
100 WORST LIST

WORKING TOGETHER TO KEEP THESE 100 WORST INVADERS OUT

Keeping them out of our state (or limiting their expansion if they're already here) is a priority that protects our clean water, wildlife habitat, working landscapes and the unique beauty of our state for future generations.

\$1 invested now to keep these 100 out of Oregon saves **\$34** in future management and containment activities!¹

UPDATED FOR 2015

ABOUT THE 100 WORST LIST

Thousands of invaders could qualify for listing. Narrowing it down to 100 is difficult and the Oregon Invasive Species Council updates the list yearly. To be added to Oregon's 100 Worst list of invasive species, the invader must be

- non-native to Oregon
- absent from the state or limited to a small, contained range within the state
- a greater threat than something already listed

IN CREATING THIS LIST, THE OREGON INVASIVE SPECIES COUNCIL WEIGHS FACTORS SUCH AS:

- the risk to human health
- the impact of the species in habitats similar to those found in Oregon
- the likelihood of the species to cause significant economic loss
- the difficulty other regions have had eradicating the invader
- the capacity for the species to spread in Oregon



MICROORGANISMS

Invader	Risk Assessment Completed	If Present In Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
alder root rot (<i>Phytophthora alni</i> subsp.)					✓	nursery and garden trade	A recently hybridized soil and waterborne pathogen causing root and collar rot of species of alder that once introduced, spreads naturally with streams, floods, and other drainage water.
annual ryegrass toxicity (<i>Rathayibacter toxicus</i>)			✓	✓		seed trade	A bacterium that requires a nematode vector to initiate gumming disease in plants. It produces a number of toxins that are lethal to animals that ingest contaminated fodder. If detected in OR, a stringent federal response would result.
bacterial blight of grape (<i>Xylophilus ampelinus</i>)				✓		nursery and garden trade	A destructive disease of mostly table grape cultivars.
blackberry yellow vein diseases (<i>BVYaV</i> and <i>BVY</i>)	✓			✓		nursery and garden trade	A new and serious viral threat to the blackberry industry.
blueberry hill carlavirus - NJ strain (<i>BBScV-NJ</i>)				✓		nursery and garden trade	The New Jersey Strain of the blueberry scorch virus causes a disease which can spread rapidly by aphid. Identified in BC, Canada.
Ash dieback (<i>Hymenoscyphus fraxineus</i>)					✓	nursery and garden trade	A serious fungal disease of ash trees causing leaf loss and crown dieback; often fatal.
chronic wasting disease (<i>CWD prion</i>)	✓				✓	unknown	A neurological disease of deer, elk and moose, currently in 15 US states and 2 Canadian provinces.
elm yellows (<i>elm yellows phytoplasma</i>)				✓		nursery and garden trade	An aggressive plant disease of elm trees that is spread by leafhoppers or by root grafts. Occurs in the eastern US, and southern Ontario, Canada. There is no cure.
Toxic algae golden algae (<i>Prymnesium parvum</i>) toxic cyanobacteria (<i>Cylindrospermopsis raciborskii</i>)	✓		✓	✓	✓	transport of contaminated water	Golden algae produce toxins harmful to fish; have invaded reservoirs and river systems in 16 states including WA and CA. The toxic cyano- bacterium produces a toxin linked to liver damage and even death in humans after contamination of water supplies.
hazelnut bacteria canker (<i>Pseudomonas avellanae</i>)				✓	✓	nursery and garden trade	Infection causes rapid wilting of twigs, branches and whole trees in spring and summer. Whole trees and even whole orchards may be destroyed in one season.

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oak wilt (<i>Ceratocystis fagacearum</i>)					✓	nursery and garden trade	A fungal disease that can kill an oak tree quickly. It has been found in 21 US states, with considerable damage occurring in the Midwest. No species of oak is known to be immune.
Phytophthora taxon C (<i>Phytophthora kernoviae</i>)				✓	✓	nursery and garden trade	A fungus-like organism (oomycete) that causes leaf lesions on rhododendron and stem lesions on European beech in gardens and woodlands in the UK. Other trees and shrubs are also affected, including blueberry (<i>Vaccinium</i> spp.).
plum pox (<i>plum pox potyvirus</i> (PPV))				✓		nursery and garden trade	A virus of plums transmitted by aphids. Infection eventually results in severely reduced fruit production; fruit that is produced is often misshapen and blemished. There is no cure once a tree is infected.
poplar canker (<i>Xanthomonas populi</i>)				✓	✓	nursery and garden trade	A bacterium that attacks poplars, aspens, and cottonwoods (important for timber, pulp, wood products, as well as native habitats). Causes tree mortality or predisposes host to mortality by other organisms.
potato cyst nematode (<i>Globodera pallida</i>) Golden Nematode (<i>Globodera rostochiensis</i>)	✓	Contained		✓		transport of infected plants or soil	Hosts include potatoes, tomatoes and eggplants. Once established, difficult to eradicate; can survive for over 30 years as eggs. An infestation discovered in fields in Saanich, BC, Canada in the 1960's has been confined to 150 acres. These nematodes infest the majority of UK potato growing land costing an excess of £50 million annually.
potato wart (<i>Synchytrium endobioticum</i>)	✓			✓		transport of infected plants or soil	An important worldwide quarantine pathogen of potato, confirmed in several East Coast states and Canadian provinces, though largely limited to small isolated areas. All US cases have been eradicated.
sudden oak death (<i>Phytophthora ramorum</i>)		Established		✓	✓	nursery and garden trade	A fungus-like organism (oomycete) that infects over 60 plant genera and over 100 host species; causes Sudden Oak Death. There are 4 clonal lineages, one NA.1, is established in Curry County, NA.2, EU.1, and EU.2 are not. All move long distances through the nursery trade.

