

Appendix H
Weed Control Plan

WEED CONTROL PLAN
THE LUCERNE SOLAR
SAN BERNARDINO COUNTY,
CALIFORNIA

Revision 1 dated January 14, 2010

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List of Acronyms and Abbreviations

°F	degrees Fahrenheit
BLM	Bureau of Land Management
BMP	Best Management Practices
Cal-IPC	California Invasive Plant Council
CDCA	California Desert Conservation Area
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
DPR	Department of Pesticide Regulation
EPA	U.S. Environmental Protection Agency
FLPMA	Federal Land and Policy Management Act
GIS	geographic information system
MOU	Memorandum of Understanding
mph	mile(s) per hour
MW	Megawatt
MWMA	Mojave Weed Management Area
NPPA	Native Plant Protection Act
PAR	pesticide application record
PEIS	Vegetation Treatments Using Herbicides on Bureau of Land
PPA	Plant Protection Act of 2000
Project	Lucerne Solar Project
PUP	pesticide use proposal
U.S.C.	U.S. Code
USDA	U. S. Department of Agriculture

SECTION 1 INTRODUCTION

1.1 PLAN PURPOSE

This weed control plan is intended to provide: (1) monitoring, preventative, and management strategies for weed control during construction activities at the Lucerne Solar Project (Project); (2) control and management of weeds in areas temporarily disturbed during construction where native seed will aid in site revegetation; and (3), a long-term strategy for weed control and management during the operation of the project.

1.2 WEED DEFINITION

The term “noxious weed” is defined in the federal Plant Protection Act (*7 U.S. Code [U.S.C.] 7701 et seq.*) as any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products); livestock, poultry, or other interests of agriculture; irrigation; navigation; the natural resources of the U.S.; the public health; or the environment. Weeds are typically characterized by non-native plants that aggressively colonize new areas and can grow to dominate native plant communities if uncontrolled. Weeds could alter physical or chemical soil conditions, out-compete native vegetation, and dominate the landscape to the detriment of native plants and wildlife. Weeds could also preempt ground and surface water resources, compromise agricultural operations, conflict with recreational values, create fire hazards, and compromise aesthetic values of native or urban landscapes. Weeds are often quick to colonize disturbed areas, including construction sites, roadsides, irrigated sites, or any other area with altered hydrology, soil structure, or soil chemistry.

1.3 OBJECTIVES

This plan lists and assesses weeds that do or could potentially occur in the project vicinity. It also provides a target list of weeds that will be controlled; survey methods for weed presence during construction and operation; weed control methods; and reporting requirements. The appropriate objectives for controlling potential weed infestations at the project site will be defined on a case-by-case basis.

Weed management objectives for the project include the following:

- **Prevention:** This objective is aimed at preventing infestation expansion and spread, and may be conducted with or without attempts to reduce infestation density. Prevention focuses on halting spread until suppression or eradication can be implemented, and is practical only to the extent that the spread of seeds or vegetative propagates can be prevented.
- **Eradication:** This control objective is aimed at the elimination of individuals of a particular species within a specified area. This will be the goal for most weed species at the project, and is appropriate where the weed is of considerable economic and environmental concern and the population size is manageable.
- **Suppression:** This objective is aimed at reducing current infestation density, but not necessarily directed at reducing the total area or boundary of the infestation. This applies to many widely distributed, high-density weeds where eradication is not feasible.

1.4 MANAGEMENT ROLES

Lucerne Solar is responsible for implementing this plan. It is anticipated that Lucerne Solar's contractors and other designees responsible for implementing components of this plan will include the following:

- Contractor(s) – Contractual language will be included in construction documents and ongoing maintenance contracts to ensure that contractors, subcontractors, vendors, maintenance personnel and other parties, performing either construction or ongoing maintenance or repairs at the project site, abide by and implement the provisions of this plan. Implementing the construction provisions of this plan will be a part of construction contracts. Restoration contractors, landscape contractors, and other specialists will implement specific provisions of this plan either as subcontractors to the general construction contractor, or through independent contracts with Lucerne Solar.
- Construction Manager – The construction manager will have ultimate oversight of the construction contractor to ensure compliance with the provisions of this plan.
- Environmental Compliance Adviser – Lucerne Solar will designate an environmental compliance adviser to provide oversight of construction and maintenance practices and ensure compliance with the provisions of this plan. The environmental compliance adviser will be contracted directly by Lucerne Solar and will coordinate with the construction manager to ensure contractor compliance with environmental requirements for construction and with the power plant operator to ensure compliance during ongoing maintenance activities.
- Bureau of Land Management – As the administering land management agency, the Bureau of Land Management (BLM) will provide ultimate approval of the contents of this plan, and compliance oversight of its provisions. BLM will provide timely review of work products including this plan, modifications or amendments to this plan, and subsequent reports as required in this plan.

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SECTION 2 APPLICABLE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

2.1 FEDERAL LAWS AND REGULATIONS

2.1.1 Federal Noxious Weed Act Of 1974

The Federal Noxious Weed Act of 1974 (7 U.S.C. §§ 2801-2814, January 3, 1975, as amended 1988 and 1994) provides for the control and management of non-indigenous weeds that injure, or have the potential to injure, the interests of agriculture and commerce, wildlife resources, or the public health. It gives the Secretary of Agriculture broad powers in regulating transactions in and movement of noxious weeds. The act states that no person may import or move any noxious weed identified by regulations of the Secretary of Agriculture into or through the U.S., except in compliance with the regulations, which may require that permits be obtained. The act also requires each federal agency to develop a management program to control undesirable plants on federal lands under the agency's jurisdiction, and establish and adequately fund the program. Some of the provisions of this act were repealed by the Plant Protection Act of 2000 (PPA), including U.S.C. 2802 through 2813. However, Section 1 (findings and policy) and Section 15 (requirements of federal land management agencies to develop management plans) were not repealed (7 U.S.C. 2801 note; 7 U.S.C. 2814).

2.1.2 Plant Protection Act of 2000

The Plant Protection Act of 2000, as amended (7 U.S.C. 7701-7786) states that the detection, control, eradication, suppression, prevention, or retardation of the spread of plant pests or noxious weeds is necessary for the protection of the agriculture, environment, and economy of the U.S. This act defines the term “noxious weed” (7 U.S.C. 7702 § 403) to mean any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the U.S., the public health, or the environment. This act specifies that the Secretary of Agriculture may prohibit or restrict the importation, entry, exportation, or movement in interstate commerce of any noxious weed if it is determined “that the prohibition or restriction is necessary to prevent the introduction into the [U.S.] or the dissemination of a plant pest or noxious weed within the [U.S.],” and authorizes the issuance of implementing regulations. Subsequent regulations implemented by the Noxious Weed Control and Eradication Act of 2004 amended the PPA.

2.1.3 Noxious Weed Control and Eradication Act of 2004

The Noxious Weed Control and Eradication Act of 2004 (P.L. 108-412) amended the PPA by adding a new subtitle, “Subtitle E--Noxious Weed Control and Eradication” (7 U.S.C. 7781- 7786), which authorizes the Secretary of Agriculture to establish a program to provide financial and technical assistance to public and private landowners for the control or eradication of noxious weeds. This act defines noxious weeds and removes references to statutes that were repealed upon enactment of the PPA. This act prohibits the movement of a federally designated noxious weed into or through the U.S. unless a permit is obtained for such movement and the movement is consistent with the specific conditions contained in

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the permit. This act specifies that such movement, under conditions specified in the permit, may not involve a danger of dissemination of the noxious weed in the U.S.; otherwise such a permit will not be issued.

2.2 STATE AND LOCAL LAWS AND REGULATIONS

2.2.1 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of the 1977 Fish and Game Code (Sections 1900 through 1913) directed the California Department of Fish and Game (CDFG) to carry out the Legislature's intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA gave the CDFG Commission the power to designate native plants as “endangered” or “rare” and protect endangered and rare plants from take.

2.2.2 California Food and Agricultural Code

Various portions of this code pertain to weed management. Specifically, Food and Agricultural Code Section 403 states that the Department of Food and Agriculture should prevent the introduction and spread of injurious insect or animal pests, plant diseases, and weeds. Under Sections 7270 through 7224, the California Commissioner of Agriculture is granted the authority to investigate and control weeds, and specifically to provide funding, research, and assistance to weed management entities, including eligible weed management areas or county Agricultural Commissioners, for the control and abatement of weeds according to an approved integrated weed management plan.

California Food and Agriculture Code Section 5101 and 5205 provides for the certification of weed-free forage, hay, straw, and mulch. This portion of the code recognizes that many weeds are spread through hay, straw, and mulch, used for both forage and ground covers. The code allows for in-field inspection and certification of crops to ensure that live roots, rhizomes, stolons, seeds, or other propagative plant parts of weeds are not present in the crop to be harvested. Certified weed-free forage, hay, straw, and mulch are required on BLM land. Mulch and/or hay bale materials used for erosion control at the project will be required to meet this certification.

2.2.3 San Bernardino County General Plan

San Bernardino County has a General Plan that is the fundamental policy document for the unincorporated, privately-owned lands of San Bernardino County. It is adopted by the Board of Supervisors, and contains the goals, policies, and implementing actions for a variety of issues including natural and man-made hazards and natural and man-made resources. The purpose of the General Plan is to set the framework for decision-making regarding the County's long-term development and utilization of resources, and provides the rules by which land can be developed. The General Plan includes goals and policies to preserve rare and endangered species and protect areas of special habitat value; and to establish plans for long term preservation and conservation of biological resources (San Bernardino County Plan at II-C1-4). Proposed development projects must be compatible with policies set forth in the Biotic Resources and Resources Conservation overlays which identify special management for the protection of habitat that supports important flora and fauna in the unincorporated areas of the County.

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2.3 STANDARDS

This section contains discussion of the conservation and management plans that are relevant to weed control at the project. These plans were created in response to either regulatory mandates, or internal agency guidance. This section contains a summary of these plans.

2.3.1 Conservation and Management Plans

Bureau of Land Management

The BLM has prepared a Programmatic Environmental Impact Statement (PEIS) for 17 Western States that describes vegetation treatments using herbicides for weed control. This document is the result of extensive public involvement and outlines the specific decisions, standard operating procedures, and mitigation measures for the use of herbicides on BLM lands. The selected alternative of the PEIS identifies the active herbicidal ingredients approved for use on BLM land, and the herbicidal ingredients that are no longer approved for use. The Record of Decision for the PEIS defers to approved land use plans the determination of areas to be treated through BLM's integrated pest management program, and makes no land use or resource allocations in this regard.

Appendix B, Herbicide Treatment Standard Operating Procedures, of the PEIS (Appendix A of this plan), specifies management of weeds and application of pesticides on BLM land. Table B-1, Prevention Measures, specifies avoidance measures to limit weed infestation, and Table B-2, Standard Operating Procedures for Applying Herbicides, provides details on herbicide application. The procedures listed in these appendix and tables are incorporated as requirements of this plan.

California Desert Conservation Area Plan

The California Desert Conservation Area (CDCA) comprises one of two national conservation areas established by Congress at the time of the passage of the Federal Land and Policy Management Act (FLPMA). The FLPMA outlines how BLM will manage public lands. Congress specifically provided guidance for the management of the CDCA and directed the development of the 1980 CDCA Plan (BLM 1980). The document provides no specifics about weed management, but specifies management strategies for broad areas of the plan boundary.

Mojave Weed Management Area MOU

The Mojave Weed Management Area (MWMA) was established in a Memorandum of Understanding (MOU) in 2002 as a coordinated approach among Federal, State and local agencies to improve the effectiveness of weed management efforts in the Mojave Desert. The focus of the MOU is on the exclusion, detection, eradication, and suppression of weeds, with a priority placed on the species listed as weeds by the California Department of Food and Agriculture and other species of local significance as they are identified. The signatory agencies and organizations will cooperate in developing coordinated work plans and seeking funds to support the activities of the MWMA. In addition, public education on weed identification, prevention, and control will be a primary goal of the MWMA. The geographic scope of the MWMA includes the portion of San Bernardino County in the Mojave Desert Resource

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Conservation District, the portion of Inyo County east of Death Valley National Park, all of Death Valley National Park, and all of Joshua Tree National Park. As part of the MOU, the MWMA partners pledge to educate the public about weeds, their identification, prevention, and methods of control, and promote the control and prevention of weeds on both private and public land.

