Rhythms of the Refuge

Open Your Eyes to Wildlife

TUALATIN RIVER

National Wildlife Refuge

An Educator's Guide to Tualatin River National Wildlife Refuge

Acknowledgments

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 NWR 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 and benefit society immeasurably.

Funding Acknowledgments:
This Guide was written and field tested through grants from:

Clean Water Services, a public utility committed to protecting water resources in the Tualatin River Watershed. See http://www.cleanwaterservices.org

Metro / US Fish and Wildlife Service Greenspaces Program Grant. This program is administered by Metro which is the directly elected regional government that serves more than 1.3 million residents in Clackamas, Multnomah and Washington counties, and the 25 cities in the Portland, Oregon, metropolitan area. See http://www.metro-region.org/

National Fish and Wildlife Foundation. The Foundation conserves healthy populations of fish, wildlife and plants, on land and in the sea, through creative and respectful partnerships, sustainable solutions, and better education. It meets its goals by awarding matching grants to projects benefiting conservation education, habitat protection and restoration, and natural resource management. See http://www.nfwf.org/

Curriculum Team:
Berk Moss, June Poling, Andrea Brayko,
Yvonne Brayko, Sue Manning, Janice Jenkins
Nancy Fallin, Kim Strassburg

For More Information, please contact:
Tualatin River National Wildlife Refuge
19255 SW Pacific Hwy., Sherwood, OR 97140
503-625-5944
503-625-5947 (fax)
kim_strassburg@fws.gov

Table of Contents

Introduction ..... **Section A**

Field Trip Preparation ..... **Section B**

Pre-Field Trip Activities ..... **Section C**

Behavior/Skills in Nature – "Manners"

Developing Nature Observation Skills 1
Outdoor Manners 2
Nature Journal (K-2) 3
Creating a Nature Journal (6-8) 4
Nature Walk With Homemade Binoculars 5

Content Knowledge

Meet a Tree 6
Parts of a Tree 7
The Energy Game 8
Refuge Web of Life 9
No-Trash Lunch 10
Stickler Hunt 11
Where's My Home? 12
Duck Feathers 13
A Visual Hypothesis 14
What is a Wildlife Refuge? 15
What's Special about TRNWR? 16
Wetland Metaphors 17
What is a Watershed? 18
Water Monitoring Instructions 19

On-Site Activities ..... **Section D**

All Sites

Nature Bingo (K-2) 1
Nature Bingo (6-8) 2
Wildlife Inventory (K-2) 3
Wildlife Inventory (6-8) 4
Signs of the Seasons 5
Don't Just Do Something, Sit There! 6
Plant Diversity 7
Refuge Expedition 8
Bird Adaptations 9
Walkin' the Transect Line 10

Station #1 Wetland Ponds

Wetland Wonders – Pond Study 12
Transect Study 13
Water Quality Survey 15

Station #2 Oak Savanna

Oak Savanna History 16
Oak Savanna Ecosystem 17
Good Oak 18
Environmental Contrasts 19
My Special Tree 20
Tree Cookies 21
Microhabitat Safari 22

Refuge Microhabitat Search 23
Seed Inventory (K-2) 24
Seed Dispersal (6-8) 25

Station #3 Habitat Edges

Environmental Contrasts 26
Habitat Comparison Walk 27

Station #4 Rock Creek

Water Quality Survey 28

Station #5 Riparian Forest

Riparian Forest 29
Riparian Zone Inventory 30
My Special Tree 31
Tree Cookies 32
Stump Hunt 33
Rotten Logs Help Everyone 34
Dead or Alive? 35

Indoor Classroom Activities ..... Section E

Guidelines for Indoor Classroom Use 1
Refuge Introduction 2
Journal Creation 3
Be A Tree 4
Pelts & Tracks 5
Pelts, Tracks & Skulls 6
Bird Bill Adaptations 7
Raptor Adaptations 8
Raptor Habitat Walk 9
Wonderful Wetlands 10
What is a Wetlands? 11
Animal Detective, Tracking Basics 11

Post-Activities ..... Section F

Direct Follow-up Lessons

Habitats 1
Class Mural 2
Specialist Teams 3
Water Quality Survey Analysis 4

Service Projects

Service Learning in the Environment 5
Attracting Wildlife to Your School 6

Extensions of Knowledge

Make a Mini Wildlife Refuge 7
Manage a Mini Wildlife Refuge 8

Resources ..... Section G

Educator Resources 1
Maps 2
Bus Driving Directions 3
Lesson Plans 4
Refuge Plant List 5
Wildlife Center Exhibit Extra Credit 6