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viral hemorrhagic septicemia virus (<i>Novirhabdovirus</i> spp. (VHSV))	✓			✓	✓	water transfer or infected bait	A deadly infectious fish disease afflicting over 50 species of freshwater and marine fish in several parts of the northern hemisphere. The highly contagious virus has the potential to infect as many as 42 species of fish, including salmon species and all major sport fish in the state.
whirling disease (<i>Myxobolus cerebralis</i>)	✓	Eradicated		✓	✓	transport of infected fish	Parasitic disease affecting trout and salmon. In OR, exposed hatchery fish have been destroyed.
White-nose syndrome (<i>Pseudogymnosascus destructans</i>)					✓	bat to bat; "jumps" may be human caused	Fungus that causes a fatal disease that has decimated bat populations in parts of the US and Canada. First introduced in NY in 2006, it is now in 24 states and at least 5 Canadian provinces.
willow watermark disease (<i>Brenneria salicis</i>)					✓	nursery and garden trade	A bacteria that harms (and may kill) willow species. During spring and summer, leaves on some branches suddenly wilt and turn reddish-brown. These branches die and become leafless. The wood of affected branches and trunks shows a water-soaked brown or red-brown stain.

AQUATIC PLANTS

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
African waterweed (African elodea) (<i>Lagarosiphon major</i>)				✓	✓	pet store/aquarium trade	A popular plant for oxygenating fish tanks, it successfully out-competes native species in New Zealand lakes where native milfoils (<i>Myriophyllum</i> spp.) and pondweeds would normally live (Potamo- geton spp.). It does not yet occur in the wild in North America.
Asian kelp (wakame seaweed) (<i>Undaria pinnatifida</i>)				✓	✓	boating traffic / ocean currents	In 2012, was present on the dock that washed ashore from the 2011 earthquake in Japan, currently spreading along CA's coast. Listed as 1 of the 100 worst in the international Global Invasive Species Database.
caulerpa seaweed (killer algae) (<i>Caulerpa taxifolia</i>)		Contained		✓	✓	pet store/aquarium trade	Widely used ornamentally in aquariums; one of two algae on the international 100 of the "worst" invasive species in the Global Invasive Species Database.
dead man's fingers (<i>Codium fragile tomentosoides</i>)				✓	✓	shipping (hull fouling)	A dominant subspecies of seaweed in the subtidal zone; attaches
European water chestnut (<i>Trapa natans</i>)	✓		✓	✓	✓	nursery and garden trade	Introduced into North America from the botanical garden at Harvard University in 1877; it colonizes areas less than 16 feet deep of fresh- water lakes; ponds and slow-moving streams and rivers where it forms dense mats of floating vegetation. A significant nuisance in NE US.
flowering rush (<i>Butomus umbellatus</i>)	✓	Contained			✓	nursery and garden trade	An attractive plant with an umbel of showy white or pink flowers. Still available at some nurseries; the aquatic nursery and garden trade has been responsible for the introduction of plants into new states.
giant salvinia (<i>Salvinia molesta</i>)					✓	pet store/aquarium trade	An aquatic, free-floating fern exported from Brazil to be used in aquariums and garden ponds. Creates a floating mat that clogs waterways and blocks sunlight needed by other aquatic plants.

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hydrilla (<i>Hydrilla verticillata</i>)	✓			✓	✓	pet store/aquarium trade	Submersed aquatic weed, native to Asia, has invaded lakes, rivers, reservoirs, irrigation canals, and slightly brackish tidal areas across portions of every continent, including North America. Has been found in CA and WA, where active eradication programs are underway.
rock snot (<i>Didymosphenia geminata</i>)	✓			✓	✓	fishing equipment, water (ballast/live wells)	A freshwater microscopic diatom that can form massive nuisance "blooms" that carpet stream beds and alter biological and physical conditions. Fishing equipment, especially felt soled wading boots, are particularly suitable vectors; as is any vector that transports water. WA, ID, and CA have had reports of nuisance populations.
Cordgrass (<i>Spartina</i>) smooth cordgrass (<i>Spartina alterniflora</i>) common cordgrass (<i>Spartina anglica</i>) dense-flowered cordgrass (<i>Spartina densiflora</i>) saltmeadow cordgrass (<i>Spartina patens</i>)	✓	Established		✓	✓	ocean currents, packing material	Highly aggressive invaders that significantly alter both the physical structure and biological composition of tidal marshes, mudflats and creeks.
West Indian Spongeplant (<i>Limnolobium laevigatum</i>)						Ornamental	Native to freshwater habitats in Central and South America. Been introduced to California as an pond plant.
yellow floating heart (<i>Nymphaoides peltata</i>)	✓	Established			✓	nursery and garden trade, waterfowl	Introduced to the US as an ornamental water plant. Dense floating mats exclude light for native species and create stagnant areas with low oxygen levels underneath. Makes it difficult to fish, water ski, swim or paddle.

TERRESTRIAL PLANTS

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
African rue (<i>Peganum harmala</i>)	✓	Contained	✓	✓	✓	contaminated hay, farm equipment, livestock	Robust growth crowds out desirable plants, altering rangeland, pasture, and native habitats. Limited to 2 infestations in Crook and Harney Counties. Toxic to cattle, sheep and potentially horses.
Goatgrass (<i>Aegilops</i>) ovate goatgrass (<i>Aegilops ovata</i>) barbed goatgrass (<i>Aegilops triuncialis</i>)		Contained		✓	✓	livestock farm equipment	Both are weedy annuals that infest rangelands and pastures in the northern half of California currently. They injure grazing animals and readily cross with wheat, producing sterile seed and unmarketable wheat. In grasslands, they reduce the abundance of native perennial grasses and compete with desirable plants as well as native forbs.
camelthorn (<i>Alhagi pseudalhagi</i>)	✓		✓	✓		contaminated seed, farm equipment, livestock	A contaminant of alfalfa seed, grows readily in a cultivated field, and has a wide soil tolerance, though does best next to a source of water, such as an irrigation ditch. It is unpalatable to animals. Spines (which can be as long as 13/4 inch) can be harmful to humans and livestock.
Cape Ivy (<i>Delairea odorata</i>)				✓	✓		Native to mountain forests of South Africa and has invaded the eastern United States and California.
collisfoot (not Petasites frigidus) (<i>Tussilago farfara</i>)	✓	Contained				garden trade, agriculture, transportation of habitat material	Currently limited to one or a few infestations in the state. Can outcompete and take over corn, soybeans, winter wheat, spring grain and alfalfa. Currently contained/eradicated in OR.
Garden yellow loosestrife (<i>Lysimachia vulgaris</i>)					✓	Ornamental	Native to Europe and Asia. Introduced to North America as an ornamental. Currently a class B noxious weed in Washington
giant hogweed (<i>Heracleum mantegazzianum</i>)	✓	Contained				garden trade, water/river transport	Escaped from arboreturns and private gardens, is now naturalized in surrounding areas especially riparian and urban sites. The plant exudes a clear watery sap which sensitizes the skin to ultraviolet radiation. Humans often develop severe burns to the affected areas resulting

