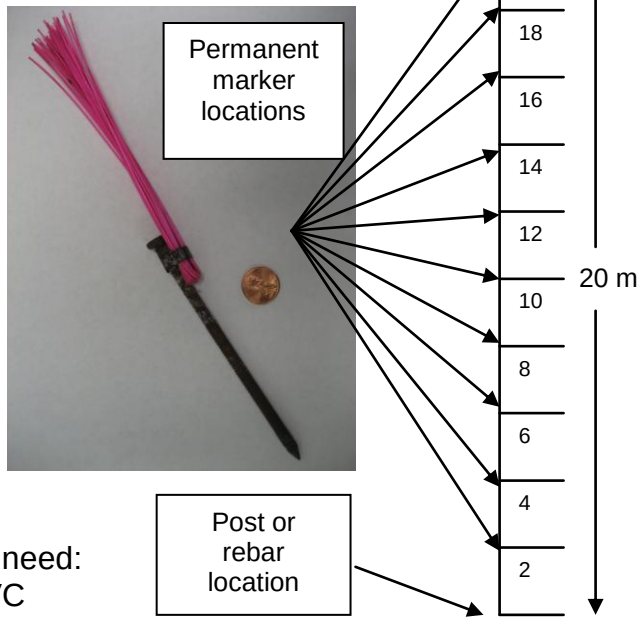
Idaho's Statewide Pre-release Monitoring Guidelines for the Russian Knapweed Gall Midge and Gall Wasp:

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 agents *Jaapiella ivannikovi* (JAIV), a gall midge and *Aulacidea acroptilonica* (AUAC), a gall wasp, and its proposed target weed, Russian knapweed (*Acroptilon repens*). This monitoring protocol was designed to be implemented by land managers in a timely manner while providing pre-release monitoring data which will enable researchers and land managers to accurately quantify the impact of JAIV and AUAC once they are released.

Russian knapweed:

Russian knapweed is a perennial plant that reproduces mainly by creeping roots. In addition, a single plant is capable of producing more than 1,200 seeds. These seeds vary in color from gray to ivory and are produced from August through September. The erect stems are openly branched and typically 45 to 90 cm tall. The leaves are oblong on the upper part of the plant and become deeply lobed the closer they are to the root crown. Russian knapweed produces many flowers which range in color from pink to blue. Flowering typically begins in June and continues through September. Russian knapweed forms dense infestations across habitat types in the arid West. It is a significant pest of rangelands, roadsides, waste areas, and can invade grain and other crops. Recently, JAIV and AUAC were approved for release by the Animal Plant Health Inspection Service (APHIS). Establishing SIMP sites for baseline monitoring data prior to agent release will be necessary to document biological control agent impacts.



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 **third 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).