

## 8.0 NOXIOUS WEED CONTROL PROGRAM

Ten plant species are on a high priority list for control at the Hanford Site. These species are listed below, with a summary of the 2003 control activities. Major populations of noxious weeds on the Hanford Site are illustrated in Figure 8-1.

**Yellow Starthistle** (*Centaurea solstitialis*). Yellow starthistle represents the most rapidly expanding weed infestation in the Western United States. Hanford is at a critical point in the infestation cycle. Over 2,023 ha (5,000 acres) have been infested, and a seed bank has been established in the soil. Many additional acres have scattered starthistle infestation. Applications of aerial herbicides in 1998 and 1999 have been effective, with minimal germination in 2002. In 2003, significant germination was observed and plants were again controlled by aerial herbicide applications. Biological control organisms, primarily the hairy weevil (*Eustenopus villosus*) and the bud weevil (*Bangasternus orientalis*) were commonly found in starthistle during 2003. It was observed that buds flowering early through mid season were heavily infested with weevils. However, buds flowering late in the season showed reduced infestation of the flowering heads.

**Rush Skeletonweed** (*Chondrilla juncea*). Rush skeletonweed is widely scattered over large areas on the Hanford Site. Although areas of dense infestation have largely been eliminated, a considerable population remains as scattered individuals. Populations of skeletonweed have increased on some areas burned in the 24 Command fire (June 2000).

In 2003, control of rush skeletonweed concentrated on the area north of HAMMER and the Hanford Patrol Training Academy. Herbicides were aerially applied to approximately 1,200 acres with a relatively heavy rush skeletonweed population. The effectiveness of the application will be evaluated during the spring of 2004.

As in most years, some populations were highly affected by the bio-controls, and flowering was eliminated. Other populations were less affected, and some were not significantly impacted by the bio-control agent.

**Medusahead** (*Taeniatherum asperum*). Hand pulling was once again used to control the small population of Medusahead on the 200 Area plateau. Plants were pulled before seeds were mature. Monitoring and eradication efforts will continue in 2004 as the plants mature to the point where they can be distinguished from neighboring grass species.

**Babysbreath** (*Gypsophila paniculata*). Efforts to control babysbreath in 2003 concentrated on the main infestation at the Hanford Townsite. Although babysbreath is resistant to control by herbicides, effective herbicides exist that kill the upper portions of the plant. Controlling the top of the plant prevents flowering and additional seed production as well as depleting energy reserves in the roots until the plant succumbs. The invasion on the Hanford Site is relatively small, and control by attrition is the practical alternative.

**Dalmatian Toadflax** (*Linaria genistifolia ssp. Dalmatica*). In 2003, control of dalmatian toadflax focused on a small population at 100-B/C Area. The species at Hanford has yielded to past control efforts. Seedlings of the long-lived perennial plant will be eliminated as they are identified.

**Spotted Knapweed** (*Centaurea maculosa*). Most populations of spotted knapweed on the Hanford Site have been reduced to scattered individuals, or seedlings germinating from the long-lived seeds. Cooperative work with neighboring landowners continues to eliminate spotted knapweed near the Hanford Site.

