

Idaho's Statewide Pre-release Monitoring Guidelines for Houndstongue Seed-feeding Weevil:



Overview:

A critical part of successful weed biological control programs is monitoring the impact of biological control agents on the target weed. Monitoring should be conducted on an annual basis for a number of years to show trends. Gathering baseline monitoring information before a new biological control agent is released is critical to determining impacts. The Idaho State Department of Agriculture, in conjunction with the University of Idaho, Nez Perce Biocontrol Center, and federal land management agencies, has developed the Standard Impact Monitoring Protocol (SIMP) to enable land managers to take a more active role in pre-release monitoring in preparation for the

new biological control agent, *Mogulones borraginis* (MUBO), a seed-feeding weevil, and its target weed, houndstongue (*Cynoglossum officinale*). This monitoring protocol was designed to be implemented by land managers in a timely manner and to provide pre-release monitoring data which will enable land managers and researchers to accurately quantify the impact of MUBO once it is released.



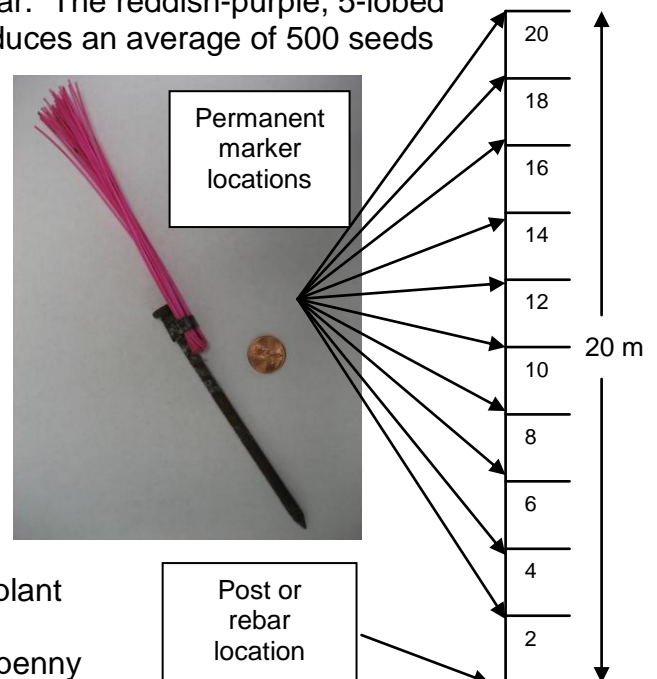
Houndstongue:

Houndstongue is a biennial or short-lived perennial which reproduces by barbed seeds that readily adhere to fur, hair, and wool. The first year, the plant develops a rosette with hairy, linear leaves that range from 10 – 30 cm in length. Plants typically grow to from 35 – 140 cm tall the second year. The reddish-purple, 5-lobed flowers bloom June through August. Each plant produces an average of 500 seeds which are composed of four prickly nutlets, each approximately 1 cm in length. Houndstongue's ability to spread has created serious problems on rangeland and pastures where the plant quickly colonizes disturbed sites and heavily grazed areas in riparian zones. Houndstongue contains pyrrolizidine alkaloids, making it poisonous to livestock and horses.

Permanent Site Set-up:

To set up the vegetation monitoring transect, you will need:

- 1) a 25 x 50 cm Daubenmire frame made from PVC (preferred) or rebar,
- 2) a 20 m tape measure for the transect line and plant height,
- 3) 10 permanent markers (road whiskers and 16-penny nails – see above picture),



4) a post (stake or piece of rebar) to monument the starting point at the site (see pictures for examples of field equipment), and

5) 30-45 minutes at the site during the **second week in July**.

To set up the transect, place the 20 m tape randomly within the infestation. Mark the beginning of the transect with a post. Place permanent markers every 2 m (for a total of 10 markers) beginning at the 2 m mark and ending with the 20 m mark on the tape measure. Place the Daubenmire frame parallel to the tape on the 50 cm side with the permanent marker in the upper left corner starting at 2 m (see pictures). **Refer to the data sheet for how to conduct monitoring.** Repeat the frame placement at 2 m intervals for a total of 10 measurements (one at each permanent marker).

