

Open Your Eyes to Wildlife

Field Trip Preparation

The U.S. Fish & Wildlife Service educates the public about the environment in order to work together on conserving, protecting and enhancing plants, animals and their habitat. The Tualatin River National Wildlife Refuge environmental education program enables students young and old to learn the value of our ecosystems. When we collaborate with schools and other educational groups, we extend the learning process beyond conventional classroom limits, allowing students to make connections with their natural environment.

Environmental Education Goals

- Respect for all life forms
- A basic understanding of the total environment
- A sense of belonging to a special human niche within the environment
- A feeling of responsibility toward life and accountability for human impacts on the environment
- The skills to identify and resolve environmental problems
- Participation in all levels of environmental stewardship

Environmental Education Objectives

Awareness

To help individuals and groups acquire an awareness and sensitivity to the ecosystem – the total environment and its interactions.

Knowledge

To help individuals and social groups gain a variety of experiences in nature and acquire a basic understanding of the natural environment and its associated problems.

Attitudes

To help individuals and groups acquire a set of values and feelings of concern for the environment and to help motivate them toward active participation in environmental improvement and protection.

Skills

To help individuals and social groups acquire the tools for identifying and solving environmental problems.

Participation

To provide individuals and groups with opportunities to be actively involved in all levels of working toward the resolution of environmental problems.

Key Ecological Concepts

- ***At the Refuge, wildlife needs come first.***

Wildlife etiquette requires people to stay on the trails, to harvest nothing from the habitat, and to be quiet and unalarming. Wildlife depends upon habitat for food, shelter, clean air and clean water.

- ***Healthy ecosystems are diverse.***

A diversity of life indicates that the ecosystem is intact, and that plant and animal populations have a better chance of surviving in our changing environment.

- ***Organisms adapt to habitat conditions in order to survive.***

Each habitat is its own mini ecosystem, providing different needs for different organisms.

- ***Life is interdependent.***

Ecosystems exist in a delicate balance. A single change, such as the introduction of a non-native species, can upset the balance and threaten plant and animal populations.

- ***Many birds migrate, flying north in the spring and south in the fall.***

Birds use particular routes called flyways. Tualatin River National Wildlife Refuge is on the Pacific Flyway, and provides important feeding, nesting and resting areas for all sorts of birds. As habitat is lost to development, it is important to save these key habitats for migratory birds.

- ***Every living thing is born, matures and dies, transferring its energy to new life.***

The process of birth, death and rebirth is reflected in the endless cycle of the seasons.

- ***Tualatin River National Wildlife Refuge came about through a grassroots effort to preserve habitat and wildlife.***

The establishment of this Refuge in 1992 was largely a community-driven effort. Today, habitat restoration enhances the area for wildlife. People everywhere make decisions that affect wildlife. We all are responsible for our impacts upon the environment.

Refuge Resources & Assistance

Field trips to the Refuge are based entirely on an educator-led concept. Educators and group leaders are expected to plan and lead their own field trips. For students to have the most productive educational experience, teachers must attend a field trip orientation workshop and have clearly defined field trip goals. Tualatin River National Wildlife Refuge offers resources and assistance in meeting field trip learning objectives.

Teacher Workshops

Field trip orientation workshops will prepare teachers to conduct a quality environmental education experience on the Refuge. Workshops will be offered twice a year. Fall workshops will typically be held in late-September to early-October and spring workshops will usually be held in early- to mid-April. Teachers must have participated in a workshop within the last two years in order to register their class for a field trip. No exceptions. The Refuge has a limited amount of field equipment available for loan on the day of your field trip.

Volunteers

Trained volunteer Refuge naturalists will be paired with field trips to the greatest extent possible. When available, volunteers will welcome and orient your group and sometimes accompany your class during your entire visit.

Future Wildlife Center

Plans are in the works for construction of a new Wildlife Center and an Environmental Education Shelter (see site map). The Wildlife Center will have an indoor classroom and laboratory for classes to enhance their visit to the Refuge. We hope to open the Wildlife Center in late-2007. The Environmental Education Shelter is anticipated to be constructed in 2008 or 2009.

Special Considerations

Trails and facilities have been designed to accommodate our disabled visitors. Please contact the Refuge at 503-590-5811 for additional information and assistance.

Refuge Facilities

Parking

A visitor parking lot is available at the Refuge, including designated bus parking.