SECTION 3 WEED ASSESSMENT**3.1 WEED SPECIES**

Weeds are defined for this document as species of non-native plants that are included on the weed lists of the California Department of Food and Agriculture (CDFA 2007), the California Invasive Plant Council (Cal-IPC 2006), the *MWMA*, or those weeds of special concern identified by BLM. A list of all invasive species that do or could potentially occur in the project vicinity is provided in Table 1.

3.2 FIELD SURVEYS

Weeds were searched for during the biological field surveys. During protocol surveys, surveyors made lists of all plant species encountered in the field, taking special note of the distribution and abundance of non-native species that are classified as weeds on the site. The same procedure was used in surveys of the 1-mile buffer.

3.3 KNOWN AND POTENTIAL WEED OCCURRENCES

Several weeds are known to occur in the project vicinity. The weed of highest concern in the general area is Sahara mustard (*Brassica tournefortii*) because of the potential of this species to spread and impact native plant communities. Other weeds of concern are also present. Red brome (*Bromus madritensis ssp. rubens*) and russian thistle or tumbleweed (*Salsola tragus*). Table 1 lists potentially occurring invasive species, and identifies which species were observed during site surveys. Each invasive species has a rating based on the California Invasive Species Council rating system, and the CDFA.

SECTION 4 WEED MANAGEMENT AREAS

Weed management will occur site-wide; however, specific areas will require unique management considerations depending on a range of factors described in this section.

4.1 TEMPORARY DISTURBANCE AREAS

The Project will be designed to minimize ground disturbances and resulting environmental impacts wherever practicable. Santa Fe Fire Trail will be the main roadway used for site access. The number of service roads within the site for access and maintenance will be kept to a minimum and specifically located to provide main routes for quick access to the site for construction, maintenance, and operations. Culverts will be installed in a limited number of locations, as necessary, for crossing of natural washes. Site layout for the Project will be based on avoiding major washes and minimizing surface disturbing activities in order to preserve intact soil crusts on site.

Weed management issues at temporary construction areas include the fact that soil disturbance during construction and temporary use will create habitat well suited to disturbance-adapted invasive species and, therefore, measures to minimize the potential for weed introduction by personnel and equipment will be needed.

Potential areas meeting these criteria are described below. Other temporary disturbance areas created during construction will follow a similar weed management strategy as those areas outlined below. Weed management measures for these areas, including monitoring frequency, target weed species, and control methods, are included in this plan.

4.2 PERMANENTLY DEVELOPED AREAS

The areas describe in this section would be permanently developed, but could support weedy species along peripheral disturbed areas and function as seed reservoirs to adjacent natural habitats if not managed.

Project construction will occur in two phases beginning in the northeastern corner of the site and moving south and west. Phase I development includes the northeastern section of the Project area down to the Zircon Road, the portion of the site bordered on the north by Zircon road and on the east by Santa Fe Fire Trail and the first phase development area West of Sante Fire Trail. Phase II includes the expansion of the Project to portions of land located both southwest and west of Phase I in the area West of Santa Fe Fire Trail. Due to the modularity of solar photovoltaic farms, construction for both phases will occur in incremental steps with sections of the solar field becoming operational before significant construction work on other sections of the field. It is expected that site construction will begin during the fourth quarter of 2010

Soil disturbance during construction will create habitat well suited to disturbance-adapted invasive species, and continual movement within the area of personnel and heavy equipment will potentially introduce weed propagules. The area will require ongoing weed monitoring and maintenance during construction, and equipment will require cleaning at wash stations as specified below. During operations,

SECTION 4

WEED MANAGEMENT AREAS

equipment and personnel will continue to access the area for maintenance of the inverters and solar arrays. Precipitation and wash water runoff from the cleaning of photovoltaic panels will provide a water source that could support weed establishment and growth. These areas will require continual weed management and control.

Landscaped Areas

Landscaped areas will be present near the buffer zone where the Joshua trees are transplanted. Ongoing weed control in these areas is anticipated due to the soil disturbance and application of irrigation water.

Roads

Roadsides and the medians of unpaved service tracks are vulnerable to weed invasion. Roads often alter local hydrology; are subject to initial and ongoing disturbance during construction, maintenance, and use; provide topographic variation that could capture wind or waterborne seed; and may be subject to seed distribution from passing vehicles. Ongoing weed management will target roadside weeds.

Other Permanent Facilities

Peripheral areas throughout the facility are anticipated where conditions are suitable for weed establishment. This may include soils that have been cleared, compacted, or otherwise disturbed; areas where hydrology is altered, such as from increased drainage from developed areas; or areas where continued vehicle or foot traffic persist. Ongoing weed management will survey and target these areas for management to avoid creation of weed seed reservoir areas, which could affect adjacent undisturbed habitats.

SECTION 5 MONITORING AND SURVEY METHODS

5.1 WEED IDENTIFICATION

Monitoring and removal of weeds requires skill and training in plant identification. Training in plant identification and field manuals with photographs of native desert plants and of common weeds will be provided to field staff including biological monitors, weed abatement contractors, plant operators and staff, and construction workers. Online resources that are available including the following:

- The University of California digital library at <http://www.calflora.org/> contains species information and an extensive photo collection.
- The California Invasive Plant Council website is at <http://www.cal-ipc.org>. This website contains an invasive plant database, plant profiles, and extensive other information on invasive plants and control.
- The U.S. Department of Agriculture (USDA) National Invasive Species Information Center is at <http://www.invasivespeciesinfo.gov/>. This website has information on invasive species and links to the extensive USDA PLANTS database (<http://plants.usda.gov/>), with species profiles and photographs.
- The MWMA has weed management goals to protect and enhance biodiversity, water resources, reduce fire hazards, and protect agricultural interests. The website is at <http://www.mojavewma.org/>, and has information on the common problem weeds in the area.
- The California Native Plant Society maintains information including a database on California vegetation including rare, threatened, and endangered plants (<http://www.cnps.org/>).
- BLM also maintains a website with useful information on noxious weeds, including management strategies for weeds in California (<http://www.blm.gov/weeds/>).
- The Center for Invasive Plant Management maintains a website with useful information and resources, including plant profiles, and can be accessed at <http://www.weedcenter.org/>.
- *Weeds of California and other Western States* by Joseph M. DiTomaso and Evelyn A. Healy, 2006, University of California Department of Agriculture and Natural Resources, is a valuable resource and available at many online book suppliers.

5.2 SURVEYS AND MONITORING

5.2.1 Monitoring Methods

Surveys and monitoring will ensure timely detection and prompt eradication of weed infestations, which are essential to a long-term strategy for weed management.

Construction Areas

The environmental compliance advisor will oversee biological monitors who will be present during site clearing and construction activities. Biological monitors will be responsible for inspecting construction

areas, identifying the presence of weeds, and inspecting equipment cleaning facilities for weed seed removal. The environmental compliance advisor will be responsible for prescribing management activities consistent with this plan when weeds become established. Monitoring of construction areas and access routes will be conducted as necessary to insure proper weed control.

General Operations Monitoring

General site monitoring of the operating facility will be conducted by operations personnel on an ongoing basis. Weed control will be conducted, as needed, by operations personnel trained to identify weedy and native species.

Known Infestation Areas

Where weed infestation occurs, and treatment is implemented, the area will be targeted for ongoing monitoring to ensure that treatments are effective and that complete eradication has been achieved. Visits to known infestation areas will continue until weeds in the area are controlled.

5.2.2 Database and Mapping

Locations of weed occurrences, with data on species, detection date, growth stage, infestation extent, treatments implemented, results of treatment, and current status will be maintained during the construction and operation phases. This will not be a requirement for the previously designated ubiquitous invasives. A geographic information system (GIS) will be used to map and store data. The priority of infestation areas will be established based on species, vulnerability of the site to invasion, growth stage, and effectiveness of treatment. Also included will be areas mapped as vulnerable to weed invasions. Vulnerability will be assessed on the following: (1) availability of weed propagule sources, such as along roadsides, (2) areas disturbed, such as through land clearing and earthwork; or (3) nearby areas with known prior or treated weed infestations or existing infestations that are out of the managed area.

SECTION 6 WEED MANAGEMENT

6.1 SPECIES DESCRIPTIONS AND MANAGEMENT STRATEGY

Descriptions of the more common or troublesome weeds occurring or potentially occurring at the project are provided in this section, along with the basic weed management strategy applicable to each. Table 1 provides a complete list of the weed species of concern in this area, and Table 2 provides additional information on management strategy and control methods for observed and potentially occurring weed species. 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 should be eradicated. Certain ubiquitous exotic species (*e.g.*, *Bromus madritensis ssp. rubens*, *Schismus spp.*, *Erodium cicutarium*, *Avena spp.*) will initially be monitored only because control of these aggressive colonizers is impractical, and it would also likely slow site rehabilitation by slowing the rate of secondary succession and surface stabilization. In addition, these species can play a beneficial role in accelerating surface stabilization and, therefore, 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 project. Additional weed species are listed in Table 1.

- **Wild oats** (*Avena spp.*) Cal-IPC has determined that this plant has a moderate invasiveness rating in California (Cal-IPC 2006). BLM and other agencies recognize that because of the widespread distribution of wild oats, this species is not considered feasible to control; therefore, weed abatement efforts for wild oats will not be required.
- **Sahara mustard** or **African mustard** (*Brassica tournefortii*) was observed on the project site. Cal-IPC has declared this plant highly invasive (Cal-IPC 2006). This species will be eradicated whenever encountered.
- **Red brome** (*Bromus madritensis ssp. rubens*) was observed on the project site. This species is an introduced Eurasian grass adapted to warmer habitats that can be frequently found at the base of desert shrubs. It is widespread in the Mojave Desert and has been found in the project area. Seeds from this species can disperse readily and across large distances. Cal-IPC has declared this plant highly invasive (Cal-IPC 2006). Stands of red brome have played an important role in accelerating wildfires in desert scrub communities (Brooks 1999); a deleterious effect partly because warm-desert plant communities are ill-adapted to fire (Brown and Minich 1986). Because of its widespread distribution, red brome is not considered feasible for general control and weed abatement measures for this species will not be required.
- **Cheat grass** (*Bromus tectorum*) is among the most widely distributed invasive plant species in the western U.S. Closely related to red brome, it is adapted to colder steppe and woodland habitats. It is known to occur in the vicinity, but has not been observed on the project site. Cal-IPC has declared this plant highly invasive (Cal-IPC 2006). Because of its widespread

distribution, cheat grass is not considered feasible for general control and weed abatement measures will not be required.

- **Red-stemmed filaree** or **storksbill** (*Erodium cicutarium*), a widespread annual species common in disturbed habitats, was not observed on the project site. It can form dense, transient populations when conditions are suitable. It has a limited overall rating by Cal-IPC, generally because the ecological impacts of the species are considered minor. Because of its widespread distribution, red-stemmed filaree is not considered feasible for general control and weed abatement measures will not be required onsite.
- **Mediterranean grass** (*Schismus* spp.) was not observed on the site. Cal-IPC has determined that this plant has a limited invasiveness rating in California (Cal-IPC 2006). BLM and other agencies recognize that because of the widespread distribution of Mediterranean grass, this species is not considered feasible to control; therefore, weed abatement efforts for Mediterranean grass will not be required.
- **Russian thistle** or **tumbleweed** (*Salsola tragus*) is particularly adapted to recently disturbed habitat, and tends to be restricted to roadway shoulders and to sites where the soil has been recently disturbed. This species was observed at the project site. It was widespread, but with a patchy distribution on the project site. Cal-IPC has determined that this plant has a limited invasiveness rating in California (Cal-IPC 2006). New occurrences should be eradicated along newly disturbed sites to the extent feasible. However, since this species is already established on the site complete eradication may be impossible and weed abatement efforts should focus on containment to areas where tumbleweed was already established prior to project commencement.
- **London rocket** (*Sisymbrium irio*) is widespread throughout the warm deserts of North America. This species was not observed at the project site, but is a common invader on disturbed sites. Cal-IPC has declared this plant moderately invasive (Cal-IPC 2006). London rocket will be eradicated at the project site wherever it is observed.

New Weeds

Weeds not identified in the descriptions above could also potentially colonize or invade the site, both during construction as well during operation. During construction, the environmental compliance advisor will be required to regularly update the list of potential weeds, and identify new potential threats. This will include developing a management strategy and management methods appropriate to the plant species and nature of the potential invasion. Similarly, the facility plant manager or appropriate designee during operations will be required to continually update the potential weed list and provide monitoring and management appropriate to new species.

