



Invasive Exotic Plant Monitoring in Colorado National Monument

2015 Field Season

Natural Resource Report NPS/NCPN/NRR—2016/1287



ON THE COVER

Yellow sweetclover (*Melilotus officinale*). NPS photo.

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Contents

- Figures..... v
- Tables v
- Executive Summary vii
- Acknowledgements ix
- 1 Introduction..... 1
- 2 Methods..... 3
 - 2.1 Developing a park priority invasive exotic plant list..... 3
 - 2.2 Monitoring routes..... 3
 - 2.3 Monitoring transects..... 5
 - 2.4 Extra-area surveys..... 6
 - 2.5 Analyses 6
- 3 Results..... 7
 - 3.1 Priority invasive exotic plant list..... 7
 - 3.2 Monitoring routes..... 7
 - 3.3 Monitoring transects..... 8
 - 3.4 Extra areas 8
 - 3.5 Results comparison: 2003, 2009, 2011, 2013, and 2015 8
- 4 Discussion..... 25
 - 4.1 Priority invasive exotic plant list..... 25
 - 4.2 Possibilities for management control 25
 - 4.3 Future monitoring efforts..... 26
- 5 Literature Cited 27
- Appendices 29
 - Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015. 29
 - Appendix B. Invasive exotic plant percent cover detected by monitoring plots, July 1–22, 2015. 75

Figures

Figure 2-1. The maximum Effective Detection Distance (EDD) at Colorado NM ranged from 2.5 to 10 meters, making the Effective Detection Swath Width (EDSW) 5–20 meters.	4
Figure 3-1. Invasive exotic plant monitoring routes, Colorado National Monument, July 1–22, 2015.	14
Figure 3-2. Invasive exotic plants detected on monitoring routes in the northern portion of Colorado National Monument, July 1–22, 2015.	15
Figure 3-3. Invasive exotic plants detected on monitoring routes in the vicinity of Gold Star and Monument canyons, Colorado National Monument, July 1–22, 2015.	16
Figure 3-4. Invasive exotic plants detected on monitoring routes and monitoring plots in the vicinity of Ute Canyon, Colorado National Monument, July 1–22, 2015.	17
Figure 3-5. Invasive exotic plants detected on monitoring routes and monitoring plots in the vicinity of Red Canyon, Colorado National Monument, July 1–22, 2015.	18
Figure 3-6. Invasive exotic plants detected on monitoring routes and monitoring plots in the southern portion of Colorado National Monument, July 1–22, 2015.	19
Figure 3-7. Invasive exotic plants detected on monitoring routes and monitoring plots in the East Entrance extra area of Colorado National Monument, July 1–22, 2015.	20
Figure 3-8. Invasive exotic plants detected on monitoring routes and monitoring plots in the West Entrance extra area of Colorado National Monument, July 1–22, 2015.	21
Figure 3-9. Invasive exotic plants detected on monitoring routes and monitoring plots in the Gold Star Canyon extra area of Colorado National Monument, July 1–22, 2015.	22
Figure 3-10. Invasive exotic plants detected on monitoring routes that were included on target and priority lists from 2009 to 2015, Colorado National Monument.	23

Tables

Table 2-1. Priority invasive exotic plant list, Colorado National Monument.	5
Table 3-1. Invasive exotic plants detected at Colorado National Monument, July 1–22, 2015.	7
Table 3-2. Monitoring routes surveyed, route type, length, hectares covered along the route, number of IEP patches, and number of patches/100 m, Colorado National Monument, July 1–22, 2015.	9
Table 3-3. Species observed and patch size class detected along monitoring routes, Colorado National Monument, July 1–22, 2015.	10
Table 3-4. Total number of transects per route, number of transects where exotic plant species were detected, mean percent cover, and standard error by sampling area (management unit or monitoring route), Colorado National Monument, July 1–22, 2015.	11
Table 3-5. Total number of monitoring transects per route, number of transects where priority exotic plant species were detected, mean percent cover, and standard error by sampling type of monitoring route, Colorado National Monument, July 1–22, 2015.	12
Table 3-6. Treatments planned or proposed, dates of treatments and total number (number/ha) of invasives found in extra areas during monitoring conducted, Colorado National Monument, July 1–22, 2015.	12

Table 3-7. Number of patches of invasive exotic plants detected in areas surveyed in 2003, 2009, 2011, 2013, and 2015.....	13
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Executive Summary

Invasive exotic plant (IEP) species are a significant threat to natural ecosystem integrity and biodiversity, and controlling them is a high priority for the National Park Service. The Northern Colorado Plateau Network (NCPN) selected the early detection of IEPs as one of 11 monitoring protocols to be implemented as part of its long-term monitoring program. This report represents work completed at Colorado National Monument during 2015. During monitoring conducted between July 1 and 22, a total of 12 IEP species were detected in the combined monitoring routes and transects at the monument. Of these, 10 were priority species that accounted for 715 separate infestations. IEPs were most prevalent along riparian areas. Yellow sweetclover (*Melilotus officinale*), yellow salsify (*Tragopogon dubius*) (added to the priority list in 2015), and woolly mullein (*Verbascum thapsus*) were the most widespread species found along monitoring routes. Cheatgrass (*Anisantha tectorum*) had the highest percent cover (0.8%) and highest frequency (74%) of all IEPs found on transects. Tamarisk and Russian olive infestations remained at relatively low numbers when compared to the first year of NCPN monitoring in 2009, and the earlier survey efforts by Utah State University in 2003. Tamarisk and Russian olive had 76% and 80% fewer infestations in 2015 than 2009, respectively. This was likely the result of efforts by volunteers to control this species. However, several problematic species, such as Russian olive, cheatgrass, and yellow sweetclover, increased in some areas from 2013 to 2015 or were recorded in new monitoring routes, either for the first time or for the first time in several years. Observers found more patches of woolly mullein in 2015 than in any other year of NCPN monitoring. Other than yellow sweetclover, the size of patches remained low (only 16% were >40 m²). In addition, 79% of the tree patches were classified as seedlings or saplings. This indicates that most of the patches are still small enough to be controlled. Network staff will return to re-sample all monitoring routes in 2017.

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1 Introduction

Invasive exotic species fragment native ecosystems, displace native plants and animals, and alter ecosystem function. Invasive species are second only to habitat loss as threats to global biodiversity (Scott and Wilcove 1998) and represent one of the most serious threats to natural ecosystem integrity (National Research Council 2002). Biological invasions are occurring at accelerated rates in nearly every major ecosystem (Mooney and Hobbs 2000).

Exotic plants negatively affect park resources and visitor enjoyment by altering landscapes and fire regimes, reducing native plant communities and animal habitat, and increasing trail-maintenance needs (see Loope 1992). Recognizing these challenges, national parks of the Northern Colorado Plateau Network (NCPN) identified invasive exotic plants (IEPs) as a high-priority vital sign for long-term monitoring (O'Dell et al. 2005).

IEPs are a subset of exotic plants “whose introduction does or is likely to cause economic or environmental harm or harm to human health” (Executive Order 13112). With the aim of facilitating strategic control approaches, the NCPN monitoring program detects early invasions, identifies existing invasions, and, to the extent possible, tracks changes in the abundance and distribution of IEPs in parks along key invasive pathways.

Invasive exotic plants can spread into national parks via a number of different pathway types. Predictable IEP pathways include roads, trails, and riparian corridors. Long-distance dispersal through cargo containers and air freight are examples of sudden pathways. Anthropogenic pathways include horticultural escapes and seeds transported on shoes and in restoration seed mixes. For the National Park Service (NPS), the consequences of these plant invasions present a significant challenge to the agency’s ability to maintain natural resources “unimpaired for the enjoyment of future generations.”

Because regular, comprehensive monitoring of the distribution and abundance of all exotic plant species within NCPN units is beyond the fiscal capabilities of the network and parks, the NCPN is focusing on the most likely areas where a broad range of invasive exotic plants may occur: riparian corridors, roads, trails, areas of high visitor impact (e.g., campgrounds), and park boundaries. This approach is cost-effective for finding many new invasions in areas where they are most likely to occur, but it may miss exotic plants dispersed to the interior areas of large parks by wind and/or animals. This report summarizes the 2015 field season at Colorado National Monument (NM).

Specific objectives of NCPN invasive exotic plant monitoring are:

1. To detect incipient populations and new introductions of invasive plant species before they become established in areas of management significance and invasion pathways; and
2. To determine status and trends of selected invasive plant populations of management significance.

2 Methods

Field work followed the invasive exotic plant monitoring protocol developed by the NCPN (Perkins et al. 2013), adapted from Andersen and Dewey (2007). The protocol emphasizes the quick collection of IEP location and abundance data in order to maximize the amount of area searched, thus increasing our chances of finding a higher percentage of both new invasions and established IEPs. By focusing on roads, trails, and waterways, which are major vectors for invasive plants, we will capture the greatest amount of information (i.e., benefit) with the least amount of time and effort (i.e., cost).

The first step was to have monument and NCPN staff review and update the list of priority invasive exotic plants for the park (Table 2-1). Next, we established a series of co-located monitoring routes and quadrats along all roads, major drainages, and trails in the park. The quadrats, which are sampled in a quantitative manner, are used to make inference to the percent cover of priority IEPs located along the park's invasive pathways (i.e., the monitoring routes) and allow us to estimate trends in selected IEP percent cover over time. The monitoring routes, which are not quantitatively sampled, are used to increase the spatial coverage of mapping performed, with the goal of maximizing our opportunities for detecting IEPs in the park.

2.1 Developing a park priority invasive exotic plant list

Prior to the start of monitoring, NCPN and monument staff reviewed the list of priority IEPs (Table 2-1). The original list was developed by reviewing past park literature and state and county weed lists and consulting with park staff and county weed managers. Our priority IEP list includes existing IEPs and potential IEPs of high management concern. Because these methods were designed to be rapid, field crews were trained to develop a focused search image on the priority IEPs, instead of looking for every possible invasive plant species. The likelihood of eradicating these priority species or containing them within a park is generally high.

2.2 Monitoring routes

2.2.1 Minimum detection target size

The minimum detection target size (MDTS) represented the patch size that was large enough to be detected with a high level of confidence (typically at least 90% of the total number of patches of that size and larger in the monitoring area) under actual field conditions, but small enough so that any missed patches smaller than the MDTS could still feasibly be eradicated if not found until the next scheduled monitoring visit. We established an MDTS of 40 m² (0.01 acres or approximately 20 × 20 ft) for all IEPs. Use of the MDTS was necessary because field technicians were not expected to find every single plant of every priority IEP species during route surveys. Although searching for single mature plants of some species, such as Russian olive (*Elaeagnus angustifolia*) and tamarisk (*Tamarix ramosissima*), is possible due to their large size, single plants of other species, such as field bindweed (*Convolvulus arvensis*) or even seedlings of the aforementioned species, are nearly impossible to detect in most field conditions.

2.2.2 Effective detection distance

The effective detection distance (EDD) was the maximum distance from which a searcher could consistently detect (i.e., see and recognize) the MDTS of the least-visible priority species with at least 90% detection efficiency. Crew members calibrated themselves by walking away from a targeted patch size of the least-visible species and determining the maximum distance from which they could consistently see and recognize the patch with complete confidence. The distance was measured either by pacing or using a laser rangefinder. The EDD for Colorado NM in 2015 was between 2.5 and 10 m, depending on vegetation that could obscure infestations (Figure 2-1).

2.2.3 Effective detection swath width

Effective detection swath width (EDSW) was defined as the maximum width of a linear search swath (band transect) in which a walking observer is confident of visually detecting 90% of all priority species of the

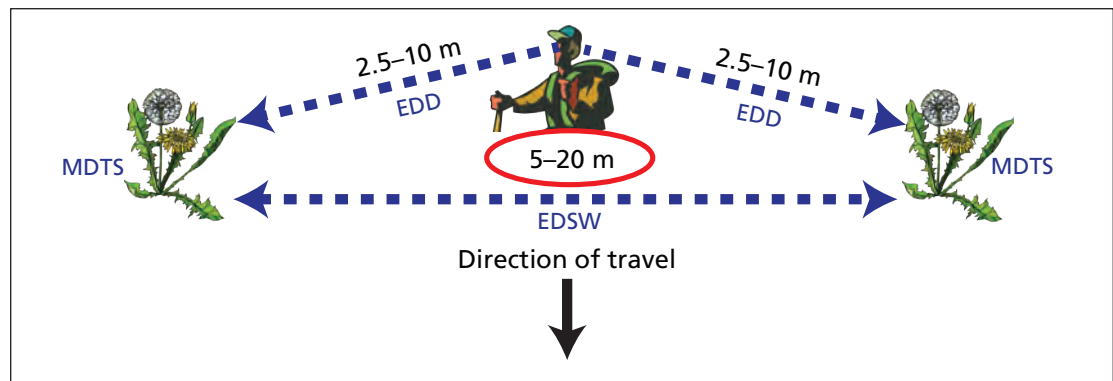


Figure 2-1. The maximum Effective Detection Distance (EDD) at Colorado NM ranged from 2.5 to 10 meters, making the Effective Detection Swath Width (EDSW) 5–20 meters.

MDTS. The effective detection swath width (EDSW) is equal to two times the EDD, because the surveyor is able to effectively detect IEPs for one EDD on either side of his/her search route. The EDSW for the monument in 2015 ranged from 5 to 20 m (Figure 2-1).

2.2.4 Patch separation resolution

We defined patch separation resolution (PSR) as the minimum distance between plants that must be considered members of separate patches or infestations. Individuals or clusters of a priority species separated by the PSR distance or more were recorded as separate patches. We considered plants separated by less than the PSR to be a single patch or infestation. The PSR was set at 50 m, based on the assumption that most plants or groups of plants separated by less than 50 m are typically considered to be one infestation during planning and implementation of IEP control operations. If an infestation was continuous for more than 50 m, cover estimates were made every 50 m to aid in developing an effective management strategy for the entire infestation.

2.2.5 Between feature position

Between feature positions allow electronic tracking of the user's route. The GPS unit was set to automatically generate every 20 m.

2.2.6 Data collection methods

For Rim Rock South and East Glade Park Road, we walked five meters out from one side of the road and then returned to the starting point by walking back five meters

from the road on the other side. In some cases, due to topography and property boundaries, it was not possible to walk five meters from the road. For single-track trails and drainages, we walked the center of the trail or drainage in only one direction.

While walking, we searched for selected IEPs by visually scanning (side-to-side) all of the land within the borders of the swath. However, if the terrain was uneven or steep, and the observer had to glance frequently at the ground to ensure safe foot placement, then searchers stopped approximately every 5–20 meters (the length of one EDSW) and visually scanned the area in all directions. As monitoring routes were traversed, locations of all priority species were documented using global positioning system (GPS) units with at least five-meter accuracy.

Only IEPs that were designated as priority were consistently recorded during monitoring routes. Survey crew members were given the latitude to record additional IEP species if they were noteworthy. When a priority IEP was discovered, we recorded the following information: (1) the monitoring route, (2) location, (3) patch size class (see below), (4) whether the plant was pulled by the observer, and (5) canopy cover class (see below). If several species were present with similar distributions at a single point, we recorded a point for each individual species and assigned it its own sequential identification number.

Patch size class was estimated as follows:

1. 1–a few plants (used for isolated single plants or very small patches ($\leq 2 \times 2$ m))

2. few plants–40 m² (48 yd²)
3. 40–400 m² (48–478 yd²)
4. 400–1,000 m² (0.1–0.25 acre)
5. 1,000–2,000 m² (0.25–0.5 acre).

We recorded canopy cover class by estimating the amount, or “percentage,” of ground covered by the vertical projection of plant matter as visualized from a bird’s-eye view of the vegetation (Elzinga et al. 1998). This estimate included both the living and dead standing material of the vegetation of a single plant species. Canopy cover of a patch was recorded using the following classes:

1. Trace (<1%)
2. Low (1–5%)
3. Moderate (6–25%)
4. High (26–50%)
5. Majority (51–100%).

We recorded the following ancillary information with every patch: the growth stage of exotic trees (i.e., sapling, pole, mature), evidence of prior treatment, and evidence of disturbances (e.g., recent fire, flood, small mammal disturbance).

2.3 Monitoring transects

2.3.1 Quadrat establishment

We established transects with three vegetation quadrats every 500 meters along monitoring routes. Our methods for sampling the quadrats were based on Stohlgren and others (2005). We centered vegetation quadrats at 0.5, 5, and 10 m away from the edge of a road on the same side as the route that was being walked and on alternating sides for riparian areas, small roads, or trails.¹ If there was not enough space between the route and a topographic feature or property boundary, then the three quadrats were evenly spaced between the route and the boundary. A 1-m² sampling frame was used to sample cover of vegetation and soil surface features by placing it on the right side of the transect line as the technician walked from the monitoring route. The sampling frame was leveled in some cases by propping up quadrat corners.

¹This differed slightly from 2009, when quadrats were placed at 3, 8, and 13 m from the route.

2.3.2 Data collection methods

In the monitoring quadrats, observers recorded all priority IEP species observed, as well as cheatgrass (*Anisantha tectorum*). For each quadrat, we recorded percent cover of each IEP using the following classes: <1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, or 100%.² We also recorded percent cover, to the nearest 10%, of dominant soil surface features (i.e., dead wood, dung, fun-

²This differed slightly from 2009, when cover classes were <1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11–25, 26–50, 51–75, or >75%. However, only three transects would have been recorded differently in 2009 had the 2011 framework been used in that year.

Table 2-1. Priority invasive exotic plant list, Colorado National Monument.

