Report Card, 2006

State: Oregon

Topic: Invasive Species Exclusion

Grade: "A-"

Comments: This year: i.) all 100 of the most dangerous species threatening to invade the state were successfully excluded or contained, ii.) only one listed species is in danger of becoming permanently established, iii.) ramorum blight eradication remained a possibility, and iv.) the process of securing funding for a State Invasive Species Coordinator was initiated. There is room for improvement, especially in the area of education/outreach.

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Invasive Species in Oregon
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Introduction

This year the Oregon Invasive Species Council gives Oregon a grade of "A-" for success at excluding invasive species in 2006. This is the same grade that was awarded in 2005 and compares favorably to grades ranging from "A-" to "B-" in the last four years.

This report card is a product of the Oregon Invasive Species Council; its purpose is to summarize current efforts to exclude undesirable invasive species from Oregon.

The body of this report is divided into four sections: a summary of the Council activities, a list of the top 100 most dangerous species threatening to invade the state, a review of significant incidents, and an analysis of the effectiveness of Oregon's exclusion efforts in 2006.

2006 Council Activities

Meetings

The Invasive Species Council met this year in Salem (February and October) and in Warm Springs (June). Minutes from these meetings are available on the Council webpage <www.oregon.gov/OISC>.

Education and Outreach

The Council focused on strategies for implementing an educational/outreach program in 2006. In 2005, the Council contracted with Ant Hill Marketing to produce a Statewide Awareness Campaign Plan. The estimated cost of the complete recommended campaign was $200,000 to $500,000. At the current time, the Council does not have resources at this level. Securing funding for a State Invasive Species Coordinator was deemed to be critical to addressing the need for fundraising. A position description for a Coordinator has been developed and is included in the Governor's Budget.

An educational program, spearheaded by Oregon Sea Grant, continued to make teachers aware that some species offered in educational kits should not be released in the wild. Partners in this program included: U.S. Fish & Wildlife Service, Portland State University, and Oregon Department or Fish & Wildlife. Pencils, pens, and lanyards advertising the toll-free hotline number for reporting invasive species (1-866-INVADER) were distributed; approximately 5,000 have been given away so far.

Awards

Each year the Council recognizes people and organizations that are making outstanding contributions to protecting the state from invasive species with the following awards:

Eagle Eye Awards -- presented to the person or persons reporting the most important sighting(s) of an invasive species. 2006 winners: **Bruce O'Neil** and **Ken White**, Premier Manufacturing, for reporting live insects in wood crating from China.

Outstanding Defender Award -- presented to the person(s)/organization (non-government) making the most outstanding contribution to protecting Oregon from invasive species. 2006 winner: **Fred Arnold**, south Coast Lumber, for outstanding cooperation in the sudden oak death eradication project in Curry County.

Ten Fingers in the Dike Award -- presented to the person(s) or unit in a government agency going above and beyond the call of duty to keep new invaders out of the state. 2006 winners: **Lesley Richman**, BLM, for her excellent outreach and education efforts related to noxious weeds.

Invader Crusader Awards -- presented to the Oregon student(s) making a difference in protecting Oregon from invasive species. 2006 winners: **Stefania Padalino**, OSU, for researching and designing a logo for the OISC; **Arick Rouhe**, PSU, for writing an action plan for feral swine.

Reporting Hotline

The Council supports a centralized, toll-free number (1-866-INVADER) to encourage sightings of all types of invasive species. Information received from calls to the hotline is referred to the appropriate agency for any necessary follow-up. This year there were an average of 32 calls per month.

Webpage

The Council's webpage was updated to include more information about Council activities and invasive species. The address is: <www.oregon.gov/OISC>

Information Sharing Network

Since its inception, the Council has maintained an information-sharing network to connect people and organizations in the state that have an interest in invasive species. Short documents are sent out via email, FAX, or regular mail. Anyone interested in invasive species in Oregon is invited to join the network by contacting: Dan Hilburn, ODA Plant Division, 635 Capitol St. NE, Salem, OR 97301; 503-986-4663; <dhilburn@oda.state.or.us>.

