

Appendix I: Invasive Plants

| Common name | Scientific name | Biological characteristics | Response to fire | Control method | Extent on Refuge |
|---------------------------------|---|--|---|--|---|
| Russian olive/autumn olive | <i>Elaeagnus angustifolia</i> , <i>E. umbellata</i> | Woody; perennial; nitrogen-fixing; seeds spread by birds; shade-tolerant | Mature trees tolerant | Herbicide treatment—basal bark or cut stump | Small, isolated populations. Present in Savanna Reconstruction Unit, Rothinghouse property |
| Shrub lespedeza | <i>Lespedeza bicolor</i> | Herbaceous/semi-woody; perennial; clonal | Fire-adapted | Herbicide treatment | Dense population present in one unit (Old Game Farm) |
| Sericea lespedeza | <i>Lespedeza cuneata</i> | Herbaceous forb; perennial; clonal; warm season; allelopathic* | Fire-adapted | Chemical treatment—Triclopyr (Garlon 4) | Widespread small populations, isolated individuals or small clumps |
| Bush honeysuckle | <i>Lonicera sp.</i> | Woody; perennial; shade-tolerant; seeds spread by birds | Intolerant | Herbicide treatment—cut stump | Primarily in oak savannas |
| White poplar | <i>Populus alba</i> | Woody; perennial; clonal | Fire may increase suckering | Girdling, herbicide treatment—basal bark or cut stump | Isolated in Dogleg unit in about three patches |
| Black locust | <i>Robinia pseudoacacia</i> | Woody; perennial; clonal | Fire increases suckering | Herbicide treatment—basal bark or cut stump | Small clumps in several plantings, one large area in Highpoint along both sides of the Refuge boundary; primarily associated with former home sites |
| Japanese raspberry | <i>Rubus parvifolius</i> | Woody; perennial; clonal; Shade-tolerant | Intolerant | Herbicide treatment | Only known to be in one isolated population on the Refuge; small population on roadside near Refuge |
| Garlic mustard | <i>Alliaria petiolata</i> | Herbaceous forb; biennial; cool season; shade-tolerant | Intolerant | Early detection/rapid response -- hand pulling, cool season burning | Present in central Iowa, but not found on Refuge |
| Spotted knapweed | <i>Centaurea maculosa</i> | Herbaceous forb; perennial; clonal; allelopathic | Intolerant of annual burns | Early detection/rapid response, herbicide | Present in central Iowa, but not found on Refuge |
| Cut-leaved teasel/Common teasel | <i>Dipsacus laciniatus/D. sylvestris</i> | Herbaceous forb; biennial/ short-lived perennial | Intolerant | Early detection/rapid response, cutting, mowing, burning | Not known to be present on Refuge |
| Leafy spurge | <i>Euphorbia esula</i> | Herbaceous forb; perennial; clonal | Tolerant | Early detection/rapid response, herbicide treatment | Present in central Iowa, but not found on Refuge |
| Purple loosestrife | <i>Lythrum salicaria</i> | Herbaceous forb; perennial; clonal | Intolerant | Early detection/rapid response, herbicides, biocontrols | Present close to Refuge |
| European buckthorn | <i>Rhamnus cathartica</i> | Woody; perennial; seeds spread by birds | Fire controls seedlings, top-kills mature plants | Early detection/rapid response, herbicides | Present in central Iowa, but not found on Refuge |
| Canada thistle | <i>Cirsium arvense</i> | Herbaceous forb; perennial; clonal; cool season | Intolerant | Repeated mowing prior to bloom, chemical treatment during bud, cool season burning | Widespread patches, but only in certain plantings |
| Crown vetch | <i>Coronilla varia</i> | Herbaceous forb; perennial; clonal | Intolerant | Burning, mowing, herbicide treatment | Small patches, mostly along roadsides |
| White & yellow sweet clovers | <i>Melilotus alba</i> , <i>M. officinalis</i> | Herbaceous forb; biennial; seeds may remain viable for decades | Fire intolerant, but fire stimulates seed germination | Mowing during bloom stage, hand-pulling, burning | Widespread patches |
| Silvergrass, plumegrass | <i>Miscanthus sacchariflorus</i> | Herbaceous grass; Perennial; clonal; warm | Tolerant | Cool season burning, herbicide treatment, | Isolated patches primarily associated with former |

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| | | season | | mowing to prevent seed production | home sites (3 locations) |
| Smooth brome | <i>Bromus inermis</i> | Herbaceous grass; perennial; clonal; cool season | Intolerant | Cool season burning, inter-seeding | Widespread in former pastures and in prairie plantings and remnants |
| Tall fescue | <i>Festuca arundinacea</i> | Herbaceous grass; perennial; clonal; cool season; allelopathic | Intolerant | Cool season burning, interseeding, herbicide treatment | Present on Refuge primarily in waterways |
| Bird's-foot trefoil | <i>Lotus corniculatus</i> | Herbaceous forb; perennial; clonal; cool season | Intolerant but seeds germination increases | Burning, hand-pulling, herbicide treatment | Localized in disturbed areas, primarily around Visitor Center |
| Alfalfa | <i>Medicago sativa</i> | Herbaceous forb; perennial; clonal; cool season | Intolerant | Burning | Scattered locations |
| Reed canarygrass | <i>Phalaris arundinacea</i> | Herbaceous grass; perennial; clonal; cool season | Intolerant | Burning, herbicide treatment | Widespread along Walnut creek, smaller drainages and wet areas, and isolated clumps in uplands |
| Kentucky bluegrass | <i>Poa pratensis</i> | Herbaceous grass; perennial; clonal; cool season | Intolerant | Cool season burning, interseeding | Widespread, especially in disturbed areas |
| Multiflora rose | <i>Rosa multiflora</i> | Woody; perennial; clonal | Intolerant | Burning, mowing, herbicide treatment | Scattered in some prairie and savanna remnants |
| Red clover | <i>Trifolium pratense</i> | Herbaceous forb; perennial; clonal; cool season | Intolerant | Cool season burning | Widespread, especially in disturbed areas |
| Musk thistle | <i>Carduus nutans</i> | Herbaceous forb; biennial; cool season | Intolerant | Mowing or cutting at crown level | Scattered individual plants and isolated patches |
| Bull thistle | <i>Cirsium vulgare</i> | Herbaceous forb; biennial | Intolerant | Mowing or cutting at crown | Scattered individual plants |
| Poison hemlock | <i>Conium maculatum</i> | Herbaceous forb; biennial | Intolerant | Cutting at crown, burning | Isolated patches primarily associated with former home sites |
| Queen Anne's lace | <i>Daucus carota</i> | Herbaceous forb; biennial | Intolerant | Hand pulling, mowing | Concentrated in disturbed areas around buildings, roads, and in grazed areas |
| Wild parsnip | <i>Pastinaca sativa</i> | Herbaceous forb; biennial | Intolerant | Cutting at crown level, burning | Widespread scattered plants |
| Curly dock | <i>Rumex crispus</i> | Herbaceous forb; biennial | Intolerant | Cool season burning | Widespread, scattered plants |