Scientific name	Common name
<i>Acosta diffusa</i>	diffuse knapweed
<i>Acosta maculosa</i>	spotted knapweed
<i>Acroptilon repens</i>	Russian knapweed
<i>Arctium minus</i>	burdock
<i>Breea arvensis</i>	Canada thistle
<i>Cardaria draba</i>	hoary cress
<i>Cardaria latifolia</i>	broad-leaf pepperwort
<i>Carduus acanthoides</i>	plumeless thistle
<i>Carduus nutans</i>	musk thistle
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Chorispura tenella</i> ¹	blue mustard
<i>Cirsium vulgare</i>	bull thistle
<i>Convolvulus arvensis</i>	field bindweed
<i>Cylindropyrum cylindricum</i>	jointed goatgrass
<i>Cynoglossum officinale</i>	common hounds-tongue
<i>Descurainia sophia</i> ¹	flixweed
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Isatis tentoria</i>	Dyer’s woad
<i>Linaria vulgaris</i>	butter-and-eggs
<i>Lythrum salicaria</i>	purple loosestrife
<i>Melilotus officinale</i> ²	yellow sweet-clover
<i>Onopordum acanthium</i>	Scotch thistle
<i>Tamarix</i> spp.	tamarisk
<i>Tithymalus esula</i>	leafy spurge
<i>Tragopogon dubius</i> ¹	yellow salsify
<i>Tribulus terrestris</i>	puncturevine
<i>Ulmus pumila</i>	Siberian elm
<i>Verbascum thapsus</i>	woolly mullein

¹ Added in 2015

² Added in 2011

gus, lichen, litter/duff , live root/bole, mineral soil/sediment, moss, biological soil crust, road, rock, standing water/flooded, stream, or trash/junk).

2.4 Extra-area surveys

Three extra areas were searched using transects along straight parallel lines that followed a UTM northing or easting. To conduct these searches, the observer walked to a starting position on the edge of the intended search area corresponding to a convenient UTM value. The observer then used a compass to set a bearing and a horizon landmark to aim for while surveying the transect. The observer then walked the transect, searching

for IEPs on either side of the transect center. When an IEP was found, the observer stood in the center of the patch to enter the necessary data. Transects were placed in parallel fashion one EDSW apart.

2.5 Analyses

We calculated the number of patches per kilometer for monitoring routes. Percent cover estimates were generated from the quadrat data, from which we calculated the mean and standard error of percent cover by species.

3 Results

3.1 Priority invasive exotic plant list

Twenty-seven IEP species were identified as “priority” for Colorado NM (see Table 2-1). Three new species, blue mustard (*Chorispora tenella*), flixweed (*Descurainia sophia*), and yellow salsify (*Tragopogon dubius*), were added to the priority list in 2015. Otherwise, the priority list has been the same since 2009, except for the addition of yellow sweetclover (*Melilotus officinale*) in 2011. We also recorded cheatgrass in monitoring quadrats. A total of 14 IEP species were recorded on monitoring routes and transects in 2015, ten of which were priority species (Table 3-1). Twelve IEP species were recorded on monitoring routes, seven species were recorded in monitoring transects, and three in extra areas. Of these, 10, 5, and 2 were priority species, respectively. We monitored along 76.6 km (47.6 miles) of monitoring routes and 49.9 additional ha (123.3 acres) in extra areas in 2015.

Four priority species were found in 2013 but not detected in 2015: Russian knapweed (*Acroptilon repens*), burdock (*Arctium minus*), puncturevine (*Tribulus terrestris*) and broadleaf pepperwort (*Cardaria latifolia*). Canada thistle (*Breea arvensis*) was detected in 2015 for the first time since 2011; leafy

spurge (*Euphorbia esula*) was detected for the first time ever. Yellow salsify (*Tragopogon dubius*) was added to the priority list in 2015 and was also detected for the first time.

3.2 Monitoring routes

A total of 715 patches of 10 priority species were detected along 16 monitoring routes in 2015 (Table 3-2; Figures 3-1, 3-2, 3-3, 3-4, 3-5, and 3-6; Appendix A. Tables and figures begin on page 9). Due to the monitoring of extra areas in 2015, the Rim Rock Ute Road, and the Liberty Cap, Monument Canyon, and Old Gordon trails were not completed. The Fenceline Route was only partially completed.

Yellow sweetclover, yellow salsify, woolly mullein (*Verbascum thapsus*), and field bindweed were the most commonly detected priority IEPs, representing 92% of all priority patches (Table 3-3). Yellow sweetclover and yellow salsify represented 82% of all priority patches. Only priority species should be examined when comparing across areas, as these were the only species recorded consistently by all observers.

Priority IEPs were most prevalent along riparian areas and roads. They were found in highest numbers along Wedding Canyon,

Table 3-1. Invasive exotic plants detected at Colorado National Monument, July 1–22, 2015.

Scientific name	Common name	Method detected			Priority?
		Route	Transect	Extra area	
<i>Breea arvensis</i>	Canada thistle	X			Yes
<i>Cirsium vulgare</i>	bull thistle	X	X		Yes
<i>Convolvulus arvensis</i>	field bindweed	X	X		Yes
<i>Elaeagnus angustifolia</i>	Russian olive	X			Yes
<i>Euphorbia esula</i>	leafy spurge	X			Yes
<i>Melilotus officinale</i>	yellow sweetclover	X	X	X	Yes
<i>Tamarix</i> spp.	salt cedar	X			Yes
<i>Tragopogon dubius</i>	yellow salsify	X	X	X	Yes
<i>Ulmus pumila</i>	Siberian elm	X			Yes
<i>Verbascum thapsus</i>	woolly mullein	X	X		Yes
<i>Alyssum desertorum</i>	desert madwort		X		No
<i>Anisantha tectorum</i>	cheatgrass		X	X	No
<i>Asparagus officinalis</i>	asparagus	X			No
<i>Bassia sieversiana</i>	summer-cypress	X			No

Ute Canyon, Red Canyon, and No Thoroughfare Canyon (see Table 3-2). Only 11 priority patches were found along the 6.5 km (4.0 miles) of trail sampled in 2015. No priority IEPs were detected along the Kodels Canyon, Lizard Canyon, or Kodels Canyon Trail monitoring routes. No patches were detected on the Fenceline route, but only 1.1 km was completed of this 15.4-kilometer route.

Of the 715 priority infestations, 52.6% occurred in size classes larger than 40 m² (size classes 3–5; Table 3-3). This percentage was largely driven by yellow sweetclover, for which 77% of infestations were larger than 40 m². Of all other priority species, only 16% were larger than 40 m².

Three priority invasive tree species were detected: Russian olive, tamarisk, and Siberian elm. Of the 40 tree patches detected, 3 were seedlings, 23 were saplings, 7 were mature trees, and growth stage was not noted for 7 patches.

3.3 Monitoring transects

A total of 142 transects were sampled in 2015 (Appendix B). Cheatgrass, yellow salsify, woolly mullein, and yellow sweetclover were the only priority species present in more than one transect (Tables 3-4, 3-5). Cheatgrass was widespread (found in 74% of all transects), with a percent cover of 0.8% of the total monitored area. Along routes with at least five transects, cheatgrass had the highest percent cover along No Thoroughfare Trail, at 2.2%, and the highest frequency along East Glade Park Road, occurring in 88.2% of those transects (Table 3-5). Yellow sweetclover was present most often (32.2% of transects) in No Thoroughfare Canyon and had the highest percent cover, at 0.15%, in Ute Canyon.

3.4 Extra areas

Three different extra areas were completed in 2015, at the request of park managers. In these three areas, invasive-plant control has either been completed or there are plans to initiate control in the near future (Table 3-6). We detected 488 patches of three species (cheatgrass, yellow salsify, and yellow sweetclover) on 52.3 hectares in three different

extra areas (Figures 3-7, 3-8, and 3-9). Near the East Entrance, the treated area had lower infestation rates of cheatgrass than the areas proposed for treatment. In the West Entrance area, that relationship was reversed. For the areas proposed for treatment, these data will serve as pre-treatment data. For the two areas that have already been treated, these areas will be followed to determine the changes post-treatment.

3.5 Results comparison: 2003, 2009, 2011, 2013, and 2015

Colorado National Monument was previously surveyed for IEPs in 2003 (Dewey and Anderson 2005; 2009), 2009 (Perkins 2010), 2011 (Perkins 2012), and 2013 (Perkins 2014). The only species included in the target (2003) and priority (2009–2015) lists were Russian knapweed (which was not found), field bindweed, Russian olive, tamarisk, and woolly mullein. However, in the 2009–2015 time period, the priority species were the same, except that yellow sweetclover was added in 2011 and yellow salsify, blue mustard, and flaxweed were added in 2015. While Dewey and Anderson (2005; 2009) did not provide specific route lengths in 2003, the following areas were essentially the same as those surveyed from 2009 to 2015: No Thoroughfare Canyon, Ute Canyon, and Gold Star Canyon. In addition, coverage of Monument Canyon and Independence Monument in 2003 was approximately equal to the coverage of Monument Canyon by NCPN from 2009 to 2015.

In areas that were monitored in all five sample periods, Russian olive declined by one infestation from 2013, after increasing in 2009 and 2011 (Table 3-7). Russian olive patches dropped by 80% between 2011 and 2015, but this plant was detected in Columbus Canyon for the first time in 2015. Russian olive in Monument Canyon went from nine patches to zero from 2013 to 2015, but No Thoroughfare Canyon went from zero patches in 2013 to eight in 2015. Tamarisk patches increased slightly, from eight in 2013 to nine in 2015, but remained at low levels when compared to other years from 2003 to 2015. Tamarisk patches in 2015 were 76% lower than in 2009 and 90% lower than in 2003 (Table 3-7).

Woolly mullein had the highest number of patches ever detected during NCPN monitoring in 2015 (Figure 3-10), and increased from 12 to 33 during NCPN monitoring from 2013 to 2015. Yellow sweetclover has fluctuated, with 437 patches in 2011, 184 in 2013, and 324 in 2015 (Table 3-7). Total patches of

all invasive exotic plants increased along Rim Rock Drive South and No Thoroughfare, Red, Ute, and Wedding canyons from 2013 to 2015. Patches declined in Monument Canyon and East Glade Park Road from 2013 to 2015.

Table 3-2. Monitoring routes surveyed, route type, length, hectares covered along the route, number of IEP patches, and number of patches/100 m, Colorado National Monument, July 1–22, 2015.

Route	Route type	Length (m)	Ha	Patches detected		Patches/100 m	
				Priority	Total	Priority	Total
Columbus Canyon	Riparian	1,954.7	1.96	13	13	0.67	0.67
Fruita Canyon	Riparian	2,762.3	2.67	9	9	0.33	0.33
Gold Star Canyon	Riparian	1,866.8	2.64	2	2	1.07	1.07
Hydro 03	Riparian	404.3	0.41	4	4	0.98	0.98
Kodels Canyon	Riparian	1,019.5	1.03	0	0	0.00	0.00
Lizard Canyon	Riparian	1,396.0	1.68	0	0	0.00	0.00
Monument Canyon	Riparian	7,225.3	7.25	50	52	0.69	0.72
No Thoroughfare Canyon	Riparian	15,579.7	18.18	223	225	1.43	1.44
Red Canyon	Riparian	3,917.5	3.92	61	61	1.56	1.56
Ute Canyon	Riparian	8,629.6	8.64	171	171	1.98	1.98
Wedding Canyon	Riparian	4,251.5	4.26	12	12	2.26	2.26
<i>Riparian totals</i>		<i>49,006.9</i>	<i>52.65</i>	<i>545</i>	<i>549</i>	<i>1.11</i>	<i>1.12</i>
East Glade Park Road	Road	9,537.8	8.69	84	84	0.88	0.88
Rim Rock South	Road	11,529.4	9.41	75	75	0.65	0.65
<i>Roads totals</i>		<i>21,067.1</i>	<i>18.10</i>	<i>159</i>	<i>159</i>	<i>0.75</i>	<i>0.75</i>
Kodels Canyon	Trail	797.4	1.14	0	0	0.00	0.00
No Thoroughfare	Trail	4,595.1	4.58	11	11	0.24	0.24
Fenceline	Trail	1,124.6	1.13	0	0	0.00	0.00
<i>Trails totals</i>		<i>6,517.3</i>	<i>6.85</i>	<i>11</i>	<i>11</i>	<i>0.16</i>	<i>0.16</i>
Route totals		76,591.3	77.61	715	719	0.93	0.94

Table 3-3. Species observed and patch size class detected along monitoring routes, Colorado National Monument, July 1–22, 2015.

Scientific name	Common name	Priority?	Total patches	Patch size class				
				1	2	3	4	5
<i>Barea arvensis</i>	Canada thistle	Yes	1	1	0	0	0	0
<i>Cirsium vulgare</i>	bull thistle	Yes	16	6	3	3	0	4
<i>Convolvulus arvensis</i>	field bindweed	Yes	29	6	15	8	0	0
<i>Elaeagnus angustifolia</i>	Russian olive	Yes	10	8	2	0	0	0
<i>Euphorbia esula</i>	leafy spurge	Yes	1	1	0	0	0	0
<i>Melilotus officinale</i>	yellow sweetclover	Yes	380	24	62	144	74	76
<i>Tamarix</i> spp.	tamarisk	Yes	14	10	3	1	0	0
<i>Tragopogon dubius</i>	yellow salsify	Yes	200	70	61	30	8	31
<i>Ulmus pumila</i>	Siberian elm	Yes	16	15	0	1	0	0
<i>Verbascum thapsus</i>	woolly mullein	Yes	48	15	18	10	2	3
Priority species total			715	156	164	197	84	114
<i>Asparagus officinalis</i> *	asparagus	No	2	2	0	0	0	0
<i>Bassia sieversiana</i> *	summer-cypress	No	2	2	0	0	0	0
Non-priority species total			4	4	0	0	0	0

^Only recorded in extra areas

*Not a priority species so may not have been recorded by all observers.

Table 3-4. Total number of transects per route, number of transects where exotic plant species were detected, mean percent cover, and standard error by sampling area (management unit or monitoring route), Colorado National Monument, July 1–22, 2015.

Route	Scientific name	Common name	# of transects detected/total transects	Percent cover	SE
Columbus Canyon	<i>Anisantha tectorum</i>	cheatgrass	1/4	0.08	0.08
	<i>Melilotus officinale</i>	yellow sweetclover	1/4	0.04	0.04
East Glade Park Road	<i>Anisantha tectorum</i>	cheatgrass	15/17	0.30	0.04
	<i>Convolvulus arvensis</i>	field bindweed	1/17	0.02	0.02
	<i>Melilotus officinale</i>	yellow sweetclover	4/17	0.05	0.02
	<i>Alyssum desertorum</i>	desert madwort*	1/17	0.01	0.01
Fruita Canyon	<i>Anisantha tectorum</i>	cheatgrass	5/5	0.93	0.40
Gold Star Canyon	<i>Anisantha tectorum</i>	cheatgrass	4/4	1.21	0.82
Hydro 03	<i>Anisantha tectorum</i>	cheatgrass	1/1	0.33	0.33
Kodels Canyon	<i>Anisantha tectorum</i>	cheatgrass	2/2	0.33	0.17
Kodels Canyon Route	<i>Anisantha tectorum</i>	cheatgrass	1/1	6.17	6.17
Lizard Canyon	<i>Anisantha tectorum</i>	cheatgrass	3/3	0.83	0.33
Monument Canyon	<i>Anisantha tectorum</i>	cheatgrass	10/13	0.79	0.36
Rim Rock South	<i>Anisantha tectorum</i>	cheatgrass	17/24	0.25	0.04
	<i>Melilotus officinale</i>	yellow sweetclover	1/24	0.01	0.01
Red Canyon	<i>Anisantha tectorum</i>	cheatgrass	7/8	1.63	0.82
	<i>Tragopogon dubius</i>	yellow salsify	1/8	0.02	0.02
	<i>Verbascum thapsus</i>	wooly mullein	1/8	2.50	2.50
	<i>Cirsium vulgare</i>	bull thistle	1/8	2.08	2.08
No Thoroughfare Trail	<i>Anisantha tectorum</i>	cheatgrass	5/9	2.24	1.83
No Thoroughfare Canyon	<i>Anisantha tectorum</i>	cheatgrass	16/31	0.44	0.17
	<i>Melilotus officinale</i>	yellow sweetclover	10/31	0.09	0.03
	<i>Tragopogon dubius</i>	yellow salsify	2/31	0.01	0.01
	<i>Verbascum thapsus</i>	wooly mullein	1/31	0.01	0.01
Ute Canyon	<i>Anisantha tectorum</i>	cheatgrass	14/17	0.71	0.24
	<i>Melilotus officinale</i>	yellow sweetclover	5/17	0.15	0.09
	<i>Tragopogon dubius</i>	yellow salsify	1/17	0.01	0.01
	<i>Verbascum thapsus</i>	wooly mullein	1/17	0.01	0.01
Wedding Canyon	<i>Anisantha tectorum</i>	cheatgrass	7/8	1.58	0.82

*Not a priority species

Table 3-5. Total number of monitoring transects per route, number of transects where priority exotic plant species were detected, mean percent cover, and standard error by sampling type of monitoring route, Colorado National Monument, July 1–22, 2015.

Scientific name	Common name	Trails		Roads		Riparian		Total	
		Transects detected (of 13)	Percent cover (SE)	Transects detected (of 41)	Percent cover (SE)	Transects detected (of 96)	Percent cover (SE)	Transects detected (of 149)	Percent cover (SE)
<i>Anisantha tectorum</i>	cheatgrass	7	2.19 (1.42)	32	0.27 (0.03)	73	0.78 (0.14)	111	0.75 (0.15)
<i>Cirsium vulgare</i>	bull thistle	0	0.00 (0.00)	0	0.00 (0.00)	1	0.17 (0.17)	1	0.11 (0.11)
<i>Tragopogon dubius</i>	yellow salsify	0	0.00 (0.00)	0	0.00 (0.0)	4	0.01 (<0.01)	4	<0.01 (<0.01)
<i>Melilotus officinale</i>	yellow sweetclover	0	0.00 (0.00)	5	0.02 (0.01)	16	0.06 (<0.01)	21	0.04 (0.01)
<i>Verbascum thapsus</i>	wooly mullein	0	0.00 (0.00)	0	0.00 (0.00)	3	0.21 (0.21)	3	0.13 (0.13)
<i>Convolvulus arvensis</i>	field bindweed	0	0.00 (0.00)	1	0.01 (0.01)	0	0.00 (0.00)	1	<0.01 (<0.01)
Total priority species		7	2.19 (1.42)	34	0.33 (0.02)	78	1.23 (0.29)	119	1.05 (0.22)

Table 3-6. Treatments planned or proposed, dates of treatments and total number (number/ha) of invasives found in extra areas during monitoring conducted, Colorado National Monument, July 1–22, 2015.

