ATTACHMENT F Botanical Resources Field Survey Report for the Toiyabe National Forest



Prineville to Reno Fiber Optic Project

Botanical Resources Field Survey Report for the Toiyabe National Forest

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Executive Summary

Zayo Group, LLC, proposes to construct a fiber optic cable from Prineville, Oregon, to Reno, Nevada (project). The project would install fiber-optic cable underground by plowing in, trenching, or directional boring. This report addresses the botanical surveys conducted in the segment of the project that traverses the Toiyabe National Forest (project segment) in Nevada. The study area (i.e., area within which we evaluated the potential for project-related effects) occurs within the Nevada Department of Transportation right-of-way (ROW) along portions of U.S. Route 395 and State Route 430.

Stantec Consulting Services Inc. (Stantec) conducted botanical resource surveys in June 2020. The survey located several invasive plant species in the study area and did not locate any special-status plant species.

Acronyms and Abbreviations

ESA Endangered Species Act

project Prineville to Reno Fiber Optic Project

ROW right-of-way

Stantec Consulting Services Inc.

Zayo Group, LLC

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1.0 INTRODUCTION

Zayo Group, LLC (Zayo), is proposing the construction of a fiber optic cable from Prineville, Oregon, to Reno, Nevada (project). The project would install fiber-optic cable underground by plowing in, trenching, or directional boring. This report addresses the botanical survey conducted in the project segment that occurs on the Toiyabe National Forest in Nevada (Figure 1). The study area (i.e., the area within which we evaluated the potential for project-related effects) occurs within the Nevada Department of Transportation right-of-way (ROW) along portions of U.S. Route 395 and State Route 430 (Figures 2-6).

Alphabiota Environmental Consulting, a subconsultant for Stantec Consulting Services Inc. (Stantec) conducted the botanical survey on behalf of Zayo to document special-status plant species within the study area. This report details the methods and results of the field survey and outlines Zayo's proposed measures to minimize the potential introduction or spread of invasive plants in the Toiyabe National Forest due to project construction.

2.0 METHODS

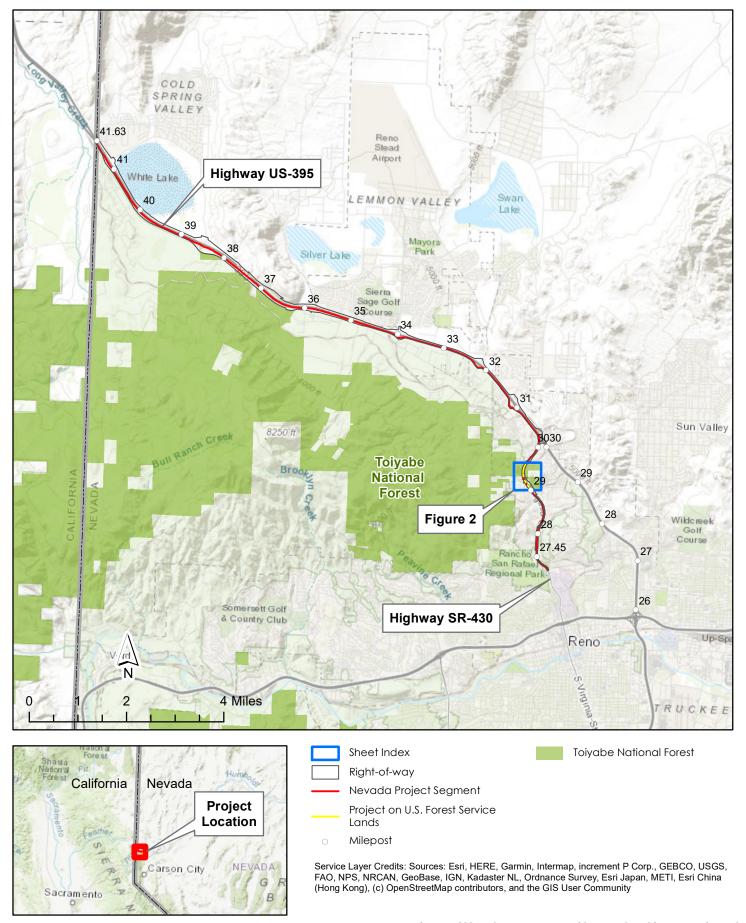
2.1 RESOURCES REVIEW

Prior to conducting the field survey, Stantec biologists compiled lists of special-status plants and invasive plants with the potential to occur in the study area. For the purposes of this evaluation, "special-status" includes species or subspecies that are classified as follows: (1) listed as endangered or threatened under the federal Endangered Species Act (ESA) or are proposed or candidates for listing under the ESA; and/or (2) designated as Sensitive by the Regional Forester for the U.S. Forest Service, Region Four. Invasive plants are defined as noxious weeds included on the Nevada Noxious Weed List (Nevada Department of Agriculture 2020).