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goat's rue (goatsrue) (<i>Gallega officinalis</i>)	✓	Contained	✓	✓		nursery/garden trade seeds in travel, bags or mail transport of soil	Introduced into UT in 1891 as a potential forage crop, escaped cultivation, and now occupies in excess of 60 square miles in UT. In 2007, it was found in a crop in Grants Pass; currently under eradication measures. Plants are poisonous (pea family) to livestock though goats are somewhat resistant. 3 active sites in Multnomah Co. contained.
Hoary alyssum (<i>Berteroa incana</i>)				✓	✓		Native to Europe and Asia this flowering plant in the mustard family is an aggressive invader of fields.
Japanese dodder (<i>Cuscuta japonica</i>)	✓			✓	✓	seeds in passenger baggage, contaminant-rated soybeans and bird seed	Currently in CA, the most northern infestation is in Redding where it died naturally during the winter.
kudzu (<i>Pueraria lobata</i> (<i>Pueraria montana</i> var. <i>lobata</i>))	✓	Eradicated				nursery/garden trade roads and/or railways	If kudzu were to become widely established, it has the potential to impact agriculture and forestry; right of way maintenance, and recreational activities. Three populations in OR are effectively controlled and not spreading.
matgrass (<i>Nardus stricta</i>)		Contained			✓	transport of tufts in mud via livestock or farm equipment	An infestation in Klamath County at Fort Klamath on a native meadow grass pasture has spread from the original site into four adjacent pastures. Yearly treatments since 1976 and have contained the spread. It is difficult to detect clumps that may occur outside the treatment area.
oblong spurge (<i>Euphorbia oblongata</i>)	✓	Contained	✓		✓	nursery and garden trade water/riparian transport equipment	A weedy escaped ornamental known from one site in Salem and one ornamental planting in Eugene. May impact forage and livestock production; may be a human skin irritant.
Patterson's curse (salvation Jane) (<i>Echium plantagineum</i>)	✓	Contained	✓	✓	✓	vehicles, farm implements, contaminant of seed, wildflower seed mix	Poisonous to grazing animals and a threat to natural areas, with the potential to invade oak woodland, native prairie, and dry upland slopes. First detected in 2003 in Linn Co.; in 2004, a second larger site was in Douglas Co. Both are under intensive treatment. Economic costs would run in the millions. Has been found in wildflower seed mixes in OR.

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purple nutsedge (<i>Cyperus rotundus</i>)				✓		contaminated root crops and seeds nursery trade	A tough competitor for ground resources, as well as allelopathic, impacts both agricultural fields and ornamental gardens. Difficult to control due to an intensive system of underground tubers resistance to most herbicides.
silverleaf nightshade (<i>Solanum elaeagnifolium</i>)			✓	✓	✓	garden/nursery trade agricultural machinery	Found in rangeland, pastures, waste areas and cropland in the Western US. The berries and foliage of this plant are poisonous to livestock. Some gardeners encourage it as a xeriscape ornamental.
squarrose knapweed (<i>Centauria virgata</i> (<i>C. trifurcata</i>))		Contained		✓	✓	contaminated alfalfa seed tumbleweed livestock & wildlife	Invades and renders unusable for grazing rangeland and pasture. Dispersal habit of breaking off at the base and tumbling across the landscape dispersing seeds along the way. Two sites currently under management for eradication.
Star thistles (Centaurae) purple startistle (<i>Centauria calcitrapa</i>) Iberian startistle (<i>Centauria iberica</i>)	✓	Contained		✓	✓	seeds transported by wildlife, live-stock, agricultural machinery	Choke out the native plants, reducing biodiversity, and wildlife habitat and forage. Currently under eradication or restricted to a small area in Oregon.
Syrian bean-caper (<i>Zygophyllum fabago</i>)				✓	✓	contaminated seed, agricultural machinery	Currently in WA, ID, MT, NM, CA, TX. Reproduces readily from even portions of the long taproot; hard waxy coating on leaves protects from herbicides. Prefers desert soils and grows well in alkaline areas.
Thistles plumeless thistle (<i>Carduus acanthoides</i> (<i>C. alantoides</i>)) smooth distaff thistle (<i>Carthamus baeiticus</i>) woolly distaff thistle (<i>Carthamus lanatus</i>) Taurian thistle (bull cottonthistle) (<i>Onopordum tauricum</i>)	✓	Contained		✓	✓	contaminated seed, agricultural machinery livestock & wildlife	Compete with crops, forage for livestock, and impede the movement of livestock because they avoid entering the dense stands. Compete with native plants, including rare and endangered species. Currently under eradication or restricted to a small area in Oregon.
white bryonia (white bryony) (<i>Bryonia alba</i>)	✓		✓	✓	✓	introduced for horticultural and/or medicinal uses, birds	Vigorous herbaceous perennial vine resembling kudzu in ability to form dense mats which shade out all vegetation it grows upon. Major destructive potential to native vegetation, forest communities, and urban horticulture. Berries are toxic to humans.

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Yellow-tuft alyssums (<i>Alyssum corsicum</i> and <i>A. murale</i>)		Contained	✓		✓	transport of soil or forage, farm equipment	Infestation in OR contained, yet still threatens to overtake the Illinois Valley's unique native plant communities, including plants found nowhere else in the world. It accumulates heavy metals and may be harmful to livestock and wildlife.