Area	Status	Treatments	Dates	Hectares	Species detected (number/ha)			Total
					Cheatgrass	Yellow salsify	Yellow sweetclover	
East Entrance	Planned (EPMT)	cheatgrass	March 2015	0.9	8 (8.9)	1 (1.1)	0 (0.0)	9 (10.0)
	Proposed	cheatgrass	TBD	7.7	125 (16.2)	3 (0.4)	0 (0.0)	128 (16.6)
Gold Star	Proposed	cheatgrass, filaree*, tumble mustard	TBD	8.8	86 (9.8)	9 (1.0)	0 (0.0)	95 (10.8)
West Entrance	Planned (EPMT)	cheatgrass filaree, tumble mustard	March 2015	9.7	85 (8.8)	7 (0.7)	1 (0.1)	93 (9.6)
	Planned (EPMT)	Russian thistle	July 17–29, 2015	-	-	-	-	-
	Planned (EPMT)	cheatgrass	October 2015	-	-	-	-	-
	Proposed	cheatgrass	TBD	25.2	137 (5.4)	26 (1.0)	0 (0.0)	163 (6.5)

*Erodium cicutarium

Table 3-7. Number of patches of invasive exotic plants detected in areas surveyed in 2003, 2009, 2011, 2013, and 2015.

Route	<i>Convolvulus arvensis</i> (field bindweed)					<i>Elaeagnus angustifolia</i> (Russian olive)					<i>Tamarix</i> sp. (Tamarisk)					<i>Verbascum thapsus</i> (woolly mullein)					<i>Melilotus officinale</i> (yellow sweetclover)					OTHERS ¹					TOTAL*				
	2003	2009	2011	2013	2015	2003	2009	2011	2013	2015	2003	2009	2011	2013	2015	2003	2009	2011	2013	2015	2003	2009	2011	2013	2015	2003	2009	2011	2013	2015	2003	2009	2011	2013	2015
Columbus	x	0	0	0	0	x	0	0	0	1	x	0	2	1	0	x	0	0	0	0	x	x	18	18	11	X	0	0	0	1	X	0	2	1	2
Gold Star	0	0	1	0	0	0	2	0	0	0	6	4	1	0	1	0	0	0	0	0	x	x	0	0	0	X	1	0	0	0	6	7	2	0	1
Kodels	x	0	0	0	0	x	1	0	0	0	x	0	1	0	0	x	0	0	0	0	x	x	0	0	0	X	4	0	0	0	X	5	1	0	0
Monument	1	2	4	1	0	1	9	21	9	0	33	11	9	3	1	0	0	0	0	0	x	x	49	28	24	X	4	3	2	6	35	26	37	15	7
No Thoroughfare ²	1	1	1	1	1	2	14	19	0	8	17	8	8	0	4	0	11	4	1	6	x	x	94	47	86	X	5	8	3	5	20	39	40	5	24
Red	x	3	0	0	1	x	0	1	0	0	x	0	4	3	0	x	4	1	5	11	x	x	43	24	29	X	4	3	8	5	X	11	9	16	17
Ute	3	0	0	0	2	6	4	4	1	0	37	8	0	1	3	5	4	1	6	16	x	x	73	36	89	X	10	4	3	4	51	26	9	11	26
Wedding ²	x	0	0	0	0	x	0	0	0	0	x	7	0	0	0	x	0	0	0	0	x	x	17	1	2	X	0	0	0	1	X	7	0	0	1
East Glade Park	x	2	15	9	9	x	0	0	0	0	x	0	0	0	0	x	0	0	0	0	x	x	75	8	52	X	1	1	2	0	X	3	16	11	9
Rim Rock South	x	14	28	12	16	x	0	3	0	0	x	0	0	0	0	x	0	0	0	0	x	x	68	22	31	X	8	2	1	3	X	22	33	13	19
Totals, 2003–2015*	5	3	6	2	3	9	29	44	10	9	93	31	21	4	9	5	15	5	7	22	x	x	x	x	x	X	17	6	11	10	112	98	88	31	58
Totals, 2009–2015	x	22	49	23	29	x	30	48	10	9	x	38	25	8	9	x	19	6	12	33	x	x	437	184	324	0	37	21	19	25	x	146	149	72	106

¹ *Acroptilon repens* (Russian knapweed), *Breia arvensis* (Canada thistle), *Cardaria latifolia* (broadleaf pepperwort), *Carduus nutans* (musk thistle), *Centaurea solstitialis* (yellow starthistle), *Cirsium vulgare* (bull thistle), *Tribulus terrestris* (puncturevine), and *Ulmus pumila* (Siberian elm)

² Although tributaries to these canyons were added in 2011, only areas that were surveyed in both 2009, 2011, 2013, and 2015 were compared in this table. Thus, total patches for Wedding and No Thoroughfare canyons are not equal to those found in Tables 3-2 and 3-4.

x No data collected for that species

*Totals represent areas monitored in 2003, 2009, 2011, 2013, and 2015. *Melilotus officinale* is not included in the totals for 2011, 2013, and 2015 because it was not searched for in earlier time periods.

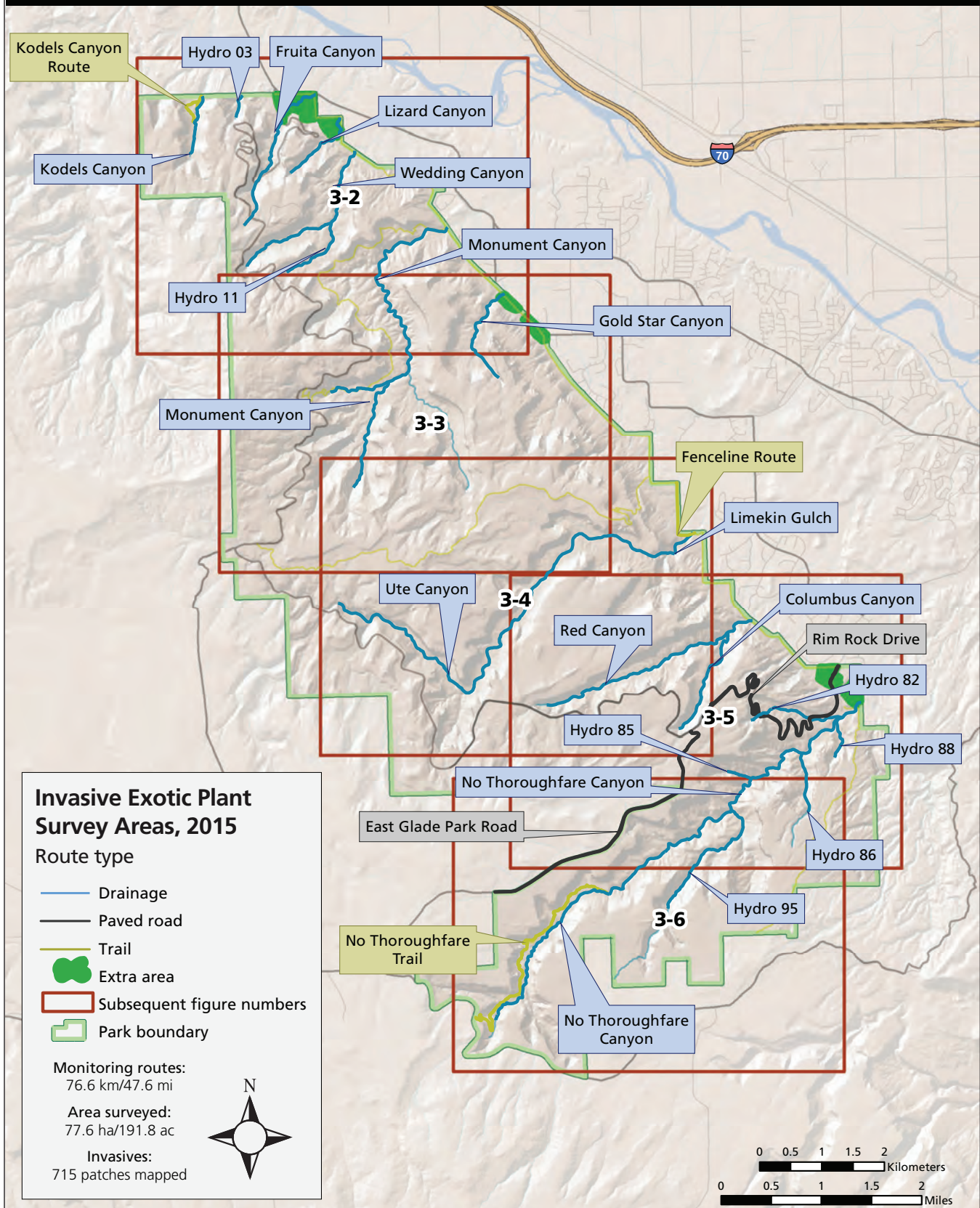


Figure 3-1. Invasive exotic plant monitoring routes, Colorado National Monument, July 1–22, 2015.

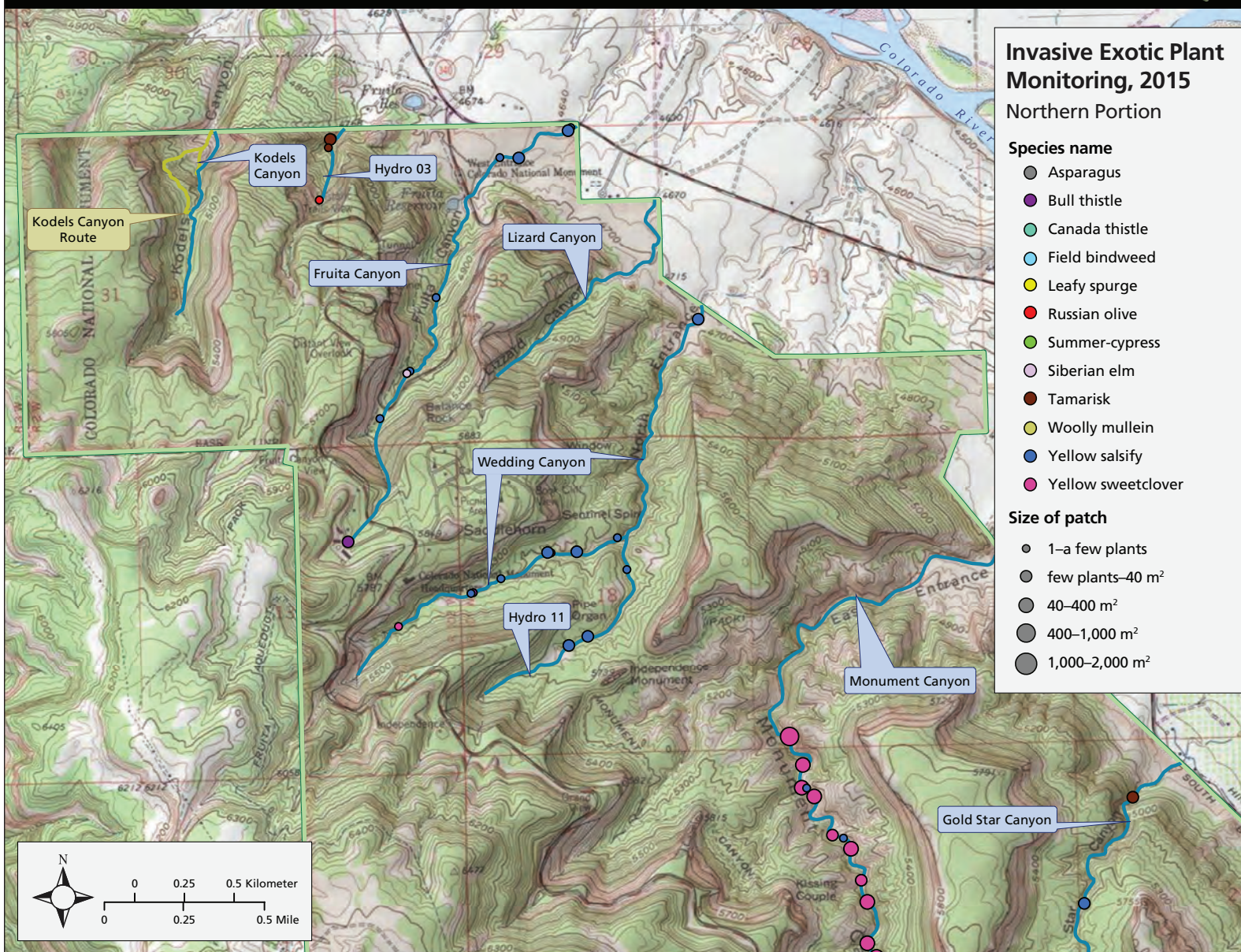
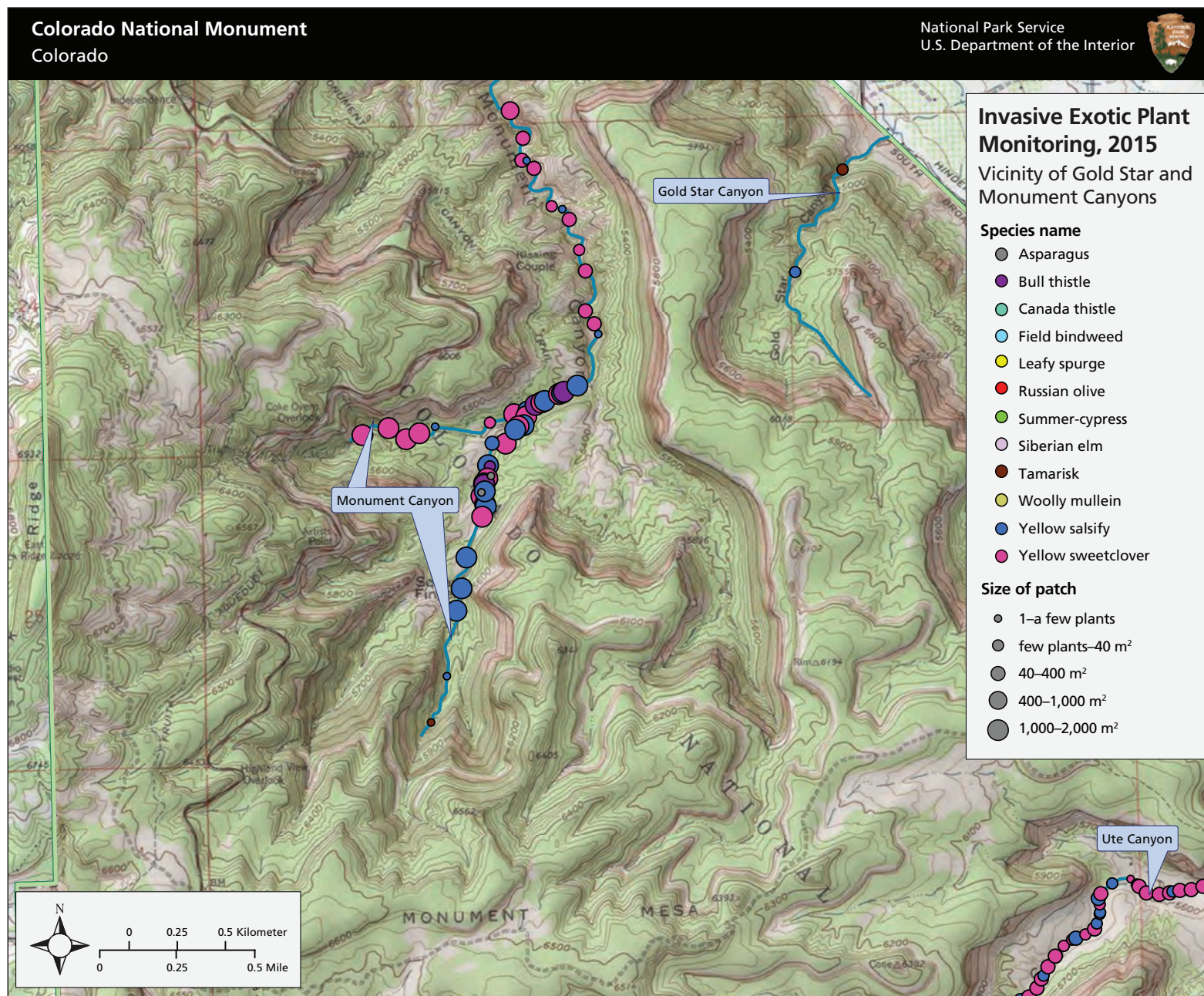


Figure 3-2. Invasive exotic plants detected on monitoring routes in the northern portion of Colorado National Monument, July 1–22, 2015.