Stantec consulted the following resources to identify special-status species potentially occurring in the study area:

- Information for Planning and Conservation online system (U.S. Fish and Wildlife Service 2019)
- Intermountain Region (R4) Threatened, Endangered, Proposed, and Sensitive Species (U.S. Forest Service 2016)
- Nevada Natural Heritage Program plant occurrence data (Nevada Department of Conservation and Natural Resources 2019)
- Aerial photographs of the study area





Zayo - Prineville to Reno Fiber Optic Project Botanical Resources Field Survey Report Figure 1: Project Overview and Land Ownership



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Figure 2: Study Area

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2.2 FIELD SURVEYS

2.2.1 Reference Population Visits and Specimen Review

Before conducting the botanical survey, the botany field crew visited nearby reference populations for three special-status plant species with the potential to occur to determine if the plants were identifiable at the time of the survey. The botanists also visited the University of Nevada at Reno Herbarium to review plant specimens of several target special-status species. The reference population and herbarium visits provided the field team an opportunity to refine their search image for specific taxa.

On June 23, 2019, the botany field crew visited a reference site south of Peavine Peak, approximately 2.5 miles south of the study area (Nevada Department of Conservation and Natural Resources 2019). They located two special-status species at the reference site: altered andesite buckwheat (*Eriogonum robustum*) and Webber's ivesia (*Ivesia webberi*). Altered andesite buckwheat was in full flower and very visible, and Webber's ivesia was senescent but still recognizable. On June 24, 2019, the botany field crew visited a reference site for altered andesite popcorn flower (*Plagiobothrys glomeratus*) near the Desert Research Institute approximately 6 miles east of the study area. While they did not locate the species at the reference site, they viewed an altered andesite popcorn flower plant specimen at the herbarium.

2.2.2 Botanical Survey

The botany field crew conducted a single-visit survey in the study area from June 24 to June 26, 2019. The survey was conducted in meandering transects, and the botanists identified all species to the taxonomic level necessary to determine if each plant was a special-status species or invasive plant species. Due to the study area's proximity to California, plant taxonomy follows Baldwin et al. (2012), including applicable errata and supplements (Jepson Flora Project 2020). The list of all plants observed during the survey follows the U.S. Department of Agriculture's naming convention to be consistent with the U.S. Forest Service Region Four Sensitive Plant List and the Nevada Noxious Weed List (U.S. Department of Agriculture 2020).

3.0 RESULTS

Appendix A provides a list of special-status plants known to occur or having the potential to occur in the Toiyabe National Forest. According to the Nevada Natural Heritage Program (Nevada Department of Conservation and Natural Resources 2019), three special-status species have been documented within 2 miles of the study area: altered andesite buckwheat, Webber's Ivesia, and andesite popcorn flower.

The study area is dominated by bitterbrush (*Purshia tridentata*), sagebrush (*Artemisia tridentata*), and rubber rabbitbrush (*Ericameria nauseosa*), with ruderal, weedy vegetation located directly adjacent to U.S. Route 395 and State Route 430 and the associated on- and off-ramps. The botanists did not document any special-status plant species within the study area. Appendix B provides a list of all plants

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documented during 2019 botanical field surveys. While this report focuses on the Toiyabe National Forest, the field surveys also occurred on private parcels within the ROWs of U.S. Route 395 and State Route 430; thus, the plant list includes plants observed both on the Toiyabe National Forest and the private parcels within the ROWs in Nevada.

Stantec reviewed the 2019 botanical surveys plant list to determine if any invasive plants were documented in the study area. Invasive plants documented include hoary cress (*Cardaria draba*), musk thistle (*Carduus nutans*), yellow star-thistle (*Centaurea solstitialis*), spotted knapweed (*Centaurea stoebe* var. *micranthos*), St. John's wort (*Hypericum perforatum*), Scotch thistle (*Onopordum acanthium*), perennial pepperweed (*Lepidium latifolium*), puncturevine (*Tribulus terrestris*), and medusahead (*Taeniatherum caput-medusae*). Due to the proximity to U.S. Route 395 and State Route 430 and the disturbed nature of the landscape, invasive weeds are common throughout the study area, with a higher concentration in the southern portion of the study area.