AQUATIC INVERTEBRATES

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
Asian tapeworm (<i>Bothriocephalus acheilognathi</i>)				✓	✓	transport and introduction of fish	A pathogenic parasite found in the intestines of many freshwater fishes worldwide, favors members of the carp family; has established as far north as southern Manitoba in Canada, as well as in the US and Mexico. Can cause damage to fisheries.
Asian clam (marine clam) (<i>Potamocorbula amurensis</i>)	✓			✓	✓	ballast water	Consumes large amounts of phyto- and zooplankton; its introduction into San Francisco Bay in CA has resulted in dramatic changes to the soft sediment communities of the area.
Japanese shore crab (<i>Hemigrapsus sanguineus</i>)				✓	✓	ballast water vessel fouling	Competes with native crustaceans and preys on other native species; first discovered in 1988 in NJ, now well established and exceptionally abundant along the Atlantic intertidal coastline from ME to NC.
Leidy's comb jelly (<i>Mnemiopsis leidyi</i>)	✓			✓	✓	ballast water	Native from Western Atlantic to the West Indies, has invaded Eurasian waters. Eutrophication and a massive population in the Black Sea led to tremendous changes in the ecosystem and substantial economic losses.
Northern Pacific sea star (<i>Asterias amurensis</i>)				✓	✓	live food trade ship ballast water ship hulls and equipment	Originally found in far north Pacific waters and areas surrounding Japan, Russia, North China, and Korea, has successfully invaded the southern coasts of Australia and has the potential to have the potential to establish large populations in new areas. Once established, eradication is almost impossible.
New Zealand sea slug (<i>Philine auriformis</i>)		Contained		✓	✓	vessel fouling	A clam predator from New Zealand, first appeared in Southern CA. Most invasions occur in bays and estuaries with fluctuating physical environments and high natural and anthropogenic stress. Currently under eradication or restricted to a small area in Oregon.
Sea squirts/Tunicates transparent tunicate (<i>Ciona savignyi</i>) sea squirt (<i>Didemnum</i> sp.) club tunicate (<i>Styela clava</i>)	✓	Contained		✓	✓	fouling on vessels, aquaculture and equipment	Also known as tunicates, they feed continuously by filtering plankton from sea water through their siphons. Rapid growth produces extensive rubbery mats made of cellulose forming a "tunic" that can smother other forms of marine life. <i>Didemnum</i> sp. is under eradication and restricted to a small area in Oregon.

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veined rapa whelk (<i>Rapana venosa</i>)				✓	✓	ballast water	A predatory marine snail which may impact both natural and cultivated populations of oysters, mussels and other molluscs. Where introduced, has caused significant changes to the ecosystem. Long distance dispersal is facilitated by ship ballast water, in which the larvae of the snail is found in its plankton phase.
Virile/Marbled Crayfish virile crayfish (<i>Oreconectes virilis</i>) marbled crayfish (marmor Krebs) (<i>Procambarus</i> sp.)		Contained		✓	✓	pet store/aquarium trade anglers aquaculture	Alter basic wetland properties, such as reducing vegetation and bank integrity and increasing turbidity.
Waterfleas spiny waterflea (<i>Bythotrephes cederstroemi</i>) fishhook waterflea (<i>Cercopagis pengoi</i>)				✓	✓	bait, recreational boating, fouling on recreational equipment	Both waterfleas (a type of zooplankton) consume smaller organisms and reproduce quickly, potentially altering food resources for juvenile fish. Because of their spiny shape both are troublesome for fish to feed on leaving them with few predators and they are a nuisance to fisher-men, fouling their equipment.
Zebræ/Quagga mussel zebra mussel (<i>Dreissena polymorpha</i>) quagga mussel (<i>Dreissena rostriformis bugensis</i>)	✓	Contained		✓	✓	Boating (hull fouling, standing water)	Aggressive freshwater invaders. Populations can grow rapidly and the total biomass of a population can exceed all other native invertebrates.

TERRESTRIAL INVERTEBRATES

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
Exotic ambrosia beetles Redbay ambrosia beetle (<i>Xyleborus glabratus</i> , <i>Xylosandrus crassiusculus</i>) Ambrosia beetles (exotic) (<i>Megaphthypus mutatus</i>) Oak ambrosia beetle (<i>Platypus quercivorus</i>) granulate ambrosia beetle (<i>Xylosandrus crassiusculus</i>)		Eradicated		✓	✓	transport of wood products	Adults and larvae beetles excavate tunnels in dead trees in which they cultivate fungal gardens, their sole source of nutrition. One localized infestation of <i>Xylosandrus crassiusculus</i> confirmed in OR; after eradication efforts in 2005 and 2006, no further detection.
Citrus longhorned beetle (<i>Anoplophora chinensis</i>) Asian longhorned beetle (<i>Anoplophora glabripennis</i>)	✓			✓	✓	wood products nursery stock bonsai trade	Both originate from Eastern Asia where they seriously damage forest and agricultural plants; and pose a potential economic and ecological threat to urban and natural environments where they are introduced.
bean plataspid (<i>Megacopta cribraria</i>)			✓	✓		cargo and airline travel	An invasive pest first noticed in GA in 2009 and spreading rapidly into nearby states; established as a severe economic pest of soybean. When crushed, can stain surfaces in the home and may irritate skin.
Corn borers European corn borer (<i>Ostrinia nubilalis</i>) Asian corn borers (<i>Ostrinia furnacalis</i>)		Contained				transportation of infested plants or products	Both prefer corn and share a number of common hosts including cotton, tomato, sorghum, peppers and some beans.
old world bollworm (<i>Helicoverpa armigera</i>)				✓		ignorant possession and transport of infested materials	A highly polyphagous species, can attack many plants that are of economic importance to OR. Worldwide, a significant pest of cotton.
emerald ash borer (EAB) (<i>Agryllus planipennis</i>)	✓			✓	✓	transport of wood products, especially firewood	Colonizes and kills healthy ash trees. Originally found in MI and nearby Ontario, Canada; now in 10 states and other parts of Canada. Has impacted landscapes, nursery trade, natural habitats.