6.2 PREVENTATIVE MEASURES

The prevention of invasive plants from colonizing new areas is far more cost-effective than eradication and control (Davies and Sheley, 2007). Therefore, preventative measures taken to the curb the spread of weed propagules and inhibit their germination should include the all measures listed in Appendix A, Table B-1, "Preventative Measures" or the BLM Field Office's best management practices for weed control.

SECTION 6

WEED MANAGEMENT

6.2.1 Construction

Worker Environmental Training

Mandatory site environmental training for contractors or related personnel entering the site during construction will include weed management awareness training. Personnel affected will include contractors, subcontractors, inspection personnel, construction managers, construction personnel, and individuals bringing vehicles or equipment onto the site. Training will include weed identification and training on the impacts of weeds on agriculture, livestock, wildlife, and fire hazard. Impacts of 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. Proposed measures to prevent the spread of weeds in areas currently not infested, and controls on their proliferation when already present, will also be explained.

Wash Stations

With the underlying principal of prevention being the most cost-effective way to deal with invasive plant species early, wash stations will be set up to remove mud and dirt from construction vehicles. This will prevent the spread of weed seeds into new habitats as trucks with mud and dirt containing seeds is one of the most common ways weed seeds are spread to new environments. Vehicles entering from offsite locations will be required to stop for cleaning. Heavy equipment entering the site on trailers will also require cleaning. The contractor will ensure that vehicles and equipment are free of soil and debris capable of transporting weed seeds, roots, or rhizomes before the vehicles and equipment are allowed to use access roads. Vehicles will be reasonably dry before leaving the wash station. Some weeds, such as Sahara mustard, require water for germination and therefore, vehicles leaving the station wet could promote recruitment of Sahara mustard along access roads.

Wash stations will be located to avoid sensitive biological resources, and will be constructed with either a concrete wash pad or a 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.

Using high-pressure water equipment, vehicles will be washed before entering the construction site. The wash down will concentrate on tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frame, cross members, motor mounts, and on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicles or heavy equipment will be required to remove caked on mud and debris before entering site. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Sediment accumulated from the washing will be shoveled out daily and placed in a sealed container for disposal in an approved landfill. If removal requirements exceed the capability of the wash stations, equipment will be washed elsewhere before being allowed on the site.

Project workers will also inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment. These items will be bagged and disposed of in a dumpster for deposit in an approved landfill.

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When vehicles and equipment are washed, a log will be kept stating the location, date and time, serial number and type of equipment, and methods used. The crewmember that washed the vehicle will sign the log. Written logs will be included in the monitoring reports.

Infestation Containment and Control

During construction, areas of concern will be identified and flagged in the field by biological monitors. The flagging will alert construction personnel that weeds are present and will prevent access into these areas until weed management control measures have been implemented. Contractors will avoid or minimize travel through these marked off weed-infested areas. Control measures will be implemented immediately as described in the sections below. The contractor will begin project operations in weed-free areas whenever feasible before operating in weed-infested areas, until the ECM has verified completion of weed treatments within weed-infested areas.

Site Soil Management

The contractor will limit the size of 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 to the greatest extent practicable. Soil conditions that promote weed germination and establishment include soil excavation/disturbance, vegetation removal, soil compaction, loss or removal of topsoil and introduction of chemical compounds, including fertilizer, and soil stockpiling.

During grading or excavation activities, the contractor will minimize transporting soil within the site to limit the potential spread of weed seeds onsite. In areas where weed 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 weed seeds, roots, or rhizomes.

Weed-free Products

Straw or hay bales used for sediment barrier installations, gravel mulch, and soil may carry weed seeds. The contractor will ensure that straw or hay bales used for sediment barrier installations are obtained from certified sources that are free of weed seeds. Additional products such as gravel, mulch, and soil, may also carry weed seeds. Such products should be obtained from suppliers who can provide weed-free certified materials. To the greatest extent feasible, mulch will be generated from native vegetation cleared from the site itself. At no time will soil be imported onto the site.

Weed-free Seed

Seed purchased from commercial vendors for site 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 weeds and the label should so state.

Site Reclamation

Currently there are no plans for site closure and reclamation. Should the Lucerne Solar project site ever be closed, a reclamation and revegetation plan with the goal of reducing the extent of weeds that persist on the site following closure would be drafted and submitted to the BLM for review and approval.

6.2.2 Operations*Facility Staff Training*

Mandatory site training for maintenance personnel will include weed management. Training will include weed identification and the impacts on agriculture, livestock, wildlife, and fire frequencies. Also explained will be the importance of preventing the spread of weeds in areas currently not infested, and controlling the proliferation of weeds already present.

Infestation Containment and Control

Areas of concern which contain concentrations or new occurrences of weeds will be identified and flagged by groundskeepers. The flagging will alert personnel of weed are presence and will prevent access into these areas until weed management control measures have been implemented. Immediate control measures will be implemented as described below.

6.2.3 Site Closure

Site decommissioning and closure should include drafting and implementation of a site revegetation and rehabilitation Plan. This plan will include measures to avoid weed establishment throughout the site, and to implement long-term site rehabilitation and revegetation of decommissioned facilities. Control of weed establishment should 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**6.3.1 Unacceptable Weed Removal Methods***Tilling*

Tilling is a weed-control practice used on agricultural lands that is inappropriate in this area for weed control purposes. Tilling is ineffective in desert landscapes and tilled weeds are likely to set seed, even after burial. In addition, tilling is likely to disturb native cover stock, and will also disrupt the natural structure and chemistry of the soil, allowing weed seeds to proliferate from soil disturbance. Fragmenting weeds resulting from tilling will also lead to more widespread growth of non-native plants.

Mowing

Mowing is sometimes used to reduce weed cover late in the growing season, typically after annuals have matured. This method merely cuts back the thatch that develops during the growing season and does not

remove weeds. It is sometimes used as a fire control method, but will result in an aggravation of weed infestation problems rather than the removal/control of weeds. Mowing is problematic for the following reasons: (1) Mowing would severely damage existing native plants, including small individuals that may or may not be visible at the time of mowing, but could be pushing their way through the canopy as they mature; (2) Mowing, which is typically done late in the spring or early summer, would result in maturation of weed seed from existing weeds after they are cut and left to desiccate, increasing weed seed in the seed bank and ensuring a robust crop of weeds in subsequent years; and (3) Native ground and shrub nesting birds could potentially use the site as a breeding ground between February and August. The federal Migratory Bird Treaty Act (16 U.S.C. 703-712; 50 Code of Federal Regulations 10) prohibits the “take” of migratory birds, and protects eggs, nests, and feathers, unless permitted. Take is defined in part as “pursue, hunt, take, capture, kill, or attempt to take, capture, or kill any migratory bird, any part, nest, or eggs of any such bird.” Hence, mowing activity during the breeding season would potentially violate this federal law.

6.3.2 Physical Removal of Weeds

The type of physical control method employed will depend upon the size and extent of weed species targeted for removal as well as the root structures of these plants. Physical control methods range from manual hand pulling of weeds to the use of hand tools to provide enough leverage to pull out the entire plant and associated root systems. Hand or power tools can also be employed to uproot, girdle, or cut plants. The Root Talon and Weed Wrench are handheld tools designed to grip the plant stems and provide enough leverage to remove roots, they may be used to pull out woody shrubs such as tamarisk or Russian olive. This effort should be focused on weed species that have a single-root mass, facilitating easy removal. Hand removal by pulling is appropriate when the plants are large enough that they will not break and leave the roots structures behind to re-sprout. For localized weed control, this is the most effective method. Hand-pulling is less effective in large areas and with weed species that spread through an underground root system (*e.g.*, Bermuda grass).

In small areas, hoeing and weed whipping can be employed to control weeds. However, care must be employed when using these methods adjacent to native plants to prevent damage to native plants. Hoeing or weed whipping must only be employed prior to a plant setting seed, otherwise this disturbance would only serve to further disperse and promote the establishment of the weed species. Pertinent considerations for hoeing and weed whipping include the following:

- Hoeing works best on patches of small weeds and with weeds that have a single-root mass. It is less effective on larger weeds that can regenerate from cut roots. It should not be used on weeds approaching maturity, as seeds can mature and be released on cut plants. Hoed plant material should be bagged and removed offsite.
- Weed whipping can be used for weed removal in limited upland areas with herbaceous plant covers; however, it should not be used on weeds approaching maturity, as seeds can mature and be released on cut plants, and care must be employed when weed whipping adjacent to native plants. Cut plant material should be bagged and removed offsite.

6.3.3 Chemical Methods for Weed Removal

Herbicide application is a widely employed, effective control method for removing invasive weed species. One consideration is the possible inadvertent application of herbicide to adjacent native plants. Herbicide application can become a challenge when weeds are interspersed with native cover.

Permitting and Regulatory Requirements

Prior to application of herbicide, contractors will be required to obtain required permits from state and local authorities. Permits may contain additional terms and conditions that go beyond the scope of this plan. Only a State of California and federally certified contractor, who is also approved by BLM, will be permitted to perform herbicide applications. Herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and federal agency for use on public lands will be used within or adjacent to the project site. A list of approved herbicides and adjuvants is available in Appendix B.

The *Final Programmatic EIS on Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States* lists 18 herbicides acceptable for use on BLM lands (USDI 2007). Guidelines for the use of chemical control of vegetation on BLM lands are presented in the *Chemical Pest Control Manual* (BLM, n.d.). These guidelines require submittal of a pesticide use proposal (PUP) and pesticide application records (PAR) for the use of herbicides on BLM lands. Only herbicides and adjuvants approved by BLM and California Department of Pesticide Regulation for use on public land shall be used. A sample form required for the submittal of a PUP is included in Appendix C.

Lucerne Solar will submit PARs for each use of herbicides on BLM lands within 24 hours of application to the BLM Barstow Field Office. The BLM, in turn, will provide the San Bernardino County DPR with pesticide use reports. A sample form required for submittal of PARs is included in Appendix D. The occurrence of weeds within the project footprint, or where the weeds occur, will be reported to the BLM Barstow field office. The appropriate weed control procedures, including target species, timing of control, and method of control, will be determined in consultation with BLM personnel. Lucerne Solar will be responsible for providing the necessary trained personnel or hiring a contractor to implement the required weed control procedures.

Types of Herbicides

Herbicides are characterized by the way in which they inhibit plant growth. Herbicides are characterized as pre-emergent, post-emergent, selective and nonselective. A pre-emergent herbicide controls ungerminated seeds by inhibiting germination while a post-emergent herbicide is lethal to emerged plants. Some herbicides have both pre- and post-emergent activity. A selective herbicide will be active on some species of plants and not others, usually distinguishing between grasses (monocots) and broadleaf plants (dicots). A non-selective herbicide is one that is lethal to any plant species to which it is applied.

Herbicides kill plants through either contact or systemic action. Contact herbicides are most effective against annual weeds and kill only the plant parts on which the chemical is deposited. Systemic herbicides are absorbed either by roots or foliar parts of a plant and are then translocated within the plant system to

tissues that might be remote from the point of application. Although systemic herbicides can be effective against annual and perennial weeds, they are particularly effective against established perennial weeds.

Pre-emergent herbicides inhibit germination of annuals from seed, but generally do not control perennial plants that germinate from bulbs, corms, rhizomes, stolens, or other vegetative structures. Common pre-emergent herbicide classes include the following:

- **Dinitroaniline Type:** Examples of this class are pendimethalin (Weedgrass™), trifluralin (Treflan™), benefin (Balan™), and combinations of these. These herbicides provide for pre-emergence control of annual grasses and other annuals. They are mitotic (cell division) inhibitors and are primarily effective in inhibiting root growth of germinating seeds. Selectivity is physiological or chemical in nature. Some of these herbicides could be lost by volatilization, and should not be applied in temperatures above 90 degrees Fahrenheit (°F). These herbicides need to be watered into the soil for proper activation. Some can persist for several months.
- **Dithiopyr (Dimension™)** belongs to a new class of herbicide known as pyridines. It is a selective herbicide primarily used for pre-emergence annual grass control in established turfgrass. However, it can be used for post-emergence control of young grass seedlings. It inhibits cell division and cell growth of meristematic regions (growing points of roots and shoots). Dithiopyr is lost from soil by chemical and microbial degradation.