Action Plan

The Council last updated the statewide Invasive Species Action Plan in 2005. A committee has been formed to update it again in 2007. The latest version is available online at: <http://www.oregon.gov/OISC/reports.shtml>

The goal of the Action Plan is to facilitate efforts to keep invasive species out of the state, find invasions before they establish permanent footholds, and do whatever it takes to eradicate incipient populations of undesirable species. Exclusion, early detection and rapid response are by far the most cost-effective ways of dealing with undesirable invaders. Education and cooperation are key components to an effective strategy.

Legislation

Three bills related to invasive species are being proposed for the 2007 legislative session. OISC members were active in developing these bills and will work to ensure their passage. The bills would: 1.) Prohibit launching a boat with aquatic vegetation attached to the boat, motor, or trailer, 2.) Align Oregon's ballast water regulations with current Coast Guard rules, specifically to include barges and other vessels that are not self-propelled, and 3.) Prohibit noxious weed seed contamination in wild bird feed.

100 Most Dangerous Invaders Threatening Oregon in 2006

The Council developed the following list of least wanted species for 2006. These organisms threaten to invade at any time and available information allows us to predict that they would have a serious negative economic or ecological impact if they were to become established in the State. Eradication should be seriously considered if incipient populations are found. The costs of eradication are likely to be much less than the impacts associated with permanent establishment. The Council updates this list annually and our record of success or failure at exclusion of these species is reported in this annual report card and tracked by the Oregon Progress Board.

Micro-Organisms

alder root rot	*Phytophthora alni*
cherry leaf roll	cherry leaf roll nepovius (CLRV)
chronic wasting disease	CWD prion
elm yellows	elm yellows phytoplasma
golden nematode	*Globodera rostochiensis*
hazelnut bacteria canker	*Pseudomonas avellanae*
infectious salmon anemia virus	ISAV
oak wilt	*Ceratocystis fagacearum*
pear trellis rust	*Gymnosporangium fuscum*
Phytophthora taxon C	*Phytophthora kernovii*
plum pox	plum pox potyvirus (PPV)
poplar canker	*Xanthomonas populi*
potato cyst nematode	*Globodera pallida*
potato wart	*Synchytrium endobioticum*
ramorum canker and blight, sudden oak death	*Phytophora ramorum***
Sheep pen hill virus	carlavirus (BBScV-NJ)
whirling disease	*Myxobolus cerebralis***
willow watermark disease	*Erwinia salicis*

Aquatic Plants

African waterweed	*Lagarosiphon major*
caulerpa seaweed	*Caulerpa taxifolia*
cordgrasses	*Spartina alterniflora*, S. densiflora, S. anglica, S. patens***
dead man's fingers	*Codium fragile tomentosoides*
European water chestnut	*Trapa natans*
giant salvinia	*Salvinia molesta*
golden algae	*Prymnesium parvum*
hydrilla	*Hydrilla verticillata*
rock snot	*Didymosphenia geminate*

toxic cyanobacteria	*Cylindrospermopsis raciborskii*
yellow floating heart	*Nymphoides peltata***

Land Plants

African rue	*Peganum harmala***
camelthorn	*Alhagi pseudalhagi*
cape ivy	*Deleria odorata***
coltsfoot (not *Petasities frigidus*)	*Tussilago farfara***
giant hogweed	*Heracleum mantegazzianum***
goatgrasses (barbed, ovate)	*Aegilops triuncialis***, *A. ovata*
hawkweeds (king-devil, meadow, mouse-ear, orange, yellow)	*Hieracium piloselloides, H. pratense***, *H. pilosella, H. aurantiacum***, *H. floribundum*
giant reed grass	*Arundo donax***
kudzu	*Pueraria lobata***
matgrass	*Nardus stricta***
mile-a-minute weed	*Polygonum perfoliatum**
Paterson's curse	*Echium plantagineum***
Portugese broom	*Cytisus striatus***
purple nutsedge	*Cyperus rotundus*
silverleaf nightshade	*Solanum elaeagnifolium*
skeletonleaf bursage	*Ambrosia tomentosa*
squarrose knapweed	*Centaurea virgata***
starthistles (Iberian, purple)	*Centaurea iberica***, *C. calcitrapa***
Syrian bean-caper	*Zygophyllum fabago*
Texas blueweed	*Helianthus ciliaris*
thistles (plumless, smooth distaff, woolly distaff)	*Carduus acanthoides***, *Carthamus baeticus, Carthamus lanatus***

