

Table 6. Documented invasive and nonnative plant species on Lee Metcalf National Wildlife Refuge, Montana, as of 2010 and the degree of infestation, priority for treatment, and State noxious status.

<i>Common name</i>	<i>Degree of infestation</i>	<i>Area of infestation or number of plants found</i>	<i>Priority for treatment</i>	<i>State noxious status¹ and comments</i>
Tall buttercup	Medium	0.23 acre ²	High	Priority 2A—common in some areas, eliminate or contain
Yellowflag iris	Medium	0.82 acre ²	High	Priority 2A
Blueweed	Low	Two plants found	High	Priority 2A
Hoary alyssum	Low	3.56 acres ²	High	Priority 2A
Canada thistle	High	50 acres ³	Medium	Priority 2B—abundant and widespread, eradication or containment where less abundant
Field bindweed	Low	1 acre	High	Priority 2B
Leafy spurge	Medium	7.51 acres ²	High	Priority 2B
Spotted knapweed	High	6.64 acres ²	Medium	Priority 2B
Dalmatian toadflax	Low	<5 plants	High	Priority 2B
St. Johnswort	Medium	15.2 acres ²	Medium	Priority 2B
Sulfur cinquefoil	Low	0.06 acre ²	High	Priority 2B
Common tansy	High	28.89 acres ^{2,3}	Medium	Priority 2B
Oxeye daisy	Medium	6.43 acres ²	Medium	Priority 2B
Houndstongue	High	48.33 acres ^{2,3}	High	Priority 2B
Yellow toadflax	Medium	1.48 acres ^{2,3}	Medium	Priority 2B
Cheatgrass	High	26.74 acres ^{2,3}	Low	Priority 3—regulated plant with potential to have significant impacts, may not be intentionally spread or sold
Musk thistle	High	70 acres ³	Medium	n/a
Italian bugloss	Medium	2.97 acres ²	High	n/a
Teasel	Low	0.5 acre ³	Medium	n/a
Kochia	High	7 acres ³	Medium	n/a
Reed canarygrass	High	200 acres ³	Low	n/a

¹ Sources: Montana Department of Agriculture 2010, USDA 2010.

² Estimated acreage of infestation (treated and untreated) within areas surveyed based on USFWS, Montana Invasive Species Strike Team 2009; additional infestations may occur within unsurveyed areas.

³ Acreage is estimated.

Additional source: unpublished refuge data.

have significantly aided efforts to control the spread of invasive plant species and possibly the elimination of invasives from specific areas on the refuge. Chemical applications are used on specific species and applied during the optimal plant stage of growth to increase the effectiveness of the application. All chemicals must be approved by the Service for use on refuges, and the application of a specific chemical onsite must undergo a pesticide use proposal evaluation. Approximately 400 acres per year are treated for invasive plants, using chemical applications and mechanical means.

WILDLIFE DISEASES AND CONTAMINANTS

Several wildlife diseases have the potential in the near future to spread to the refuge from western Montana

and neighboring states. Contaminants from surrounding residential development, historical mining activity, and atmospheric deposition also pose a threat.

Wildlife Diseases

Two common avian diseases have been documented near the refuge in very small numbers (less than 30 birds): aspergillosis and salmonellosis. Often fatal, aspergillosis is caused by birds ingesting or inhaling toxic fungi in contaminated feeds. Salmonellosis can also be fatal; it is caused by *Salmonella* bacterium that spreads through (1) the air via bacteria shed from seed kernels or insects, (2) an infected organism's feather dust or feces, or (3) through other contact. While these are the only two diseases documented in this area, there may