and why.
2. How do they move (if they move)?
3. How do they protect themselves from predators, waves, etc.?
4. How do they eat?
5. What do they eat? Note: herbivores eat marine algae (seaweed) and carnivores eat other animals.

While you are exploring the tidepools, answer the following:

1. What is the most abundant animal? Least?
2. Most abundant plant?
3. The most colorful animal?
4. What is the main color of the tidepool plants?
5. The largest animal? Smallest?
6. An animal that lives in a shell. An animal that lives in a borrowed shell.
7. An animal that's attached to something else.
8. What tidepool animals eat other animals?
9. An animal that looks like a plant.
10. An animal that is part animal and part plant.
11. An animal that swims very quickly to escape its enemies.
12. An animal with tentacles.

Other ideas:

Find and name:
1. 2 kinds of barnacles
2. 2 kinds of snail shells
3. 2 kinds of sea stars
4. 3 kinds of crabs
5. 2 kinds of chitons.

Tidepool Research Project -(Human impact on the tidepools)
Observe visitors in the tidepools for 15 minutes.
Write a short three or four sentence report about how visitors conducted themselves. Did you notice anyone pulling animals off of the rocks or overturning rocks, etc.?

Adaptation: Adaptations are the tools that enable plants and animals to survive successfully in their environment.

Examples of adaptations:
- ★ Porcupines uses their quills for defense, while gulls use their wings for mobility and escape.
- ★ Some tidepool animals use camouflage to blend into their surroundings. (How many of these can you find?)

How are the following animals adapted to different aspects of their environment (e.g., avoiding predators, finding food, surviving exposure, dealing with waves)?:
Crabs, sea anemones, sea urchins, sea stars, mussels, snails, nudibranchs (sea slugs), octopuses, and tidepool plants

How do the following animals feed?"
Sea stars, mussels, snails, sea anemones, hermit crabs, barnacles, limpets, sculpins, and chitons.

Before you leave the tidepools, please make sure that you left them the way you found them. Try to create as little disturbance as possible as you move through the intertidal zone. Thank you.

Beach Walk
Interesting discoveries can occur during a beach walk. While exploring the beach, look for natural as well as manmade objects and try to figure out where they came from. If you find something alive, for instance a mussel, try to return it to the nearest mussel bed by wedging it into the bed with the narrow end first. If successful, the mussel might be able to cling to the bed with new byssal threads.

Remove Hazards from the Beach
You can help the animals that live along the coast by removing human caused hazards such as plastic, fishing line, and any other litter you might find. (Exception: Urchins will cling to marine debris that washes into tidepools; pulling the debris loose may injure the urchin's tube feet.) Help keep our beaches clean and safe by joining us as a Partner in Protection. Picking up litter on the beach can be an assignment or something used as extra credit. **Do not pick up any litter that appears hazardous. Instead, notify a ranger. Thank you.**

For Additional Information

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Yaquina Head Outstanding Natural Area Activity Sheet

Yaquina (ya-QUINN-ah) Head, noted for its historic lighthouse, also offers scenic vistas, seals, whales, seabirds, tidepools, and more.

This activity sheet has been provided by the Bureau of Land Management (BLM) Yaquina Head staff to make your visit more enjoyable and informative.

NOTE: An * means that the answer can be found on one of our interpretive signs.

If you can't answer a question, ask a ranger for assistance.

Harbor Seals: Look out towards the low flat rocky island off Cobble Beach.

★ How many seals can you see? 0, 10, 25, 60 or more?
★ Do you see any in the water? Look for their round shiny heads.
★ Do they have spots? *
★ How do they move? Like an inch-worm, or do they walk like a land animal?
★ Sea lions usually bark! What about seals?

Gray Whales:

Which way are they migrating? North or South? Or are they migrating? Do they appear to be moving steadily in one direction, or are they feeding in a particular area? *
What about resident summer whales? The Oregon coast has approximately 125.
How do you look for whales?
- scan the ocean towards the horizon
- look for the blow (spout) that resembles a plume of smoke
- once you locate the whale, use your binoculars for a closer look

Remember, patience makes a good whale watcher. GOOD LUCK!