Buses

For safety, there are specific driving directions for buses that are traveling to the Refuge. Refer to "Bus Driving Directions" and "Bus Parking Directions" in the Resources Section for details.

Restrooms

There is one outdoor vault available. There are NO restrooms along the trails. Have students use restrooms before leaving school.

Water

There is currently NO drinking water at the Refuge. Please bring water for your group.

Telephone

There are no pay phones at the Refuge. In case of emergencies, please bring at least one cell phone for your group.

Trash Cans

Although trash cans are located at the parking lot, we request you take all trash with you and recycle, especially lunch trash! Please bring your own trash bags on the bus.

Lunches

Lunches must be consumed in and around the parking lot area or on buses. Picnic tables are not available, so bring something for students to sit on. Foam pads make great seating.

Making Reservations

To accommodate as many groups as possible, advanced registration is required for all school groups participating in the Refuge's environmental education program.

How Do I Register?

- First, attend a teacher workshop. You will be sent an "Application for Field Trip Reservation." Fill this out and send it to the Refuge.
- Complete and return the "Application for Field Trip Reservation" form. Read form directions carefully.
- You will receive a confirmation of your registration from the Refuge.
- All reservations are made on a first-come, first-served basis. Applications will be accepted only during the school year of the field trip date requested.

Why Are Reservations Required?

Tualatin River National Wildlife Refuge is a popular place with limited facilities. By having teachers register their classes we can:

- Schedule classes so they do not conflict with another group. This reduces overcrowding of Refuge facilities, minimizes wildlife disturbance, and ensures a better opportunity for wildlife observation.
- Coordinate volunteers who provide orientations to groups.
- Provide better interpretive and educational programs.
- Determine the number of people participating in various activities on the Refuge. This information may be used to obtain funding for improvements to our public use programs.

How Many Groups May Visit Daily?

The total number of students is limited to 70 at any given time on any given day from one school. Typically this would accommodate two classes from a school. This is in addition to the individuals and families who do not have reservations.

Does Registration Guarantee a Visiting Date?

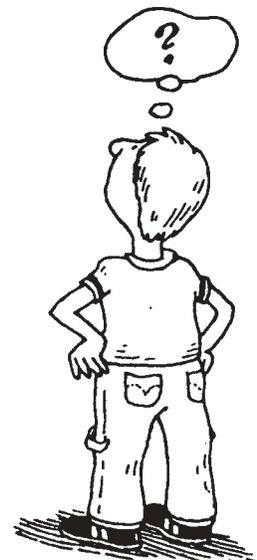
Yes, *if* you have obtained a confirmation in writing.

What About the Entrance Fee?

For a fee waiver, groups must meet the following criteria:

- Attended a teacher workshop within the past 2 years.
- The educational activity of the group is formally structured, using activities from this approved curriculum.
- Educators are prepared to lead their students through their field trip.

Groups that qualify for a fee waiver will have "exempt" stamped on their confirmation notice.



Guidelines for Refuge Field Trips

Certain rules are necessary to help protect the wildlife and facilities at the Refuge. Important: Go over all guidelines with your chaperones and students.

Take Only Memories, Leave Only Footprints

All plants, animals and artifacts are protected on the Refuge are protected by federal law. Students may take only photographs, drawings and memories. Please replace anything you pick up.

Pre-trip Activities

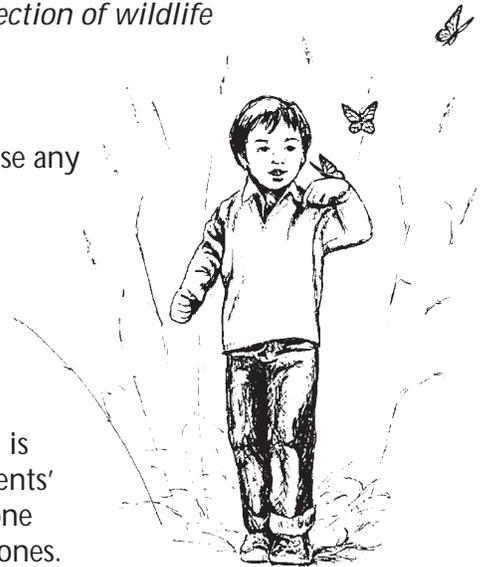
Pre-trip activities can best prepare your students for a rich and rewarding visit to the Refuge. Please, at the minimum, complete the pre-trip activity called "Developing Nature Observation Skills." This lesson teaches students how to behave in nature, both for the protection of wildlife and to allow them the best opportunity to experience wildlife.