The most commonly used post-emergent, non-selective herbicides contain a family of chemicals called glyphosates (N-[phosphonomethyl] glycine). Glyphosate is a non-selective, systemic herbicide that is effective on many annual and perennial plants. It works by blocking an enzyme pathway that is important for plant protein synthesis, which is most effective if full coverage over the plants leaf is accomplished. However, because of systemic action, even partial coverage can result in plant mortality. The herbicide is typically used in conjunction with linseed oil or another surfactant, which aids in spreading an even layer across the surface of the leaves. Because glyphosate can also be lost to volatilization, they should not be applied when the temperature exceeds 90°F.

The United States Environmental Protection Agency (EPA 1993) has deemed glyphosate to have a relatively low degree of oral and dermal acute toxicity. It is considered to be immobile in soil and readily degraded by soil microbes to the metabolite aminomethyl phosphonic acid and then to carbon dioxide. EPA states that it is minimally toxic to birds, fish, aquatic invertebrates, and honeybees (EPA 1993).

Application and Handling

Herbicide application will be based on information gathered from the BLM. Before application of herbicide, Lucerne Solar's Contractors will obtain any required permits from the local authorities. Permits may contain additional terms and conditions that go beyond the scope of this management plan. Only A State and Federally certified contractor, approved by the BLM, will perform herbicide applications. All herbicide application will be applied in accordance with applicable laws and regulations and permit stipulations. Only herbicides and adjuvants approved by California and for use on public lands will be used within or adjacent to the project site. The following general precautions will be implemented for pesticide application:

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Limitations

All herbicide applications must follow United States Environmental Protection Agency label instructions. Application of herbicides will be suspended when any of the following conditions exists:

- Wind velocity exceeds 6 miles per hour (mph) during application of liquids or 15 mph during application of granular herbicides.
- Snow or ice covers the foliage of weeds.
- Precipitation is occurring or is imminent.
- Air temperatures exceed 90°F.

Due to concerns by the FWS on potential adverse effects of herbicide applications on the desert tortoise, only herbicides with empirically proven low toxicity to test animals in the PUP process will be used. **This includes post-emergent herbicide formulations with the active ingredient glyphosate, and pre-emergent herbicide formulations with the active ingredients bromacil and/or diuron.**

Transport and Mixing

During the construction phase, herbicides will be transported to the project site daily with the following provisions:

- Only the needed quantity for that day's work will be transported.
- Concentrate will be transported in approved containers only and in a manner that will prevent tipping or spilling, and in a location that is isolated from the vehicle's driving compartment, food, clothing, and safety equipment.
- Mixing will be done offsite, over a drip-catching device, and at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive resources. No herbicides will be applied at these areas unless authorized by appropriate regulatory agencies.
- Herbicide equipment and containers will be inspected for leaks daily. Disposal of spent containers will be in accordance with the herbicide label.
- During the operations phase of the project, herbicides will be stored only in cabinets of approved design and will be under lock and key.

Worker Safety

The use of small quantities of chemical herbicides will be required at the project site. Site workers have the potential to come into contact with herbicides during application and during inverter servicing and solar array inspections in areas where herbicides have been used to control weeds.

The following Best Management Practices (BMP) will be followed to ensure worker safety at the project site:

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- The project site will follow all appropriate California Department of Pesticide Regulation (DPR) requirements regarding the use of herbicides.
- Pesticide safety training for all workers including training on how to use application equipment and specific safety precautions for each herbicide being applied.
- Personal protective equipment will be supplied for every worker.
- Decontamination supplies will be available to all workers who face exposure to herbicides including showers, soap, towels and a change of clothing.
- Emergency information posted including the location of the nearest medical facility and instructions on what to do in the event of an emergency.
- Emergency transportation in the event of accidental exposure.
- Project site communication during and following herbicide application so that herbicides do not contact anyone through drift.
- Required application equipment checks.
- Observance of the recommended time before entering an area where herbicides have been applied so that trucks and workers inspecting solar arrays and inverters are not exposed to herbicides.

Herbicide Spills and Cleanup

Reasonable precautions will be taken to avoid herbicide spills. In the event of a spill, immediate cleanup will be initiated. Contractors will keep spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills.

The following items are to be included in the spill kit:

- protective clothing and gloves,
- absorptive clay, “kitty litter,” or other commercial adsorbent,
- plastic bags and bucket,
- shovel,
- fiber brush and screw-in handle,
- dust pan,
- caution tape,
- highway flares (use on established roads only), and
- detergent.

Response to herbicide spills will vary with the size and location of the spill, but general procedures include the following:

- BLM notification,

- traffic control,
- dressing the cleanup team in protective clothing,
- stopping the leaks,
- containing the spilled material,
- cleaning up and removing the spilled herbicide or contaminated adsorptive material and soil, and
- transporting the spilled pesticide and contaminated material to an authorized disposal site.

Spray Methods

Vehicle-mounted sprayers (*e.g.*, handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle. Hand application methods (*e.g.*, backpack spraying) that target individual plants will be used to treat small or scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically throughout treatment to ensure that proper application rates are achieved.

Controlling Post-emergent Herbaceous and Woody Vegetation

Suggested managing strategies and control methods for observed and potentially occurring weeds at the Lucerne Solar project site are provided in Table 2.

Controlling Pre-emergent Vegetation

The use of a pre-emergent herbicide can be a very valuable control method. All the weed species identified except salt cedar are annual plants. Most annuals propagate by seed and management of the seedbank is important in weed management involving annuals.

The PV solar array fields be managed for bare ground: the portion of the project identified for the array fields need to be cleared of vegetation before covering the bare ground with a soil binder, erecting the frames for the arrays of panels, and applying a pre-emergent herbicide prior to germination (winter). The latter will be re-applied every winter to control germination of annual weed species. This would effectively control annual weed populations over the vast majority of the project area.

All herbicide application should end by mid-May and not resume until the following December with a pre-emergent.

6.3.4 Competitive Vegetation

The use of native plants to out-compete invasive weed species is an effective, long-term weed control strategy incorporated for this project site. Following BMP measures laid out for Lucerne Solar, a seed mix of native plant species will be distributed within temporary disturbance areas and in other disturbed areas following completion of the project. Establishment of these species has the potential to exclude weed invasion, and over time, weed control will require less effort.

SECTION 7 REPORTING REQUIREMENTS**7.1 REPORT CONTENT**

Implementation of the noxious weed management plan will include the following data collection and reporting guidelines.

7.1.1 Construction Reports

During the project construction phases, ongoing reporting on weed management will be included in construction weed monitoring reports. Construction weed monitoring reports will include the following information:

- Survey findings on location, type, extent, and density of weeds. These data will include mapping and photographs, as appropriate, as well as textual and tabular data content to fully describe conditions on the project site.
- Management efforts, including date, location, type of treatment implemented, and results. Ongoing evaluation of success of treatment will be included.
- Information on implementation and success of preventative measures, including status of equipment wash facilities and summary data of use; data on the worker environmental training program, including participants.
- Summary description of revegetation efforts undertaken, and their current status.

7.2 REPORTING PERIODS

All reporting concerning weed management and re-vegetation shall be submitted to the BLM Barstow Field Office.

7.2.1 Construction Period

It is anticipated that monthly records will be kept by the environmental compliance advisor and the monitoring team.

A single post-construction report will be produced after each phase of construction is completed at Lucerne Solar, with a section summarizing the overall results of weed management, and weed status at the site. Pesticide application records (PAR) will be provided to the BLM Barstow field office on a monthly basis.

SECTION 8 REFERENCES

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Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar Project Site

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFR Rank	Noxious Weed (Yes or No)
<i>Ailanthus altissima</i>	tree of heaven	Riparian areas, grasslands, oak woodland. Impacts highest in riparian areas.	Not observed.	C	Yes
<i>Alhagi camelorum</i>	camel thorn	Grassland, meadows, riparian and desert scrub, Sonoran thorn woodland. Very invasive in southwestern states. Limited distribution in California.	Not observed.	A	Yes
<i>Avena barbata</i> ; <i>A. fatua</i>	slender wild oats; wild oats	Coastal scrub, grasslands, oak woodland, forest. Very widespread, but impacts more severe in desert regions.	Not observed.	Not Listed	No
<i>Brassica tournefortii</i>	Sahara mustard	Desert dunes, desert and coastal scrub.	Observed; but with a patchy distribution.	Not Listed	No
<i>Bromus diandrus</i>	ripgut brome	Dunes, scrub, grassland, woodland, forest. Very widespread, but monotypic stands uncommon.	Not observed.	Not Listed	No
<i>Bromus madritensis</i> ssp. <i>madritensis</i>	compact brome	Scrub, grassland, desert washes, woodlands.	Observed throughout the project area.	Not Listed	No

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	Scrub, grassland, desert washes, woodlands.	Not observed.	Not Listed	No
<i>Bromus tectorum</i>	downy brome, cheatgrass	Interior scrub, woodlands, grasslands, pinon/Joshua tree woodland, chaparral.	Observed throughout the project area.	Not Listed	No
<i>Cynodon dactylon</i>	Bermuda grass	Riparian scrub in southern California. Common landscape weed, but can be very invasive in desert washes.	Not observed.	C	No
<i>Descurainia sophia</i>	flixweed, tansy mustard	Scrub, grassland, woodland. Impacts appear to be minor, but locally more invasive in northeast California.	Not observed.	Not Listed	No
<i>Elaeagnus angustifolia</i>	Russian olive	Interior riparian. Impacts more severe in other western states. Current distribution limited in California.	Not observed.	Not Listed	No
<i>Erodium cicutarium</i>	red-stemmed filaree	Many habitats. Widespread. Impacts minor in wildlands. High-density populations transient.	Observed throughout the project area.	Not Listed	No

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Halogeton glomeratus</i>	halogeton	Scrub, grasslands, pinyon-juniper woodland. Larger problem in Nevada. Monotypic stands are rare.	Not observed.	A	Yes
<i>Lactuca serriola</i>	prickly lettuce	Primarily an agricultural and roadside weed.	Not observed.	Not Listed	No
<i>Malva parviflora</i>	cheeseweed	Common in disturbed places throughout California. More widespread in desert regions.	Not observed.	Not Listed	No
<i>Mesembryanthemum crystallinum</i>	crystalline iceplant	Coastal bluffs, dunes, scrubs, grasslands. Limited distribution. Locally problematic, especially in southern California.	Not observed.	Not Listed	No
<i>Phalaris minor</i>	Mediterranean canary grass	Common in disturbed areas especially near washes. Widespread in low elevation California deserts.	Not observed.	Not Listed	No

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	CDFA Rank	Noxious Weed (Yes or No)
<i>Salsola paulsenii</i>	barbed-wire Russian thistle	Desert and Great Basin scrub. Limited distribution. Impacts in desert appear to be minor.	Not observed; widespread but typically uncommon except in recently disturbed habitats.	C	Yes
<i>Salsola tragus</i> ; <i>S. kali</i> ; <i>S. pestifer</i>	Russian thistle; tumble weed	Desert dunes and scrub, alkali playa. Widespread. Impacts minor in wildlands.	Observed; but with a patchy distribution.	C	No
<i>Schismus arabicus</i> , <i>Schismus barbatus</i>	Mediterranean-grass	Scrub, thorn woodland. Widespread in deserts. Impacts can be more important locally.	Observed throughout the project area.	Not Listed	No
<i>Sisymbrium irio</i>	London rocket	Scrub, grasslands. Widespread. Primarily in disturbed sites. Impacts vary locally.	Observed throughout the project area; but with a patchy distribution.	Not Listed	No
<i>Solanum elaeagnifolium</i>	white horsenettle	Primarily agricultural weed, but escaping to wild lands in other countries. May be expanding range.	Not observed.	B	Yes

Table 1
Observed and Potentially Occurring Invasive/Noxious Weeds at Lucerne Solar
(Continued)

Scientific Name	Common Name	Habitats of Concern and Comments	Observed During Surveys and Anticipated Distribution in Project Area	Cdfa Rank	Noxious Weed (Yes or No)
<i>Sonchus oleraceus</i>	common sow thistle	Primarily an agricultural weed.	Not observed.	Not Listed	No
<i>Tribulus terrestris</i>	puncture vine	Many habitats. Common in disturbed areas. A pernicious weed, can be controlled by introduced weevils.	Not observed.	C	Yes

Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Weeds at the Lucerne Solar Project Site