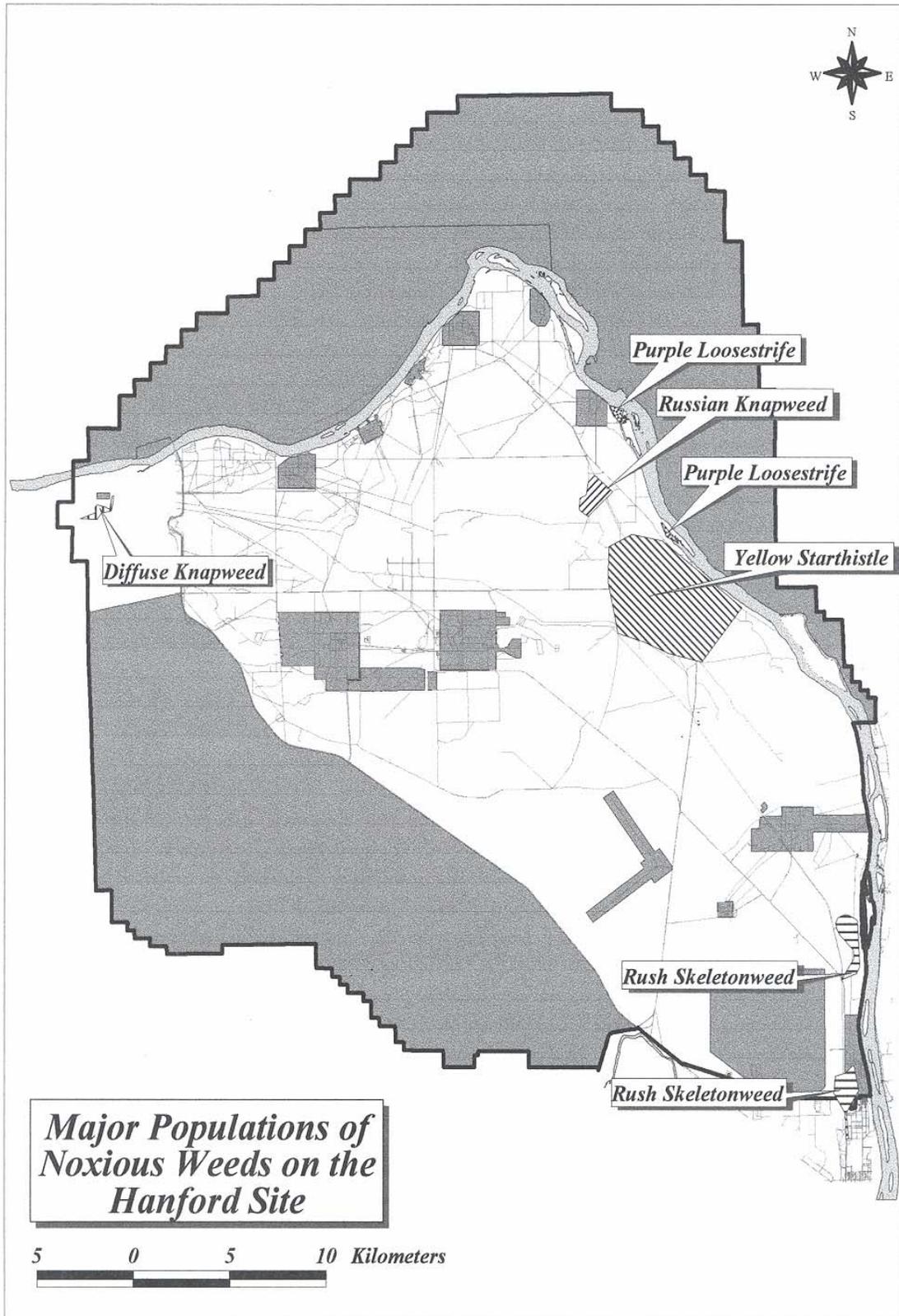
**Diffuse Knapweed** (*Centaurea diffusa*). Aerial applications for control of diffuse knapweed have been effective in the past. Spot treatment of scattered individuals continued in 2003. Herbicide control of populations of diffuse knapweed near the high water mark of the Columbia River has not been actively pursued due to the biological sensitivity of the area. Biological controls have been established and their effectiveness continues to be monitored.

**Russian Knapweed** (*Acroptilon repens*). Biological controls for Russian knapweed are limited, and their success in the arid climate of Hanford has been poor. Chemicals and techniques are being developed that may prove effective with this difficult to control species.

**Saltcedar** (*Tamarix spp.*). Several individual plants of saltcedar are found on the Hanford Site. Most are remaining from ornamental plantings near homes in the early part of the previous century. A few populations are the result of natural seed dispersal. Most individuals south and west of the Columbia River have been eliminated. Those remaining continue to be treated with herbicide and will be monitored until they no longer show signs of life.

**Purple Loosestrife** (*Lythrum salicaria*). Purple loosestrife has established only sparse populations along the south and west bank of the Columbia River. Portions of the riverbank and slews are monitored for purple loosestrife and identified individuals are controlled.

Figure 8-1. Major Populations of Noxious Weeds, 2003.



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