Walk and Talk Quietly

This will give you a better chance to see wildlife! Never run or chase any animals. When speaking to a group outdoors, face them, and speak clearly, but keep volume down so wildlife isn't scared away.

Stay With the Group

Please stay with your group on the trails! There should always be an adult present with students. An adult should always be the first and last people on the trail. An adult-to-student ratio of 1:5 is required for 3rd grade and under. An adult-to-student ratio of 1:10 is required for 4th grade and up. Think of creative ways to keep students' attention when walking from site to site. Use the "Sample Chaperone Letter" as a starting template for communicating with your chaperones.



Be Aware of Your Trash

Bring trash bags with you, avoid littering on the trails and please pick up any trash that you see.

Lunch

Lunches should be eaten in and around the parking lot or on buses. Lunches are not allowed on the trails or at the overlooks. Please bring trash bags to transport lunch trash back to school on the bus.

Keep the Animals Healthy

Do not feed ANY food to ANY animal.

Do Not Do "Extra" Experiments

Obey all posted signs and follow the instructions of Refuge volunteers and staff. Only use activities from this curriculum. *Note: Due to the delicate nature of the pond study ecosystem, a volunteer naturalist must accompany field trips that utilize pond study lessons. During the reservation process, please request a volunteer naturalist to accompany and lead these lessons.*

Encourage Curiosity

Don't feel like you need to have all of the answers. It's okay to say, "I don't know." The process of asking questions is more important than knowing all the answers. Capitalize on teachable moments. If you spot a coyote in the middle of a discussion on aquatic insects, stop and observe the animal, discuss what you saw, then continue with your original lesson.

Planning a Field Trip?

If you are planning a trip to the Refuge, the following tips can make your experience a meaningful learning experience for your students. Think of the Refuge as an outdoor classroom that can enhance your students' understanding of many scientific and environmental concepts. Remember that you will need a reservation in order to visit the Refuge with your class.

To the greatest extent possible, the Refuge will strive to have a volunteer naturalist greet you as you arrive, introduce your group to the Refuge, and provide you with field equipment that you requested. **Teachers and adult group leaders will be expected to lead students on the trails and coordinate any activities.**

FIELD TRIP CHECKLIST:

- ___ 1. Attend a teacher workshop
- ___ 2. Review curriculum guide
- ___ 3. Determine the field trip objectives
- ___ 4. Select the activities that you would like to conduct
- ___ 5. Coordinate and reserve a field trip date with the Refuge
- ___ 6. Develop your field trip schedule
- ___ 7. Send in Reservation and Equipment Form to Refuge (don't forget to request Volunteer Naturalist for all pond studies)
- ___ 8. Recruit adult group leaders (see "Guidelines for Refuge Field Trips" for adult-to-student ratios)
- ___ 9. Develop a group leader information letter; familiarize adults with activities
- ___ 10. Divide students into small groups (10 students or less)
- ___ 11. Provide name tags for all students and color (blue, green, yellow, red, orange) code each group for easier organization upon arrival at Refuge
- ___ 12. Compile list of materials (clipboards, pencils, trash bags for finished lunches, etc.)
- ___ 13. Obtain student materials and worksheets
- ___ 14. Distribute permission slips
- ___ 15. Plan activities for the bus and during transition areas along the trail
- ___ 16. Do pre-visit activities and conduct "Developing Nature Observation Skills" activity
- ___ 17. Review safety procedures
- ___ 18. Use restrooms before leaving school
- ___ 19. Board the bus and have a great Refuge visit



Group Management Tips

A great handout to copy for parent chaparones and adult group leaders.

If you have apprehensions about leading a group of children away from the four-walled constraints of a classroom, relax! There are several techniques you can use to keep the group's attention and still maintain the feeling of freedom and open exploration.

Be Prepared!

Read over the activities before coming to the Refuge. The more comfortable you are, the more comfortable the students will be.

Be Enthusiastic!

Enthusiasm is a greater catalyst than knowing a bunch of names. Whatever you are doing, do it with gusto! Get down on your hands and knees to look at the plants. *As the leader, you set the tone for the students' experience.*

Have a Focus

When you stop for observation, focus on something concrete. Gather the group in a semicircle with everyone facing toward the object of attention.