Scientific Name	Common Name	Management Strategy	Control Method
<i>Ailanthus altissima</i>	tree of heaven	Monitor for occurrence, and eradicate if found.	Mature Trees: Cut trees and apply 100 percent herbicide to cut stem; spray new shoots - See Section 6.3.3, Chemical Methods for Weed Removal
			Saplings: Pull out entire plant and root - See Section 6.3.2, Physical Removal of Weeds
<i>Alhagi camelorum</i>	camel thorn	Monitor for occurrence, and eradicate if found.	Individual Plants: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
<i>Avena barbata</i> ; <i>Avena fatua</i>	Slender wild oaks; wild oats	No Action; allow colonization as pioneer species in revegetation areas.	N/A
<i>Brassica tournefortii</i>	Sahara mustard	Monitor for occurrence in December-January prior to seed set, and eradicate if found; continue to monitor occurrence sites to ensure complete eradication.	Individual Plants: Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
<i>Bromus diandrus</i>	Ripgut Brome	Monitor for occurrence and eradicate if found.	Stands: Spray with post-emergent, systemic, selective (monocot) herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	No Action; allow colonization as pioneer species in revegetation areas.	N/A
<i>Bromus tectorum</i>	downy brome, cheatgrass	No Action; allow colonization as pioneer species in revegetation areas.	N/A

Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Noxious Weeds at Lucerne Solar Project Site
(Continued)

Scientific Name	Common Name	Management Strategy	Control Method
<i>Cynodon dactylon</i>	Bermuda grass	Monitor for and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Stands:</i> Spray with post-emergent, systemic, selective (monocot) herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Descurainia sophia</i>	flixweed, tansy mustard	Monitor for occurrence, and eradicate if found.	<i>Individual Plants:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
<i>Elaea gnus angustifolia</i>	Russian olive	Monitor for occurrence and eradicate if found.	<i>Mature Trees/Shrubs:</i> Cut trees and apply 100 percent herbicide to cut stem; spray new shoots - See Section 6.3.3, Chemical Methods for Weed Removal
			<i>Saplings:</i> Pull out entire plant and root - See Section 6.3.2, Physical Removal of Weeds
<i>Erodium cicutarium</i>	red-stemmed filaree	No Action; allow colonization as pioneer species in revegetation areas.	<i>N/A</i>
<i>Halogeton glomeratus</i>	halogeton	Monitor for occurrence, and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Lactuca serriola</i>	Prickly lettuce	Monitor for occurrence, and eradicate if found.	<i>Individual Plants:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling

Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Noxious Weeds at Lucerne Solar Project Site
(Continued)

Scientific Name	Common Name	Management Strategy	Control Method
<i>Malva parviflora</i>	cheeseweed	Monitor for occurrence and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Mesembryanthemum crystallinum</i>	Crystalline iceplant	Monitor for occurrence, and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Phalaris minor</i>	Mediterranean canary grass	Monitor for occurrence and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Salsola paulsenii</i>	barbed-wire Russian thistle	Monitor for occurrence, and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal

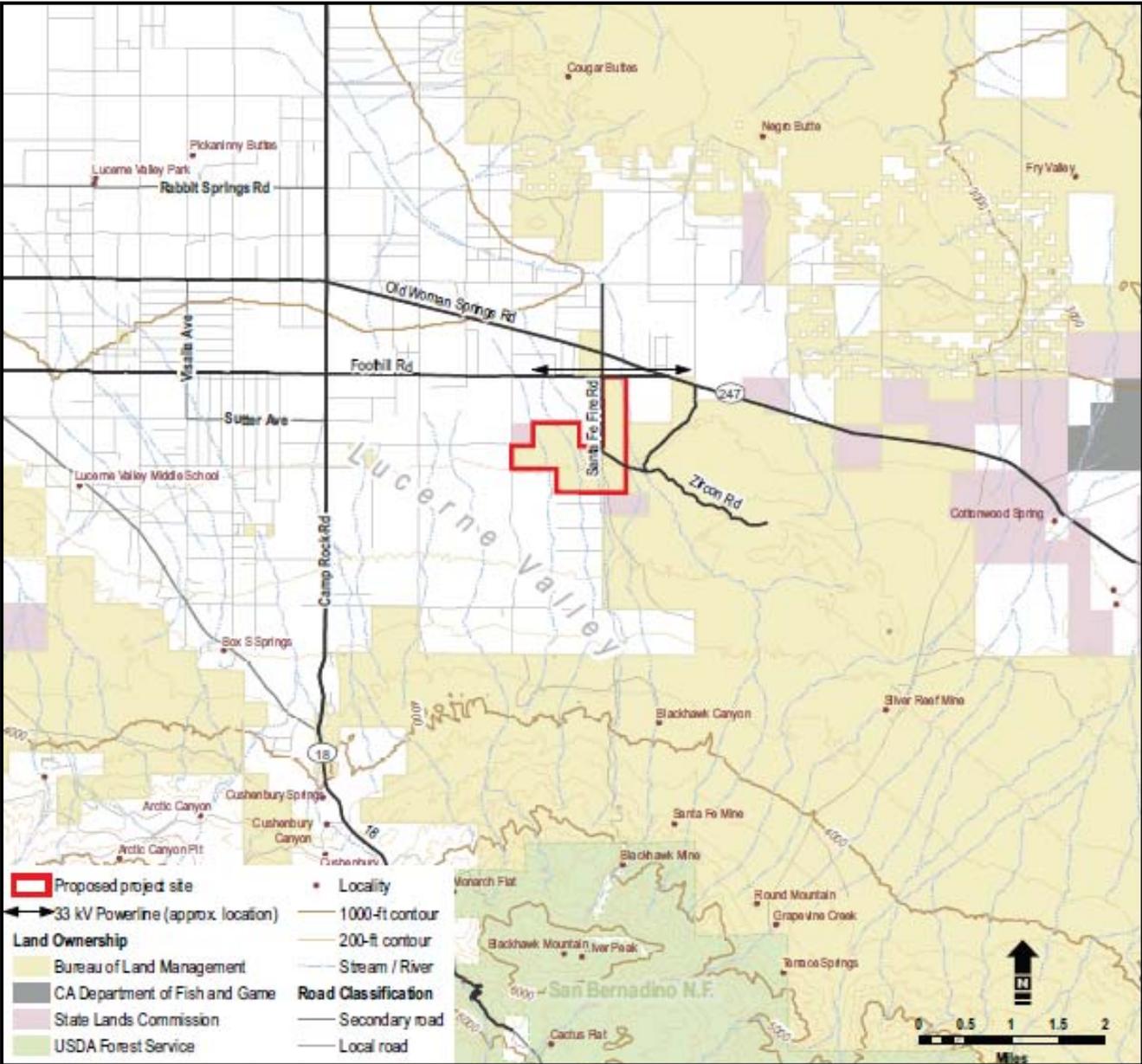
Table 2
Managing Strategies and Control Methods for Observed and Potentially Occurring Noxious Weeds at Lucerne Solar Project Site
(Continued)

Scientific Name	Common Name	Management Strategy	Control Method
<i>Salsola tragus</i> ; <i>S. kali</i> ; <i>S. pestifer</i>	Russian thistle; tumble weed	Monitor for occurrence and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Schismus arabicus</i> , <i>Schismus barbatus</i>	Mediterranean-grass	No Action; allow colonization as pioneer species in revegetation areas.	N/A
<i>Sisymbrium irio</i>	London rocket	Monitor for occurrence and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Solanum elaeagnifolium</i>	white horsenettle	Monitor for occurrence and eradicate if found.	<i>Select Occurrences:</i> Pull out entire plant and root and bag for disposal - see Section 6.3.2, Physical Removal of Weeds; Hand Pulling
			<i>Monotypic Stands:</i> Spray with post-emergent herbicide; after senescence, remove with flail mower and bag for disposal - See Section 6.3.3, Chemical Methods for Weed Removal
<i>Tamarix ramosissima</i> ; <i>Taxarix sp.</i>	saltcedar	Monitor for occurrence and eradicate if found.	<i>Mature Trees:</i> Cut trees and apply 100 percent herbicide to cut stem; spray new shoots - See Section 6.3.3, Chemical Methods for Weed Removal
			<i>Saplings:</i> Pull out entire plant and root - See Section 6.3.2, Physical Removal of Weeds

Figures

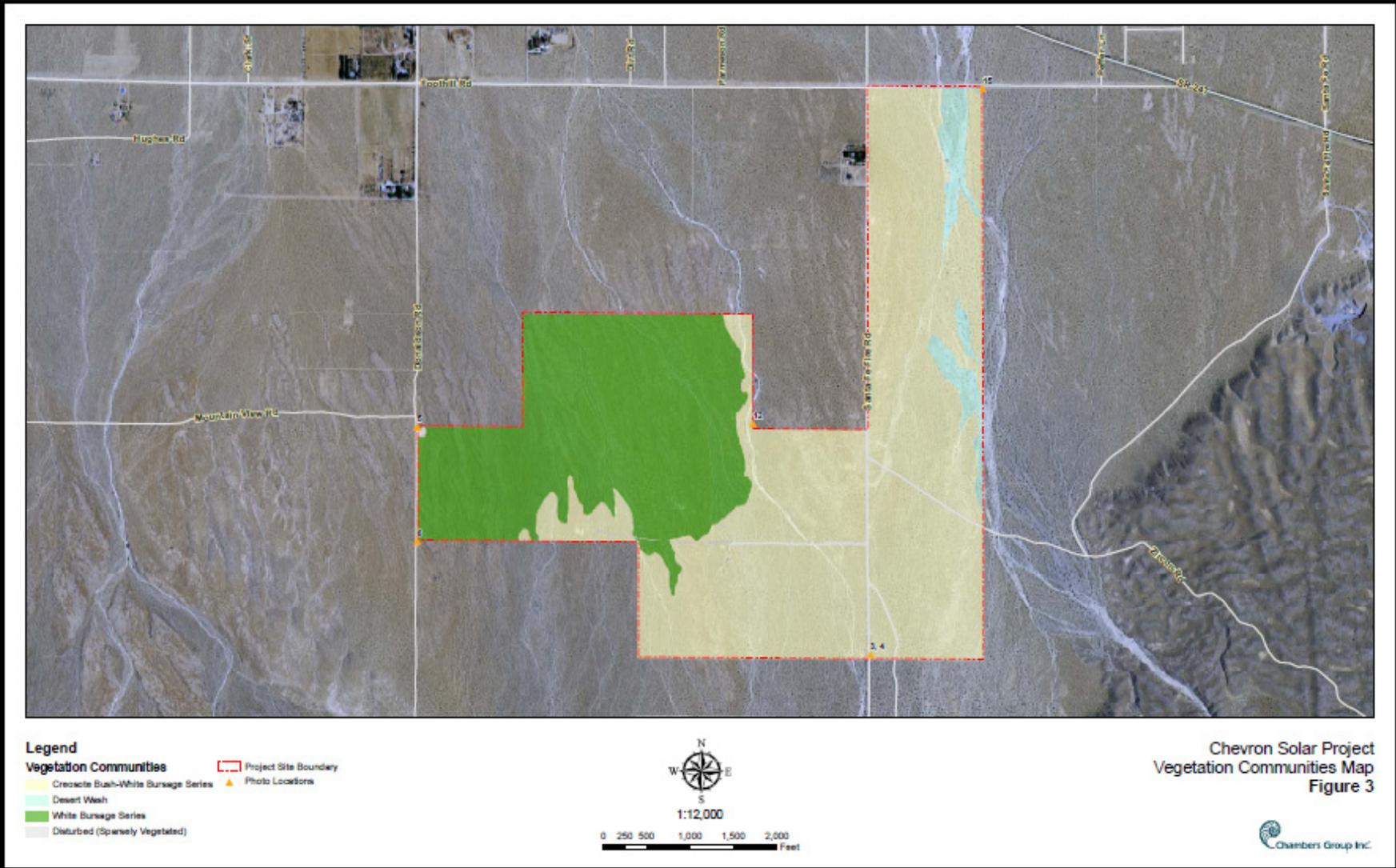
Figures

Figure 1: Lucerne Solar Vicinity Map



Figures

Figure 2: Lucerne Solar Vegetation Communities Map



APPENDIX B

HERBICIDE TREATMENT STANDARD OPERATING PROCEDURES

This section identifies standard operating procedures (SOPs) that will be followed by the U.S. Department of the Interior Bureau of Land Management (USDI BLM) under all alternatives to ensure that risks to human health and the environment from herbicide treatment actions will be kept to a minimum. Standard operating procedures are the management controls and performance standards required for vegetation management treatments. These practices are intended to protect and enhance natural resources that could be affected by future vegetation treatments.