4.0 SUMMARY OF ANTICIPATED IMPACTS

The project is not anticipated to affect special-status plants because it would be constructed adjacent to roads and highways in surfaces unlikely to support special-status species. Additionally, no special-status plants were found during the 2019 botanical survey.

The project presents a risk for the introduction or spread of invasive plants. Zayo will implement the measures listed below to avoid or minimize the potential to spread invasive plants or introduce invasive species to the Toiyabe National Forest.

Invasive Plant Avoidance and Minimization Measures

- The extent of vegetation and soil disturbance should be confined to only what is necessary to accomplish the project. The goal is to minimize disturbance of native vegetation and use areas already disturbed where possible.
- Prior to entry and departure to the Toiyabe National Forest, all equipment, including heavy equipment and vehicles, should be thoroughly cleaned with pressurized water.
- All straw or other erosion control materials used should be certified to be weed-free.
- All gravel, rock, riprap, or other mineral material used should be certified to be weed free prior to placement on Toiyabe National Forest lands.



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5.0 REFERENCES

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Appendix A SPECIAL-STATUS PLANTS KNOWN OR HAVING POTENTIAL TO OCCUR IN THE TOIYABE NATIONAL FOREST

Appendix A Special-Status Plants Known or Having Potential to Occur in the Toiyabe National Forest

Common Name Scientific Name	Regulatory Status
Charleston angelica Angelica scabrida	Sensitive
Charleston pussytoes Antennaria soliceps	Sensitive
Rosy King's sandwort Arenaria kingii ssp. rosea	Sensitive
Eastwood milkweed Asclepias eastwoodiana	Sensitive
Clokey milkvetch Astragalus aequalis	Sensitive
Long Valley milkvetch Astragalus johannis-howellii	Sensitive
Lee Canyon milkvetch Astragalus oophorus var. clokeyanus	Sensitive
Lavin's egg milkvetch Astragalus oophorus var. lavinii	Sensitive
Spring Mountain milkvetch Astragalus remotus	Sensitive
Toquima milkvetch Astragalus toquimanus	Sensitive
Bodie Hills rockcress Boechera (=Arabis) bodiensis	Sensitive
Spring Mountains rockcress Boechera (=Arabis) nevadensis	Sensitive
Washoe tall rockcress Boechera (=Arabis) rectissima var. simulans	Sensitive

Common Name Scientific Name	Regulatory Status
Galena Creek rockcress Boechera (=Arabis) rigidissima var. demota	Sensitive
Ophir rockcress Boechera (=Arabis) ophira	Sensitive
Tiehm rockcress Boechera (=Arabis) tiehmii	Sensitive
upswept moonwort Botrychium ascendens	Sensitive
dainty moonwort Botrychium crenulatum	Sensitive
slender moonwort Botrychium lineare	Sensitive
Moosewort Botrychium tunux	Sensitive
Tioga Pass sedge Carex tiogana	Sensitive
Bodie Hills draba Cusickiella quadricostata	Sensitive
Goodrich biscuitroot Cymopterus goodrichii	Sensitive
arid draba <i>Draba arida</i>	Sensitive
star draba Draba asterophora var. asterophora	Sensitive
Wasatch draba Draba brachystylis	Sensitive



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Appendix A Special-Status Plants Known or Having Potential to Occur in the Toiyabe National Forest

Common Name Scientific Name	Regulatory Status
Jaeger draba <i>Draba jaegeri</i>	Sensitive
serpentine draba Draba oreibata var. serpentina	Sensitive
Charleston draba Draba paucifructa	Sensitive
Nevada willowherb Epilobium nevadense	Sensitive
Spring Mountain goldenweed Ericameria compacta (=Haplopappus compactus)	Sensitive
Toiyabe buckwheat Eriogonum esmeraldense var. toiyabense	Sensitive
Clokey buckwheat Eriogonum heermannii var. clokeyi	Sensitive
altered andesite buckwheat Eriogonum robustum	Sensitive
Clokey greasebush Glossopetalon clokeyi	Sensitive
smooth dwarf greasebrush Glossopetalon pungens var. glabra (=G.pungens)	Sensitive
Sierra Valley ivesia Ivesia aperta var. aperta	Sensitive
Dog Valley ivesia Ivesia aperta var. canina	Sensitive
Charleston ivesia Ivesia cryptocaulis	Sensitive