Aquatic Invertebrates

Asian clam	*Potamocorbula amurensis*
Asian tapeworm	*Bothriocephalus acheilognath*
fishhook waterflea	*Cercopagis pengoi*
Japanese shore crab	*Hemigrapsus sanguineus*
Leidy's comb jelly	*Mnemiopsis leidyi*
mitten crabs	*Eriocheir spp.**
New Zealand isopod	*Sphaeroma quoyanum***
New Zealand sea slug	*Philine auriformis***
quagga mussel	*Dreissena bugensis*
rusty crayfish	*Orconectes rusticus*
sea squirt	*Didemnum lahillei*
spiny waterflea	*Bythotrephes cederstroemi*
veined rapa whelk	*Rapana venosa*
zebra mussel	*Dreissena polymorpha*

Land Invertebrates

Africanized honey bee	*Apis mellifera scutellata*
Argentine ant	*Linepithema humile***
Asian longhorned beetles	*Anoplophora glabripennis, A. chinensis*
brown spruce longhorn beetles	*Tetropium fuscum, T. castaneum**
decollate snail	*Rumina decollata*
emerald ash borer	*Agrilus planipennis*
European chafer	*Rhizotrogus majalis*
European corn borer	*Ostrinia nubilalis*
European woodwasp	*Sirex noctilio*
granulate ambrosia beetle	*Xylosandrus crassiusculus***

gypsy moths (European, Asian, pink, nun moth)	*Lymantria dispar**, L. mathura*, L. monacha*
imported fire ants (red, black)	*Solenopsis invicta*, S. richteri*
Japanese beetle	*Popillia japonica***
Japanese cedar longhorned beetles	*Callidiellum rufipenne, C. villosulum**
khapra beetle	*Trogoderma granarium*
Mexican bean beetle	*Epilachna varivestis*
old world bollworm	*Helicoverpa armigera*
Oriental beetle	*Anomala orientalis*
plum curculio	*Conotrachelus nenuphar*
pine shoot beetle	*Tomicus piniperda*
red haired pine bark beetle	*Hylurgus ligniperda*
sawyers	*Monochamus urussovi*, M. alternatus**
Siberian moth	*Dendrolimus superans*
silver Y moth	*Autographa gamma*
spruce bark beetle	*Ips typographus*
Fish	
Amur goby	*Rhinogobius brunneus*
Asian carp (bighead, silver)	*Hypophthalmichthys nobilis, H. molitrix*
Atlantic salmon	*Salmo salar*
black carp	*Mylopharyngodon piceus*
muskellunge, northern pike, tiger muskie	*Esox spp.**
round goby	*Neogobius melanostomas*
ruffe	*Gymnocephalus cernuus*
Shimofuri goby	*Tridentiger bifasciatus*
snakeheads	*Channa spp.*
Birds	
mute swan	*Cygnus olor*
Mammals	
feral swine	*Sus scrofa***

*Detected previously in Oregon, but eradicated or did not establish.
**Currently under eradication or restricted to a small area in Oregon.

