

6.0 NOXIOUS WEED MANAGEMENT

6.1 Species Descriptions and Management Strategy

Descriptions of the more common or troublesome noxious weeds occurring or potentially occurring at the Site are provided in this section, along with the basic weed management strategy applicable to each. Appendix B provides a complete list of the weed species of concern in this area. Management strategies must encompass not only eradication, but also identify the means of eradication and the plant species to be eradicated.

Not all invasive plant species can or, arguably, should be eradicated. Certain exotic species at the Project site are beyond the control of a single project, if controllable at all. This applies specifically to *Schismus barbatus*, a ubiquitous Mediterranean annual that is now a dominant understory species throughout the southwestern deserts. *Schismus* also can play a beneficial role as a forage species for desert tortoise and other herbivores and by enhancing surface stabilization, thereby helping to reduce soil erosion caused by sheet flow or high winds. Complete eradication of large areas where infestations are already established would likely adversely affect other pioneer species, and is likely to be impractical because the area is likely to be re-invaded from adjacent lands in the absence of physical barriers that isolate the area.

The following list provides brief descriptions of the weed species of particular concern at the PSEGS site and control objectives:

- Sahara mustard, (*Brassica tournefortii*) was observed onsite and in the vicinity and is of high concern. Cal-IPC has declared this plant highly invasive (Cal-IPC 2009). This species will be eradicated whenever encountered.
- Russian thistle (*Salsola tragus*) is a dominant species in the dunes along Palen lake (AECOM 2009a:44 and 81) and was identified as a scattered understory species in the microphyll woodland (AECOM 2009b:7). Although it has a Cal-IPC “Limited” rating, it is highly invasive given suitable germination substrates. This species will be eradicated whenever encountered.
- Tamarisk (*Tamarix* sp.) is probably a rare species at the Project, but occurs in nearby agricultural areas as a windbreak. (AECOM [2009a:43] listed it as interspersed throughout the microphyll woodland, but this seems unlikely or, at least, the species is uncommon. AECOM did not discuss it this species in the results and analyses sections. It most commonly germinates where water is available, so it has a low likelihood of occurring at the Project, but is easily eradicated when controlled early during its growth. It has a Cal-IPC “High” rating. This species will be eradicated whenever encountered.

6.1.1 New Weeds

Weeds not previously reported for the area or anticipated could colonize the site or invade site facilities, both during construction as well as during operation. During construction, the Designated Biologist will be required to regularly update the list of noxious weeds that are present, and identify any new potential threats. This will include developing a management

strategy and management methods appropriate to the plant species and the nature of any potential invasion. Similarly, the facility plant manager or appropriate designee during operations will be required to continually update the noxious weed list and provide monitoring and management appropriate to any new species.

6.2 Preventative Measures

General measures which may be implemented to prevent the spread of weed propagules and inhibit their establishment on the Project include the following:

- Conducting pre-construction surveys and treating potential sources on or near the Project prior to ground disturbance.
- Limiting disturbance areas during construction to the minimal area required to perform work and limiting ingress and egress to designated routes.
- Maintaining vehicle wash and inspection stations and closely monitoring the types of materials brought onto the Project to minimize the potential for weed introduction.
- Educating workers about invasive weeds potentially problematic at the Project and enlisting their help in preventing their introduction and spread.
- Reestablishing vegetation as quickly as practicable on disturbed sites as an effective long-term strategy to avoid weed invasions.

Some guidelines for preventing weeds from entering public lands and spreading to new uninfested areas are listed below (BLM 2009).

- Preventing introduction through contaminated seed, feed, mulch, gravel or fill
- Preventing introduction through movement of animals, people or machinery
- Preventing introduction through minimizing disturbance
- Preventing introduction through proper planning.

All of these methods have been considered during preparation of this draft WMP and will be implemented during construction, operation and decommissioning of the project.

6.2.1 Construction

Worker Environmental Training

Noxious weed management will be incorporated as a part of mandatory site Worker Environmental Awareness Program (WEAP) for all contractors or related personnel entering the Project during construction. This will include all contractors, subcontractors, inspection personnel, construction managers, construction personnel, and individuals bringing vehicles or equipment onto the Project. It may also include general delivery personnel if delivery requires accessing any roads beyond immediate construction office locations.

The WEAP will be required upon first entry of any construction personnel onto the site. Training will include instruction on weed identification and a training module on the impacts of noxious weeds on agriculture, livestock, wildlife, and fire hazard. Impacts of noxious weeds on native

vegetation, wildlife, and fire activity will be discussed including an explanation of how invasive grasses provide a fine fuel understory which can spread fire from shrub to shrub and how this has historically been absent in the native desert ecosystem. The measures to prevent the spread of noxious weeds in areas currently un-infested, and controls on their proliferation when already present, will also be explained. Personnel having completed WEAP training will be required to visibly show evidence of WEAP completion on their person at all times while on the construction site (e.g., through a hardhat sticker).

The ECM will be responsible to implement the WEAP and ensure all site workers are appropriately trained.

Wash Stations

The contractor, with ECM oversight and the DB and/or Biological Monitors, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed travel onto or off of the Project, including access roads on the gen-tie. Plates will be installed at the entry to the access road from the freeway that are designed to shake seeds and dirt from the vehicles as they travel over them. Inspection and wash station(s) will be set up in staging areas to remove any dirt or mud that could be attached to construction vehicles and which may contain weed seeds and all vehicles entering from offsite locations will be required to stop for inspection and cleaning. Heavy equipment entering the site on trailers also will require cleaning if verification of cleaning prior to entering the site cannot be provided.. Wash station locations will be determined during final design, but will be located to cover all entry of construction personnel or vehicles onto the site. As many inspection and wash stations as necessary will be set up to cover all outside entries onto the construction site or to efficiently service vehicles entering.