Ask Questions

Encourage thinking and group interaction by asking questions; spark their imagination. For example, "Why is there a hole in the ground here?" "How did it get here?" "What would you need to live here if you were a _____?" Whenever possible, ask questions instead of giving information.

Speak with the Group

Speak clearly and quietly, facing the group. Talk with the group, not at it.

Make Eye Contact

Make eye contact with your students. If necessary, you should face the sun, rather than having the students look into the sun.

Be Patient with Answers

Give students time to think and answer questions. Count to 10 before revealing the answer.

Demonstrate

Keep it simple. Demonstrate an activity as you explain it.

Encourage Curiosity

Encourage your students to pursue their natural curiosity. Any observation they make is a good one. If they come up with questions you cannot answer, have them write them down; they can look up the answer later or ask a Refuge volunteer.

Safety and Medical Considerations

Insect Stings

This is an outdoor field trip so teachers and group leaders need to be prepared to deal with insect stings and bites. Teachers and group leaders need to know if any students are allergic to insect stings, and those students need to bring their own medicine. Mosquitoes can be abundant during warmer months, so consider bringing insect repellent.

Water Safety

Water is present in many places on this Refuge. Extreme care should be taken when near water. Wash hands after every contact with water in the field.

Poison Hemlock, Stinging Nettle and Poison Oak

These plant species are present on the Refuge. By staying on the trails, you should avoid contact with these plants, but everyone should know what they look like.

Poison Hemlock – Of Socrates' fame, poison hemlock is deadly when ingested. It looks similar to wild carrot plants and grows to over 6 feet tall.



Poison Hemlock



Stinging Nettle

Stinging Nettle – These are typically found in shady, moist places and are usually 3-5 feet tall. Touching a nettle can result in a burning sensation that lasts for hours.

Poison Oak – This plant grows nearly anywhere as a shrub or a vine. The leaves cluster in groups of three and may be shiny. Touching the plant can result in a pervasive itchy rash.



Poison Oak

Rough-skinned Newt

The rough-skinned newt is a brown salamander with brightly-colored orange sides and belly. Toxins on their skin make them one of the most poisonous animals known to science. Look but don't touch!



Rough-skinned Newt

Wash Hands

ALWAYS have students wash their hands before consuming any food as well as after their field trip. Consider bringing hand sanitizer to help clean hands in the field.

First Aid Kits

Teachers will need to bring their own first aid kits.

Emergency Telephone Numbers

In an emergency, dial 9-1-1.

Preparation for Day of Field Trip

To make the most of your field trip to the Refuge, please make sure students are prepared.

1. Watch weather forecast and be prepared for any weather.
2. Dress in layers – students can tie a sweatshirt around their waist if they get too hot.
3. Wear sturdy shoes or boots that can get dirty or wet. Some of the trails may be muddy.
4. Bring disposable lunches (minimal packaging). Groups need to take their garbage with them so bring trash bags to transport garbage back to school. Please recycle as much as possible.
5. Do teachers, chaperones or students need to bring any equipment or worksheets?
6. Complete some of the pre-visit activities. The more your students know about the Refuge in advance, the better experience they will have on their field trip.
7. Have students use restrooms before leaving school. There is only one vault toilet available at the Refuge parking area.
8. Hand out copies of curriculum activities to chaperone.
9. Make sure students are divided into groups and have color coded name tags corresponding to their group.

Prompts & Quick Activities

Use these ideas for quick activities to fill time while waiting for the other group to finish or whenever you have a few extra minutes. This is also good information to provide to parent chaperones.

Short Observations

- Find a bird and watch it as you count to 25. Describe what you noticed about the bird's color, flight, size, or other characteristics
- Stop! Close your eyes and listen. Try to block out the sounds of the cars going by. Describe the nature sounds that you hear in 30 seconds.
- Do you see tracks in the mud? Can you guess who made them? Which way were they traveling?
- Find an insect and watch it as you count to 25. Describe what you noticed about the insect: Can it fly? Is it eating? What is it eating? Anything else?

Find Something

- Find three human-made things around you. What are the positive and negative aspects for each object?
- Find two to five things that have been changed by an animal. Find two to five things that have been changed by humans. Explain these to a partner.

