



Early Detection and Rapid Response—Insects

Key Message

The goals of the early detection and rapid response (EDRR) project are to:

- Detect, delimit and monitor newly introduced exotic bark beetles, ambrosia beetles, and wood borers at selected high-risk forest areas.
- Quickly assess and respond to newly detected exotic bark beetle, ambrosia beetle, and wood borers infestations.

Issue

Non-native bark and ambrosia beetles, defoliators, and wood borers are a serious threat to our nation's urban and rural forests (http://www.fs.fed.us/foresthealth/publications/EWS_final_draft.pdf). Case histories of exotic insects already established in North America (i.e. asian long-horned beetle, emerald ash borer, and Sirex woodwasp) have demonstrated the importance of earlier detections of non-native species entering native forested habitats to more effectively conduct delimitation, quarantine and control efforts, and eradication efforts, where feasible. A key aspect of providing earlier detection of non-native forest insects entering Alaska will be establishment of key cooperator monitoring networks to better assess future risk and pathways for exotic pest introduction. Since scolytid (beetle) EDRR monitoring efforts started by the Alaska Region Forest Health Protection and State of Alaska, Department of Natural Resources, Division of Forestry in 2002, non-native scolytids have not been identified near ports in the key population centers of Alaska (Anchorage, Fairbanks, Juneau). However, given the extensive area of Alaska's remote forest habitats, expansive coastline, and ever changing patterns of commerce in a changing climate, it's imperative that EDRR monitoring efforts be expanded to manage the risk of any unintended exotic species introductions.

Background

The national program to monitor for exotic bark beetles (scolytids) began in 2002. Traps were placed in Fairbanks, Juneau, and Anchorage. Additional monitoring sites will be added during 2009-2010 based on risk assessments currently in progress with key agency contacts (APHIS/PPQ, Customs & Border Protection, AKDNR Div. of Agriculture). Potential additional scolytid sites include Nome (Bering Sea northern passage port), The Alaska/Canadian Highway border crossing, Skagway, Ketchikan, and the Kenai Peninsula.

Pre-screening of potential non-natives will be done at the state level, where feasible, with confirmation by the EDRR lead taxonomists in the eastern and western U.S.

Forest Health Protection contract taxonomists at the Oregon Department of Agriculture and taxonomists connected with the Western Plant Diagnostic Network will make final identifications of the specimens.



Funnel trap with ultra-high release "sponge" lure devices

The following insects are considered targets based on risk assessments of economic damage in the country of origin (lures chosen for the surveys are attractive to these species):

Common Name	Species	Approximate Native Distribution
Golden haired Bark Beetle	<i>Hylurgops palliates</i>	Europe and N. Asia
Mediterranean pine engraver beetle	<i>Orthotomicus erosus</i>	Asia, Mediterranean
Six-spined engraver beetle	<i>Ips sexdentatus</i>	across Europe
European spruce beetle	<i>Ips typographus</i>	Central Europe
Lesser pine shoot beetle	<i>Tomicus minor</i>	Europe
Common pine shoot beetle	<i>Tomicus piniperda</i>	Europe
European hardwood ambrosia beetle	<i>Trypodendron domesticum</i>	Asia
Redbay ambrosia beetle	<i>Xyleborus glabratus</i>	China
Camphor shot borer	<i>Xylosandrus mutilatus</i>	Asia
Sirex woodwasp	<i>Sirex noctillio</i>	Europe, Asia, N. Africa
Asian longhorn borer	<i>Anoplophora glabripennis</i>	China
Brown spruce longhorn borer	<i>Tetropium fuscum</i>	Europe and Russia

Current Situation

State and Private Forestry, Forest Health Protection works with several partners, including University of Alaska Cooperative Extension Service, Alaska Association of Conservation Districts, USDA APHIS, and Alaska Department of Natural Resources, Division of Agriculture and Division of Forestry to provide an invasives detection network to collect and process specimens and information from citizens, volunteers, and resource professionals. The recently established Alaska Invasives Working Group provides a forum for interagency and NGO discussion and program coordination.

Prescreening for the identification of all captured scolytids indicated only native species were collected at all EDRR sites across Alaska in 2008. EDRR trapping results from all participating states are assembled in a national database maintained by USFS Forest Health Protection in Washington, D.C.

For More Information

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