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Asian gypsy moth (<i>Lymantria dispar asiatica</i>) Nun moth (<i>Lymantria monacha</i>) Pink gypsy moth (<i>Lymantria mathura</i>) European gypsy moth (<i>Lymantria dispar dispar</i>)		Contained		✓	✓	ignorant possession and transport of infested materials	Defoliators of mainly deciduous trees, tree impacts associated with the physiological stress caused by defoliation. Annual losses can reach millions of dollars due to lost revenues from timber harvesting, cost of hazard tree removal and loss of amenity values. Currently under eradication or restricted to a small area in OR.
European chafer (<i>Rhizotrogus majalis</i>)				✓		transport of infested turf or soil	A serious pest of turf, horticulture, and field crops in Eastern North America. Was found at one site in BC and is slowly spreading. Grubs feed on all types of grass; may move into other crops.
Golden Spotted Oak Borer (<i>Agrilus auragutatus</i>)				✓	✓		Invasive pest native to southeastern Arizona and recently introduced to California. GSOB contributes to oak mortality as the larva feed on the tissue of the tree beneath the bark.
Imported fire ants (<i>Solenopsis</i>) red imported fire ant (<i>Solenopsis invicta</i>) black imported fire ant (<i>Solenopsis richteri</i>)	✓	Contained				ignorant possession and transport of infested materials	An aggressive generalist forager ant that occurs in high densities
Japanese beetle (<i>Popillia japonica</i>)		Contained				ignorant possession and transport of infested materials	A highly destructive plant pest; the most widespread and destructive insect pest of turf, landscapes, and nursery crops in the Eastern
Wax scale White wax scale (<i>Ceroplastes destructor</i>) Japanese wax scale (<i>Ceroplastes japonicus</i>)				✓		ignorant possession, tourism	A serious pest of citrus and more than 150 other plants hosts throughout its range; causes direct plant injury by feeding on plants and depleting nutrients necessary for growth. May ultimately impact yield and overall plant health.

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khapr a beetle (<i>Trogoderma granarium</i>)	✓	Eradicated		✓		ignorant possession, tourism	Feeds on grain and cereal products; maintains presence in food storage in very low numbers; able to survive long periods in an inactive state. Impacts are due to loss of stored grain and the effects of fumigation agents on the environment. Previously detected in Oregon, eradicated.
light brown apple moth (<i>Epiphyas postvittana</i>)	✓	Eradicated		✓		nursery trade from CA	Attacks more than 120 plant genera in over 50 families; including many OR crops. Feeding can damage or kill seedlings and affect the appearance of ornamental plants. There was a "regulatory interception" at a nursery in 2010 in Polk Co.
Mexican bean beetle (<i>Epilachna varivestis</i>)				✓		ignorant possession and transport of infested materials	A major insect pest of beans in the Mid-Atlantic region, adults and larvae eat the undersides of bean leaves causing lacing of the foliage. High levels of defoliation can significantly reduce bean yields.
Oriental beetle (<i>Anomala orientalis</i>)				✓		transport of nursery stock	Grubs, active at night, feed on the roots of turfgrasses and adults feed on roses, phlox, and petunias.
plum curculio (<i>Conotrachelus nenuphar</i>)				✓		transport of infested plant material	Native to the regions east of the Rocky Mountains, both adult and larval stages eat pome and stone fruits, destroying a crop if left uncontrolled.
Pine moth (<i>Dendrolinus pinii</i>) Siberian moth (<i>Dendrolinus sibiricus</i>)				✓	✓	transport of nursery stock	A severe pest and defoliator of conifer trees stands. Impacts include direct damage to plantations and forests resulting in wood losses, damage to natural forests over large areas and social damage to people living in damaged areas
silver Y moth (<i>Autographa gamma</i>)	✓			✓		European cut flowers and vegetables in ship's stores	Feeds on more than 200 different plant species, many of which are either low growing weeds or commonly cultivated crops. The presence of an established population would adversely affect trading relationships with other national and international partners and cause direct damage to many commodities.
Spotted Lanternfly (<i>Lycoma delicatula</i>)				✓		Transportation of goods	Native to Europe and Asia. First seen in United States in Pennsylvania in 2014.
European Spruce bark beetle (<i>Ips typographus</i>)				✓	✓	transport of wood products	Newly established populations may go undetected for many years due to cryptic nature, concealed activity, slow development of damage symptoms, or misdiagnosis.

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
Spruce beetles (<i>Tetropium</i>) Black spruce beetle (<i>Tetropium castaneum</i>) brown spruce longhorn beetle (BSLB) (<i>Tetropium fuscum</i>)		Contained		✓	✓	transport of wood products	Both species will attack Douglas-fir and Sitka spruce. <i>Tetropium fuscum</i> was introduced to Nova Scotia, Canada and ravaged red spruce stands. Eradication efforts have been ineffective in those areas.
Swede midge (<i>Contarinia nasturtii</i>)				✓		transport of infested plants or soil	A common insect pest in Europe, first reported in NY in 2004. Causes severe damage to brassicas: broccoli, cabbage, cauliflower, radish and canola.
Garden snails vineyard snail (<i>Cerutuella virgata</i>) white garden snail (<i>Theba pisana</i>) heath snail, Eastern heath snail (<i>Xerolenta obvia</i>) Giant African snail (<i>Achatina fulica</i>)	✓		✓		✓	nursery stock material	Agricultural pests that feed on a wide variety of plants; in addition to this direct damage, they allow pathogenic fungi to attack. Can be vectors of plant pathogens. When abundant, can clog or break harvesting equipment. Can also be intermediate hosts and vectors of animal and human parasites.
Tremex wood wasp (<i>Tremex fuscicornis</i>) Sirex wood wasp (<i>Sirex noctilio</i>)	✓			✓	✓	nursery stock material, raw log, firewood and solid wood packaging material.	Stingless wasps with a complex interaction with a symbiotic wood-decaying fungus, and the host tree.