- Find two animals or an animal and a plant that have a relationship with one another (heron-fish, duck-plant, minnow-algae, etc.). Explain the relationship.
- Find the largest and the smallest animal, plant, flower, bird, stone, etc. Find different things that are the same size.
- Find a bird that:
 - walks on edge of the wetland
 - dives to get its food
 - soars as it flies
 - sits in a tree

Do Something

- Do you see any litter? If it is safe to do so, pick it up and put it in the class garbage bag
- Move the way an animal moves.
- Write two descriptive sentences about something you see right now. Use as many adjectives and adverbs as possible.
- Compare the colors of animals with their surroundings. What do you notice?
- Push a pencil point into the soil with the open palm of your hand. Measure the distance it has gone into the soil when your hand begins to hurt. Try the measurement in different areas. If you were a burrowing animal, where would you like to live? Why?
- Predator/prey game: choose one student to be the prey. He/she is blindfolded and set in the center of a large circle formed by the other students (predators). One at a time, the leader points to a predator, who then tries to sneak up quietly and touch the prey. The prey has to use its ears to listen for predators and point to the predator when it is heard. Let several students try and switch roles.

Pretend / Imagine

- Pretend you are 1 inch tall and live in the wetland. What would you like to eat? Who would like to eat you? Where would you hide?
- Let's pretend it suddenly started to rain hard right now. Where would you go if you were a (rabbit, squirrel, bird, fish, butterfly, etc.)
- Pretend it is 500 years ago. What do you think this land looked like? What lived here? Did people live here? What do you imagine was the same? What do you imagine was different? Imagine what this looked like as the Native Americans started a controlled burn of the oak savannah. The low grassy area would burn but the large oak trees would be protected.
- Pretend it is 500 years in the future. What do you think the land will look like? What will live here? Will people live here? What do you imagine will be the same? What do you imagine will be different?

Teacher Guidelines for Chaperones

The following are guidelines to help teachers guide and manage chaperones during field trips.

Certain expectations are required of parent chaperones. It is important to let your chaperones know these expectations prior to your field trip. This can be done as an after school or evening meeting with your chaperones. Providing them with information ahead of time will help them guide students during the field trip. We recommend supplying them with a map of the refuge, the breakdown of student groups, Refuge guidelines, itinerary for the day, equipment list, and lesson directions for each study site.

As a chaperone, their primary job will be to monitor the movement of the students from one study site to the next, to facilitate the educational lessons included in their packet (provided by the teacher), and to keep their group of students with them at all times, with no one wandering ahead or falling behind. Each chaperone will be paired with another group and its chaperone at each study site. They need to be prepared to read the directions provided in the packet to the students when their group has arrived at their designated study site. Be sure to follow the required chaperone/student ratios.

Chaperone responsibilities and expectations are similar to those in an indoor classroom:

- Keep the focus on the students and wildlife not on other adults. Discourage social talking amongst adults.
- Remind everyone to stay on trails.
- Keep track of your students — count your own small group at least every 10 minutes.
- Watch and assist all the children in your small group, not just your own children
- Share your enthusiasm for discovering nature with your students
- School teachers and school chaperones are responsible for supervision students and teaching planned lessons. Volunteer Naturalists are added resources.*

Volunteer Naturalist's Role

Volunteer Naturalists have been trained in nature observation skills, they know Refuge guidelines, have spent many hours exploring the Refuge and are familiar with the variety of birds, plants, trees, and animals that call the Refuge home.

The Refuge attempt to provide a minimum of 1-2 volunteer naturalists per class. They do not lead the field trip nor follow lesson plans except as noted below.

Here is a list of volunteer naturalist's field trip role:

- Greet bus upon arrival at Refuge
- Provide an opening and closing statement for field trips
- Get student groups and chaperones into their assigned field trip groups
- Provide equipment to teacher at beginning of field trip and return equipment to Refuge after all equipment has been checked back in
- Accompany and observe groups
- *Volunteer Naturalists do not supervise students or teach lesson plans. One exception:

a **Volunteer Naturalist is required to conduct all Wetland Pond Lessons** and they can also be requested to lead Water Testing Lessons. Please review the lesson plans, the reservation and equipment list form to request a volunteer naturalist to lead these lessons.

Sample Chaperone Letter

Sample letter for teachers to distribute to chaperones.

Dear Parent Chaperone,

Thank you for volunteering your valuable time to make this field trip to the Tualatin River National Wildlife Refuge a possibility. Enclosed you will find a map of the refuge, the breakdown of student groups, Refuge guidelines, itinerary for the day, equipment list and lesson directions for each study site.