Wash stations will not be located in or adjacent to any natural drainages and will be located away from any sensitive biological resources. They will be constructed with either a concrete wash pad, or a completely cleared and compacted soil or gravel pad. Silt fencing, weed-free certified hay bales, or other means of trapping wash water sediment and seeds will be installed around the perimeter of wash stations. A concept design of a wash station is shown on Figure 3, Conceptual Wash Station Plan . Alternatively, self-contained wash stations with the design approved by the ECM and DB may be used.

The ECM will have ultimate oversight of the vehicle wash program and ensure it is fully and effectually implemented, with contractor compliance. Wash stations and vehicle washing will be conducted during all construction phases.

Infestation Containment and Control

During construction, areas of concern will be identified and flagged in the field by biological monitors and immediate control measures will be implemented as described in the sections below. As much as possible, contractors will avoid or minimize all types of travel through weed-infested areas where treatments are incomplete. The Contractor will begin project operations in weed-free areas whenever feasible before operating in weed-infested areas, until the DB has verified completion of weed treatments.

Site Soil and Cleared Vegetation Management

The Contractor will limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The Contractor will also avoid creating soil conditions that promote weed germination and establishment as practicable. Soil conditions that promote weed germination and establishment include soil excavation/disturbance, vegetation removal, soil compaction, loss or removal of topsoil, introduction of any chemical compounds, including fertilizer, and soil stockpiling. In areas where infestations are identified, the Contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. During reclamation, the Contractor will return topsoil and vegetative material from infestation sites to the areas from which they were stripped. Vegetation material from weed-infested sites will not be used as vertical mulch in other areas that are also not populated by the same weed species.

Weed-Free Products

The Contractor will ensure that straw or hay bales and coirs used for sediment barrier installations are obtained from certified sources that are free of primary noxious weeds. Additional products such as gravel, mulch, and soil, may also carry weeds. Such products should be obtained from suppliers who can provide weed-free certified materials. Where feasible, mulch will be generated from native vegetation cleared from the Project itself. Soil will not be imported onto the site except in instances where it can be ensured to be free of weeds that are not currently at the site, and also free of weed seeds in high concentrations.

Weed-Free Seed

Seed purchased from commercial vendors for site restoration and revegetation will be labeled in compliance with the relevant provisions of the California Agriculture Code. In addition to having the correct label, the seed should be required to be free of noxious weeds and the label should so state. Preferably, seed should be collected from adjacent areas, which provides the additional benefit of ensuring local genetic stock. The DB, Energy Commission Compliance Project Manager (CPM), and BLM Authorized Officer will have access to proof of use of weed-free seed, and any other weed treatment information, schedules, or relevant information upon request.

6.2.2 Operations

Facility Staff Training

Noxious weed management will be incorporated as a part of mandatory WEAP training for groundskeepers and maintenance personnel. Training will include weed identification and the impacts on agriculture, livestock, wildlife, and fire frequencies. The importance of preventing the spread of noxious weeds in areas currently un-infested, and controlling the proliferation of weeds already present, will also be explained.

Infestation Containment and Control

During operations, areas of concern will be identified and flagged in the field by trained Project personnel or the DB. The flagging will alert personnel that weeds are present and will prevent access into these areas until noxious weed management control measures have been implemented. Immediate control measures will be implemented. Immediate control measures will be implemented as described in Section 6 of this WMP.

6.2.3 Site Closure

Site decommissioning and closure will involve implementation of the PSEGS Decommissioning and Reclamation Plan as required by the BLM. This plan will include measures to avoid weed establishment throughout the site and to implement long-term site rehabilitation and revegetation of all decommissioned facilities. Control of noxious weed establishment will be a central goal of long-term site rehabilitation, the long-term success of which will be enhanced by revegetation measures promoting surface stability and soil development.

6.3 Eradication and Control Methods

Mowing will be used as a management tool for other site operation requirements at PSEGS (e.g., preserving access to heliostat arrays).

In general, mowing for weed control is a poor solution and will not be implemented at PSEGS for that purpose. It is sometimes used as a fire control method, but will result in proliferation of weed seed and aggravation of weed infestation problems if it occurs following seed set, when fire control by mowing would generally occur. Instead of using mowing to control weeds, the manual methods discussed below will be implemented.

6.3.1 Physical Removal of Weeds

Physical control methods will include manual hand pulling of weeds and hoeing. For localized weed control, this is an effective, if labor-intensive method. Hand-pulling is less effective in large areas with high weed density. Hand pulling and weeding must only be employed before the seed has set, otherwise this disturbance would only serve to further disperse and promote the establishment of the weed species. Removed plant material should be bagged and removed.

6.3.2 Chemical Methods for Weed Prevention or Removal

The Project Owner is not proposing the use of herbicides as part of this Weed Management Plan.

6.3.3 Competitive Vegetation

With site rehabilitation and revegetation of temporarily disturbed areas, soil structure and native plant communities will reestablish. While full recovery may take decades, early successional communities can be established on the site within one to a few years and, over time, weed control may require less effort.