Prevention of Weeds and Early Detection and Rapid Response

Once weed populations become established, infestations can increase and expand in size. Weeds colonize highly disturbed ground and invade plant communities that have been degraded, but are also capable of invading intact communities. Therefore, prevention, early detection, and rapid response are the most cost-effective methods of weed control. Prevention, early detection, and rapid response strategies that reduce the need for vegetative treatments for noxious weeds should lead to a reduction in the number of acres treated using herbicides in the future by reducing or preventing weed establishment.

As stated in the BLM's *Partners Against Weeds: An Action Plan for the BLM*, prevention and public education are the highest priority weed management activities. Priorities are as follows:

- Priority 1: Take actions to prevent or minimize the need for vegetation control when and where feasible, considering the management objectives of the site.
- Priority 2: Use effective nonchemical methods of vegetation control when and where feasible.
- Priority 3: Use herbicides after considering the effectiveness of all potential methods or in combination with other methods or controls.

Prevention is best accomplished by ensuring the seeds and vegetatively reproductive plant parts of new weed species are not introduced into new areas.

The BLM is required to develop a noxious weed risk assessment when it is determined that an action may introduce or spread noxious weeds or when known habitat exists. If the risk is moderate or high, the BLM may modify the project to reduce the likelihood of weeds infesting the site, and to identify control measures to be implemented if weeds do infest the site.

To prevent the spread of weeds, the BLM takes actions to minimize the amount of existing non-target vegetation that is disturbed or destroyed during project or vegetation treatment actions (Table B-1). During project planning, the following steps are taken:

- Incorporate measures to prevent introduction or spread of weeds into project layout, design, alternative evaluation, and project decisions.
- During environmental analysis for projects and maintenance programs, assess weed risks, analyze potential treatment of high-risk sites for weed establishment and spread, and identify prevention practices.
- Determine prevention and maintenance needs, to include the use of herbicides if needed, at the onset of project planning.
- Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds.

During project development, weed infestations are prioritized for treatment in project operating areas and along access routes. Weeds present on or near the site are identified, a risk assessment is completed, and weeds are controlled as necessary. Project staging areas are weed free, and travel through weed infested areas is avoided or minimized. Examples of prevention actions to be followed during project activities include cleaning all equipment and clothing before entering the project site; avoiding soil disturbance and the creation of other

soil conditions that promote weed germination and establishment; and using weed-free seed, hay, mulch, gravel, soil, and mineral materials on public lands where there is a state or county program in place.

Conditions that enhance invasive species abundance should be addressed when developing mitigation and prevention plans for activities on public lands. These conditions include excessive disturbance associated with road maintenance, poor grazing management, and high levels of recreational use. If livestock grazing is managed to maintain the vigor of native perennial plants, particularly grasses, the chance of weeds invading rangeland is much less. By carefully managing recreational use and educating the public on the potential impacts of recreational activities on vegetation, the amount of damage to native vegetation and soil can be minimized at high use areas, such as campgrounds and off-highway vehicle (OHV) trails. Early detection in recreation areas is focused on roads and trails, where much of the weed spread occurs.

The BLM participates in the National Early Warning and Rapid Response System for Invasive Plants (Figure B-1). The goal of this System is to minimize the establishment and spread of new invasive species through a coordinated framework of public and private processes by:

- Early detection and reporting of suspected new plant species to appropriate officials;
- Identification and vouchering of submitted specimens by designated specialists;
- Verification of suspected new state, regional, and national plant records;
- Archival of new records in designated regional and plant databases;
- Rapid assessment of confirmed new records; and
- Rapid response to verified new infestations that are determined to be invasive.

Herbicide Treatment Planning

BLM Manual 9011 (*Chemical Pest Control*) outlines the policies, and BLM Handbook H-9011-1 (*Chemical Pest Control*) outlines the procedures, for use of herbicides on public lands. As part of policy, the BLM is required to thoroughly evaluate the need for chemical treatments and their potential for impact on the environment. The BLM is required to use only U.S.

Environmental Protection Agency (USEPA)-registered herbicides that have been properly evaluated under National Environmental Policy Act (NEPA), and to carefully follow label directions and additional BLM requirements.

An operational plan is developed and updated for each herbicide project. The plan includes information on project specifications, key personnel responsibilities, and communication, safety, spill response, and emergency procedures. For application of herbicides not approved for aquatic use, the plan should also specify minimum buffer widths between treatment areas and water bodies. Recommended widths are provided in BLM Handbook H-9011-1 (*Chemical Pest Control*), but actual buffers are site and herbicide active ingredient specific, and are determined based on a scientific analysis of environmental factors, such as climate, topography, vegetation, and weather; timing and method of application; and herbicide risks to humans and non-target species. Table B-2 summarizes important SOPs that should be used when applying herbicides to help protect resources of concern on public lands.

Revegetation

Disturbed areas may be reseeded or planted with desirable vegetation when the native plant community cannot recover and occupy the site sufficiently.

Determining the need for revegetation is an integral part of developing a vegetation treatment. The most important component of the process is determining whether active (seeding/planting) or passive (natural recovery) revegetation is appropriate.

U.S. Department of the Interior policy states, "Natural recovery by native plant species is preferable to planting or seeding, either of natives or non-natives. However, planting or seeding should be used only if necessary to prevent unacceptable erosion or resist competition from non-native invasive species" (620 Departmental Memorandum 3 2004). This policy is reiterated in the USDI *Burned Area Emergency Stabilization and Rehabilitation Manual*, the BLM *Burned Area Emergency Stabilization and Rehabilitation Manual* (BLM H-1742-1), and the *Interagency Burned Area Rehabilitation Guidebook*.

**TABLE B-1
Prevention Measures**

BLM Activity	Prevention Measure
Project Planning	<ul style="list-style-type: none"> • Incorporate prevention measures into project layout and design, alternative evaluation, and project decisions to prevent the introduction or spread of weeds. • Determine prevention and maintenance needs, including the use of herbicides, at the onset of project planning. • Before ground-disturbing activities begin, inventory weed infestations and prioritize areas for treatment in project operating areas and along access routes. • Remove sources of weed seed and propagules to prevent the spread of existing weeds and new weed infestations. • Pre-treat high-risk sites for weed establishment and spread before implementing projects. • Post weed awareness messages and prevention practices at strategic locations such as trailheads, roads, boat launches, and public land kiosks. • Coordinate project activities with nearby herbicide applications to maximize the cost-effectiveness of weed treatments.
Project Development	<ul style="list-style-type: none"> • Minimize soil disturbance to the extent practical, consistent with project objectives. • Avoid creating soil conditions that promote weed germination and establishment. • To prevent weed germination and establishment, retain native vegetation in and around project activity areas and keep soil disturbance to a minimum, consistent with project objectives. • Locate and use weed-free project staging areas. Avoid or minimize all types of travel through weed-infested areas, or restrict travel to periods when the spread of seeds or propagules is least likely. • Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material. • Inspect material sources on site, and ensure that they are weed-free before use and transport. Treat weed-infested sources to eradicate weed seed and plant parts, and strip and stockpile contaminated material before any use of pit material. • Survey the area where material from treated weed-infested sources is used for at least 3 years after project completion to ensure that any weeds transported to the site are promptly detected and controlled. • Prevent weed establishment by not driving through weed-infested areas. • Inspect and document weed establishment at access roads, cleaning sites, and all disturbed areas; control infestations to prevent weed spread within the project area. • Avoid acquiring water for dust abatement where access to the water is through weed-infested sites. • Identify sites where equipment can be cleaned. Clean equipment before entering public lands. • Clean all equipment before leaving the project site if operating in areas infested with weeds. • Inspect and treat weeds that establish at equipment cleaning sites. • Ensure that rental equipment is free of weed seed. • Inspect, remove, and properly dispose of weed seed and plant parts found on workers' clothing and equipment. Proper disposal entails bagging the seeds and plant parts and incinerating them.
Revegetation	<ul style="list-style-type: none"> • Include weed prevention measures, including project inspection and documentation, in operation and reclamation plans. • Retain bonds until reclamation requirements, including weed treatments, are completed, based on inspection and documentation. • To prevent conditions favoring weed establishment, reestablish vegetation on bare ground caused by project disturbance as soon as possible using either natural recovery or artificial techniques. • Maintain stockpiled, uninfested material in a weed-free condition.

**TABLE B-1 (Cont.)
Prevention Measures**

BLM Activity	Prevention Measure
Revegetation (Cont.)	<ul style="list-style-type: none"> • Revegetate disturbed soil (except travel ways on surfaced projects) in a manner that optimizes plant establishment for each specific project site. For each project, define what constitutes disturbed soil and objectives for plant cover revegetation. Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching, as necessary. • Where practical, stockpile weed-seed-free topsoil and replace it on disturbed areas (e.g., road embankments or landings). • Inspect seed and straw mulch to be used for site rehabilitation (for wattles, straw bales, dams, etc.) and certify that they are free of weed seed and propagules. • Inspect and document all limited term ground-disturbing operations in noxious weed infested areas for at least 3 growing seasons following completion of the project. • Use native material where appropriate and feasible. Use certified weed-free or weed-seed-free hay or straw where certified materials are required and/or are reasonably available. • Provide briefings that identify operational practices to reduce weed spread (for example, avoiding known weed infestation areas when locating fire lines). • Evaluate options, including closure, to regulate the flow of traffic on sites where desired vegetation needs to be established. Sites could include road and trail rights-of-way (ROW), and other areas of disturbed soils.

In addition to these handbooks and policy, use of native and non-native seed in revegetation and restoration is guided by BLM Manual 1745 (*Introduction, Transplant, Augmentation and Reestablishment of Fish, Wildlife and Plants*). This manual states that native species shall be used, unless it is determined through the NEPA process that: 1) suitable native species are not available; 2) the natural biological diversity of the proposed management area will not be diminished; 3) exotic and naturalized species can be confined within the proposed management area; 4) analysis of ecological site inventory information indicates that a site will not support reestablishment of a species that historically was part of the natural environment; or 5) resource management objectives cannot be met with native species.

When natural recovery is not feasible, revegetation can be used to stabilize and restore vegetation on disturbed sites and to eliminate or reduce the conditions that favor invasive species. Reseeding or replanting may be required when there is insufficient vegetation or seed stores to naturally revegetate the site.

To ensure revegetation success, there must be adequate soil for root development and moisture storage, which provides moisture to support the new plants. Chances for revegetation success are improved by selecting seed with high purity and percentage germination; selecting native species or cultivars adapted to the area; planting at proper depth, seeding rate, and time of the year for

the region; choosing the appropriate planting method; and, where feasible, removing competing vegetation. Planting mixtures are adapted for the treatment area and site uses. A combination of forbs, perennial grasses, and shrubs is typically used on rangeland sites, while shrubs and trees might be favored for riparian and forestland sites. A mixture of several native plant species and types or functional groups enhances the value of the site for fish and wildlife and improves the health and aesthetic character of the site. Mixtures can better take advantage of variable soil, terrain, and climatic conditions, and thus are more likely to withstand insect infestations and survive adverse climatic conditions.

The USDI BLM Native Seed program was developed in response to Congressional direction to supply native plant material for emergency stabilization and longer-term rehabilitation and restoration efforts. The focus of the program is to increase the number of native plant species for which seed is available and the total amount of native seed available for these efforts. To date, the program has focused on native plant material needs of emergency stabilization and burned area rehabilitation in the Great Basin, but is expanding to focus on areas such as western Oregon, the Colorado Plateau, and most recently the Mojave Desert. The Wildland Fire Management Program funds and manages the effort.