As a chaperone, your primary job will be to monitor the movement of the students from one study site to the next and to facilitate the educational lessons included in your packet. Keep your group of students with you at all times, with no one wandering ahead or falling behind. You will be paired with another group and its chaperone at each study site. Please be prepared to read the directions provided in this packet to the students when your group has arrived at their designated study site. Some helpful tips on managing your students include: keep your students together and count them every 10 minutes; stay on trails; avoid social talking with other chaperones; and share your enthusiasm for discovering nature with your students.

Here is a list of items to bring with you the day of the field trip:

- Chaperone handouts
- Clothing for the weather
- Binoculars if you have them
- Camera – please take pictures
- Sturdy shoes
- Water bottle
- Sack lunch – please take trash with you
- Allergy medications
- Cell phone if you have one

All chaperone envelopes must be returned to me at the end of the day.

If you have any problems or concerns, my cell phone # is: () _____ - _____.

Thank you,

(Teacher's Name)

Sample Field Trip Schedule #1

Time	Activity
8:00 a.m.	Parents meet for orientation
8:30 a.m.	Students are dismissed for reminders, attendance, hand out materials
8:40 a.m.	Load bus
9:00 a.m.	Arrive at Tualatin River NWR
9:00 - 9:15 a.m.	Refuge volunteer to greet bus, then unload and walk to Oak Knoll overlook for brief introduction from volunteer. Organize groups, then hand out equipment from Refuge volunteers BEFORE groups leave Oak Knoll.
9:15 a.m. - 9:45 a.m.	1st Station # _____ Complete activity in 25 minutes (leaving time to walk to next station) then rotate to next station by numeric order: Station 1: Wetland Ponds ⇨ Station 2: Oak Savannah Station 2: Oak Savannah ⇨ Station 3: Habitat Edges Station 3: Habitat Edges ⇨ Station 4: Rock Creek Station 4: Rock Creek ⇨ Station 5: Riparian Forest Station 5: Riparian Forest ⇨ Station 1: Wetland Ponds NOTE: Station 5 moving to Station 1 will take 10-15 minutes.
9:45 a.m. - 10:15 a.m.	2nd Station # _____
10:15 a.m. - 10:45 a.m.	3rd Station # _____
10:45 a.m. - 11:15 p.m.	4th Station # _____
11:15 p.m. - 11:45 p.m.	5th Station # _____
11:45 p.m.	Groups reassemble at Oak Knoll for closing circle with Refuge volunteer. Those arriving early can finish up work. Return packs and equipment.
noon	Leave Refuge for school

Sample Field Trip Schedule #2

Time	Activity
8:00 a.m.	Parents meet for orientation
8:30 a.m.	Students are dismissed for reminders, attendance, hand out materials
8:40 a.m.	Load bus
9:00 a.m.	Arrive at Tualatin River NWR
9:00 - 9:15 a.m.	Refuge volunteer to greet bus, then unload and walk to Oak Knoll overlook for brief introduction from volunteer. Organize groups, then hand out equipment from Refuge volunteers BEFORE groups leave Oak Knoll.
9:15 a.m. - 9:45 a.m.	1st Station # _____ Complete activity in 25 minutes (leaving 5 minutes to walk to next station) then rotate to next station by numeric order: Station 1: Wetland Ponds ⇌ Station 2: Oak Savanna Station 2: Oak Savanna ⇌ Station 3: Habitat Edges Station 3: Habitat Edges ⇌ Station 4: Rock Creek Station 4: Rock Creek ⇌ Station 1: Wetland Ponds
9:45 a.m. - 10:15 a.m.	2nd Station # _____
10:15 a.m. - 10:45 a.m.	3rd Station # _____
10:45 a.m. - 11:15 a.m.	4th Station # _____
11:15 a.m. - 11:30 a.m.	After 4 stations are complete, make sure each group has its proper backpack, and leave any pond or water study equipment at stations or with Refuge volunteer. Have students leave their last station and walk quietly to Oak Knoll for lunch.
11:30 a.m. - noon	Lunch (load trash back on bus)
noon - 12:25 p.m.	Gather students together in their assigned groups, and placing some distance between groups, have them leave Oak Knoll and walk quietly to Study Station #5 Riparian Forest. Use field guides and binos in packs to observe wildlife.
12:25 p.m. - 12:50 p.m.	Discuss Riparian Forest ecosystem at Study Station #5.
12:50 p.m. - 1:15 p.m.	Walk back to River Overlook and sit and reflect in journals. Keep students in their groups.
1:15 p.m. - 1:35 p.m.	Walk back and assemble at Oak Knoll for closing circle with Refuge volunteer. Return packs and equipment to Refuge volunteer.
1:45 p.m.	Leave Refuge for school



