

## **Appendix H Monitoring Techniques**

### **Developing Permanent Photo Points**

Permanent photo points are an easy and effective method to evaluate management actions and determine the progress of a weed control program. Comparing photographs of the same site taken over a period of several years furnishes visual evidence of vegetation changes. Photo points should be established before initiating a control program in an area to ensure that there is a record of the resource situation prior to changes in management. Photographs, both close-up and general view, should be obtained at each evaluation site. It is very important to accurately identify each photograph.

#### **A. Equipment**

1. Stakes (metal or fiberglass rod)
2. Plot frame (3x3 or 5x5 foot metal or fiberglass frame)
3. Photo identification label
4. 35 mm camera (ideally with a 29 mm wide-angle lens)
5. Color prints
6. Post (for marking location of the site) (metal or fiberglass)
7. Post driver
8. Orange spray paint (for marking post)
9. Compass or GPS unit

#### **B. Site Selection**

At least one permanent photo point should be located in each key area. Key areas are “critical” sites within the project area where the proposed treatment should have a significant impact. The number of key area needed in a WMA will be influenced by soils, vegetation, topography, etc., and number of acres involved in the project. Key areas may be selected on the basis of environmental, social, and/or political criteria.

#### **C. Procedures**

1. Mark the key area with a permanent transect location post (spray post with orange paint). Locate a typical area about 25 feet from the transect location post. Record the exact distance and compass heading. Mark the plot with a stake. This will be the permanent “close-up” photo print.
2. Number the site on the photo identification label. Locate the identification label in the center of the plot. Focus on the identification label when taking the photographs.
3. Timing: Photographs should be taken when the weed is most visible (flowering) and at the same time each year.
4. Close-up Photographs: Place the square frame next to the stake. Place the photo identification label flat on the ground. The camera

point, or location from which the photograph is taken, should be on the north side of the photo plot so there are no shadows across the photo. To take the photograph, stand over the photo plot with toes touching the edge of the frame. Include the photo label in the photograph.

5. General View Photograph: General view photographs present a broad view of a study site. The photo identification label is placed in an upright position so that it will appear in the foreground on the photograph. To take general view photographs, stand at the transect location post, include the photo label, a general view of the site, and some sky in the photographs.
6. Repeat Photographs: Photographs should be taken at the same time each year using the above procedures. Be sure to use the same 35 mm camera and face the same direction each year when taking repeat photographs.

D. Narrative: A narrative must accompany each photograph so the results can be interpreted. Estimate canopy cover as: Low – 5% or less, Moderate – 5% to 25%, High – 25% or more.