Common Name Scientific Name	Regulatory Status
Jaeger ivesia Ivesia jaegeri	Sensitive
Plumas ivesia Ivesia sericoleuca	Sensitive
Webber Ivesia Ivesia webberi	Threatened
Hitchcock bladderpod Lesquerella hitchcockii var. hitchcockii	Sensitive
three-ranked hump-moss Meesia triquetra	Sensitive
Shevock rockmoss Orthotrichum shevockii	Sensitive
Spjut's brittle-moss Orthotrichum spjutii	Sensitive
dune penstemon Penstemon arenarius	Sensitive
Charleston beardtongue Penstemon leiophyllus var. keckii	Sensitive
Wassuk beardtongue Penstemon rubicundus	Sensitive
Jaeger beardtongue Penstemon thompsoniae ssp. jaegeri	Sensitive
Mono phacelia Phacelia monoensis	Sensitive
whitebark Pine Pinus albicaulis	Sensitive



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Appendix A Special-Status Plants Known or Having Potential to Occur in the Toiyabe National Forest

Common Name Scientific Name	Regulatory Status
altered andesite popcorn flower Plagiobothrys glomeratus	Sensitive
marsh's bluegrass Poa abbreviata ssp. marshii	Sensitive
White Mountain skypilot Polemonium chartaceum	Sensitive
Williams combleaf Polyctenium williamsii	Sensitive
Mono ragwort Senecio pattersonensis	Sensitive
Clokey silene Silene clokeyi	Sensitive
low Sphaeromeria Sphaeromeria compacta	Sensitive
Masonic Mountain jewelflower Streptanthus oliganthus	Sensitive
Charleston kittentails Synthyris ranunculina	Sensitive
alpine goldenweed Tonestus (=Haplopappus) alpinus	Sensitive
Charleston ground daisy Townsendia jonesii var. tumulosa	Sensitive
Rollins clover Trifolium macilentum var. rollinsii	Sensitive
Charleston violet Viola charlestonensis	Sensitive

Key:

Threatened = Federally Threatened

Common Name	Regulatory
Scientific Name	Status

Sensitive = Region 4 U.S. Forest Service Sensitive Species

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Appendix B PLANT SPECIES DOCUMENTED DURING 2019 BOTANICAL SURVEYS

Scientific Name ¹	Common Name	Invasive Plant ²
Achnatherum thurberianum	Thurber's needle grass	
Agropyron cristatum	crested wheat grass	
Allium sp.	onion	
Amaranthus albus	tumbleweed	
Amaranthus blitoides	mat amaranth	
Ambrosia acanthicarpa	flat-spine burr-ragweed	
Amsinckia tessellata	bristly fiddleneck	
Antennaria dimorpha	cushion pussytoes	
Anthemis arvensis	corn chamomile	
Apera interrupta	dense silky-bent	
Argemone munita	flat-bud prickly-poppy	
Artemisia arbuscula	dwarf sagebrush	
Artemisia douglasiana	Douglas' wormwood	
Artemisia tridentata ssp. wyomingensis	Wyoming big sagebrush	
Artemisia tridentata var. tridentata	big sagebrush	
Asclepias fascicularis	narrow-leaf milkweed	
Astragalus cicer	chickpea milk-vetch	
Astragalus iodanthus	Humboldt river milk-vetch	
Astragalus purshii	Pursh's milk-vetch	
Atriplex canescens	four-wing saltbush	
Balsamorhiza hirsuta	hairy balsamroot	
Balsamorhiza sagittata	arrow-leaf balsamroot	
Bassia hyssopifolia	five-horn smotherweed	
Blepharipappus scaber	rough eyelashweed	
Boechera pulchra var. pulchra	desert rockcress	
Bromus commutatus	meadow brome	
Bromus inermis	smooth brome	
Bromus japonicus	Japanese brome	
Bromus tectorum	cheat grass	
Calochortus leichtlinii	Leichtlin's mariposa-lily	
Camassia quamash	small camas	
Camissonia parvula	Lewis River suncup	
Cardaria draba	hoary cress	Noxious
Cardaria pubescens	globe-pod pepperwort	