Tualatin River National Wildlife Refuge
16507 SW Roy Rogers Rd., Sherwood, OR 97140
Phone: 503-590-5811 Fax: 503-590-6702
Contacts: Janice Jenkins or Kim Strassburg
Email: janice_jenkins@fws.gov or kim_strassburg@fws.gov

Application Form for Field Trip Reservation

Participating in the Tualatin River National Wildlife Refuge environmental education program can be an exciting, adventurous and inspirational experience for your students. It is a chance for children to make their own special connections to nature and wildlife, and for educators to help nurture in them a respect and love for our natural environment. National Wildlife Refuges are special places, and in order to protect this refuge and to provide students high-quality experiences, some guidelines are necessary.

What You Need to Know

1. This application is not a confirmation of your reservation. You will be sent written notification confirming dates and times for your group's visit.
2. Applications are processed on a first-come, first-served basis. Applications will be accepted only during the school year of the date requested.
3. Teachers must have participated in the Refuge teacher workshop within the past two school years to sign up for a field trip. No exceptions. Teacher workshops will be offered twice a year, once in fall (typically early- to mid-October) and once in spring (typically early- to mid-April).
4. Field trips to the Refuge rely entirely on an educator-led concept. Teachers must prepare and lead their field trips.
5. Volunteer Refuge Naturalists will be paired with field trips to the greatest extent possible. When available, volunteers will welcome and orient your group and sometimes accompany your class during their entire visit.
6. Students must have color coded name tags and already be broken down into appropriate groups. Break groups down by the following colors: blue, green, red, yellow and orange. These color codes will help Volunteer Naturalist organize students into their appropriate groups when they arrive at the Refuge.
7. The following application and accompanying field equipment request form must be submitted to the Refuge no later than 3 weeks in advance of your requested date. Allow 2 weeks for your application to be processed. Please fill out the following application completely and clearly and mail, fax, or email to the address above. Incomplete applications will be returned.
8. Become familiar with and follow all field trip guidelines found in Refuge Field Trip Preparation Section.
9. Field trips to the Refuge are to be formally structured and follow the activities set forth in the Refuge Curriculum. Adaptations to these activities are acceptable within the confines of the field trip guidelines.

Name of school or group: _____ Grade: _____ Age(s): _____

Contact Person: _____ Phone: _____

Address: _____ City: _____ State: _____ Zip: _____

Fax: _____ Email: _____

Cell phone number of an adult who will accompany your field trip (*required*): _____

Total number in group: _____ Number of adults: _____ Number of students: _____

***Maximum number of students is 70. An adult-to-student ratio of 1:5 is required for 3rd grade and under. An adult-to-student ratio of 1:10 is required for 4th grade and up. Adult supervision is required at all times.*

Date of field trip: 1st choice _____ 2nd choice _____

Planned arrival time: _____ Planned departure time: _____

What form of transportation will bring your students and chaperones to the Refuge?

Number of buses: _____ Number of cars: _____ Number of vans: _____

Give a brief description of your pre-trip activities. How will the students be prepared for this field trip?

Describe your field trip goals including what your students will learn, and what Lesson Plans from the Field trip curriculum you will be using. If you are using your own lessons, give specific details on the lessons.

Classes are required to break into groups of no more than 15 students. However, for the best learning experience, we encourage groups of 10 or less. Please designate groups before arriving on the Refuge. Maximum number of students is 70. An adult-to-student ratio of 1:5 is required for 3rd grade and under. An adult-to-student ratio of 1:10 is required for 4th grade and up. Adult supervision is required at all times.

Number of groups: _____ Number of students per group: _____ Number of chaperones per group: _____

Record your complete agenda in the table below (see sample). Attach an additional sheet if necessary. Please have chaperones/group leaders prepared to follow this plan upon arrival. Have each Group's color visible on student's name tag for quicker organization into their appropriate groups at the Refuge.

Group Color(s)	Number in group	Lesson Name/Activity	Location (Indicate study area)	Time (includes walking time between study areas)
<i>Red</i>				
<i>Yellow</i>				
<i>Green</i>				
<i>Blue</i>				
<i>Orange</i>				

Volunteer Naturalist needed for Wetland Pond Study or Water Testing Study. Please circle appropriate study.