Invasive Exotic Plant Monitoring, 2015

Vicinity of Ute Canyon

Species name

- Asparagus
- Bull thistle
- Canada thistle
- Field bindweed
- Leafy spurge
- Russian olive
- Summer-cypress
- Siberian elm
- Tamarisk
- Woolly mullein
- Yellow salsify
- Yellow sweetclover

Size of patch

- 1-a few plants
- few plants-40 m²
- 40-400 m²
- 400-1,000 m²
- 1,000-2,000 m²

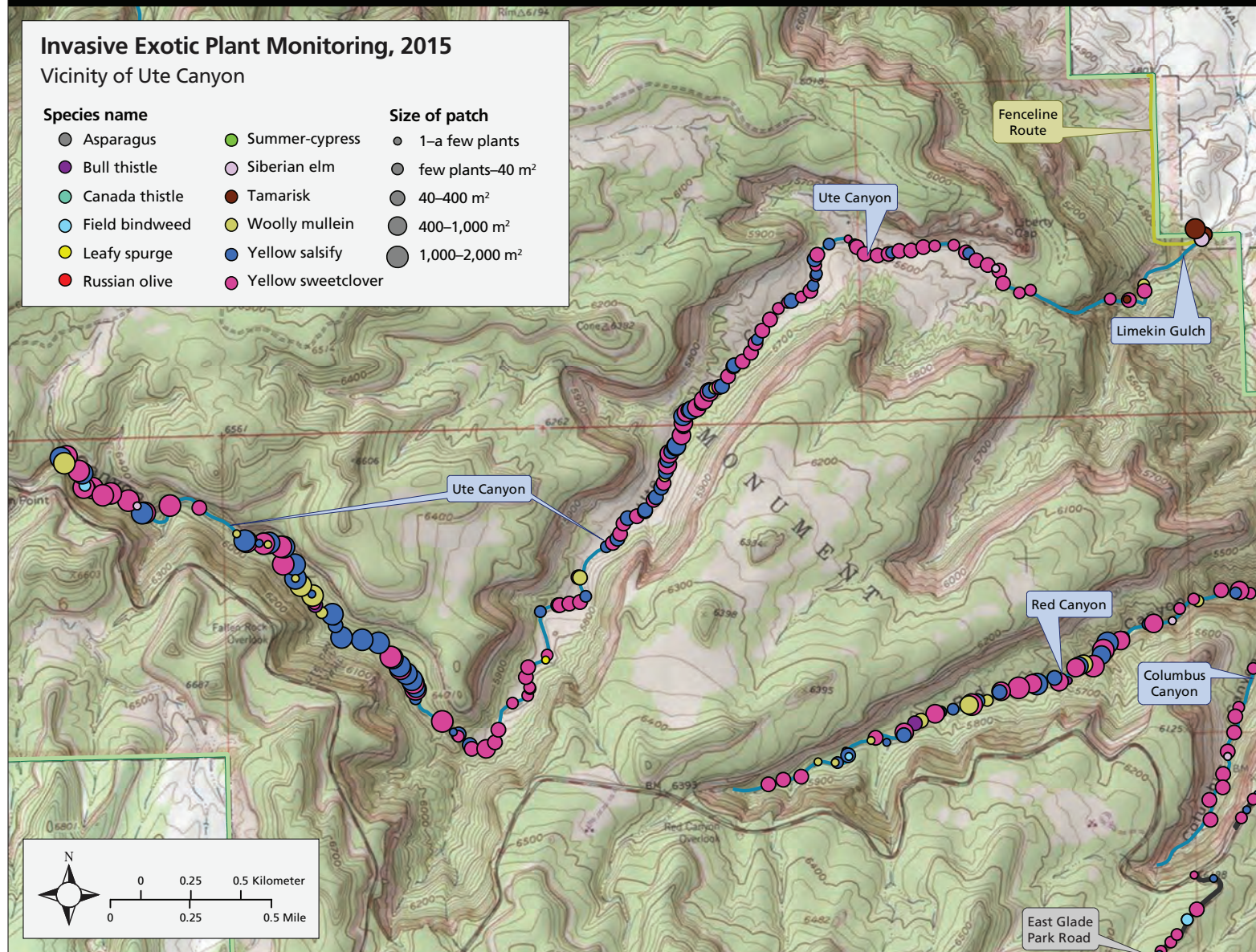


Figure 3-4. Invasive exotic plants detected on monitoring routes and monitoring plots in the vicinity of Ute Canyon, Colorado National Monument, July 1-22, 2015.

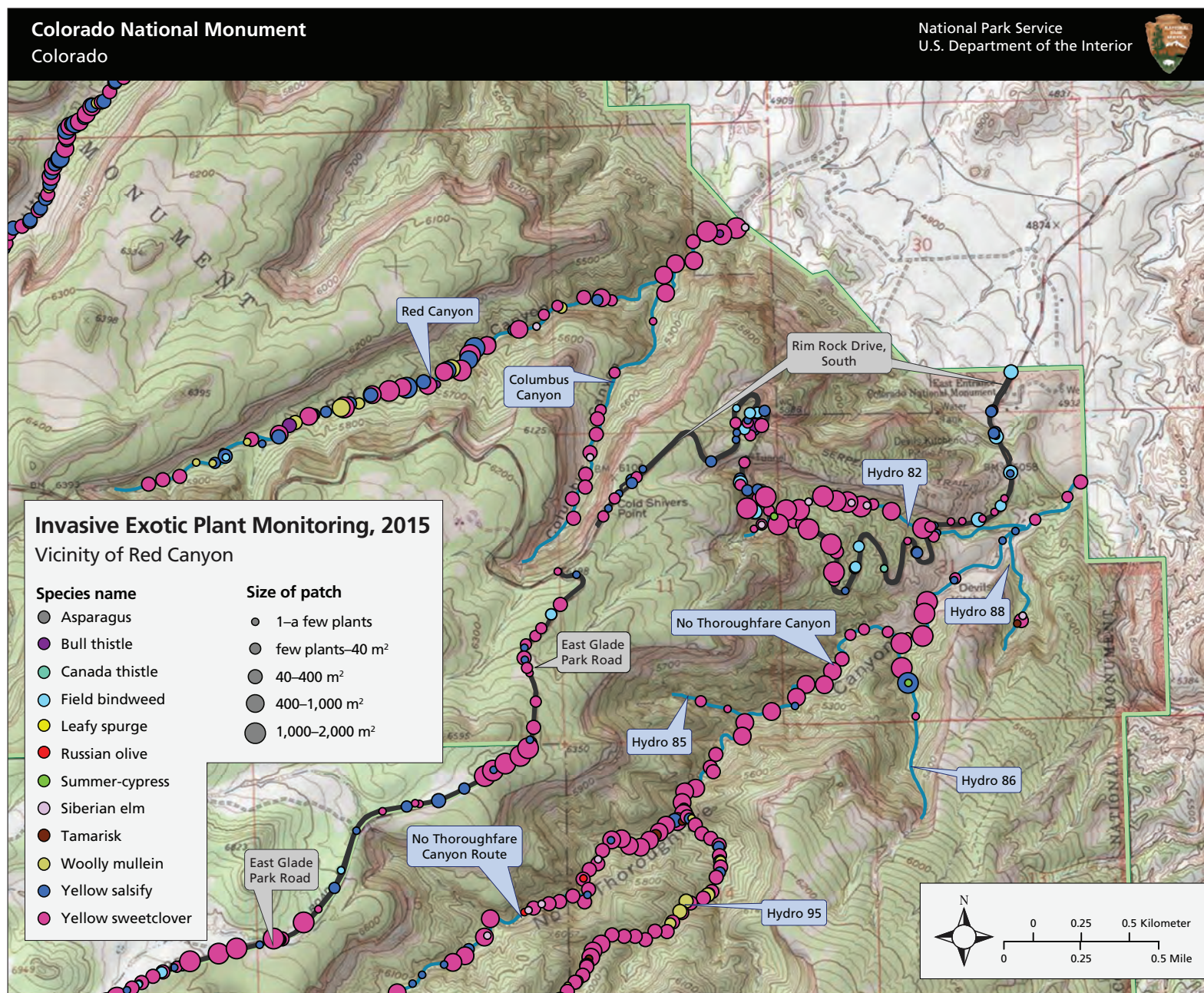


Figure 3-5. Invasive exotic plants detected on monitoring routes and monitoring plots in the vicinity of Red Canyon, Colorado National Monument, July 1–22, 2015.

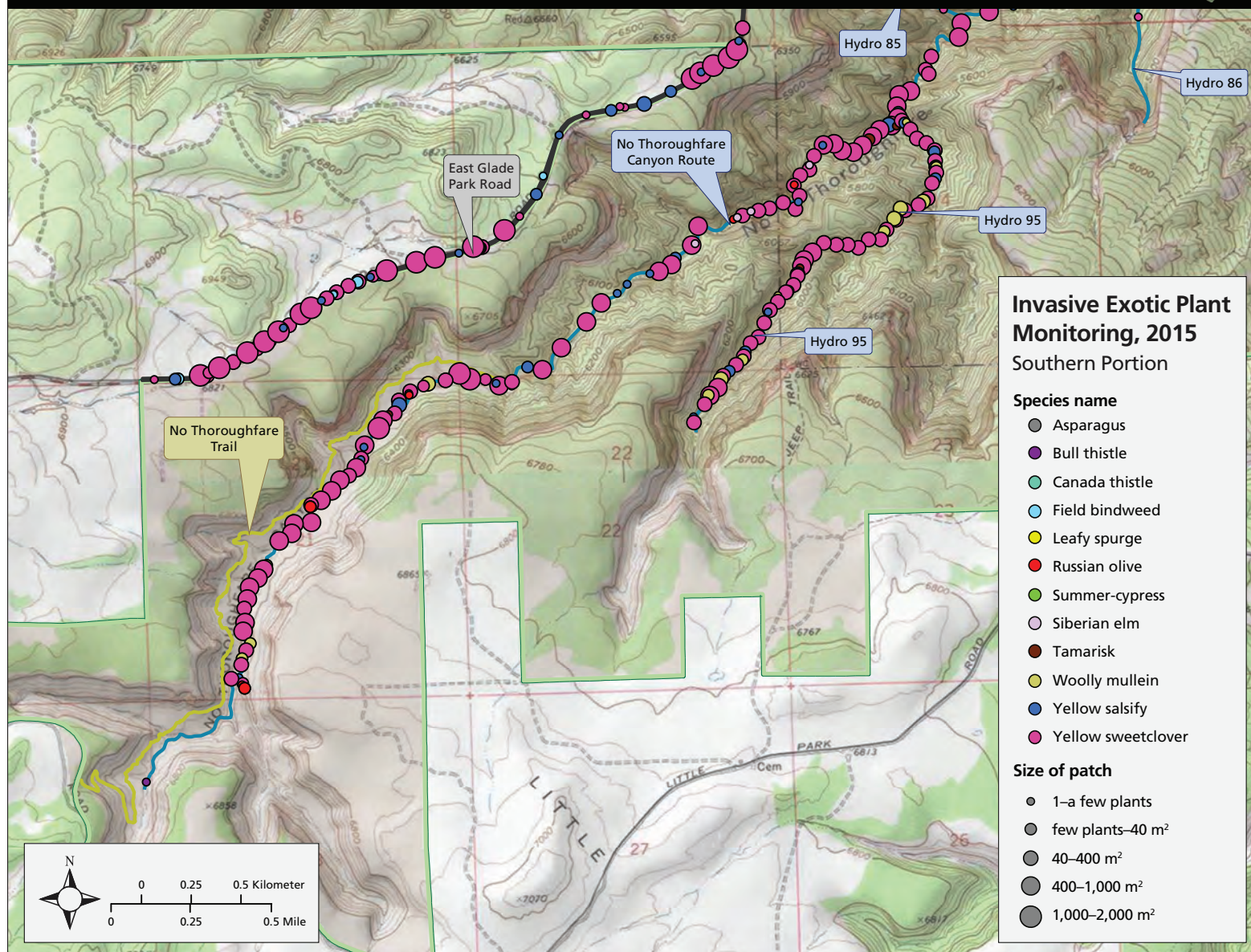


Figure 3-6. Invasive exotic plants detected on monitoring routes and monitoring plots in the southern portion of Colorado National Monument, July 1–22, 2015.

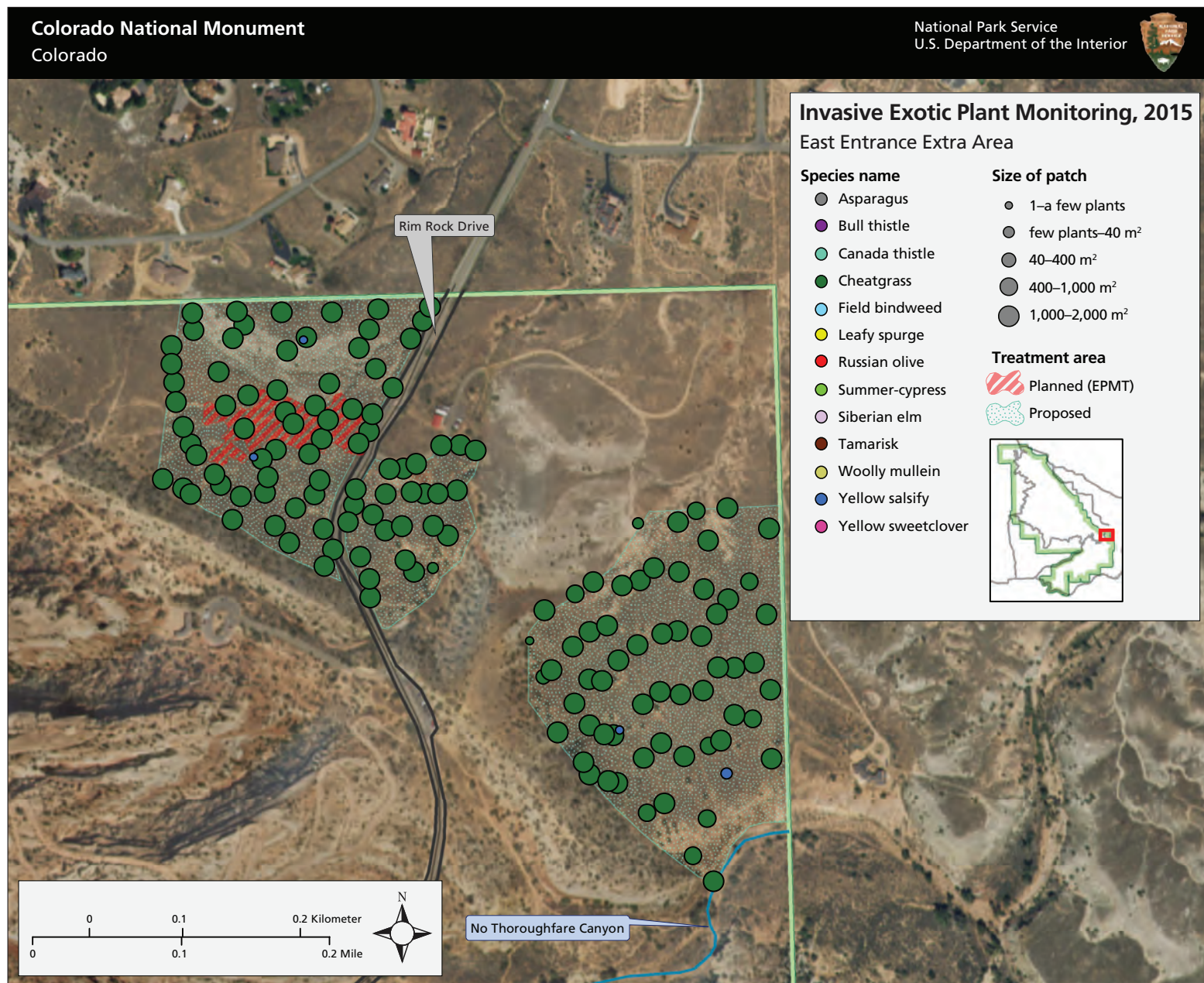


Figure 3-7. Invasive exotic plants detected on monitoring routes and monitoring plots in the East Entrance extra area of Colorado National Monument, July 1–22, 2015. Monitoring was conducted in both the proposed and the EPMT treatment areas.

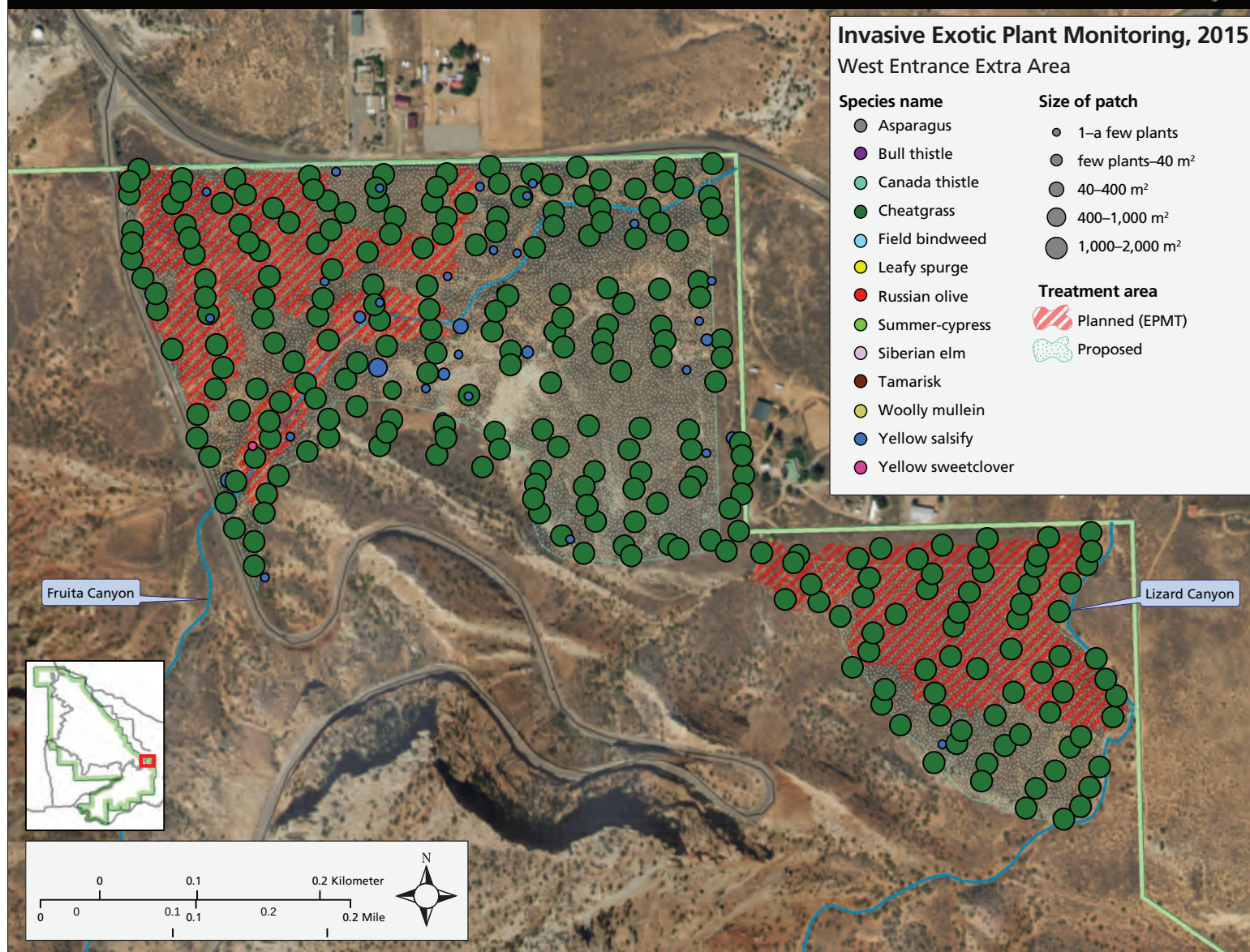


Figure 3-8. Invasive exotic plants detected on monitoring routes and monitoring plots in the West Entrance extra area of Colorado National Monument, July 1-22, 2015. Monitoring was conducted in both the proposed and the EPMT treatment areas.