AQUATIC VERTEBRATES

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
Asian Carp Asian carp (silver) <i>(Hypophthalmichthys molitrix)</i> Asian carp (bighead) <i>(Hypophthalmichthys nobilis)</i> black carp (<i>Mylopharyngodon piceus</i>)	✓		✓	✓	✓	Illegal introduction as sport fish, bait fish or aquaria trade	Can become so abundant that they completely change a river eco- system. A human health hazard: silver carp leap from the water when they hear boat motors and can knock a boater unconscious.
golden Shiner (<i>Notemigonus crysoleucas</i>)		Eradicated	✓	✓	✓	illegal bait fish	Widely used as bait and as an ornamental and therefore has been transplanted into many areas. In OR, found in Diamond Lake 2008. Eradication has been followed by monitoring.
Muskellunge/Pike northern pike (<i>Esox lucius</i>) muskellunge (<i>Esox masquinongy</i>) tiger muskie (<i>Esox masquinongy X lucius</i>)	✓	Contained	✓	✓	✓	illegal introduction or migration from Upper Columbia River	A large, opportunist predator fish, found in the upper Columbia River above Roosevelt Dam. Both Northern Pike and Muskellunge are listed as "Prohibited" species in OAR 635-056-0150. Tiger Muskel- lunge are listed a "Controlled" species for Phillips Reservoir only and "Prohibited" anywhere else in the state.
Goby round goby (<i>Neogobius melanostomus</i>) Amur goby (<i>Rhinogobius brunneus</i>) Shimofuri goby (<i>Tridentiger bifasciatus</i>)					✓	illegal aquaria trade or bait fish	Introduced into the Great Lakes, where they have caused significant economic and ecological impacts; able to compete with native bottom-dwelling fish and drive them from their preferred habitat.
ruffe (<i>Gymnocephalus cernuus</i>)				✓	✓	illegal bait fish	A small fish, reaching 4 to 6 inches in length that was unintentionally introduced into Lake Superior and found there in 1986. It's population is increasing and spreading. It can tolerate a wide range of habitats and ecological conditions.
snakeheads (<i>Channa spp.</i>)				✓	✓	illegal sport or food fish	A voracious top-level predator, found in muddy or vegetated ponds, swamps, and slow-moving streams. Can breathe air and survive for up to four days out of water; for longer periods of time when burrowed in the mud. They are capable of traveling over land to new bodies of water by wriggling their bodies over the ground.

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
treadfin Shad (yellow tails) (<i>Dorosoma petenense</i>)				✓	✓	illegal bait fish	Native to the southeast US, a favorite food for many game fish. Concern exists regarding possible impacts on other fish species with planktonic larvae, such as minnows and suckers; in CA, they have destroyed kokanee fishing in some areas.

TERRESTRIAL VERTEBRATES

Invader	Risk Assessment Completed	If Present in Oregon	Human or Animal Health?	Oregon's Economy?	Native Habitats?	Arrival	Notes
feral swine (<i>Sus scrofa</i>)	✓	Contained		✓	✓	escaped from captivity	Escaped from domestic swine facilities and intentional releases, feral swine degrade ecosystems through predation and competitive impacts on native fauna, grazing on native plants, and physically altering habitats by rooting currently under eradication or restricted to a small area in Oregon.
mute swan (<i>Cygnus olor</i>)	✓	Contained		✓	✓	pet store/aquarium trade	Mute swans exhibit aggression toward other waterfowl and can displace native waterfowl from their nesting and feeding areas by attacking, injuring and even killing other birds. Mute swans are large, conspicuous birds and have little fear of humans and will attack people in watercraft and on shore. Mute swans are sold online and in catalogs.

HISTORY

2015

POTATO CYST NEMATODES STATUS

They have been identified in Oregon and so the status has been updated to contained.

REMOVED EASTERN SNAPPING TURTLE

This pest is beyond containment at this point and so is being removed from the list.

REMOVED ATLANTIC SALMON

Managed as a game fish and the threat of spreading to non-introduced areas has been deemed low.

ADDED SPOTTED LANTERNFLY

This colorful moth from Asia is currently causing problems for the timber and grape industry in Pennsylvania and would cause severe economic harm if it founds its way to Oregon.

ADDED GARDEN YELLOW LOOSESTRIFE

Similar to its purple cousin this garden favorite can aggressively spread out from its garden home.

ADDED WEST INDIAN SPONGEPLANT

Introduced via the ornamental pond industry this plant is quickly making its way through the San Joaquin River in California.

COMBINED THE EXOTIC ANTS

In an effort simplify the list, the exotic ants have been combined into one entry.

CORDGRASS STATUS

The distribution of the cordgrasses is increasing. Some species in some areas have been successfully eradicated but others continue to aggressively spread and have become established in areas.

STATUS OF YELLOW FLOATING HEART

The distribution of this invasive plant has been updated to established.

REMOVED ORANGE HAWKWEED

Too established at this point to be included on the list. The remaining hawkweeds are still being successfully excluded.

ADDED CAPE IVY

This invasive ornamental has established itself all along the California coast.

ADDED HOARY ASSYLUM

This noxious weed is an aggressive invader of pastures and will quickly out-compete native/beneficial plants and be potentially dangerous to livestock.

SUDDEN OAK DEATH STATUS

Updated the status to established.

FLOWERING RUSH STATUS

Has not fully established but has been found in Oregon so the status has been changed to contained.

EXOTIC MUSSELS STATUS

Both Zebra and Quagga mussels are currently being seen at boat stations in Oregon so we elevated their status to contained.

REMOVED AFRICANIZED HONEY-BEE

Although there will always be a threat of introduction, there are currently higher ranking groups to be concerned with.

ADDED GOLDEN SPOTTED OAK BORER (GSOB)

Another invasive pest that attacks and damages our native trees. Currently spotted in various areas in California.