The National Seed Warehouse is a storage facility for the native seed supply. Through a Memorandum of

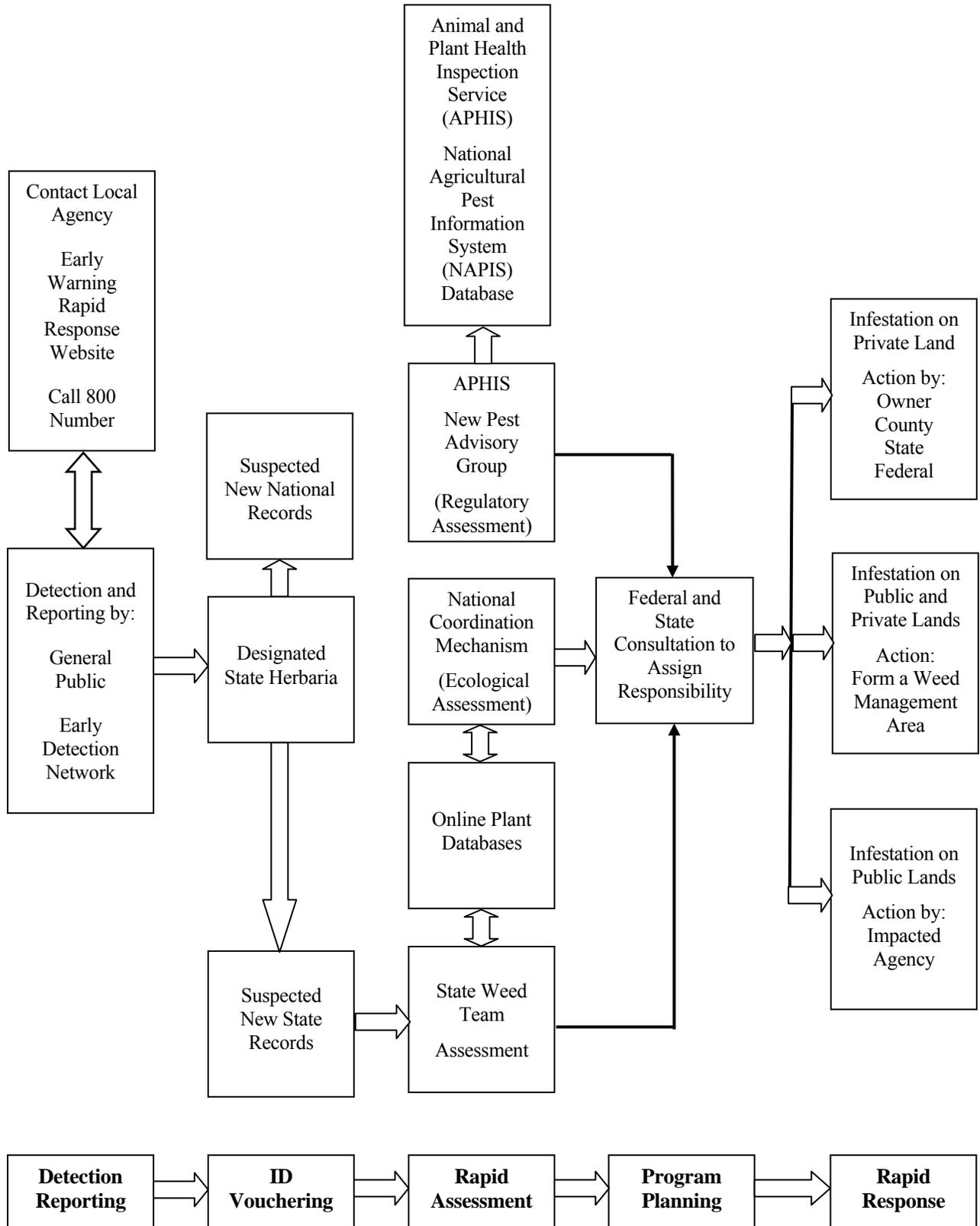


Figure B-1. National Early Warning and Rapid Response System for Invasive Plants.

Understanding with the BLM Idaho State Director, each state (Idaho, Oregon, Nevada, Utah and Colorado) can reserve an annual seed supply for purchase based on a reasonable projection of annual acreage to be stabilized or rehabilitated over a 5-year period.

The Great Basin Restoration Initiative (GBRI) grew out of concern for the health of the Great Basin after the wildfires of 1999. The goal of GBRI is to implement treatments and strategies to maintain functioning ecosystems and to proactively restore degraded ones at strategic locations. Native plants are emphasized in restoration projects where their use is practical and the potential for success is satisfactory. Monitoring is recommended to measure treatment success. To increase the availability of native plants, especially native forbs, the GBRI has established a collaborative native plant project, the Great Basin Native Plant Selection and Increase Project, to increase native plant availability and the technology to successfully establish these plants. This project is supported by funding from the BLM's Native Plant Initiative.

The BLM will follow the following SOPs when revegetating sites:

- Cultivate previously disturbed sites to reduce the amount of weed seeds in the soil seedbank.
 - Revegetate sites once work is completed or soon after a disturbance.
 - When available, use native seed of known origin as labeled by state seed certification programs.
 - Use seed of non-native cultivars and species only when locally adapted native seed is not available or when it is unlikely to establish quickly enough to prevent soil erosion or weed establishment.
 - Use seed that is free of noxious and invasive weeds, as determined and documented by a seed inspection test by a certified seed laboratory.
 - Limit nitrogen fertilizer applications that favor annual grass growth over forb growth in newly seeded areas, especially where downy brome (cheatgrass) and other invasive annuals are establishing.
- Use clean equipment, free of plants and plant parts, on revegetation projects to prevent the inadvertent introduction of weeds into the site.
 - Where important pollinator resources exist, include native nectar and pollen producing plants in the seed mixes used in restoration and reclamation projects. Include non-forage plant species in seed mixes for their pollinator/host relationships as foraging, nesting, or shelter species. Choose native plant species over manipulated cultivars, especially of forbs and shrubs, since natives tend to have more valuable pollen and nectar resources than cultivars. Ensure that bloom times for the flowers of the species chosen match the activity times for the pollinators. Maintain sufficient litter on the soil surfaces of native plant communities for ground-nesting bees.
 - Where feasible, avoid grazing by domestic and wild animals on treatment sites until vegetation is well established. Where total rest from grazing is not feasible, efforts should be made to modify the amount and/or season of grazing to promote vegetation recovery within the treatment area. Reductions in grazing animal numbers, permanent or temporary fencing, changes in grazing rotation, and identification of alternative forage sources are examples of methods that could be used to remove, reduce or modify grazing impacts during vegetation recovery.

Special Precautions

Special Status Species

Federal policies and procedures for protecting federally-listed threatened and endangered plant and animal species, and species proposed for listing, were established by the Endangered Species Act of 1973 and regulations issued pursuant to the Act. The purposes of the Act are to provide mechanisms for the conservation of threatened and endangered species and their habitats. Under the Act, the Secretary of the Interior is required to determine which species are threatened or endangered and to issue recovery plans for those species.

Section 7 of the Act specifically requires all federal agencies to use their authorities in furtherance of the Act to carry out programs for the conservation of listed

species, and to ensure that no agency action is likely to jeopardize the continued existence of a listed species or adversely modify critical habitat. Policy and guidance (BLM Manual 6840; *Special Status Species*) also stipulates that species proposed for listing must be managed at the same level of protection as listed species.

The BLM state directors may designate special status in cooperation with their respective state. These special status species must receive, at a minimum, the same level of protection as federal candidate species. The BLM will also carry out management for the conservation of state-listed species, and state laws protecting these species will apply to all BLM programs and actions to the extent that they are consistent with Federal Land Policy and Management Act (FLPMA) and other federal laws.

The BLM consulted with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) during development of the *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS) as required under Section 7 of the Endangered Species Act. As part of this process, the BLM prepared a formal consultation package that included a description of the program; species listed as threatened or endangered, species proposed for listing, and critical habitats that could be affected by the program; and a Biological Assessment (BA) that evaluated the likely impacts to listed species, species proposed for listing, and critical habitats from the proposed vegetation treatment program. Over 300 species were evaluated in the BA. The BA also provides broad guidance at a programmatic level for actions that will be taken by the BLM to avoid adversely impacting species or critical habitat.

Before any vegetation treatment or ground disturbance occurs, BLM policy requires a survey of the project site for species listed or proposed for listing, or special status species. This is done by a qualified biologist and/or botanist who consults the state and local databases and visits the site at the appropriate season. If a proposed project may affect a proposed or listed species or its critical habitat, the BLM consults with the USFWS and/or NMFS. A project with a “may affect, likely to adversely affect” determination requires formal consultation and receives a Biological Opinion from the USFWS and/or NMFS. A project with a “may affect, not likely to adversely affect” determination requires informal consultation and receives a concurrence letter from USFWS and/or NMFS, unless that action is

implemented under the authorities of the alternative consultation agreement pursuant to counterpart regulations established for *National Fire Plan* projects.

Wilderness Areas

Wilderness areas, which are designated by Congress, are defined by the Wilderness Act of 1964 as places “where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain.” The BLM manages 175 Wilderness Areas encompassing over 7.2 million acres.

Activities allowed in wilderness areas are identified in wilderness management plans prepared by the BLM. The BLM does not ordinarily treat vegetation in wilderness areas, but will control invasive and noxious weeds when they threaten lands outside wilderness area or are spreading within the wilderness and can be controlled without serious adverse impacts to wilderness values.

Management of vegetation in a wilderness area is directed toward retaining the natural character of the environment. Tree and shrub removal is usually not allowed, except for fire, insect, or disease control. Reforestation is generally prohibited except to repair damage caused by humans in areas where natural reforestation is unlikely. Only native species and primitive methods, such as hand planting, are allowed for reforestation.

Tools and equipment may be used for vegetation management when they are the minimum amount necessary for the protection of the wilderness resource. Motorized tools may only be used in special or emergency cases involving the health and safety of wilderness visitors, or the protection of wilderness values.

Habitat manipulation using mechanical or chemical means may be allowed to protect threatened and endangered species and to correct unnatural conditions, such as weed infestations, resulting from human influence.

The BLM also manages a total of 610 Wilderness Study Areas (WSAs) encompassing nearly 14.3 million acres. These are areas that have been determined to have wilderness characteristics worthy of consideration for wilderness designation. The BLM’s primary goals in WSAs are to manage them so as to not impair their wilderness values and to maintain their suitability for

preservation as wilderness until Congress makes a determination on their future.

In WSAs, the BLM must foster a natural distribution of native species of plants and animals by ensuring that ecosystems and processes continue to function naturally.

Cultural Resources

The effects of BLM actions on cultural resources are addressed through compliance with the National Historic Preservation Act, as implemented through a national Programmatic Agreement (*Programmatic Agreement among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act*) and state-specific protocol agreements with State Historic Preservation Officers (SHPOs). The BLM's responsibilities under these authorities are addressed as early in the vegetation management project planning process as possible.

The BLM meets its responsibilities for consultation and government-to-government relationships with Native American tribes by consulting with appropriate tribal representatives prior to taking actions that affect tribal interests. The BLM's tribal consultation policies are detailed in BLM Manual 8120 (*Tribal Consultation Under Cultural Resource Authorities*) and Handbook H-8120-1 (*Guidelines for Conducting Tribal Consultation*). The BLM consulted with Native

American tribes and Alaska Native groups during development of the PEIS. Information gathered on important tribal resources and potential impacts to these resources from herbicide treatments is presented in the analysis of impacts.

When conducting vegetation treatments, field office personnel consult with relevant parties (including tribes, native groups, and SHPOs), assess the potential of the proposed treatment to affect cultural and subsistence resources, and devise inventory and protection strategies suitable to the types of resources present and the potential impacts to them.

Herbicide treatments, for example, are unlikely to affect buried cultural resources, but might have a negative effect on traditional cultural properties comprised of plant foods or materials significant to local tribes and native groups. These treatments require inventory and protection strategies that reflect the different potential of each treatment to affect various types of cultural resources.

Impacts to significant cultural resources are avoided through project redesign or are mitigated through data recovery, recordation, monitoring, or other appropriate measures. When cultural resources are discovered during vegetation treatment, appropriate actions are taken to protect these resources.