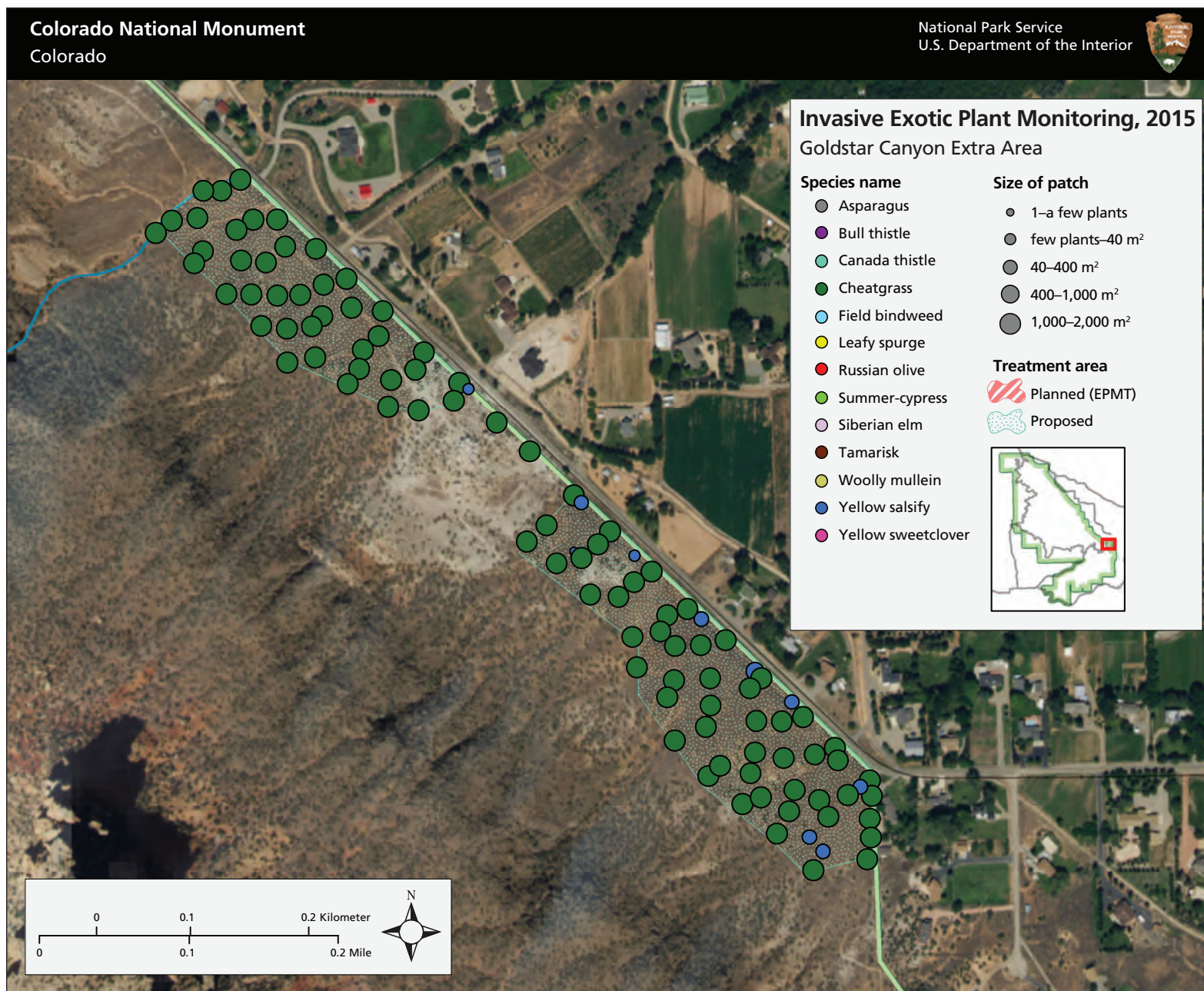


Figure 3-9. Invasive exotic plants detected on monitoring routes and monitoring plots in the Gold Star Canyon extra area of Colorado National Monument, July 1–22, 2015. Monitoring was conducted in both the proposed and the EPMT treatment areas.

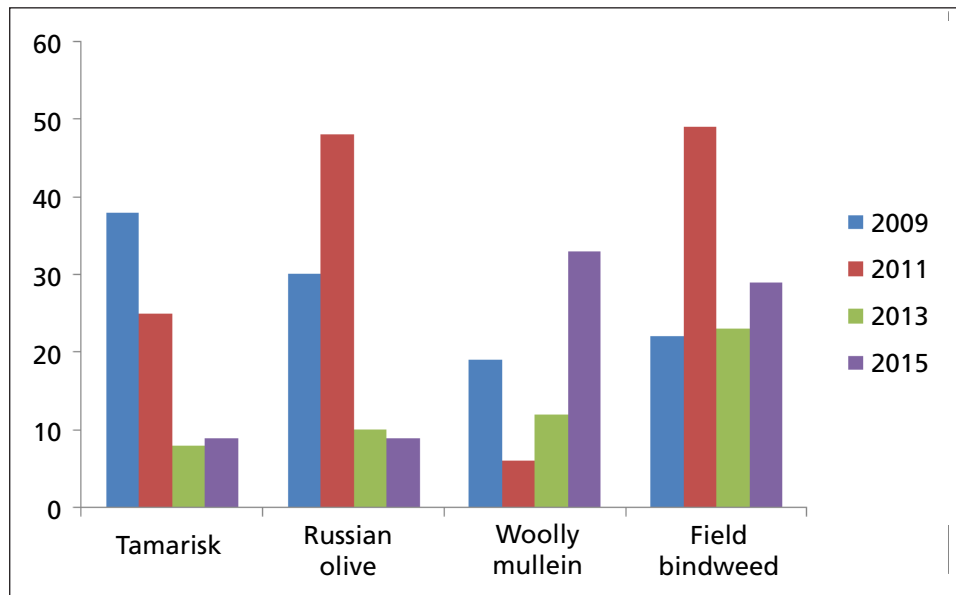


Figure 3-10. Invasive exotic plants detected on monitoring routes that were included on target and priority lists from 2009 to 2015, Colorado National Monument.

4 Discussion

4.1 Priority invasive exotic plant list

The NCPN will continue to work with Colorado NM staff and area IEP experts to review and update the list of priority species each year. At this time, the network has no recommendations for additions or deletions to the current priority list. In this report, presence and absence data for most priority species (and presence data for other species) should be reliable. However, absence data for non-priority species should be considered suspect, because not all observers recorded all of those species.

4.2 Possibilities for management control

The number of IEP patches remains low compared to 2009, when the NCPN began monitoring, and 2003, when Utah State University conducted their surveys. These lower numbers are likely due to IEP control efforts by monument staff. Because monitoring was conducted at approximately the same time each year, phenology differences between years should be minimal. Priority invasive exotic plants were most widespread along riparian and road areas. There were only 11 IEP patches recorded along trails. While patches have declined overall, the most problematic areas are currently Wedding Canyon, Ute Canyon, Red Canyon, and No Thoroughfare Canyon. These areas should be targeted for control efforts.

The overall size of patches, and the maturity of tree patches, indicated that the infestations present were generally recent invasions. It is worth noting that IEP control efforts are typically more successful during early stages of an infestation. Excluding yellow sweetclover, 84% of priority patches detected on monitoring routes were less than 40 m² in size. Tree patches consisted largely of seedlings and saplings, which are easier to control than mature trees. In 2009, 2011, 2013, and 2015, 92%, 75%, 83%, and 79% of patches, respectively, were seedlings and saplings. Continued control efforts should be made before more seedlings and saplings grow into mature trees.

The lower levels of tamarisk and Russian olive patches is likely the result of efforts by volunteers to control these species. Russian olive was not detected in Monument Canyon, but eight patches were found there in 2013. Tamarisk patches went from 3 to 1 in Monument Canyon, and 3 to 0 in Red Canyon, between 2013 and 2015. Russian olive was detected for the first time in Columbus Canyon and detected for the first time since 2009 in No Thoroughfare Canyon. Tamarisk was detected in Goldstar and No Thoroughfare canyons in 2015 for the first time since 2009, and patches increased from 1 to 3 in Ute Canyon. Woolly mullein at least doubled in No Thoroughfare, Red, and Ute canyons between 2013 and 2015. Keeping these species at low numbers will require constant effort by monument staff. A Youth Conservation Corps crew focused on yellow sweetclover control in 2012 and 2013, and a decrease was seen in 2013. However, this species increased nearly parkwide from 2013 to 2015. The wet spring and winter of 2011 may have contributed to the increases seen in cheatgrass (on transects), from 1% frequency on transects in 2009 to 68% frequency in 2011. Cheatgrass has appeared to persist, with 48% and 74% frequency in 2013 and 2015, respectively.

The NCPN conducted monitoring of treated areas at Colorado NM for the first time in 2015. While both treated and proposed (untreated) areas were monitored, no pre-treatment data were collected on the treated area, which prevents meaningful comparisons. However, these treated areas will provide information on the effectiveness of control over time. There are also no pre-treatment data for future control efforts on the proposed areas.

It will be much easier for monument staff to contain invasive species if eradication efforts continue. In just a few years, small infestations could become large, and seedlings and saplings will become mature trees, requiring removal aided by chainsaws instead of loppers or pruning shears. Preventing the invasion of additional species should give native species a better chance to persist.

It should be noted that estimates of percent cover in this report (see Tables 3-5 and 3-6)

are limited to the routes surveyed; actual percent cover of IEPs across the entire park cannot be inferred with these methods. Because we have chosen to monitor along areas most likely to be invaded by a broad suite of IEPs, it is plausible that the percent cover for most IEP species may be lower in the interior of the park than along the monitoring routes.

4.3 Future monitoring efforts

IEPs at Colorado NM will generally be monitored at the same time of year in alternating years. Consistency in timing of monitoring should ensure consistency in detection probabilities and cover estimates of most species.

For many species, sampling any time from May through September is not expected to drastically alter the chances of detecting invasive species larger than the minimum detection target size. In 2017, the NCPN will resurvey all monitoring routes. Because detections from one year may be eradicated by park staff before the next sampling period, the monitoring quadrats are relocated each year. Long-term trend reporting will focus on (1) trends in species distribution and percent cover of individual species, and (2) changes in IEP percent cover of priority species and cheatgrass by monitoring route. Extra-area surveys will also be considered for inventories at the park's request.

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Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Columbus Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	5	1	4323973.8	703337.23
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322769.3	702808.52
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323231.1	702955.1
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	TRUE		5	1	4323692.4	703227.54
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323184.8	702938.89
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323426.1	703027.72
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323106	702932.93
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322897.6	702878.1
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323009.9	702899.99
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322831.5	702874.54
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4323838.7	703292.06
Columbus Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322668.9	702813.78
Columbus Canyon	Ulmus pumila	Siberian elm	FALSE	Sapling(s)	5	1	4322985.3	702899.3
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323231.7	704898.01
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323337.3	704880.12
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323409.1	705011.73
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323427.5	704916.47
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323428.3	704867.78
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323230.2	705071.82
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323145.1	705060.36
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323232.4	705057.62
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323199.2	704988.89
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323391.2	704796.3
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323350.1	704968.41
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323245.1	704957.66
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323290.2	704959.93
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323303	704809.23
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323079.8	705251.44

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323195	705047.26
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4323134.7	705425.21
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323041.4	705391.13
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323028.1	705250.75
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322967.9	705277.02
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322989.8	705408.78
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323135.6	705306.52
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322893.1	705332.71
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	2	4323149.4	705081.16
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323041	705408.86
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323169.8	704972.37
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323016.7	705448.21
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323011.8	705350.32
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323273.4	704946.22
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322941.8	705449.34
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323236.4	704809.4
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323207.3	705015.62
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323283	705089.95
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323345.5	705037.42
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323192	704962.09
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323326.3	704952.93
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323229.4	704951.93
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323400.4	704943.32
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323408.2	704820.47
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323426.9	704819.3
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323298.2	705011.49
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323151.7	704962.7
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323240.1	704850.48

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323351.3	704799.47
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323185.1	705097.21
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323257.8	705049.05
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323278.1	704909.89
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323217.9	704995.05
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323283.3	705110.82
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323418.4	705070.2
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323126.7	705375.66
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323246.4	704787.35
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323427.8	704970.96
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323326.4	704855.56
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323103.6	705202.34
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323117.5	705013.04
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323399.8	704863.42
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323310.7	704966.74
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323099.2	705443.94
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323366.1	705018.79
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322917.6	705271.72
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322968.7	705267.25
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323038.4	705209.97
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323192.4	705446.67
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323190.7	705029.02
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323176.8	704924.66
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322970.7	705216.78
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323371.8	704796.43
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	1	4323070.4	705186.21
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323306.5	704928.96
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4323257.5	705033.76

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323399.1	705056.86
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323233.9	705107.24
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323317	705015.13
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323229.8	704817.27
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323362.8	704847.85
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323214.6	704931.51
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323235.4	704996.75
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323161.6	705001.71
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323157.7	705050.8
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323268.1	704895.28
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323179.5	705380.51
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323115.5	705402.11
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4322808.6	705386.61
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323099.3	705389.62
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323130.3	705286.8
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323301.5	704875.51
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323319.2	704920.53
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323330.2	704801.66
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323433.4	705077.75
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323272.2	704823.64
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323322.7	704993.34
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323389.1	705000.57
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323137.7	705012.04
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323342.7	704911.86
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323195.4	705081.4
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4323277.2	705127.37
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323227.2	704871.92
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323230	705029.31

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323386	704922.22
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323262.9	705063.05
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323065.4	705303.54
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323430.9	705021.42
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323285	705000.07
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323202	704862.89
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323195.8	704909.23
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323251.5	704843.45
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4322876.6	705379.29
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323063.7	705233.17
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323149.5	705321.07
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323248.6	704901.37
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322915.6	705282
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323016.1	705374.84
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323414.1	704875.6
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323284.3	704817.34
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	2	4323198.3	705304.4
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	4	4323121.4	705235.75
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322978.3	705251.25
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323134.1	705255.65
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4323230.4	705086.54
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	3	4323031.4	705200.73
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323001.1	705309.27
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4322985.3	705428.56
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323075.5	705373.02
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4322883.1	705314.1
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323086.8	705270.37
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323002.2	705234.66

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323014.6	705328.11
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4322955.9	705381.2
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322944.3	705354.19
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323046.5	705430.4
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323026.4	705264.74
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323080.7	705346.81
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4323211.5	705367.24
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323048.9	705282.79
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322958.7	705329.17
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323199.3	705347.53
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322925.1	705251.33
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322942.7	705310.14
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323145.2	705348.66
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323077.8	705330.69
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322961.7	705394.29
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4322836.4	705363.84
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4322938.1	705245.13
East Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4323214.7	705401.3
East Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		2	2	4322925.8	705400.53
East Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323397.6	704940.05
East Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322973.2	705283.9
East Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323269.9	704885.71
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		4	1	4320840.4	701606.24
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		3	2	4320345.9	700781.03
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		1	3	4320480.8	701279.16
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		3	2	4319822.9	699774.41
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		2	2	4320309.3	700674.35
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		5	1	4320247.2	700554.8

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		3	2	4320054.5	700280.45
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		2	2	4322169.7	702698.46
East Glade Park Road	Convolvulus arvensis	Field bindweed	FALSE		2	2	4320562.4	701400.63
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320227.5	700520.11
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320568.6	701411.52
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4320338.4	700752.56
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4321358.2	702394.57
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		3	3	4320484.5	701298.92
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4319841.4	699885.77
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4321582.8	702606.63
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320149.4	700390.14
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4320172.9	700446.44
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320366.5	700821.24
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4321185.2	702014.99
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4319818.9	699656.17
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4322221.2	702745.58
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320010.4	700208.45
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320407.6	700970.28
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320060.1	700279.22
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320091.8	700331.8
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320018.5	700233.29
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319975.2	700169.39
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4321147.5	701821.15
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322057.3	702616.48
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4321189.1	701991.69
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320289.6	700628.96
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4319954.6	700122.24
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4321716.2	702618.03

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4319852.9	699929.18
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4321864.8	702586.71
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4319878.3	699980.34
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4321434.3	702538.02
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322013	702566.26
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320485.9	701256.29
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319841.1	699920.79
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320049.3	700274.42
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320360.3	700826.08
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320311.6	700681
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319941.2	700110.18
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4321942.1	702557.8
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320257.8	700569.9
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4321325.6	702364.49
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4320402.5	700983.68
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320433.9	701063.24
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322392.6	702733.31
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4320179	700442.1
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4320638.3	701488.78
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319907.7	700050.82
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4321891.5	702572.92
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322096.5	702646.79
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4321394.9	702459.82
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4321474.4	702577.6
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4321329.7	702352.61
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319869.5	699981.21
East Glade Park Road	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4321382	702463.52
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320433.2	701050.25