Scientific Name ¹	Common Name	Invasive Plant ²
Carduus nutans	musk thistle	Noxious
Carex douglasii	Douglas' sedge	
Carex nebrascensis	Nebraska sedge	
Carex praegracilis	clustered field sedge	
Castilleja campestris ssp. campestris	vernal pool Indian paintbrush	
Castilleja tenuis	hairy Indian-paintbrush	
Catalpa sp.	catalpa	
Centaurea solstitialis	yellow star-thistle	Noxious
Centaurea stoebe ssp. micranthos ³	spotted knapweed	Noxious
Ceratocephala testiculata	curveseed butterwort	
Chaenactis douglasii	dusty-maiden	
Chorizanthe watsonii	five-tooth spineflower	
Chrysothamnus viscidiflorus	green rabbitbrush	
Cichorium intybus	chicory	
Cirsium occidentale var. candidissimum	cobwebby thistle	
Cleome serrulata	Rocky Mountain beeplant	
Collomia grandiflora	large-flower mountain-trumpet	
Colutea arborescens	bladder-senna	
Conium maculatum	poison-hemlock	
Convolvulus arvensis	field bindweed	
Crepis acuminata	long-leaf hawk's-beard	
Crepis occidentalis	large-flower hawk's-beard	
Cryptantha torreyana	Torrey's cryptantha	
Cusickiella douglasii	alkali false whitlow-grass	
Cusickiella quadricostata	Bodie Hills false whitlow-grass	
Cynosurus echinatus	bristly dog's-tail grass	
Dactylis glomerata	orchard grass	
Descurainia sophia	herb-sophia	
Distichlis spicata	coastal salt grass	
Elaeagnus angustifolia	Russian-olive	
Eleocharis palustris	soft-stem spike-rush	
Elymus elymoides	Western bottle-brush grass	
Elymus hispidus	intermediate wheatgrass	



Scientific Name ¹	Common Name	Invasive Plant ²
Ephedra viridis	Mormon-tea	
Epilobium brachycarpum	tall annual willowherb	
Epilobium leptophyllum	bog willowherb	
Eriastrum signatum	maroon-spotted woolystar	
Ericameria nauseosa	rubber rabbitbrush	
Erigeron bloomeri	scabland fleabane	
Erigeron divergens	rough fleabane	
Eriogonum caespitosum	matted wild buckwheat	
Eriogonum elatum	tall woolly wild buckwheat	
Eriogonum microthecum var. laxiflorum	slender buckwheat	
Eriogonum nidularium	birdnest wild buckwheat	
Eriogonum ochrocephalum	white-woolly wild buckwheat	
Eriogonum sphaerocephalum var. sphaerocephalum	rock wild buckwheat	
Eriogonum umbellatum var. dichrocephalum	sulphur buckwheat	
Eriogonum umbellatum var. nevadense	Sierra sulphur flower	
Eriogonum vimineum	wicker-stem wild buckwheat	
Erodium cicutarium	red-stem stork's-bill	
Eschscholzia californica	California-poppy	
Euphorbia serpillifolia	thyme-leaf sandmat	
Festuca pratensis	meadow rye grass	
Galium aparine	sticky-willy	
Gayophytum sp.	groundsmoke	
Glossopetalon nevadense	spiny greasebush	
Gnaphalium palustre	western marsh cudweed	
Grayia spinosa	spiny hop-sage	
Grindelia squarrosa	curly-cup gumweed	
Gutierrezia sarothrae	kindlingweed	
Halogeton glomeratus	saltlover	
Helianthus annuus	common sunflower	
Hordeum brachyantherum	meadow barley	
Hordeum jubatum var. jubatum	fox-tail barley	
Hordeum murinum	wall barley	



