



Integrated Weed Control Project – Western Washington



Stem-mining beetle on Dalmatian toadflax.

Non-native invasive plant species threaten biological diversity, decrease forage and habitat for wildlife and livestock, increase wind and water erosion and decrease land values throughout Washington. Many years of manual and chemical control are required to impact large infested areas, which results in significant expenses for landowners and public agencies.

Biological control offers an inexpensive control method that can provide long-term weed suppression. Biocontrol agents are self-perpetuating and can disperse to new and undetected weed infestations or those difficult to reach with other control practices. Although it can take agents several years to establish and begin impacting weed infestations, biocontrol is often a highly effective tool and in many cases is the best management option. WSU Extension heads the *Integrated Weed Control Project (IWCP)* aimed at promoting the use of biocontrol agents for invasive plant management.

Project Goals:

- Establish biocontrol agents and manage them on a statewide scale to suppress noxious weeds.
- Increase public awareness of the benefits and appropriate use of biocontrol as part of an integrated management strategy.
- Foster and expand the westside component of the statewide project by providing biocontrol agents, information and expertise to land-managers from county, state and federal agencies, conservation organizations, tribes and private and industry landowners.

County Highlights!

- An hour-long television special featuring the TCNWCP, The Nature Conservancy and the IWCP aired on Thurston County TV over 20 times since July 2007. The program discussed the importance of invasive plant species and the weed management efforts of each agency working in Thurston County.
- In 2008, we are looking to engage new land-managers in order to increase our efforts in Thurston County.

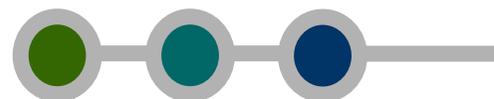
IWCP in Thurston County

The IWCP partners with the Thurston County Noxious Weed Control Program to provide biocontrol education and implementation in the region. The TCNWCP finds suitable release sites through field surveys and works with IWCP personnel to redistribute biocontrol agents throughout the field season. Biocontrol agent releases through IWCP began in Thurston County in 2005. In the last three years, 12 releases, totaling 3580 insects, have been provided for the control of meadow knapweed, Scotch broom, Canada thistle and tansy ragwort. Four biocontrol agent species have been released including *Bruchidius villosus*, *Larinus obtusus*, *Longitarsus jacobaeae* – Italian biotype and *Urophora cardui*.

- 2007: 2 releases of 900 insects
- 2006: 7 releases of 1980 insects
- 2005: 3 releases of 700 insects



Larinus obtusus, a seed-feeding weevil, was released near Yelm to control meadow knapweed.



IWCP Efforts in Western Washington

2007 Insect Collections and Releases

- 52,588 insects were released across 199 sites in western WA, a substantial increase compared to 2006.
- Target weeds include: purple loosestrife, Scotch broom, Canada thistle, Dalmatian toadflax, St. Johnswort, tansy ragwort and spotted, diffuse and meadow knapweed.
- Fourteen insect species were released in western WA.
- Releases were made in 21 counties in collaboration with County Noxious Weed Control Programs, Mount-Baker Snoqualmie Forest Service, Tacoma Power and Water, US Fish and Wildlife, WSDOT, McChord AFB, Army Corps of Engineers, The Nature Conservancy, Land Trusts and private landowners.

2007 Education and Public Outreach

- Eleven biocontrol seminars were presented to EarthCorps, Bainbridge Island Land Trust, County Noxious Weed Boards and participants at the Forest Service Tour, Yakima Weed Conference and WA State Noxious Weed Control Board Weed Workshop.
- A biocontrol display was presented at 14 fairs, festivals, garden clubs, high school workshops and other public events.
- Approximately 4600 people reached.

Project Highlights!

- A volunteer-based monitoring program was developed and implemented with the Bainbridge Island Land Trust to assess the effectiveness of purple loosestrife biocontrol.
- Paper accepted and presented to 250 participants at the XII International Symposium on Biological Control of Weeds in Montpellier, France.
- Release of the previously unavailable Swiss strain of *Longitarsus jacobaeae*, the root-mining flea beetle for high elevation tansy ragwort infestations.



A close-up of Scotch broom flowers, a prevalent species in Thurston County.

Project History - In 1999, the *Quad County and Colville Reservation Bioagent Project* was initiated. The project's significant success, with diffuse knapweed suppression by the seed-feeding weevil, *Larinus minutus*, resulted in greater financial support and allowed for an increase in public outreach efforts and, in 2002, expansion westward as IWCP. The statewide project is funded by the USFS, county extension and weed board offices, Colville and Yakima Nation Reservations, WA State Department of Fish and Wildlife, WA Department of Natural Resources, and other collaborators.

Biocontrol has been utilized in western WA by county noxious weed control programs for some time, but these efforts have varied greatly and have been limited by a lack of landscape-wide activity. The project coordinator manages insect collections, redistribution, and educational events in the 19 counties of western WA and leads the state-wide program. In addition to the statewide funding support, King, Pierce and Clark County Noxious Weed Control Boards have contributed funding to support the western WA project area.

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