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320147.5	700386.93
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		1	2	4320480.7	701291.46
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		1	1	4320216.4	700494.49
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4321518.8	702588.12
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4321362.8	702399.02
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320250.4	700557.33
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		2	2	4321265.1	702246.73
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		1	2	4321170.8	701948.09
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322376.4	702829.97
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320334.1	700738.94
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		2	3	4321202.5	702113.65
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		2	2	4319821.6	699760.74
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4321046.1	701686.26
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4321933.1	702560.44
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322170.6	702697.68
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320074.5	700307.37
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320079.1	700304.04
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320453.9	701183.03
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4321996.1	702559.35
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		1	2	4321502.3	702595.37
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		1	2	4320749.3	701572.69
East Glade Park Road	Tragopogon dubius	Yellow salsify	FALSE		5	1	4321319.1	702321.44
Fruita Canyon	Cirsium vulgare	Bull thistle	FALSE		2	3	4330532.8	695566.91
Fruita Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4332460.9	696424.98
Fruita Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4332598.2	696673.03
Fruita Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4331389.3	695877.63
Fruita Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332462	696328.89
Fruita Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4331150.8	695727.94

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Fruita Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332612.2	696686.09
Fruita Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4331758.5	696009.23
Fruita Canyon	Ulmus pumila	Siberian elm	FALSE		5	1	4331378.9	695862.7
Gold Star Canyon	Tamarix sp.	tamarisk	FALSE	Sapling(s)	4	2	4329250.1	699509.7
Gold Star Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4328717.3	699264.8
Hydro 03	Elaeagnus angustifolia	Russian-olive	FALSE	Mature Tree(s)	5	1	4332249.6	695422.77
Hydro 03	Tamarix sp.	tamarisk	FALSE	Mature Tree(s)	5	1	4332511	695469.11
Hydro 03	Tamarix sp.	tamarisk	FALSE	Sapling(s)	2	2	4332554.2	695478.14
Hydro 03	Tamarix sp.	tamarisk	FALSE	Seedling(s)	5	1	4332559.5	695487.72
Hydro 11	Tragopogon dubius	Yellow salsify	FALSE		5	1	4330392.9	696968.49
Hydro 11	Tragopogon dubius	Yellow salsify	FALSE		1	2	4330013.1	696675.26
Hydro 11	Tragopogon dubius	Yellow salsify	FALSE		1	2	4330058.3	696771.1
Hydro 82	Bassia sieversiana	Summer-cypress	FALSE		5	1	4322678.1	703857
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322740.6	704370.57
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322612.8	703751.5
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322758	704177.49
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322710.8	703920.22
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4322705.8	704465.68
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322617	704629.68
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322636	703792.52
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322782.6	704109.92
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322574.3	704684.67
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322751.9	704237.49
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322713.5	703985.57
Hydro 82	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322729.7	704308.52
Hydro 82	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322591.8	704701.97
Hydro 82	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322756.4	704201.59
Hydro 82	Ulmus pumila	Siberian elm	FALSE		5	1	4322755.5	704035.9

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Hydro 82	Ulmus pumila	Siberian elm	FALSE		5	1	4322735.3	704338.23
Hydro 82	Ulmus pumila	Siberian elm	FALSE		5	1	4322633.6	703792.08
Hydro 82	Ulmus pumila	Siberian elm	FALSE		5	1	4322748	704258.01
Hydro 85	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4321678	703614.48
Hydro 85	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4321718	703475.16
Hydro 86	Bassia sieversiana	Summer-cypress	FALSE		5	1	4321813.6	704553.79
Hydro 86	Melilotus officinale	Yellow sweet-clover	FALSE		4	1	4321639.9	704592.66
Hydro 86	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322019.3	704518.61
Hydro 86	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4321891.8	704519.42
Hydro 86	Tragopogon dubius	Yellow salsify	FALSE		1	5	4321814.1	704551.56
Hydro 88	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322137.8	705140.72
Hydro 88	Tamarix sp.	tamarisk	FALSE		5	1	4322122.1	705120.04
Hydro 88	Ulmus pumila	Siberian elm	FALSE		5	1	4322161.8	705147.64
Hydro 95	Cirsium vulgare	Bull thistle	TRUE		5	1	4320496.5	703021.83
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319894.5	702574.1
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320103.3	702714.5
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4320670.1	703421.87
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319739.3	702443.52
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320388.9	702903.58
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4320804.1	703556.47
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320211	702782.95
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		3	3	4320695.4	703488.91
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4320496.3	703134.69
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319694.9	702415.84
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320523.5	703238.15
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4320728.9	703533.55
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4320479.9	703188.53
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4319778.9	702482.89

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320339.3	702883.65
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320420.3	702914.66
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319839.3	702509.12
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320621.1	703376.97
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320857.4	703577.8
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4321006.4	703527.68
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319603.8	702362.95
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320571.9	703329.24
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320971.1	703570.55
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319936	702612.58
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4321029.8	703481.01
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320496.7	703077.66
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4321075.9	703447.86
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4321118.2	703404.33
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320168.7	702744.01
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320522.5	703299.97
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320002.3	702646.13
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320294.5	702862.12
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320258	702822.76
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320033.2	702686.21
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320917	703572.07
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320457.2	702956.9
Hydro 95	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320505	703014.87
Hydro 95	Tamarix sp.	tamarisk	FALSE	Sapling(s)	5	1	4320379.9	702894.04
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320157.9	702733.43
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		1	3	4320346.7	702883.32
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		1	2	4321107.9	703419.27
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		1	2	4319958	702620.01

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		2	2	4320961.9	703567.99
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319632.8	702361.42
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		1	2	4320887	703570.33
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		2	2	4320719.4	703519.25
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		1	2	4320828	703574.08
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		1	2	4319860.7	702540.5
Hydro 95	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320530.6	703300.24
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		2	2	4320891.4	703575.81
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		5	1	4321111.3	703427.65
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		2	3	4320712.6	703510.89
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		5	1	4320240.1	702783.93
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		1	2	4320562.8	703317.3
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		1	2	4319740.9	702435.37
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		1	3	4320679.2	703398.85
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		1	3	4319821.5	702497.58
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		2	3	4320465	702960.44
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		2	2	4320885.1	703578.81
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		1	2	4320263.7	702836.04
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		1	3	4320627.3	703367.34
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		5	1	4320979	703569.58
Hydro 95	Verbascum thapsus	Woolly mullein	FALSE		2	2	4319918.4	702606.5
Limekin Gulch	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325311.6	702483.78
Limekin Gulch	Tamarix sp.	tamarisk	FALSE	Sapling(s)	2	3	4325592.9	702785.29
Limekin Gulch	Ulmus pumila	Siberian elm	FALSE	Sapling(s)	2	3	4325571.8	702770.27
Limekin Gulch	Verbascum thapsus	Woolly mullein	FALSE		5	2	4325341.9	702481.62
Monument Canyon	Asparagus officinalis	Asparagus	FALSE		5	1	4327575.2	697637.84
Monument Canyon	Asparagus officinalis	Asparagus	FALSE		5	1	4327659.8	697686.93
Monument Canyon	Cirsium vulgare	Bull thistle	FALSE		1	5	4327514.2	697655.72

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Monument Canyon	Cirsium vulgare	Bull thistle	FALSE		1	3	4327709.1	697680.16
Monument Canyon	Cirsium vulgare	Bull thistle	FALSE		1	5	4328027.4	697917.06
Monument Canyon	Cirsium vulgare	Bull thistle	FALSE		1	5	4328096.3	698063.3
Monument Canyon	Cirsium vulgare	Bull thistle	FALSE		1	5	4327614.5	697652.5
Monument Canyon	Cirsium vulgare	Bull thistle	FALSE		1	3	4327892.7	697810.18
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4327935.9	697681.85
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4329554.7	697785.53
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4329059.4	698000.34
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327969.3	697869.13
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327850.8	697247.35
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4329411.6	697852.29
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327907.6	697154.54
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4329254.5	697909.66
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4328832.3	698144.39
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327881.6	697316.06
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327916.9	697829.97
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4328990.8	698092.77
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327448.9	697640.46
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4328448.6	698221.71
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4329297.7	697845.98
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327647.4	697667.33
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4328040.9	697948.12
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327872.2	697020.92
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4328516.2	698176.39
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327555.2	697638.03
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327827.1	697763.17
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4328085.5	698040.19
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4327979.9	697807.46

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Monument Canyon	Melilotus officinale	Yellow sweet-clover	FALSE	Mature Tree(s)	1	3	4328723.7	698175.53
Monument Canyon	Tamarix sp.	tamarisk	FALSE		5	1	4326380.9	697375.91
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4328049.4	697964.55
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327076.5	697535.07
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4327830.1	697692.41
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4326622.4	697457.98
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327924.1	697856.71
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327621.9	697650.62
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327579.5	697654.15
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4329295.7	697870.69
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327238	697560.05
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4327915.6	697396.58
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327501.2	697660.77
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327714.6	697671.29
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4328395.7	698243.8
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4329043.7	698055.61
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	4	4328001.9	697873.37
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4327899.8	697812.3
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4326960.3	697508.08
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4328128	698133.89
Monument Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4328091.4	698054.44
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328788.5	700391.89
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328748.9	700308.14
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329325.9	699695.61
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329416.8	699745.38
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329292	699810.32
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328856.5	700206.97
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4328750.6	700428.55

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329025.4	700055.67
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328709.3	700325.84
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328774.7	700297.1
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329258.1	699768.54
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328681.7	700423.31
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329195.7	699862.07
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328965.5	700154.8
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329375	699699.16
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328866.5	700296.31
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329075.4	700106.37
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328727.7	700381.27
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329170.9	699905.77
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4329309.6	699860.19
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329341.6	699827.08
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328927.8	700199.93
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4328725.5	700425.97
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328741.3	700288.37
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329404.4	699705.75
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4329274.4	699899.63
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328791.2	700333.04
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4328802.1	700388.49
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329278	699865.82
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329362.2	699741.41
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328751.1	700402.39
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328968	700123.94
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329292.5	699757.22
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328889.5	700174.56
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329212.1	699874.19

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329257.9	699823.02
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329372.1	699671.28
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329303.1	699835.64
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329326.7	699773.6
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328797	700301.82
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329211.2	699934.88
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328847.7	700254
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329404.1	699725.05
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329247.4	699894.89
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329153.9	700022.84
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329344.2	699794.04
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329232.6	699878.05
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329001.4	700087.55
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328767	700426.19
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329373.6	699759.62
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328922	700169.55
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329373.4	699785.36
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329122.7	700058.46
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329177.3	699976.32
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329292.7	699730.82
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328782.4	700264.25
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329224.3	699826.29
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328875.3	700214.35
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329328.8	699746.5
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329042.6	700076.56
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328771.5	700251.45
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328912.2	700215.54
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329291.4	699785.8

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329359.1	699654.07
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4328705.1	700427.2
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329167.2	699938.04
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329255.1	699796.02
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329268.8	699834.2
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328756.9	700344.9
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329199.6	699908.69
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328670	700365.19
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329218.9	699796.45
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329197	699982.12
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328733.6	700338.69
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328945.7	700207.23
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329007.5	700114.41
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329229.7	699944.32
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328825	700248.92
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328795	700366.66
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328877.6	700308.73
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328745.7	700371.22
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328952.4	700229.05
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329022.2	700132.36
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328877.7	700253.49
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4329036.5	700145.22
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328981.2	700171.29
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328810	700215.31
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328918.8	700270.19
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4329339.1	699705.08
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328830.9	700331.39
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328835.7	700353.91

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4328831.2	700303.48
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328913	700243.7
Mouth of Gold Star Canyon Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4328992.5	700190.09
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4329067.2	700114.31
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4329014.7	700106.3
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4328690.2	700375.6
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		2	2	4329189.9	699992.25
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4328760.2	700415.89
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4328941.6	700244.14
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	4	4328885.2	700301.85
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4328851.7	700341.95
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4328705.8	700360.77
Mouth of Gold Star Canyon Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	2	4329010.1	700171.9
No Thoroughfare Canyon	Cirsium vulgare	Bull thistle	TRUE		4	1	4317799.2	699616.05
No Thoroughfare Canyon	Convolvulus arvensis	Field bindweed	FALSE		1	3	4321093.1	703361.28
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Mature Tree(s)	5	1	4318288.7	700095.58
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	4	2	4318269.6	700109.36
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	5	1	4320623.6	702560.09
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	5	1	4320797.7	702866.36
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	5	1	4319851.8	701199.76
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	3	2	4319180.8	700438.34
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	5	1	4319741.3	700932.97
No Thoroughfare Canyon	Elaeagnus angustifolia	Russian-olive	FALSE	Sapling(s)	5	1	4320891.8	702934.1
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320666.8	702687.2
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320968	703104.93
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321247.6	703391.61
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4321374.4	703524.89
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320873.3	702941.15

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320675.1	702872.15
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320844.3	702896.32
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321074	703294.8
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321608.2	703703.93
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321134.8	703386.57
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4321266.8	703448.3
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321003.2	703064.8
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320678.7	702741.58
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4320959.9	703163.68
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320741.4	702891.83
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4320493.8	702351.48
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322077.5	704447.68
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4321664.8	703842.5
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321739.7	703973.5
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320396.2	702250.84
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321805.3	704021.86
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4319979.7	701697.89
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4319868.3	701602.39
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319010.7	700281.39
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4319650.2	700860.88
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319789.5	701385.99
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4319095.8	700356.6
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	5	4319850.3	701187.27
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4319714.5	700881.35
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320642.8	702606.75
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320942.1	702965.48
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319261.2	700544.91
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319048.3	700344.44

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319489.8	700710.76
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4318318.4	700042.25
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4321441	703554.27
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4319820.2	701316.78
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321093.6	703352.78
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4318718.6	700122.14
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4319821.9	701238.47
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319102.9	700443.84
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319213.2	700491.33
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320995.2	703208.89
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322778.9	705381.56
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320108.3	701823.36
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320997.2	703012.91
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4320706.5	702811.14
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321191.9	703379.21
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321038.1	703258.78
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4319787.6	701007.02
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4318822.5	700174.81
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4320203.8	701898.59
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4318389.3	700092.57
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4319816.2	701115.73
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4318777.9	700133.59
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319337.2	700632.49
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4318867.7	700203.71
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4318671.1	700106.31
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4319759.9	700939.37
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319423.2	700693.99
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4318460.3	700116.8

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4320589.2	702382.86
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4320361.8	702188.26
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4319191.3	700441.99
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319616.1	700801.71
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319378.3	700669.42
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4318599.9	700111.62
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322092.1	704323.21
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322661.1	705212.75
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322233.6	704651.36
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4321937.5	704208.62
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4321537.8	703690.89
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321804.3	704116.93
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322857.9	705448.96
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4318294.4	700098.96
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4319575.2	700782.14
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4319314	700586.05
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322057.1	704628.29
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322172.6	704638.69
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4321353.2	703539.47
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4321875.1	704160.47
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322355.8	704797.97
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		3	3	4319807.2	701449.43
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322062.1	704252.07
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4318556.7	700100.9
No Thoroughfare Canyon	Melilotus officinale	Yellow sweet-clover	FALSE	Sapling(s)	1	3	4320793.8	702863.59
No Thoroughfare Canyon	Tamarix sp.	tamarisk	FALSE	Sapling(s)	5	1	4321081.2	703301.74
No Thoroughfare Canyon	Tamarix sp.	tamarisk	FALSE	Sapling(s)	5	1	4321092.7	703378.01
No Thoroughfare Canyon	Tamarix sp.	tamarisk	FALSE	Sapling(s)	5	1	4319644.1	700830.45

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
No Thoroughfare Canyon	Tamarix sp.	tamarisk	FALSE	Sapling(s)	1	2	4321023.4	703240.37
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322601.8	705111.15
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4321160.6	703387.24
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319875.1	701593.04
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319799.6	701370.13
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319417.3	700691.98
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4319691.1	700885.12
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322551.9	705043.39
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320350.6	702141.52
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4318323.3	700079.97
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4319881.6	701528.04
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320712	702886.68
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320251.8	701978.02
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319479.8	700706.17
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320995.6	703008.64
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319749.3	700931.79
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4320297.4	702028.09
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322346	704792.76
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4320429.6	702269.12
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319786.7	701448.81
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	TRUE		5	1	4321692.8	703964.54
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322244.2	704653.92
No Thoroughfare Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4321098.3	703340.06
No Thoroughfare Canyon	Ulmus pumila	Siberian elm	FALSE	Mature Tree(s)	5	1	4320632.2	702580.13
No Thoroughfare Canyon	Ulmus pumila	Siberian elm	FALSE	Sapling(s)	5	1	4320664.4	702648.76
No Thoroughfare Canyon	Ulmus pumila	Siberian elm	FALSE	Sapling(s)	5	1	4320896.3	702942.28
No Thoroughfare Canyon	Ulmus pumila	Siberian elm	FALSE	Seedling(s)	5	1	4320501.5	702367.49
No Thoroughfare Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4322055.4	704550.54

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
No Thoroughfare Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	3	4319799.3	701029.26
No Thoroughfare Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	2	4318418.3	700095.04
No Thoroughfare Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	2	4318561.6	700097.3
No Thoroughfare Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	2	4318495.8	700136.85
No Thoroughfare Canyon	Verbascum thapsus	Woolly mullein	FALSE		3	2	4318887.5	700219.42
No Thoroughfare Trail	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4319906.4	701090.94
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		5	1	4319524.8	700600.29
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		5	1	4318673.2	699961.96
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		5	1	4318502.4	700048.49
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		1	2	4318074.4	699736.13
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		5	1	4318451.2	700020.86
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		1	2	4319466.2	700552.33
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		1	2	4319924.3	701083.05
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		1	4	4319910.4	701139.52
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		1	2	4318616	699983.31
No Thoroughfare Trail	Tragopogon dubius	Yellow salsify	FALSE		2	2	4317782.5	699540.35
Red Canyon	Cirsium vulgare	Bull thistle	FALSE		5	1	4324147	703573.91
Red Canyon	Cirsium vulgare	Bull thistle	FALSE		4	2	4323150.9	701338.57
Red Canyon	Cirsium vulgare	Bull thistle	FALSE		5	1	4323365.2	702103.21
Red Canyon	Convolvulus arvensis	Field bindweed	FALSE		5	1	4322984.7	701008.31
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323800.9	703012.83
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323436.6	702229.91
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4323651	702530.58
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324106.2	703435.17
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	5	4324175.5	703660.31
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324159	703507.56
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323329.3	701855.52
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323816.7	702867.8

