

3.13 VEGETATION AND INVASIVE SPECIES

This section describes the vegetation communities that may occur within the project study area and addresses the potential impacts that may result from the Midvalley Highway. This section lists, discusses and addresses the potential for invasive and noxious species within the project study area and the measures used to control spreading these species.

3.13.1 Regulations and Methodology

3.13.1.1 Regulations

Laws and regulations concerning noxious weeds exist at both the federal and state levels; a number of agencies maintain lists of specific invasive/noxious weed species. Generally, federal weed laws and regulations are geared toward preventing unwanted plants from entering the nation, while state laws and regulations are aimed more at the control, spread, and removal of noxious weeds.

Executive Order 13112, Invasive Species, was signed into law February 3, 1999 by President Clinton. This law states that each federal agency whose action may affect the status of invasive species shall identify actions that may spread invasive species, prevent the introduction of invasive species, detect, respond, and control populations of invasive species, monitor invasive species, provide the restoration of native species, and promote public education regarding invasive species.

In recognition of the economic and ecological impacts of noxious weeds, the State of Utah adopted the Utah Noxious Weed Act (Utah Code, Title 04, Chapter 17), which was updated on May 1, 2008. The act requires landowners to manage the state-listed noxious weeds if they are likely to damage neighboring lands. The act stipulates that each county and municipality in Utah must adopt a noxious weed management plan for its jurisdiction. Also, they must appoint an advisory board to develop the weed management plan and to identify the noxious weed species in their respective areas. Landowners are responsible for controlling both the state and county listed species.

3.13.1.2 Methodology

To identify vegetation and invasive species, the Tooele County invasive species list was reviewed. To determine if any known invasive species or noxious weeds listed by the state or Tooele County, the *Wetland Delineation Report* (January 2009) and the *Special Status Species Report* (June 2008) were reviewed. To identify wetlands along the Midvalley Highway alternatives, sample points were used to evaluate whether or not an area was considered a wetland. At each sample point, plant species were noted and used to describe the area. The wildlife report (Special Status Species) provided an overview of vegetation within the project study area. Known locations, if any, of invasive species were mapped with the Midvalley Highway alternatives to determine if these locations would be impacted by the project. Personal communication with Tooele County was also conducted to identify possible invasive and noxious weeds.

To determine the impacts to vegetation from the Midvalley Highway, the acreage of impact to vacant land, open space, rangeland and wetlands was calculated. The impact is considered the area within the potential right-of-way of the alternative. Land that included

agricultural uses and residential/commercial were not included in the impact calculation.

3.13.2 Affected Environment

Tooele Valley is within the Great Basin Ecosystem, as defined by the Bureau of Land Management. The majority of the Tooele Valley has been converted to agricultural uses. However, where natural, undisturbed plant communities exist, the vegetation is generally composed of desert shrubs, greasewood, rabbitbrush, snakeweed, black sagebrush, and big sagebrush with an understory of bunchgrasses and forbs (U.S. Department of Interior, 2004).

The cool desert shrub plant community is represented mainly north of SR-138. Plant communities south of SR-138 are mainly irrigated pastures of alfalfa and fallow fields occupied by tall wheatgrass (*Elymus longatus*), big rabbitbrush, and invasive annuals.

Wetland plant communities consist mainly of saline wet meadows and vegetated mineral flats. These plant communities occur on the fringe of the Great Salt Lake, south of I-80 to about SR-138. Wet meadow vegetation consists of mainly saltgrass (*Distichlis spicata*) and Baltic rush (*Juncus balticus*). Mineral flats (playas) vegetation consists of iodine bush (*Allenrolfea occidentalis*), Utah samphire (*Sarcocornia utahensis*), western seepweed (*Suaeda occidentalis*), and annual samphire (*Salicornia europea*).

3.13.2.1 Invasive Species and Noxious Weeds

Noxious weeds are considered invasive plant species that have been designated as such by Utah State Law. They are highly competitive with native vegetation growing in the area and often cause problems, if left unmanaged. The October 2008 Utah Noxious Weed List is shown in Table 3.13-1; it lists the noxious weeds found within the State. The table also indicates which invasive/noxious weeds are potentially found within the Tooele Valley.