2014

ADDED PHYTOPHERA RAMORUM

It was removed from the 100 Worst list in 2012 because one lineage (NA1) of the pathogen has become established in Curry County. Eradication is no longer possible. However, other damaging strains of this pathogen are showing up in nurseries and natural areas across the world. These lineages include NA2 (detected in North American nurseries), EU1 (detected in European forests and North American nurseries) and EU2 (detected in European nurseries). NA2, EU1 and EU2 behave differently than the NA1 lineage. These additional lineages behave differently and utilize different hosts. For instance, EU1 and EU2 are killing larch in Europe. Additionally, each lineage is essentially a clone, incapable of mating, but if lineages were to co-occur, the opportunity for sexual recombination would increase, potentially leading to more virulent strains and additional quarantine measures. Therefore, it is essential to remain vigilant for these additional *P. ramorum* lineages of NA2, EU1, and EU2.

REMOVED COMMON REED (NON-NATIVE SUBSPECIES) - LOST THE BATTLE!

The subspecies is causing serious problems for many other North American wetland plants, including the native *Phragmites australis* subsp. *americanus* which is markedly less vigorous. Surveys now indicate that this subspecies is more widespread and in locations that would not be suitable for large-scale control programs.

REMOVED INFECTIOUS SALMON ANEMIA VIRUS

Fish most susceptible to Infectious Salmon Anemia Virus (ISAV) disease are farmed Atlantic salmon raised in net pens. The Council added ISAV to the 100 Worst List because of a concern that if the disease took hold, it might spread to wild Pacific salmon migrating through areas where Atlantic salmon are farmed. The reasons to remove ISAV from the 100 Worst list include: • Transportation of fish into the Pacific Northwest in general and Oregon specifically, is regulated. Movements of susceptible fish into the Pacific Northwest occur only through federal, state, and commercial aquaculture routes where there is both regulation and active oversight to prevent the introduction of ISAV or other important disease organisms. All movements of salmon into Oregon are rigorously reviewed by the Oregon Department of Fish and Wildlife and shipments associated with any significant risk of ISAV introduction are denied • The general public does not move potentially infected fish for bait and/or ornamental purposes. • Oregon does not have any net pens for Atlantic salmon, which would provide the most likely pathway for transmission.

ADDED RATHAYIBACTER TOXICUS

A bacterium that requires a nematode vector to initiate gumming disease in plants. It produces a number of toxins that are lethal to animals that ingest contaminated fodder. If detected in OR, a stringent federal response would result.

REMOVED RALSTONIA SOLANACEARUM R3B2

Oregon has more trade with Australia, (the home of *R. toxicus*) than we do with the homes of *R. solanacearum* R3B2 and thus poses a greater threat. Both organisms are considered Select Agents for Bioterrorism by USDA-APHIS. *Rathayibacter toxicus* has successfully become established in New Zealand and South Africa from the

introduction of contaminated seed from Australia. Researchers have determined the bacterium is not host-specific, although it is dependent upon seed gall nematodes as vectors. Thus, the bacterium's host range is limited only by that of its nematode vector. It would affect our livestock industries as well as our grass seed industry.

2013

ADDED ASH DIEBACK

Causing great damage in UK and Europe, the *Hymenoscyphus fraxinea* fungus is moved via nursery stock. ODA is considering a quarantine.

ADDED WHITE-NOSE SYNDROME

ADDED NORTHERN PACIFIC SEA STAR

ADDED THE TREMEX WASP

Tremex fuscicornis, the tremex wasp is a developing pest elsewhere in the world. In places where it has been introduced, it has caused severe damage to trees of importance in agriculture, arboriculture and forestry. Boring by larvae causes severe degrade of wood, in many cases attacks are so heavy to render the wood useless. In addition, the fungus associated with *T. fuscicornis* causes wood decay. In Chile, where the pest has established, this insect has killed trees in parks and urban areas and has also killed windbreak plantations resulting in reduced crop yield. Oregon is at risk for introduction via solid wood packing material.

REMOVED MITTEN CRABS

There are currently worse invaders out there.

ADDED 3 SPECIES OF HAWKWEED

- king-devil (*Hieracium piloselloides*)
- orange (*H. aurantiacum*)
- yellowdevil (*H. x floribundum*)

LUMPED TUNICATES UNDER SEA SQUIRTS

- *Didemnum* spp.

- *Ciona savignyi*
- *Styela clava*

SPECIFIED ALYSSUM SPP.

- yellow-tuft alyssums: *Alyssum corsicum* and *A. murale*.

SPECIFIED CRAYFISH

- virile (*Orconectes virilis*)
- marbled (*Procambarus* sp.)

SPECIFIED CORN BORERS

- *Ostrinia furnacalis*
- *O. nubilalis*

SPECIFIED EXOTIC AMBROSIA BEETLES

- *Platypus mutates*
- *P. guercivorus*
- *Xyleborus glabratus*
- *Xylosandrus crassiusculus*

SPECIFIED SIBERIAN MOTHS

- *Dendrolimus pini*
- *D. sibiricus*
- *D. superans*

SPECIFIED TERRESTRIAL SNAILS

- *Achatina fulica*
- *Cermuella virgate*
- *Theba pisana*

- Xerolenta obvia

SPECIFIED WAX SCALES

- Ceroplastes destructor
- C. japonicas

2012

REMOVED RAMORUM CANKER - LOST THE BATTLE!

Removed ramorum canker and blight because Sudden Oak Death has become established. Oregon has switched to a defensive approach that aims to slow the spread of the pathogen.

ADDED BEAN PLATASPID

It is spreading rapidly and causing significant damage to legumes in south eastern Oregon.

UPDATED STATUS OF DIDEMNUM SPP.

Didemnum spp. exists in Winchester and Coos Bays in Oregon.

UPDATE DISTRIBUTION OF CLUB TUNICATE

Club tunicate was previously detected in Oregon, but was eradicated or did not establish.

UPDATED DISTRIBUTION OF GOATSRUE

Goatsrue, *Galega officinalis*, is present in three populations in the Portland area. Eradication efforts are underway. A previous population in Josephine County was eradicated.