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323814.2	702958.75
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323105.8	701285.33
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323244.9	701620.94
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323725.7	702660.22
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323428.7	702142.24
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4323012.6	700992.5
Red Canyon	Melilotus officinale	Yellow sweet-clover	TRUE		2	5	4323516.5	702278.04
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	5	4324144.3	703582.11
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322885.6	700769.21
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322845.7	700605.97
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322868.8	700680.26
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4323311.7	701769.2
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323348.9	701924.92
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4324006.6	703438.54
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323198.9	701438.75
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323359.1	702057.5
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323991.9	703345.05
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323078.6	701140.86
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4323565.4	702365.44
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323932.7	703282.97
Red Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323771.9	702731.45
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	5	4323347.7	701947.81
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323646.7	702502.37
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323802.1	702939.2
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4322991.4	701004.37
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323056.1	701196.32
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	4	4323492.8	702268.97
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323208.6	701466.76

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	5	4323553.4	702300.19
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323308.4	701760.32
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323378.2	702035.95
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4322955.8	700951.47
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323092.5	701282.23
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323221.2	701527.69
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323262.3	701650.4
Red Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	4	4323436.7	702156.95
Red Canyon	Ulmus pumila	Siberian elm	FALSE	Mature Tree(s)	5	1	4323664.4	702622.89
Red Canyon	Ulmus pumila	Siberian elm	FALSE	Mature Tree(s)	5	1	4324180.6	703705.9
Red Canyon	Verbascum thapsus	Woolly mullein	TRUE		3	2	4323763.2	702752.03
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		4	1	4323511.5	702277.34
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		4	1	4322955.4	700939.48
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	4	4323243.3	701607.5
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		3	3	4323165.6	701368.48
Red Canyon	Verbascum thapsus	Woolly mullein	TRUE		1	2	4323580.4	702380.68
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	4	4323446.7	702180.52
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	3	4323202.4	701452.24
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	2	4323265.1	701699.18
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4323065.2	701118.22
Red Canyon	Verbascum thapsus	Woolly mullein	FALSE		4	1	4322958.3	700854.6
Rim Rock Drive	Breea arvensis	Canada thistle	FALSE		5	1	4322407.6	704428.11
Rim Rock Drive	Cirsium vulgare	Bull thistle	FALSE		5	1	4323097	705008.33
Rim Rock Drive	Cirsium vulgare	Bull thistle	FALSE		2	2	4323150	703750.95
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		1	2	4322415	704278.8
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		5	1	4323239.8	703660.46
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		1	2	4322494.1	704595.74
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		3	3	4323429	705087.56

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		2	2	4323217.1	703769.3
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		1	2	4322523	704296.71
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		2	3	4322854.6	703682.03
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		5	1	4322369.8	704174.33
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		2	3	4322703.2	703757.16
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		2	2	4322734	705034.77
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		1	2	4323215.4	703730.9
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		3	3	4323092.3	705010.81
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		1	3	4322660.3	704917.17
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		2	3	4322906.7	705086.38
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		2	2	4323429.5	705085.84
Rim Rock Drive	Convolvulus arvensis	Field bindweed	FALSE		2	2	4323132.3	703702.97
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322612.2	704036.61
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322533.8	704152.2
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322666.8	704939.25
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322550.4	704549.51
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322653.9	704833.5
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322701.7	705001.94
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322389.4	704167.86
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322771.4	705052.91
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323164.5	703656.27
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322959.1	703702.27
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322654.5	703958.84
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322719.6	703715.95
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322841.7	703680.7
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4322652.2	704775.07
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322639.4	704005.41
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4323151.5	703790.98

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323228.2	704989.91
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322678.3	702968.56
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322344.2	704168.88
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322779.1	703812.39
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322771.9	703028.37
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322495.3	704180.89
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4322635.7	703878.04
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322774	703770.05
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4322648	703901.74
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322708	703829.89
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323165.9	703719.51
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4322882	703143.11
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323184.3	703733.09
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4322624.4	704667.82
Rim Rock Drive	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323099	703732.39
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323410.9	705090.85
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		2	2	4323110.7	704997.63
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		2	3	4323131.7	703745.94
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322851.6	703116.97
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		2	2	4322963.4	703528.75
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323177.1	703720.18
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322489.3	704598.94
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323075.7	703657.92
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323117.3	705006.61
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322291.6	704226.55
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		2	2	4323227.5	703806.45
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322814.3	703717.34
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322409.1	704276.3

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322719.8	702995.65
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322817.1	703771.01
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322874.4	703680.15
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322923.6	703175.12
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322710.1	703729.17
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322796.3	703050.1
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323224.1	704985.28
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322901.4	705082.76
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4322631	704688.46
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		1	2	4322868.1	703114.96
Rim Rock Drive	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323113.2	703661.64
Rim Rock Drive	Verbascum thapsus	Woolly mullein	FALSE		2	2	4322863.6	703675.77
Ute Canyon	Cirsium vulgare	Bull thistle	FALSE		2	2	4323741.6	698342.73
Ute Canyon	Convolvulus arvensis	Field bindweed	FALSE		5	1	4324293.7	697292.11
Ute Canyon	Convolvulus arvensis	Field bindweed	FALSE		2	2	4324341	697191.78
Ute Canyon	Euphorbia esula	leafy spurge	FALSE		5	1	4323468.1	699493.51
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324959.1	700476.72
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4324497.6	700110.24
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325531.9	701047.33
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325114.2	700575.23
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325536.6	701437.62
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324885.4	700404.61
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4324806.8	700310.61
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324267.5	700032.53
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4324767.7	700282.39
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4324589.6	700172.7
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325439.2	700843.31
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325311.8	700816.6

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325540	701532.64
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325497.3	701206.2
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4324351.8	700082.18
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4323024.1	699196.25
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323290.8	699404.52
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325255.3	700701.52
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325463.7	701644.79
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325315.4	701915.22
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325514.6	701318.45
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324485.7	697101.17
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324239.6	697616.25
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325388.7	700843.29
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323945.7	698181.92
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325223.6	700656.47
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325493.7	700849.27
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325412.4	701758.88
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4325570.7	701003.87
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325489.3	701151.48
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324412.2	697160.62
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324263.6	697410.15
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325282.3	700769.64
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325504.5	701593
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324203.8	697491.34
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4324185.9	699949.01
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323024	699123.85
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323935.4	698251.73
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324210.3	699989.67
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324058.6	698000.45

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4324443.8	700100.36
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4323570.4	698495.82
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324291.2	697282.52
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4325272.1	702313.06
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323881.4	699658.04
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323381.8	699393.53
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323161.7	698976.57
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324097.6	699864.75
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323252.1	699328
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325169.7	700614.07
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324149.6	699882.64
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323756.9	699664.16
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	4	4324534.2	700143.42
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323482.6	698720.02
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323748.9	698339.42
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324327	697229.9
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324831.9	700360.82
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323055.7	699240.82
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323353.3	698832.59
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324228.2	697763.86
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	4	4324653.5	700181.71
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	3	4325531.2	701378.95
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323431.4	699406.58
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4325301.6	701859.05
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		2	2	4323492.3	699502.03
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325512	701259.74
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		3	4	4324704.9	700196.61
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324934.2	700431.18

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323686.2	698437.24
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323424	698767.76
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323748.8	699612.07
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323118.8	699257.87
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4323742.5	699564.59
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325051.7	700541.69
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325265.5	702405.92
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325350.9	701777.02
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4324052.2	699828.95
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324300.7	697322.06
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325441.7	701701.44
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325003.4	700518.16
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	3	4325497.5	701085.84
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323330.6	699413.83
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4323320.4	698843.06
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	2	4323087.1	699057.33
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		3	4	4324728.6	700247.06
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324048.1	698085.13
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324328.5	697186.74
Ute Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		1	5	4324032.9	698172.26
Ute Canyon	Tamarix sp.	tamarisk	FALSE	Sapling(s)	5	1	4324069.2	699847.36
Ute Canyon	Tamarix sp.	tamarisk	TRUE	Seedling(s)	5	1	4325269.9	702396.72
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4324401.4	697178.97
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323567.9	698576.81
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324752.1	700273
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323943.1	698239.16
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323742.3	699556.91
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4323272.6	698843.85

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325541.7	701036.45
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4325263.2	700720.79
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325396.9	700845.77
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324635.2	700181.36
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4324031.7	698186.24
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324940	700434.47
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324465.6	700100.78
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325546.8	700908.6
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324509.9	700121.13
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323785.6	699693.39
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4323710.5	699467.66
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4323325.4	699414.75
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323400	698797.86
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324280.6	700044.58
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323095.3	699059.84
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4324050.2	698062.77
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324329.5	700070.43
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323367.8	698824.99
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324217.1	699991.73
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4324201.2	697477.16
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323875.5	698242.87
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323640.8	698442.99
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323477.8	698727.37
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323580.3	698474.37
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323436.3	698763.18
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	4	4323326.2	698845.66
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323837.7	698296.39
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323797.5	698324.78

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	4	4324538.6	700147.14
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324835.7	700374.41
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4324052.5	698111.89
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325504.9	701220.73
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323553.7	698659.1
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324073.8	699851.24
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324408.7	700094.12
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	4	4324685.4	700180.05
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4324063.6	697989.43
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325338.9	700828.83
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324813.4	700313.51
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4325469.2	700837.02
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4324176	699902.38
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325121.2	700580.47
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4323108.3	699033.08
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4323696.2	698427.98
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	5	4324477.3	697072.83
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325069.1	700551.36
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4325499.7	701605.64
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	3	4323042.4	699114.01
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4324033.2	699796.08
Ute Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	4	4324716.7	700223.7
Ute Canyon	Ulmus pumila	Siberian elm	FALSE	Sapling(s)	5	1	4325423.8	701742.27
Ute Canyon	Ulmus pumila	Siberian elm	FALSE	Sapling(s)	5	1	4324237.5	697452.74
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4323155.1	698990.03
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	3	4323879.8	699664.27
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4324332.5	697225.21
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4324401.7	697168.07

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	5	4324450.2	697088.9
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4324045.2	698107.33
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	2	4323703.8	698375.17
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	3	4324716	700207.02
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	5	4323790.4	698328.56
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	2	4324826.1	700337.24
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4323876.3	698243.86
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	1	4324098.8	697949.97
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		1	1	4323662.4	698440.09
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		2	2	4324387.4	700088.68
Ute Canyon	Verbascum thapsus	Woolly mullein	FALSE		5	5	4323838.8	698270.35
Wedding Canyon	Cirsium vulgare	Bull thistle	FALSE		5	1	4330277.5	696196.51
Wedding Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4330477.1	696586.12
Wedding Canyon	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4330107.3	695821.61
Wedding Canyon	Tragopogon dubius	Yellow salsify	FALSE		1	2	4330482.5	696717.05
Wedding Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4330273.1	696184.66
Wedding Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4330478	696568.8
Wedding Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4330552.3	696919.23
Wedding Canyon	Tragopogon dubius	Yellow salsify	FALSE		5	1	4330347	696334.66
Wedding Canyon	Tragopogon dubius	Yellow salsify	FALSE		2	2	4331650.6	697326.67
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332215.4	696966.91
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332041.1	696885.87
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332486.7	696676.62
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332166.9	697011.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332424.8	696636.91
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332224.4	696654.5
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332465.3	696533.78
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332442.3	696699.29

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332241.4	697083.88
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4331974.7	697026.81
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4331943.2	697055.85
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332262	696509.73
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332120	697001.07
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332464.9	696221.42
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332320.4	696165.7
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332346.1	696350.54
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332485.8	696222.43
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332088.8	697099.74
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332222.7	696704.38
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332479.2	696337.93
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332187.5	697019.54
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332319.3	696213.2
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332368.4	696196.79
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332498.4	696392.67
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4331982.5	696970.02
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332156.6	696881.15
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332328.4	696468.18
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332154.4	696823.17
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332472.4	696463.92
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332276.8	696503.15
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332480.4	696597.45
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332508.3	696228.19
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332035	696949.04
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332235.4	696975.88
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332222.2	697084.75
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4331956	697073.24

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332288.9	696666.27
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332299.2	696672.77
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332252.5	696608.55
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332456.6	696636.08
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332233.4	696688.11
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332301.5	696722.24
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332322.3	696402.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332227.8	696597.75
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332437.3	696173.01
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4331954.3	697016.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332432.8	696126.89
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332019.6	696994.24
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332062.5	696866.03
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332000.7	696975.64
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332391.2	696171.85
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332441.9	696289.24
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332450.7	696525.68
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332304.4	696615.17
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332236.6	697039.98
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332238.2	696532.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332136.8	696856.88
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332462.6	696343.32
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332110.3	697089.53
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332208.2	697079.99
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332228.4	696929.32
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332112.3	696937.92
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332218	696779.83
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4331997.4	697093.09

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332229.4	696644.9
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332144.1	696941.38
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332452.9	696396.62
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332469.6	696164.38
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332305	696566.82
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332428.6	696401.86
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332428.9	696575.2
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332246	696191.64
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332515.4	696293.51
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332504.9	696161.66
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332416.4	696479.15
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332328	696602.89
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332031.2	697010.65
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332194.3	696853.08
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332397.2	696265.94
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332206.3	697026.03
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332328	696668.18
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332340.3	696152.66
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332340.4	696412.25
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332266.6	696707.7
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332495	696634.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332187.2	696792.61
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332300.7	696237.6
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332217.5	697028.99
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332117.4	696852.53
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332499.6	696336.31
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332331.6	696343.42
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332242.8	696717.34

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332431	696479.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332075.4	697055.14
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332451.3	696460
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332198.4	696918.78
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332409.9	696594.28
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332397.6	696520.96
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332358.9	696356.11
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332017.9	697062.4
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332339.8	696228.94
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	4	4332389.7	696356.32
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332364.9	696153.39
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332335.4	696718.87
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332253	696567.91
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332346.3	696463.02
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332413.3	696179.66
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332325.8	696267.69
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332028.8	697073.73
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332214.3	696841.36
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332330.7	696529.34
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332490.4	696109.92
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332423.9	696699.9
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332219.9	696555.72
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332098.9	696912
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332485.6	696284.06
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332100.9	696835.92
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332473.9	696394.75
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332269.9	696559.07
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332419.2	696253.32

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332169.1	696800.72
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332292.1	696505.29
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332272.6	696182.91
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332214	696903.27
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332488.3	696476.73
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332151.9	697007.47
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332503.1	696675.66
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332075	697003.45
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332352.8	696410.48
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332496.4	696580.72
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4331993.2	697046.6
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332099.9	696965.94
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332506.5	696096.45
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332418.5	696320.01
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332381.4	696276.26
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332489.8	696531.3
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332217.6	696605.47
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332271.9	696632.55
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332158.4	696946.27
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332095.7	697033.17
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4331975.8	697082.63
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332401.4	696307.86
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332538.6	696504.2
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332542.9	696278.6
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332610.3	696192.39
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332548.2	696609.54
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332612.8	696269.87
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332586.9	696341.52

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332615.6	696413.07
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332543.5	696085.03
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332614.7	696346.88
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332543.8	696207.01
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332620.1	696092.02
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332555.7	696085.83
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332576.1	696524.3
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332546.1	696653.16
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332607.6	696082.69
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332541.4	696443.61
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332621.6	696640.01
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332610.6	696137.41
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332604.2	696522.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332593.6	696203.15
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332609.3	696572.6
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332565	696575.03
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332305.5	696511
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332626.2	696689.5
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332591.4	696490.93
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332623.3	696458.05
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332614.6	696501.73
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332531.3	696150
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332599.5	696609.39
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332592.4	696556.33
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332584.7	696179.02
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332584.7	696432.92
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332579.7	696624.89
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332593.9	696082.42

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332051.1	696983.79
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332574.8	696307.09
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332579.6	696688.64
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332555.6	696463.83
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332584.1	696127.19
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332570.7	696358.78
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332551.1	696561.79
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332533.9	696330.65
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332605	696467.6
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332579.6	696232.07
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332598.7	696274.21
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332587	696288.87
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332579	696572.39
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332570.4	696465.86
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332564.2	696634.75
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332553	696408.7
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332526.3	696084.87
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332372.8	696319.52
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332553	696354.22
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332537.9	696388.14
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332622.2	696549.16
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332562.1	696197.41
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332592.2	696686.83
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332569.8	696412.62
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332600.6	696658.76
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332586	696397.92
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332535	696217.77
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332561.5	696140.28

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332562.4	696694.99
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332548.5	696144.93
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332486.8	696161.59
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332607.2	696639.39
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332561.4	696524.63
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332600.6	696339.15
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332556.9	696292.48
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332601.4	696402.59
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332564.5	696248.69
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332053.9	697041.4
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332341.2	696289.86
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332321.5	696720.51
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332200.6	696971.71
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332289.6	696556.34
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332294.8	696193.19
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332282	696225.7
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332398.7	696692.99
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332287.3	696608.1
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332071.3	697110.78
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332596.4	696135.72
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332348.6	696513.04
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332357.6	696228.25
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332466.8	696278.59
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332350.5	696614.14
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332441.4	696640.01
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332359.9	696289.96
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332174.4	696846.74
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332001.7	696920.53

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332051.2	696926.95
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332443.1	696575.78
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332159.6	697050.84
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332207	696212.57
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332225.1	696865.05
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332188.8	697062.9
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332078	696869.09
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332210.1	696774.24
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332232.5	696212.5
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332407.8	696393.09
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332171.9	696765.35
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332182.5	696913.3
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332074.1	696921.32
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332281.7	696720.09
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332261.9	696222.33
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332021.8	696944.03
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332457.9	696580.75
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332049.1	697106.75
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332391.2	696214.9
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332179.5	696957.29
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332384.7	696436.37
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332435.8	696350.62
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332377.7	696239.43
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332438.9	696233.15
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332435	696534.83
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		3	5	4332348.3	696664.73
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332220.3	696740.93
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332112.2	697051.76

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332474	696111.57
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		2	5	4332353.1	696561.01
West Entrance Extra Area	Anisantha tectorum	Cheatgrass	FALSE		1	5	4332309.6	696450.43
West Entrance Extra Area	Melilotus officinale	Yellow sweet-clover	FALSE		5	1	4332331.6	696210.48
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		2	2	4332429.5	696497.35
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332617.8	696297.38
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332154.9	697046.31
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		2	2	4332340.2	696710.39
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		2	2	4332360.1	696408.56
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332600.4	696343.28
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332020.9	696929.2
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332410.8	696663.17
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332503.7	696688.92
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332461.6	696676.06
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332592.1	696496.66
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332427	696425.47
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		2	2	4332466.2	696322.68
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332605.4	696502.43
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332449.5	696518.61
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332563.5	696608.18
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4332456.5	696427.55
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332492.3	696469.42
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		3	1	4332481.2	696343.44
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332324.2	696683.18
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332532.4	696486.54
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332341.5	696250.09
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332383.5	696435.71
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332234.5	696541.3

Appendix A. Invasive exotic plant invasions detected on monitoring routes, Colorado NM, July 1–22, 2015, cont.