Scientific Name ¹	Common Name	Invasive Plant ²
Hypericum perforatum	St. John's wort	Noxious
Iva axillaris	deer-root	
Juncus balticus	Baltic rush	
Juncus bufonius	toad rush	
Kochia scoparia	Mexican-fireweed	
Lactuca serriola	prickly lettuce	
Lepidium lasiocarpum	shaggy fruit pepperweed	
Lepidium latifolium	perennial pepperweed	Noxious
Lepidium perfoliatum	clasping pepperweed	
Leymus cinereus	Great Basin wild rye	
Lomatium macrocarpum	large-fruit desert-parsley	
Lotus parviflorus	bird's foot trefoil	
Lupinus argenteus	silver-stem lupine	
Lythrum tribracteatum	three-bract loosestrife	
Machaeranthera sp.	tansyaster	
Madia elegans	showy tarplant	
Madia glomerata	mountain tarplant	
Malva neglecta	dwarf mallow	
Marrubium vulgare	white horehound	
Matricaria discoidea	pineapple-weed	
Medicago sativa	alfalfa	
Melilotus alba	white sweetclover	
Melilotus officinalis	yellow sweet-clover	
Mentha sp.	mint	
Mentzelia dispersa	Nevada blazingstar	
Mentzelia laevicaulis	giant blazingstar	
Mentzelia montana	variegated-bract blazingstar	
Microsteris gracilis	annual-phlox	
Mimulus guttatus	seep monkeyflower	
Monolepis nuttalliana	Nuttall's poverty-weed	
Navarretia intertexta	needle-leaf pincushion-plant	
Nicotiana attenuata	coyote tobacco	
Onopordum acanthium	Scotch thistle	Noxious
Packera cana	silver-woolly groundsel	



Scientific Name ¹	Common Name	Invasive Plant ²
Panicum capillare	common panic grass	
Pectocarya penicillata	short-leaf combseed	
Pectocarya setosa	bristly combseed	
Penstemon palmeri	scented beardtongue	
Penstemon roezlii	juniper-scrub beardtongue	
Phacelia hastata	silver-leaf scorpion-weed	
Phlox stansburyi	cold desert phlox	
Pinus ponderosa	ponderosa pine	
Plagiobothrys tenellus	Pacific popcorn-flower	
Pleiacanthus spinosus	false wire-lettuce	
Poa bulbosa	bulbous blue grass	
Poa secunda	curly blue grass	
Polygonum aviculare	yard knotweed	
Polypogon monspeliensis	annual rabbit's-foot grass	
Populus fremontii	Fremont cottonwood	
Prunus andersonii	desert peach	
Puccinellia distans	spreading alkali grass	
Purshia tridentata	bitterbrush	
Ranunculus occidentalis	western buttercup	
Ribes aureum	golden currant	
Rorippa nasturtium-aquaticum	watercress	
Rosa woodsii	Wood's rose	
Rumex crispus	curly dock	
Rumex salicifolius	willow dock	
Salix exigua	narrow-leaf willow	
Salix lasiandra	Pacific willow	
Salsola tragus	prickly Russian-thistle	
Salvia dorrii	gray ball sage	
Sisymbrium altissimum	tall hedge-mustard	
Solanum triflorum	cut-leaf nightshade	
Sonchus asper	spiny-leaf sow-thistle	
Sporobolus cryptandrus	sand dropseed	
Stipa hymenoides	Indian rice grass	
Symphoricarpos sp.	snowberry	



Appendix B Plant Species Documented During 2019 Botanical Surveys

Scientific Name ¹	Common Name	Invasive Plant ²
Taeniatherum caput-medusae	medusahead	Noxious
Taraxacum officinale	common dandelion	
Taraxia tanacetifolia	tansy-leaf goldeneggs	
Tetradymia canescens	spineless horsebrush	
Tetradymia glabrata	little-leaf horsebrush	
Thlaspi arvense	field pennycress	
Tragopogon dubius	meadow goat's-beard	
Tribulus terrestris	puncturevine	Noxious
Trifolium macrocephalum	large-head clover	
Trifolium variegatum	whitetip clover	
Typha latifolia	broad-leaf cat-tail	
Ulmus pumila	Siberian elm	
Urtica dioica	stinging nettle	
Verbascum thapsus	great mullein	
Veronica anagallis-aquatica	blue water speedwell	
Vicia americana	American purple vetch	
Wyethia mollis	woolly mule's-ears	
Xanthium strumarium	rough cockleburr	
Zigadenus paniculatus	sand-corn	

Notes:

- 1. Naming convention follows U.S. Department of Agriculture naming convention (U.S. Department of Agriculture 2020)
- 2. Noxious = state-designated noxious weed (Nevada Department of Agriculture 2020)
- 3. Centaurea biebersteinii in Nevada Department of Agriculture (2020)