TABLE 3.13-1, UTAH NOXIOUS WEED LIST (OCTOBER 2008)

Common Name	Latin Name	Potentially found within the Tooele Valley ¹
Bermudagrass	<i>Cynodon dactylon</i>	
Black henbane	<i>Hyoscyamus niger</i>	
Canada thistle	<i>Cirsium arvense</i>	
Dalmatian Toadflax	<i>Linaria dalmatica</i>	yes
Diffuse knapweed	<i>Centaurea diffusa</i>	
Field Bindweed (Wild Morning Glory)	<i>Convolvulus arvensis</i>	yes
Hoary cress (whitetop)	<i>Cardaria</i> Spp.	yes
Houndstongue	<i>Cynoglossum officinale</i>	yes
Johnsongrass	<i>Sorghum halepense</i>	
Jointed Goat Grass ²	<i>Aegilops cylindrical</i>	yes
Leafy Spurge	<i>Euphorbia esula</i>	yes

TABLE 3.13-1, UTAH NOXIOUS WEED LIST (OCTOBER 2008)

Common Name	Latin Name	Potentially found within the Tooele Valley ¹
Medusahead	Taeniatherum caput-medusae	
Musk Thistle	Carduus nutans	yes
Ox-Eye daisy	Chrysanthemum leucanthemum	
Perennial pepperweed	Lepidium latifolium	
Perennial sorghum	Sorghum halepense L. & Sorghum alnum	
Poison Hemlock	Conium maculatum	yes
Purple loosestrife	Lythrum salicaria L.	
Quackgrass	Agropyron repens	yes
Russian Knapweed	Centaurea repens	yes
Saltcedar	Tamarix ramosissima	
Scotch Thistle	Onopordium acanthium	yes
Spotted Knapweed	Centaurea maculosa	yes
Squarrose knapweed	Centaurea squarrosa	yes
St. John's wort	Hypericum perforatum	
Sulfur cinquefoil	Potentilla recta	
Yellow Starthistle	Centaurea solstitialis	

1. Personal communication with Jerry Caldwell, Tooele County

2. Identified as a Tooele County noxious weed – not found on the Utah Noxious Weeds list

3.13.3 Environmental Consequences

There were no invasive species or noxious weeds identified as part of the wetland delineation or wildlife reports for this project; therefore, invasive species and noxious weeds would have no impact on the Midvalley Highway alternatives and are not discussed in this section. However, specific mitigation measures have been outlined to minimize the spread of invasive and noxious weeds during the construction of the Midvalley Highway.

Under either of the Midvalley Highway alternatives, there would be direct impacts to the vegetation within the potential right-of-way for the road. This section discusses the impacts to vegetation by alternative.

3.13.3.1 No Build Alternative

With the No Build Alternative, there would be no impacts to vegetation in the project study area, nor would there be the potential for the spreading of noxious weeds.

3.13.3.2 Midvalley Highway East Alternative

The Midvalley Highway East Alternative would impact existing vegetation within its potential right-of-way. The Midvalley Highway East Option A would impact approximately 462 acres of land that is considered vacant land, rangeland, open space, or wetland where native vegetation is found. The Midvalley Highway East Option B would impact approximately 467 acres of vacant land, rangeland, open space or wetland.

These impacts are expected to be minimal, because the vegetation impacted is well represented throughout the project study area and within Tooele Valley in general. Within the project study area there is approximately 22,300 acres of vacant land, rangeland, open space, or wetland. The Midvalley Highway East Alternative (both options) would not alter the overall vegetation characteristics of Tooele Valley except directly under its footprint.

3.13.3.3 Midvalley Highway West Alternative

The Midvalley Highway West Alternative would impact existing vegetation within its potential right-of-way. The Midvalley Highway West Option A would impact approximately 441 acres of land that is considered vacant land, rangeland, open space, or wetland where native vegetation is found. The Midvalley Highway West Option B would impact approximately 469 acres of land that is considered vacant land, rangeland, open space, or wetland where native vegetation is found.

These impacts are expected to be minimal, because the vegetation impacted is well represented throughout the project study area and within Tooele Valley in general. Within the project study area there is approximately 22,300 acres of vacant land, rangeland, open space, or wetland. The Midvalley Highway West Alternative (both options) would not alter the overall vegetation characteristics of Tooele Valley except directly under its footprint.

3.13.3.4 Indirect Impacts

There would be no indirect impacts to vegetation and invasive species from the Midvalley Highway alternatives.

3.13.4 Mitigation

No invasive species were identified during field visits. However, there is potential for the project to remove unidentified invasive species within the right-of-way of the Midvalley Highway. There would be no long-term impacts associated with the spread of noxious and invasive weeds due to the implementation of mitigation measures included under UDOT Special Provision Section 02924S. To minimize temporary and long-term impacts, the Contractor would be required to use UDOT's Special Provision Section 02924S and 02924 for invasive weed control. Best Management Practices include high-pressure washing or steam cleaning of construction equipment prior to their use (i.e. scrapers, bulldozers, excavators), verifying and locating all noxious weeds within the disturbed areas, and utilizing a state licensed pesticide applicator to apply herbicide within identified areas prior to construction.