Plot_ID	Species	Master_Common_Name	Pulled	Growth_Stage	Cover_Class	Size_Class	N_Coord	E_Coord
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		2	1	4332391.6	696390.96
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332601.9	696447.54
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332502.9	696285.82
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332464.6	696166.21
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	3	4332296.4	696185.35
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	4	4332413.7	696340.93
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332508.3	696413.84
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332596.2	696162.77
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332536	696461.77
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		5	1	4332194.7	696223.28
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	2	4332442.2	696683.98
West Entrance Extra Area	Tragopogon dubius	Yellow salsify	FALSE		1	2	4332406.6	696410.32

Appendix B. Invasive exotic plant percent cover detected by monitoring plots, July 1–22, 2015.

Plot_ID	Transect	Species	Master_Common_Name	Cover_Average	Route Type	E_Coord	N_Coord
Columbus Canyon	811	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	702892.59	4322905.6
Columbus Canyon	811	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	702892.59	4322905.6
East Glade Park Road	945	Alyssum desertorum	Desert madwort	0.1666667	Road	701609.73	4320843.8
East Glade Park Road	933	Anisantha tectorum	Cheatgrass	0.5	Road	700352	4320105.2
East Glade Park Road	934	Anisantha tectorum	Cheatgrass	0.1666667	Road	700788.46	4320349.4
East Glade Park Road	935	Anisantha tectorum	Cheatgrass	0.3333333	Road	701270.11	4320477.7
East Glade Park Road	936	Anisantha tectorum	Cheatgrass	0.3333333	Road	701609.04	4320820.7
East Glade Park Road	937	Anisantha tectorum	Cheatgrass	0.5	Road	701903.8	4321167.2
East Glade Park Road	938	Anisantha tectorum	Cheatgrass	0.5	Road	702371.32	4321329.9
East Glade Park Road	939	Anisantha tectorum	Cheatgrass	0.1666667	Road	702618.83	4321705.4
East Glade Park Road	940	Anisantha tectorum	Cheatgrass	0.3333333	Road	702689.16	4322137.9
East Glade Park Road	942	Anisantha tectorum	Cheatgrass	0.1666667	Road	700355.13	4320115.6
East Glade Park Road	943	Anisantha tectorum	Cheatgrass	0.3333333	Road	700786.46	4320358.8
East Glade Park Road	945	Anisantha tectorum	Cheatgrass	0.1666667	Road	701609.73	4320843.8
East Glade Park Road	946	Anisantha tectorum	Cheatgrass	0.1666667	Road	701906.46	4321172.2
East Glade Park Road	947	Anisantha tectorum	Cheatgrass	0.6666667	Road	702374.7	4321339.8
East Glade Park Road	948	Anisantha tectorum	Cheatgrass	0.3333333	Road	702610.76	4321720
East Glade Park Road	949	Anisantha tectorum	Cheatgrass	0.5	Road	702689.12	4322151.2
East Glade Park Road	935	Convolvulus arvensis	Field bindweed	0.3333333	Road	701270.11	4320477.7
East Glade Park Road	932	Melilotus officinale	Yellow sweet-clover	0.1666667	Road	699928.16	4319853.7
East Glade Park Road	933	Melilotus officinale	Yellow sweet-clover	0.1666667	Road	700352	4320105.2
East Glade Park Road	938	Melilotus officinale	Yellow sweet-clover	0.1666667	Road	702371.32	4321329.9
East Glade Park Road	939	Melilotus officinale	Yellow sweet-clover	0.3333333	Road	702618.83	4321705.4
Fruita Canyon	813	Anisantha tectorum	Cheatgrass	0.6666667	Riparian	696436.6	4332481.3
Fruita Canyon	814	Anisantha tectorum	Cheatgrass	2.5	Riparian	696147.92	4332160.1
Fruita Canyon	815	Anisantha tectorum	Cheatgrass	0.6666667	Riparian	696000.71	4331715.9
Fruita Canyon	816	Anisantha tectorum	Cheatgrass	0.6666667	Riparian	695820.47	4331325.2
Fruita Canyon	817	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	695770.23	4330791
Gold Star Canyon	793	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	699485.36	4329231.1

Appendix B. Invasive exotic plant percent cover detected by monitoring plots, July 1–22, 2015, cont.

Plot_ID	Transect	Species	Master_Common_Name	Cover_Average	Route Type	E_Coord	N_Coord
Gold Star Canyon	794	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	699277.68	4328872.9
Gold Star Canyon	795	Anisantha tectorum	Cheatgrass	0.5	Riparian	699299.78	4328455.8
Gold Star Canyon	796	Anisantha tectorum	Cheatgrass	3.6666667	Riparian	699627.57	4328119.7
Hydro 03	881	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	695461.18	4332391
Hydro 11	882	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	696963.99	4330255.4
Hydro 11	883	Anisantha tectorum	Cheatgrass	7	Riparian	696618.03	4329938.9
Hydro 82	884	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	703994.38	4322721.3
Hydro 82	885	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	704452.48	4322716.3
Hydro 82	886	Anisantha tectorum	Cheatgrass	0.5	Riparian	704880.54	4322578.7
Hydro 85	907	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	703653.49	4321664.6
Hydro 86	888	Anisantha tectorum	Cheatgrass	0.5	Riparian	704590.35	4321729
Hydro 95	890	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	703575.52	4320886.3
Hydro 95	891	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	703309.53	4320534.6
Hydro 95	892	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	702901.1	4320372.9
Hydro 95	894	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	702366.41	4319573.5
Hydro 95	890	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	703575.52	4320886.3
Hydro 95	891	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	703309.53	4320534.6
Hydro 95	892	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	702901.1	4320372.9
Hydro 95	894	Melilotus officinale	Yellow sweet-clover	1	Riparian	702366.41	4319573.5
Hydro 95	890	Tragopogon dubius	Yellow salsify	0.1666667	Riparian	703575.52	4320886.3
Hydro 95	892	Tragopogon dubius	Yellow salsify	0.1666667	Riparian	702901.1	4320372.9
Hydro 95	890	Verbascum thapsus	Woolly mullein	0.1666667	Riparian	703575.52	4320886.3
Kodels Canyon	820	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	694823.56	4332284.4
Kodels Canyon	880	Anisantha tectorum	Cheatgrass	0.5	Riparian	694772.59	4332009.8
Kodels Canyon Route	771	Anisantha tectorum	Cheatgrass	6.1666667	Trail	694751.79	4332493.6
Limekin Gulch	950	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	702500.94	4325414.7
Lizard Canyon	790	Anisantha tectorum	Cheatgrass	0.5	Riparian	697082.35	4331953.4
Lizard Canyon	791	Anisantha tectorum	Cheatgrass	1.5	Riparian	696696.27	4331707.3
Lizard Canyon	792	Anisantha tectorum	Cheatgrass	0.5	Riparian	696326.67	4331375.3

Appendix B. Invasive exotic plant percent cover detected by monitoring plots, July 1–22, 2015, cont.

Plot_ID	Transect	Species	Master_Common_Name	Cover_Average	Route Type	E_Coord	N_Coord
Monument Canyon	777	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	698181.23	4328539.4
Monument Canyon	778	Anisantha tectorum	Cheatgrass	3.8333333	Riparian	698083.57	4328940.6
Monument Canyon	779	Anisantha tectorum	Cheatgrass	3.5	Riparian	697918.98	4329243.4
Monument Canyon	781	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	697815.03	4329968.9
Monument Canyon	782	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	698111.75	4330258.2
Monument Canyon	783	Anisantha tectorum	Cheatgrass	0.5	Riparian	698490.2	4330458.5
Monument Canyon	806	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	697492.58	4326878.3
Monument Canyon	807	Anisantha tectorum	Cheatgrass	0.5	Riparian	697577.94	4327337.4
Monument Canyon	808	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	697680.97	4327796.8
Monument Canyon	819	Anisantha tectorum	Cheatgrass	0.5	Riparian	697821.55	4327979.6
No Thoroughfare Canyon	843	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	701161.71	4319840.5
No Thoroughfare Canyon	844	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	701573.38	4319881.9
No Thoroughfare Canyon	846	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	702298.57	4320447.3
No Thoroughfare Canyon	847	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	702656.54	4320678.4
No Thoroughfare Canyon	849	Anisantha tectorum	Cheatgrass	0.5	Riparian	703340.6	4321102.8
No Thoroughfare Canyon	850	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	703567.92	4321450.1
No Thoroughfare Canyon	851	Anisantha tectorum	Cheatgrass	3.5	Riparian	703878.43	4321690.3
No Thoroughfare Canyon	852	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	704176.78	4321900.9
No Thoroughfare Canyon	853	Anisantha tectorum	Cheatgrass	4.3333333	Riparian	704494.34	4322056.9
No Thoroughfare Canyon	855	Anisantha tectorum	Cheatgrass	1.1666667	Riparian	705124.65	4322605.8
No Thoroughfare Canyon	840	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	700181.32	4318873.1
No Thoroughfare Canyon	842	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	700766.35	4319565.7
No Thoroughfare Canyon	845	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	701891.14	4320196.5
No Thoroughfare Canyon	849	Melilotus officinale	Yellow sweet-clover	0.3333333	Riparian	703340.6	4321102.8
No Thoroughfare Canyon	852	Melilotus officinale	Yellow sweet-clover	0.3333333	Riparian	704176.78	4321900.9
No Thoroughfare Canyon	853	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	704494.34	4322056.9
No Thoroughfare Trail	900	Anisantha tectorum	Cheatgrass	16.833333	Trail	699809.22	4318127.7
No Thoroughfare Trail	901	Anisantha tectorum	Cheatgrass	0.1666667	Trail	700029.71	4318473.7
No Thoroughfare Trail	902	Anisantha tectorum	Cheatgrass	1	Trail	700028.08	4318857.2

Appendix B. Invasive exotic plant percent cover detected by monitoring plots, July 1–22, 2015, cont.

Plot_ID	Transect	Species	Master_Common_Name	Cover_Average	Route Type	E_Coord	N_Coord
No Thoroughfare Trail	903	Anisantha tectorum	Cheatgrass	1.3333333	Trail	700244.28	4319087.2
No Thoroughfare Trail	906	Anisantha tectorum	Cheatgrass	0.8333333	Trail	701179.61	4319905.4
Red Canyon	797	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	703430.91	4324081.8
Red Canyon	798	Anisantha tectorum	Cheatgrass	2.1666667	Riparian	703099.46	4323806
Red Canyon	799	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	702658.27	4323698.3
Red Canyon	800	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	702242.6	4323469.2
Red Canyon	801	Anisantha tectorum	Cheatgrass	1.3333333	Riparian	701802.21	4323324.8
Red Canyon	802	Anisantha tectorum	Cheatgrass	1.6666667	Riparian	701339.75	4323152.2
Red Canyon	803	Anisantha tectorum	Cheatgrass	7	Riparian	700968.09	4322950
Red Canyon	802	Cirsium vulgare	Bull thistle	16.666667	Riparian	701339.75	4323152.2
Red Canyon	801	Tragopogon dubius	Yellow salsify	0.1666667	Riparian	701802.21	4323324.8
Red Canyon	802	Verbascum thapsus	Woolly mullein	20	Riparian	701339.75	4323152.2
Rim Rock Drive	908	Anisantha tectorum	Cheatgrass	0.1666667	Road	702952.13	4322668.9
Rim Rock Drive	909	Anisantha tectorum	Cheatgrass	0.1666667	Road	703281.7	4323023.9
Rim Rock Drive	912	Anisantha tectorum	Cheatgrass	0.3333333	Road	703711.18	4322971
Rim Rock Drive	913	Anisantha tectorum	Cheatgrass	0.3333333	Road	703759.16	4322811.2
Rim Rock Drive	914	Anisantha tectorum	Cheatgrass	0.3333333	Road	704062.82	4322608.8
Rim Rock Drive	915	Anisantha tectorum	Cheatgrass	0.5	Road	704257.27	4322369.4
Rim Rock Drive	916	Anisantha tectorum	Cheatgrass	0.3333333	Road	704439.74	4322379.2
Rim Rock Drive	917	Anisantha tectorum	Cheatgrass	0.5	Road	704658.49	4322456.2
Rim Rock Drive	918	Anisantha tectorum	Cheatgrass	0.5	Road	704957.51	4322672.1
Rim Rock Drive	919	Anisantha tectorum	Cheatgrass	0.6666667	Road	704998.64	4323107.2
Rim Rock Drive	921	Anisantha tectorum	Cheatgrass	0.3333333	Road	703297.6	4323024.8
Rim Rock Drive	922	Anisantha tectorum	Cheatgrass	0.5	Road	703652.3	4323033.9
Rim Rock Drive	923	Anisantha tectorum	Cheatgrass	0.1666667	Road	703711.16	4323154.4
Rim Rock Drive	925	Anisantha tectorum	Cheatgrass	0.3333333	Road	703767.91	4322797
Rim Rock Drive	927	Anisantha tectorum	Cheatgrass	0.1666667	Road	704263.11	4322363.8
Rim Rock Drive	928	Anisantha tectorum	Cheatgrass	0.1666667	Road	704429.41	4322355.1
Rim Rock Drive	929	Anisantha tectorum	Cheatgrass	0.5	Road	704667	4322450

Appendix B. Invasive exotic plant percent cover detected by monitoring plots, July 1–22, 2015, cont.

Plot_ID	Transect	Species	Master_Common_Name	Cover_Average	Route Type	E_Coord	N_Coord
Rim Rock Drive	911	Melilotus officinale	Yellow sweet-clover	0.1666667	Road	703735.1	4323195.2
Ute Canyon	821	Anisantha tectorum	Cheatgrass	3.8333333	Riparian	697339.7	4324297.1
Ute Canyon	822	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	697730.72	4324270.6
Ute Canyon	823	Anisantha tectorum	Cheatgrass	0.5	Riparian	698197.87	4324109.2
Ute Canyon	824	Anisantha tectorum	Cheatgrass	1.6666667	Riparian	698448.34	4323680.3
Ute Canyon	825	Anisantha tectorum	Cheatgrass	0.3333333	Riparian	698794.94	4323401.8
Ute Canyon	826	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	699103.56	4323039.2
Ute Canyon	827	Anisantha tectorum	Cheatgrass	0.8333333	Riparian	699413.23	4323321.2
Ute Canyon	828	Anisantha tectorum	Cheatgrass	0.8333333	Riparian	699506.35	4323733.7
Ute Canyon	829	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	699786.22	4324036.3
Ute Canyon	830	Anisantha tectorum	Cheatgrass	2	Riparian	700085.2	4324373.2
Ute Canyon	831	Anisantha tectorum	Cheatgrass	0.5	Riparian	700304.05	4324798.5
Ute Canyon	832	Anisantha tectorum	Cheatgrass	0.5	Riparian	700611.62	4325165.1
Ute Canyon	833	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	700888.05	4325530.7
Ute Canyon	829	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	699786.22	4324036.3
Ute Canyon	830	Melilotus officinale	Yellow sweet-clover	1.5	Riparian	700085.2	4324373.2
Ute Canyon	831	Melilotus officinale	Yellow sweet-clover	0.3333333	Riparian	700304.05	4324798.5
Ute Canyon	832	Melilotus officinale	Yellow sweet-clover	0.1666667	Riparian	700611.62	4325165.1
Ute Canyon	834	Melilotus officinale	Yellow sweet-clover	0.3333333	Riparian	701333.11	4325532
Ute Canyon	824	Tragopogon dubius	Yellow salsify	0.1666667	Riparian	698448.34	4323680.3
Ute Canyon	824	Verbascum thapsus	Woolly mullein	0.1666667	Riparian	698448.34	4323680.3
Wedding Canyon	784	Anisantha tectorum	Cheatgrass	1.6666667	Riparian	697176.84	4331464
Wedding Canyon	786	Anisantha tectorum	Cheatgrass	2.1666667	Riparian	696966.16	4330578
Wedding Canyon	787	Anisantha tectorum	Cheatgrass	0.6666667	Riparian	696510.09	4330447.4
Wedding Canyon	788	Anisantha tectorum	Cheatgrass	0.6666667	Riparian	696076.7	4330262.2
Wedding Canyon	789	Anisantha tectorum	Cheatgrass	0.1666667	Riparian	695690.05	4329971

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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