Significant Incidents in 2006

Oregon continues to be bombarded with undesirable invasive species. Many are intercepted, some incipient populations are discovered and eradicated, and regrettably a few escape and become permanently established. The following list documents important invasive species detections and actions taken in 2006. Note that interceptions at the ports of entry are not included; the incidents listed below involve species that have already penetrated our national border protection system. Twenty-five similar incidents were documented in the 2002, 30 in 2003, 28 more in 2004, and 41 in 2005.

January

February

1.) Argentine ant, *Linepithema humile*, discovered in an RV in Wilsonville after a visit to California. Eradicated by owners.

2.) Draft zebra mussel response plan for Columbia River completed.

March

3.) Live noctuid caterpillar (*Copitarsia* sp.) found in imported roses from Columbia at a Safeway store in Springfield.

4.) Monk parakeet nests at PDX reported to be empty for the first time since this population was introduced in 1977.

5.) New Zealand isopod, *Sphaeroma quoianum*, discovered in Yaquina Bay, previously known only from Coos Bay.

April

6.) Trees and shrubs on eight hundred acres of industrial, commercial, and residential properties in The Dalles, were treated to prevent establishment of granulate ambrosia beetle, *Xylosandus crassiusculus*. This eradication project started in 2005.

May

7.) Summary of Oregon's Environmental Regulations Related to Shipbreaking published by the Oregon Interagency Coordinating Committee on Environmental Regulations related to Shipbreaking.

8.) Thirteen nurseries were confirmed positive for *Phytothora ramorum* (sudden oak death). Eradication programs initiated at all of them.

9.) Amur goby, *Rhinogobius brunneus*, discovered in the Lewis River, in western Washington and subsequently in the Columbia River.

10.) Sixty, of sixty-two known giant hogweed, *Heracleum mantegazzianum*, sites treated. Two sites were declared eradicated after five years with no new plants.

June

11.) Myrtle spruge, *Euphorbia myrsinites*, found being offered for sale in a nursery in Burns.

12.) Two feral swine (a boar and a sow), *Sus scrofa*, reported and removed near Coos Bay.

13.) Rapid Response Plan for Zebra Mussels in the Columbia River Basin completed.

July

14.) Wrinkled dune snail, *Candidula intersecta*, confirmed from Coos Bay docks. This species is known to be a pest of fruit and grains.

15.) Eighty acres at the PDX cargo terminal treated for Japanese Beetle, *Papillia japonica*.

16.) Varigated Japanese knotweed, *Polygonum cuspidatum*, found for sale at two nurseries under the name variegated Fallopia.

17.) An oriental weatherfish or "dojo loach," *Misgurnus angullicaudatus*, found on the bank of Multnomah Channel.

18.) Forty-two new acres of forest determined to be infected with sudden oak death, *P. ramorum*, in Curry County. Trees and shrubs cut and burned. This eradication project has been ongoing since 2001.

August

19.) Twenty-eight Japanese beetles, *P. japonica*, captured at a trucking company on Swan Island, Portland. The statewide total was 38.

20.) Fifty-seven gypsy moths, *Lymantria dispar*, caught in a rural residential neighborhood north of Bend. The statewide total was 66. One of the moths, captured in St. Helens, was an Asian gypsy moth.

21.) Pet shop sweep in Portland nets fire-bellied toads, *Bombina orientalis*, red-eared sliders, *Trachemys scripta*, and other prohibited species.

September

22.) Two feral swine, *S. scrofa*, reported for the first time at Malheur National Wildlife Refuge.

23.) A live exotic wood wasp, *Tremex satanus*, discovered in crating imported from China at a manufacturing company in Portland. Subsequent inspection found live pupae of this species, as well as a live wood boring caterpillar and live leaf beetles.

24.) Diamond Lake treated with rotenone to eradicate a population of introduced Tui chub, *Gila bicolor*.

October

25.) A specimen of the wood wasp pigeon tremex, *Tremex columba*, trapped in an industrial area of Portland. This species is native to eastern North America, but unknown from the far West.

26.) Dutch Elm Disease, *Ophiostoma ulmi*, confirmed in Medford. Previously known in western Oregon only as far south as Eugene.