Provide us with any concerns or additional special needs you may have.

Thank you for your close attention to planning your field trip. Planning ahead will make your visit the best it can be. We look forward to seeing the expression of excitement and discovery on your students' faces. Enjoy your visit!

Tualatin River Refuge's Equipment Needs Request Form

Some field trip equipment is available to borrow on the date of your field trip. See equipment supply list on back. Staff or volunteers will greet your group with plastic bins or backpacks filled with the equipment you request. It is our intent that chaperones or group leaders will carry the packs and understand the equipment and their usage. Please plan accordingly to only meet the needs of your field trip activities. You are responsible for ensuring that all bins, packs and equipment are returned in good condition.

Return this completed request, along with the Field Trip Reservation application form, no less than 2 weeks prior to your field trip date.

Name of school or group _____

Using the Equipment Supply Sheet on back, please list below the quantities and types of equipment you would like to borrow. Each pack is numbered and pack number correlates to the equipment you specify below. Complete one sheet for each class attending.

Pack #1:

Pack #2:

Pack #3:

Pack #4:

Pack #5:

Water Testing Supply Bin with Volunteer Naturalist: _____

Pond Study Supply Bin with Volunteer Naturalist: _____

Tualatin River Refuge's Equipment List

Quantities are in () and represent the number of items available per class.

One backpack is recommended per station and can either stay at the station throughout the field trip, or it can travel with the designated group as they change stations. Water Quality Testing and Pond Study supplies require **1 plastic bin for each**—to stay at station. Example: If all student groups will test water quality and take nature observation walks, the water quality equipment and its bin must stay at study site where testing is being conducted. Separate nature observation equipment will be supplied in packs (specify number of packs needed) to travel with groups between study sites.

We recommend providing chaperones with the Equipment Needs Request Form, instructions on equipment use, and which bins or packs stay at study stations or travel with students.

Water Testing Supply Bin: (NOTE: Items below must stay in plastic bin at all times whether or not all equipment is used. Consult lesson plan's material list for any additional required items.)

- (1) extension pole for water sampling
- (1) Neoscope, field durable with depression slides
- (10) hand lenses
- (2) water buckets
- (10) eye droppers
- (5) water thermometer
- (5) soil thermometer
- (2) water quality test kits w/dissolved oxygen, coliform, pH, nitrogen, phosphate
- (2) water quality test kit instructions
- (2) hand sanitizer
- Volunteer Naturalist needed for Water Testing Study

Nature Observation:

- (5 packets - 6 books each) Beginning Field Guides: Portland birds, Oregon plants & trees, Mammals, Insects, Animal tracks, Beginning birds
- (10) 10 x 25 binoculars (w/cases)
- (1) small folding table – portable for microscopes
- toilet paper tubes
- (1) skunk puppet

Kits:

- (1) Recycling Discover Kit
- (1) Wood Cookies Kit (6 cookies)
- (1) Animal Signs Kit
- (1) Oak Acorns & Misc. Seeds Kit

Pond Study Supply Bin: (NOTE: Items below must stay in Pond Study plastic bin at all times whether or not all equipment is used. Consult lesson plan's material list for any additional required items.)

- (3) large insect collecting tubs
- (3) small insect viewing tubs
- (2) water buckets
- (3) plastic scooping spoons
- (3) small aquatic dip nets
- (1) large invert net
- (10) hand lenses
- (5) water thermometer
- (5) soil thermometer
- (5) magnifying insect containers
- (5) Pond Life: 1st study reference book
- (2) laminated insect ID flip books
- Volunteer Naturalist Required for Wetland Ponds Study

Misc:

- (1) meter stick
- (1) 50m measuring tape reel
- (2) hand sanitizer
- (5) packs crayons
- (5) packs colored pencils
- (5) packs regular pencils
- ziplock baggies
- popsicle sticks
- masking tape
- (1) roll paper towels
- sample containers (variety of sizes w/lids)

Teacher Equipment Organization Sheet

Use this sheet to organize the equipment you have available or will need for your field trip *that is not available through the Refuge*.

We recommend you clearly mark your supplies with your name or school's name and carry them separately from the Refuge's supplies. Make this form available to your parent chaperones.

Lesson 1 equipment:

Lesson 2 equipment:

Lesson 3 equipment:

Lesson 4 equipment:

Lesson 5 equipment:

Other: _____

Refuge Volunteer Naturalist needed: _____