Pollinators and Forestry

WHAT IS A POLLINATOR?

Pollinators are animals that move pollen between flowers of many plants, including trees, shrubs and flowering plants (forbs). In Oregon, pollinators include bees, beetles, butterflies, moths, hummingbirds, wasps and flies. The state has a high species diversity of pollinators and is home to more than 600 species of bees alone, over 100 of which associate with forested habitats.

WHY ARE POLLINATORS IMPORTANT?

Pollinators are essential to a functioning ecosystem. The Xerces Society, an international nonprofit organization that protects wildlife through the conservation of invertebrates and their habitats, reports that the ecological services pollinators provide are necessary for the reproduction of more than 85 percent of the world's flowering plants. This number also includes more tahn two-thirds of the world's crop species. Fruits and seeds derived from insect pollination are a major part of the diet of approximately 25 percent of all birds, and of mammals ranging from voles to bears to humans. In addition, pollinators are also a direct food source for many birds, bats and small mammals.

## WHAT CAN I DO TO HELP POLLINATORS?

- manage your forests for the long-term and do not convert to a non-forest use
- limit herbicide spraying and mowing beyond the shoulder of the road during the growing season
- control invasive plant species such as Scotch broom and false brome
- limit the use of insecticides (see Oregon Department of Agriculture for a list)
- leave some hardwood trees, shrubs and other flowering plants in timber harvest units.
- leave strips of untreated vegetation during herbicide spray operations
- practice rotational forest harvest to create mosaic of floral resources in differing successional stages
- consider spreading native seed mixes in disturbed areas that include plant species beneficial to pollinators
- sse a pollinator seed mix with at least three species for each seasonal blooming window: spring, summer, fall

Western bumblebee. Photo by Rich Hatfield.

Monarch butterfly. Photo by U.S. Fish and Wildlife Service.
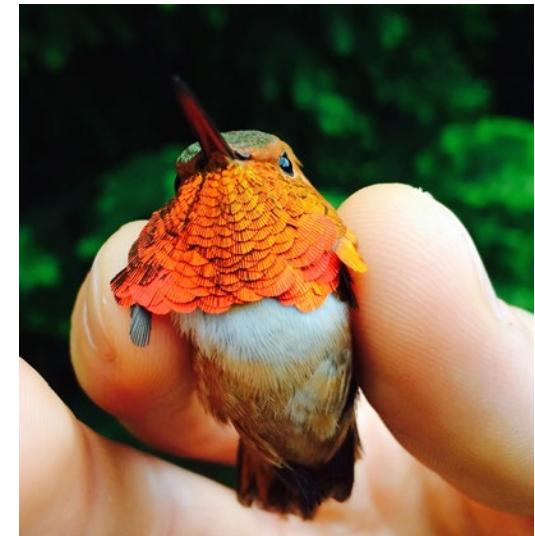
Rufous hummingbird. Photo by Sarah Frey.

Sample seed mix for pollinators*	
Common name	Scientific name
Blue field gilia	Gilia capitata
Farewell to spring	Clarkia amoena
Western yarrow	Achillea millefolium
Common camas	Camassia quamash
Roemer's fescue	Festuca roemer
Bluebunch wheatgrass	Pseudoroegneria spicat
Madia	Madia elegans
Canada goldenrod	Solidago canadensis

* This is an example list of species. Actual seed mixes should be customized to the local environment.

WHAT ARE SOME THREATS TO POLLINATORS?

- **habitat loss:** Some pollinators depend on specific plants or habitats (such as meadows, oak savanna or early seral forests) for part of their life history. Loss of these areas (e.g. land conversion or invasive plant colonization) can greatly impact pollinator populations.
- **pesticide use:** Certain insecticides may be lethal to pollinators, or may have more subtle effects that impact their ability to survive and reproduce.
- **introduced diseases:** Pathogens such as introduced bacteria or viruses may be a possible or partial cause of Colony Collapse Disorder, which is affecting European honey bee (not native to Oregon) populations throughout the world.

HOW DO POLLINATORS INTERACT WITH MANAGED FORESTS?

Managed forests are important habitat for pollinators. A growing body of studies show that pollinators use recently disturbed areas such as recent burns, windfalls or timber harvests. In a study being conducted in the foothills of the cascades by Dr. James Rivers of Oregon State University, native bees were found in high numbers in areas where timber harvest was recently conducted. It is possible bees use freshly disturbed sites for nesting yet need to travel to other areas to find adequate food resources. Therefore, it is important to maintain forested areas of different age classes to provide adequate habitat and diverse pollen resources. Open areas with full sunlight, including recent clearcuts, meadows, savannahs and pastures, can provide habitat for pollinators, especially if there are suitable forage and nesting opportunities. Many forest plants benefit from pollinators. The most common understory plants that both benefit from and provide resources for pollinators are shown in the table below:

Fender's blue butterfly. Photo by U.S. Army Corps of Engineers

Understory species benefiting from forest pollinators			
Common name	*Genus*	Common name	*Genus*
Maple	*Acer*	Honeysuckle	*Lonicera*
Columbine	*Aquilegia*	Miner's lettuce	*Montia/Claytonia*
Madrone	*Arbutus*	Osoberrry	*Oemleria*
Manzanita	*Arctostaphylos*	Ninebark	*Physocarpus*
Barberry	*Berberis*	Rhododendron	*Rhododendron*
Chinquapin	*Castanopsis*	Currant	*Ribes*
Ceanothus	*Ceanothus*	Rose	*Rosa*
Bedstraw	*Galium*	Blackberry	*Rubus*
Wintergreen	*Gaultheria*	Willow	*Salix*
Hawkweed	*Hieracium*	Snowberry	*Symphoricarpos*
Oceanspray	*Holodiscus*	Huckleberry	*Vaccinium*
Iris	*Iris*		

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The Oregon Forest Resources Institute supports the forest sector and the stewardship of natural resources by advancing Oregonians' understanding of the social, environmental and economic benefits of our forests.

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