27.) Rustic borer, *Xylotrechus colonus*, a longhorned beetle, trapped at a wood recycler in Portland.

28.) Ghost ant, *Tapinoma melanocephalum*, and Argentine ant, *L. humile,* collected from the Portland zoo.

29.) A high school student in Eugene saw a Sea Grant brochure on aquatic invasive species and recognized rusty crayfish were being used in their science curriculum.

November

30.) Twenty-two fallow deer, *Dama dama*, escape from their unlicensed owner near Portland. All known deer removed from the wild.

31.) Survey report on exotic mollusks in Oregon issued by USDA. Wrinkled dune snail, *C. intersecta,* documented from seven sites in southwestern Oregon: four in Coos Bay, single sites in Frankport, Gold Beach and Port Orford. All sites are active or historical ports.

32.) A sighting of a single monk parakeet reported in Portland. For the first time since 1977, no active nests are known from the wild in Oregon, though they are present in Vancouver, WA.

December

33.) Draft Feral Pig Action Plan for Oregon completed.

Major Incidents Elsewhere with Implications for Oregon

34.) Potato cyst nematode, *Globodera pallida*, found in Idaho. 10,000 acres quarantined.

35.) Emerald ash borer, *Agrilus planipennis*, originally found in Michigan, spreads into Illinois and is rediscovered in Maryland.

36.) Plum pox detected in New York State and Michigan. In the U.S. it was previously known only from Pennsylvania.

37.) Chinese mitten crab, *Eriocheir sinensis*, discovered in Chesapeake Bay.

Analysis -- How Did We Do in 2006?

Ecologically and economically, it would be desirable to keep all of the organisms on the 100 Most Dangerous Invaders list out of the state. Realistically, 100% success is not feasible; the "ambitious but realistic" target set for our state by the Oregon Progress Board is 99% success each year. Benchmark #89 measures the "Number of most threatening invasive species not successfully excluded or contained since 2000." Oregon has done well this year at exclusion, meeting our target of less than one failure to keep out the 100 worst species threatening to invade Oregon. In the six years since the benchmark was established only one species from the list has become established, New Zealand mudsnail.

One species from the 2006 list is thought to be in danger of becoming permanently established: feral swine. A risk assessment of the feral swine problem in Oregon was completed in 2004 by Oregon State University. The potential for serious economic and ecological damage is high. A plan for how eradication could be achieved was developed this year and ODF& W and the U.S. Department of Agriculture, Wildlife Services Division began outreach efforts to educate the public about the dangers of feral pigs and inform them about what to do if they see them.

The fight against ramorum blight (a.k.a. sudden oak death) continued this year. Positive samples were collected at 13 Oregon nurseries in 2006. Though this is a small percentage of the total tested (approximately 2,000) it continues a trend of finds in nurseries each year since 2003. In addition, 42 newly infected acres were detected in the wild in Curry County. This suggests our exclusion, detection, and eradication programs are not as effective as they need to be. Quicker and more accurate diagnostic tests are needed and certification programs for nurseries incorporating best management practices designed to minimize the threat of disease introduction and establishment are being developed. The next few years will be pivotal.

Surveys for many of the 100 Most Dangerous Invaders were completed and eradication projects targeting 10 listed species were carried out in 2006: ramorum blight, giant hogweed, meadow hawkweed, kudzu, Patterson's curse, purple starthistle, distaff thistle, granulate ambrosia beetle, gypsy moth and Japanese beetle.

Conclusion

Comments: This year: i.) all 100 of the most dangerous species threatening to invade the state were successfully excluded or contained, ii.) only one listed species is in danger of becoming permanently established, iii.) ramorum blight eradication remained a possibility, and iv.) the process of securing funding for a State Invasive Species Coordinator was initiated. There is room for improvement, however, especially in the area of education/outreach. Therefore, the OISC grade for Oregon's efforts to exclude invasive species in 2006 is an "A-".