Cobble Beach:

★ Before you start down the stairway to the beach, please be sure you understand the signs. Remember Yaquina Head is a **PROTECTED** natural area. **Please tread lightly** and **take only pictures.**
★ Is the tide high or low?
★ If the tide is low and you plan to do some tidepooling, stop and read "The Marine Garden" sign. How many of these plants and animals will you be able to find?
★ Questions: How do the animals move? What do the animals eat? How do the plants and animals cling to the rocks?

Tidepooling Tips: Remember it is a very **Fragile** and slippery environment.
★ Go slowly
★ Step on bare spots, not the plants and animals
★ Do not walk in the pools
★ To avoid injuries to the animals, please **OBSERVE** them, **DO NOT DISTURB**

Yes, the beach cobbles are natural! They are volcanic rock called basalt. What sound do they make as the waves wash over them?

If the tide is high, how about a beach scavenger hunt? Look for objects that are:

curved tiny sharp warm not-living rough hard living smooth thin
light cold wet house-like round straight entangled

Are they man-made or natural? Where did they come from?

To take your mind off of the walk back up the stairway, count the steps. How many? 60, 70, 80, or more?

Besides the BLM, which government agencies share responsibility for the 100-acre Yaquina Head Outstanding Natural Area (YHONA)? Hint: the answer is located on the "We're All Working Together For You" sign on your way to the lighthouse.

Yaquina Head Lighthouse:

- ★ When was it built? Hint: look above the front door.
- ★ How tall is it? 93 feet - the tallest along the Oregon coast.
- ★ Is it still an active (working) lighthouse? See if you can spot the light flashing on and off from near the parking lot.
- ★ What is the lighthouse's signature (flashing pattern)? _____seconds on, _____seconds off, ____seconds on, ____seconds off, repeat.

Birds of Yaquina Head:

How many different birds have you seen today? Are they year round residents, or seasonal visitors for nesting? (Hint: Look for the sign behind the lighthouse to help you identify the spring and summer seabirds.)

Weather:

What is the weather like today? Has it changed during your visit? Wind is a common occurrence at Yaquina Head. Is it windy today? What time of year is it?

Historic (and prehistoric) uses of Yaquina Head:

Before becoming a protected natural area, this headland was used by people for different reasons. Think about possible past and present usages.

*What about some of the strange shapes in the landscape? Find the answer on the sign located on the south side of the lighthouse. What about the future of Yaquina Head?

We hope you have enjoyed your visit today and that this activity sheet made your stay more interesting.

The Yaquina Head staff.

Discovering Yaquina Head Outstanding Natural Area
Some things to think about

The answers to the following questions can be found by observing or reading one of the many interpretive signs at the Interpretive Center or as you walk the site.

★ Is this your first visit to Yaquina Head? If so, hat was your first impression?

★ Yaquina Head has many shapes. Which ones are natural? Man-made?

★ Explain the different uses at Yaquina Head, past and present. Future?

★ Your senses play an important part of your experience at Yaquina Head. Besides using your eyes, what other senses have you used today?

★ Close your eyes and describe the sounds you hear, both natural and manmade. Which are your most favorite? Least favorite? Why?

★ Close your eyes and notice the scents you smell. What do they come from? Which ones are your most favorite? Least favorite? Why? Try this at different locations in the park.

★ Do you think the man-made tidepools are a good idea? Why or why not?

★ Did you know that the cobbles on the beach are natural? Where do they come from? How did they get to be so round and smooth?

★ What purpose do the signs and fences serve? Wildlife safety? What about your safety? Can you think of a better way to protect wildlife and visitors than fences?

★ Do you agree that the best way to get to know Yaquina Head is by walking the grounds?

★ While walking along the cobble beach did you wonder where the manmade litter came from? Most of it has washed in from other areas.

★ Explain what the weather was like during your visit? Windy?

★ Pick an animal you viewed today and explain what adaptations it uses to survive. This can be a land or sea animal.

★ Now that you have had a chance to explore Yaquina Head, what do you think it was like for the early inhabitants? What about food? What about shelter?

★ Did you visit the Interpretive Center? What was your impression?

★ What did you enjoy most about your visit? Least? If you could change something about Yaquina Head, what would it be?

★ Did you learn something new today? What?

The Bureau of Land Management would like to thank you for your visit.