2011

REMOVED SKELETONLEAF BURSAGE (THERE ARE WORSE INVADERS)

The Oregon State Weed Board removed it from its "A" list and placed it on a watch list. It is present in the bordering county of Nez Perce, Idaho, but there is no eminent threat to Oregon.

REMOVED TEXAS BLUEWEED (THERE ARE WORSE THREATS)

The Oregon State Weed Board removed it from its "A" List and placed it on a watch list. It is present in Yakima County, WA (under control). Washington is one year from eradicating this plant, and there is no eminent threat to Oregon.

ADDED ALYSSUM SPP.

ADDED ASIAN KELP

It is in several bays in California and threatens Oregon's waters.

ADDED 2 CRAYFISH SPECIES / REMOVED 2 CRAYFISH

- Two crayfish species were added to the list
- Removed from the list the red swamp crayfish and rusty crayfish for they have established populations in Oregon.

2010

ADDED TWO PLANT-LIKE MICROORGANISMS

Golden algae and toxic cyanobacteria were combined under algae, toxic.

ADDED COMMON REED

ADDED JAPANESE DODDER

LUMPED TWO CRUSTACEANS

Spiny waterflea and fishhook waterflea were combined under waterflea.

2009

REMOVED CHERRY LEAF ROLL NEPOVIRUS (THERE ARE WORSE INVADERS)

The virus is found in Oregon, although on an alternate host and has not moved to cherries. Also, like pear trellis rust, it is capable of causing is damage that is significantly less than the new species we added to the list.

REMOVED PEAR TRELLIS RUST (THERE ARE WORSE THREATS)

It is established in WA and is a manageable disease. Also, it is not fatal to its host.

ADDED SYNERGISTIC BLACKBERRY VIRUSES

Blackberry yellow vein disease, blackberry carlavirus, yellow vein associated virus (BYVaV) and blackberry virus Y (BVY). These two viruses act synergistically to cause the disease.

ADDED BACTERIAL BLIGHT OF GRAPE

ADDED FLOWERING RUSH

Montana is asserting that *Butomus umbellatus* eventually spread through much of the Columbia Basin. It's not far from the northeast and southeast.

REMOVED MILE-A-MINUTE WEED

Polygonum perfoliatum is not listed in either Oregon or Washington. There are worse threats.

REMOVED PORTUGUESE BROOM - LOST THE BATTLE!

Cytisus striatus was removed from this list because it "got away." Programs implementing control projects have moved from eradication to containment; it remains a high priority for protection of our forest lands in the state.

ADDED WHITE BRYONIA

Bryonia alba is a vigorous herbaceous perennial vine resembling kudzu in appearance and growth habit. Infestations will overgrow and smother small trees and shrubs forming dense mats which shade out all the vegetation it grows upon. If established in areas with no structure to climb, it will form a dense mat covering the ground. Vines emerge each spring from a large fleshy parsnip-shaped tuber and grow rapidly, sometimes to 30 feet. Populations are documented from southeast Washington State, Idaho, Utah and Montana. Should white bryonia become established in Eastern Oregon it poses a huge threat for forest and range land and ecosystems of the Hells Canyon/Snake River area.

ADDED GOATSRUE

Galega officinalis is a USDA federally listed noxious weed. A member of the legume family, it was introduced into Utah in 1891 as a potential forage crop. Escaping cultivation, it now occupies in excess of 60 square miles in Cache, County, Utah. Within this area, goat's rue infests cropland, fence lines, pastures, roadsides, waterways, and wet, marshy areas. The plant's stems and leaves contain a poisonous alkaloid, galegin, which renders the plant unpalatable to livestock, and toxic in large quantities. It is particularly lethal to sheep. Because of these issues, goat's rue invasion can reduce forage availability and quality.

ADDED OBLONG SPURGE

Euphorbia oblongata is a weedy escaped ornamental species of Euphorbia known from only one site in Salem, Oregon. Suspected to have been introduced from California in contaminated flax or machinery that was used at the State Penitentiary flax mill in the early part of the 1900's, it has slowly expanded its territory on the penitentiary property. Growing up to 3' tall, this species is capable of forming dense stands in more arid climates and could be expected to be a troublesome weed to control should it spread and establish in eastern Oregon.

REMOVED ASSIMINEA ESTUARINE SNAIL (COOS BAY)

Lost the battle!

ADDED LOUISIANA CRAYFISH / LUMPED ALL NONNATIVE CRAYFISH

Procambarus clarkii is native to south central United States, and found in California, Idaho, Oregon and Washington. Noted for its burrowing activity which could damage dams, levees, and water control structures. Introduced into Oregon as a bait species and released from classroom science experiments.

REMOVED PINE SHOOT BEETLE

Tomocis piniperda does not appear to present a threat to forest ecosystems, primarily being a threat to Christmas tree plantations. Granted, the latter commodity is important, but pines are being phased out as Christmas trees in favor of other species which are not hosts known to support PSB reproduction.

REMOVED SAWYERS (THERE ARE WORSE INVADERS)

ADDED WITH OTHER PREVIOUSLY LISTED SNAILS

Vineyard snail, *Cermuella virgata* and heath snail, *Xerolenta obvia*—These two snails have the potential to be pests of many more commodities (cereals, forage crops, grapes, orchards, etc.) and would greatly increase molluscicide use. They are certainly difficult to control. The technologies for detection and delimitation are also much less effective. At least one of these species can also vector human and animal parasites and both can vector plant diseases.

ADDED BLACK CARP TO OTHER NON-NATIVE CARP

Black carp, *Mylopharyngodon piceus*

ADDED THREADFIN SHAD

Dorosoma petenense are native to the south-central United States and introduced into parts of the northern United States, Arizona and California as a forage and baitfish for warm water fish species such as largemouth bass, crappie and walleye. Feeds on zooplankton, and breeds quickly.

ADDED GOLDEN SHINER

Notemigonus crysoleucas is native to eastern United States and introduced as a baitfish, ornamental and forage fish. Impact to Oregon is through competition with native fish for food and habitat. Lays up to 200,000 eggs and may spawn more than once during a breeding season.