

The Other Side of Invasive Pests in Oregon

Invasive pests in Oregon can have far reaching effects beyond the well-known negative impacts on agriculture and natural resources. Invasive pests can also directly affect jobs, water quality, watersheds, pesticide use, and human health.

1. Job creation

Many nursery and agricultural products must be certified as pest-free before they can be exported to other states and foreign countries. Without certification many Oregon products could not be shipped and agricultural businesses would be severely affected. This would directly result in job losses for those involved in the exportation of commodities.

2. Water Quality, Watersheds, and Pesticides

There are critical connections between water quality, watershed health, invasive pests, and pesticide use. For example, the Spotted Wing Drosophila (SWD), *Drosophila suzukii*, an invasive fruit fly pest, has caused increased pesticide use in orchards and has disrupted many of the advances in Integrated Pest Management (IPM) practices. Its adverse impact on cherry crop production over the past 3 years has resulted in increased spray regimens of every 5-7 days. The use of older pesticides, such as Malathion, has resulted in pesticide concentrations in local streams that are above water quality standards and sensitive aquatic life may be negatively affected (Riley et al., pers. comm, 2013). The Brown Marmorated Stink Bug (BMSB), *Halyomorpha halys*, is another invasive pest that is rapidly spreading throughout Oregon. It feeds on over 170 host plants, including orchard crops, vegetables, small fruit, and ornamentals. It can also be a household nuisance pest. Communications from growers and private homeowners indicate that pesticide applications are increasing to combat this pest.

The Oregon Department of Agriculture has been successful in keeping the Gypsy moth out of Oregon for more than 30 years with early detection and successful eradication programs. Research has shown that continuous defoliation by Gypsy moth, *Lymantria dispar* caterpillars in the eastern US can cause an increase in water and soil temperature. These temperature increases can have a series of cascading effects on other wildlife and riparian plant communities. In addition, the Gypsy moth may displace some threatened or endangered species in their natural habitats.

Flowering rush is an escaped ornamental that invades and dominates slow moving waters with muddy substrates up to 20 feet deep. It threatens irrigation systems on the Columbia River, salmon migrating through the Columbia, and water quality in general. This plant forms large monocultures that compete with native plants such as cattails and willows.

3. Human Health

Invasive pests have the potential to affect every aspect of our lives, including human health. With increases in pesticide use and the effects that some pests can have on human health (e.g., West Nile virus, Dengue virus, allergic reactions to Gypsy moth caterpillar hair), we will have to maintain vigilant detection and monitoring programs to enable us to rapidly respond to new invaders and minimize unnecessary pesticide applications down the road.

Summary

An effective early detection and rapid response system to invasive pests will decrease adverse impacts to Oregon by maintaining access to important export markets, protecting Oregon's watersheds and water quality, reducing pesticide applications, decreasing the impacts of invasive species in natural watersheds, and decreasing potential impacts to human health.



For more information,
please contact Dr. Helmuth Rogg
Director, Plant Program Areas
Tel.: 503-986-4662; hrogg@oda.state.or.us



Oregon
Department
of Agriculture
635 Capitol Street N.E.
Salem, OR 97301-2532