TABLE B-2
Standard Operating Procedures for Applying Herbicides

Resource Element	Standard Operating Procedure
Guidance Documents	BLM Handbook H-9011-1 (<i>Chemical Pest Control</i>); and manuals 1112 (<i>Safety</i>), 9011 (<i>Chemical Pest Control</i>), 9012 (<i>Expenditure of Rangeland Insect Pest Control Funds</i>), 9015 (<i>Integrated Weed Management</i>), and 9220 (<i>Integrated Pest Management</i>).
General	<ul style="list-style-type: none"> • Prepare operational and spill contingency plan in advance of treatment. • Conduct a pretreatment survey before applying herbicides. • Select herbicide that is least damaging to the environment while providing the desired results. • Select herbicide products carefully to minimize additional impacts from degradates, adjuvants, inert ingredients, and tank mixtures. • Apply the least amount of herbicide needed to achieve the desired result. • Follow herbicide product label for use and storage. • Have licensed applicators apply herbicides. • Use only USEPA-approved herbicides and follow product label directions and “advisory” statements. • Review, understand, and conform to the “Environmental Hazards” section on the herbicide product label. This section warns of known pesticide risks to the environment and provides practical ways to avoid harm to organisms or to the environment. • Consider surrounding land use before assigning aerial spraying as a treatment method and avoid aerial spraying near agricultural or densely populated areas. • Minimize the size of application area, when feasible. • Comply with herbicide-free buffer zones to ensure that drift will not affect crops or nearby residents/landowners. • Post treated areas and specify reentry or rest times, if appropriate. • Notify adjacent landowners prior to treatment. • Keep a copy of Material Safety Data Sheets (MSDSs) at work sites. MSDSs are available for review at http://www.cdms.net/. • Keep records of each application, including the active ingredient, formulation, application rate, date, time, and location. • Avoid accidental direct spray and spill conditions to minimize risks to resources. • Consider surrounding land uses before aerial spraying. • Avoid aerial spraying during periods of adverse weather conditions (snow or rain imminent, fog, or air turbulence). • Make helicopter applications at a target airspeed of 40 to 50 miles per hour (mph), and at about 30 to 45 feet above ground. • Take precautions to minimize drift by not applying herbicides when winds exceed >10 mph (>6 mph for aerial applications), or a serious rainfall event is imminent. • Use drift control agents and low volatile formulations. • Conduct pre-treatment surveys for sensitive habitat and special status species within or adjacent to proposed treatment areas. • Consider site characteristics, environmental conditions, and application equipment in order to minimize damage to non-target vegetation. • Use drift reduction agents, as appropriate, to reduce the drift hazard to non-target species. • Turn off applied treatments at the completion of spray runs and during turns to start another spray run. • Refer to the herbicide product label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide. • Clean OHVs to remove seeds.

**TABLE B-2 (Cont.)
Standard Operating Procedures for Applying Pesticides**

Resource Element	Standard Operating Procedure
<p>Air Quality See Manual 7000 (<i>Soil, Water, and Air Management</i>)</p>	<ul style="list-style-type: none"> • Consider the effects of wind, humidity, temperature inversions, and heavy rainfall on herbicide effectiveness and risks. • Apply herbicides in favorable weather conditions to minimize drift. For example, do not treat when winds exceed 10 mph (>6 mph for aerial applications) or rainfall is imminent. • Use drift reduction agents, as appropriate, to reduce the drift hazard. • Select proper application equipment (e.g., spray equipment that produces 200- to 800-micron diameter droplets [spray droplets of 100 microns and less are most prone to drift]). • Select proper application methods (e.g., set maximum spray heights, use appropriate buffer distances between spray sites and non-target resources).
<p>Soil See Manual 7000 (<i>Soil, Water, and Air Management</i>)</p>	<ul style="list-style-type: none"> • Minimize treatments in areas where herbicide runoff is likely, such as steep slopes when heavy rainfall is expected. • Minimize use of herbicides that have high soil mobility, particularly in areas where soil properties increase the potential for mobility. • Do not apply granular herbicides on slopes of more than 15% where there is the possibility of runoff carrying the granules into non-target areas.
<p>Water Resources See Manual 7000 (<i>Soil, Water, and Air Management</i>)</p>	<ul style="list-style-type: none"> • Consider climate, soil type, slope, and vegetation type when developing herbicide treatment programs. • Select herbicide products to minimize impacts to water. This is especially important for application scenarios that involve risk from active ingredients in a particular herbicide, as predicted by risk assessments. • Use local historical weather data to choose the month of treatment. Considering the phenology of the target species, schedule treatments based on the condition of the water body and existing water quality conditions. • Plan to treat between weather fronts (calms) and at appropriate time of day to avoid high winds that increase water movements, and to avoid potential stormwater runoff and water turbidity. • Review hydrogeologic maps of proposed treatment areas. Note depths to groundwater and areas of shallow groundwater and areas of surface water and groundwater interaction. Minimize treating areas with high risk for groundwater contamination. • Conduct mixing and loading operations in an area where an accidental spill would not contaminate an aquatic body. • Do not rinse spray tanks in or near water bodies. Do not broadcast pellets where there is danger of contaminating water supplies. • Maintain buffers between treatment areas and water bodies. Buffer widths should be developed based on herbicide- and site-specific criteria to minimize impacts to water bodies. • Minimize the potential effects to surface water quality and quantity by stabilizing terrestrial areas as quickly as possible following treatment.
<p>Wetlands and Riparian Areas</p>	<ul style="list-style-type: none"> • Use a selective herbicide and a wick or backpack sprayer. • Use appropriate herbicide-free buffer zones for herbicides not labeled for aquatic use based on risk assessment guidance, with minimum widths of 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray applications.
<p>Vegetation See Handbook H-4410-1 (<i>National Range Handbook</i>), and manuals 5000 (<i>Forest Management</i>) and 9015 (<i>Integrated Weed Management</i>)</p>	<ul style="list-style-type: none"> • Refer to the herbicide label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide. • Use native or sterile species for revegetation and restoration projects to compete with invasive species until desired vegetation establishes. • Use weed-free feed for horses and pack animals. Use weed-free straw and mulch for revegetation and other activities. • Identify and implement any temporary domestic livestock grazing and/or supplemental feeding restrictions needed to enhance desirable vegetation recovery following treatment. Consider adjustments in the existing grazing permit, to maintain desirable vegetation on the treatment site.

TABLE B-2 (Cont.)
Standard Operating Procedures for Applying Pesticides

Resource Element	Standard Operating Procedure
Pollinators	<ul style="list-style-type: none"> • Complete vegetation treatments seasonally before pollinator foraging plants bloom. • Time vegetation treatments to take place when foraging pollinators are least active both seasonally and daily. • Design vegetation treatment projects so that nectar and pollen sources for important pollinators and resources are treated in patches rather than in one single treatment. • Minimize herbicide application rates. Use typical rather than maximum rates where there are important pollinator resources. • Maintain herbicide free buffer zones around patches of important pollinator nectar and pollen sources. • Maintain herbicide free buffer zones around patches of important pollinator nesting habitat and hibernacula. • Make special note of pollinators that have single host plant species, and minimize herbicide spraying on those plants (if invasive species) and in their habitats.
Fish and Other Aquatic Organisms See manuals 6500 (<i>Wildlife and Fisheries Management</i>) and 6780 (<i>Habitat Management Plans</i>)	<ul style="list-style-type: none"> • Use appropriate buffer zones based on label and risk assessment guidance. • Minimize treatments near fish-bearing water bodies during periods when fish are in life stages most sensitive to the herbicide(s) used, and use spot rather than broadcast or aerial treatments. • Use appropriate application equipment/method near water bodies if the potential for off-site drift exists. • For treatment of aquatic vegetation, 1) treat only that portion of the aquatic system necessary to achieve acceptable vegetation management, 2) use the appropriate application method to minimize the potential for injury to desirable vegetation and aquatic organisms, and 3) follow water use restrictions presented on the herbicide label.
Wildlife See manuals 6500 (<i>Wildlife and Fisheries Management</i>) and 6780 (<i>Habitat Management Plans</i>)	<ul style="list-style-type: none"> • Use herbicides of low toxicity to wildlife, where feasible. • Use spot applications or low-boom broadcast operations where possible to limit the probability of contaminating non-target food and water sources, especially non-target vegetation over areas larger than the treatment area. • Use timing restrictions (e.g., do not treat during critical wildlife breeding or staging periods) to minimize impacts to wildlife.
Threatened, Endangered, and Sensitive Species See Manual 6840 (<i>Special Status Species</i>)	<ul style="list-style-type: none"> • Survey for special status species before treating an area. Consider effects to special status species when designing herbicide treatment programs. • Use a selective herbicide and a wick or backpack sprayer to minimize risks to special status plants. • Avoid treating vegetation during time-sensitive periods (e.g., nesting and migration, sensitive life stages) for special status species in area to be treated.
Livestock See Handbook H-4120-1 (<i>Grazing Management</i>)	<ul style="list-style-type: none"> • Whenever possible and whenever needed, schedule treatments when livestock are not present in the treatment area. Design treatments to take advantage of normal livestock grazing rest periods, when possible. • As directed by the herbicide product label, remove livestock from treatment sites prior to herbicide application, where applicable. • Use herbicides of low toxicity to livestock, where feasible. • Take into account the different types of application equipment and methods, where possible, to reduce the probability of contamination of non-target food and water sources. • Avoid use of diquat in riparian pasture while pasture is being used by livestock. • Notify permittees of the herbicide treatment project to improve coordination and avoid potential conflicts and safety concerns during implementation of the treatment. • Notify permittees of livestock grazing, feeding, or slaughter restrictions, if necessary. • Provide alternative forage sites for livestock, if possible.

**TABLE B-2 (Cont.)
Standard Operating Procedures for Applying Pesticides**

Resource Element	Standard Operating Procedure
<p>Wild Horses and Burros</p>	<ul style="list-style-type: none"> • Minimize using herbicides in areas grazed by wild horses and burros. • Use herbicides of low toxicity to wild horses and burros, where feasible. • Remove wild horses and burros from identified treatment areas prior to herbicide application, in accordance with herbicide product label directions for livestock. • Take into account the different types of application equipment and methods, where possible, to reduce the probability of contaminating non-target food and water sources.
<p>Cultural Resources and Paleontological Resources</p> <p>See handbooks H-8120-1 (<i>Guidelines for Conducting Tribal Consultation</i>) and H-8270-1 (<i>General Procedural Guidance for Paleontological Resource Management</i>), and manuals 8100 (<i>The Foundations for Managing Cultural Resources</i>), 8120 (<i>Tribal Consultation Under Cultural Resource Authorities</i>), and 8270 (<i>Paleontological Resource Management</i>)</p> <p>See also: <i>Programmatic Agreement among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act</i></p>	<ul style="list-style-type: none"> • Follow standard procedures for compliance with Section 106 of the National Historic Preservation Act as implemented through the <i>Programmatic Agreement among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act</i> and state protocols or 36 Code of Federal Regulations Part 800, including necessary consultations with State Historic Preservation Officers and interested tribes. • Follow BLM Handbook H-8270-1 (<i>General Procedural Guidance for Paleontological Resource Management</i>) to determine known Condition 1 and Condition 2 paleontological areas, or collect information through inventory to establish Condition 1 and Condition 2 areas, determine resource types at risk from the proposed treatment, and develop appropriate measures to minimize or mitigate adverse impacts. • Consult with tribes to locate any areas of vegetation that are of significance to the tribe and that might be affected by herbicide treatments. • Work with tribes to minimize impacts to these resources. • Follow guidance under Human Health and Safety in the PEIS in areas that may be visited by Native peoples after treatments.
<p>Visual Resources</p> <p>See handbooks H-8410-1 (<i>Visual Resource Inventory</i>) and H-8431-1 (<i>Visual Resource Contrast Rating</i>), and manual 8400 (<i>Visual Resource Management</i>)</p>	<ul style="list-style-type: none"> • Minimize the use of broadcast foliar applications in sensitive watersheds to avoid creating large areas of browned vegetation. • Consider the surrounding land use before assigning aerial spraying as an application method. • Minimize off-site drift and mobility of herbicides (e.g., do not treat when winds exceed 10 mph; minimize treatment in areas where herbicide runoff is likely; establish appropriate buffer widths between treatment areas and residences) to contain visual changes to the intended treatment area. • If the area is a Class I or II visual resource, ensure that the change to the characteristic landscape is low and does not attract attention (Class I), or if seen, does not attract the attention of the casual viewer (Class II). • Lessen visual impacts by: 1) designing projects to blend in with topographic forms; 2) leaving some low-growing trees or planting some low-growing tree seedlings adjacent to the treatment area to screen short-term effects; and 3) revegetating the site following treatment. • When restoring treated areas, design activities to repeat the form, line, color, and texture of the natural landscape character conditions to meet established Visual Resource Management (VRM) objectives.

**TABLE B-2 (Cont.)
Standard Operating Procedures for Applying Pesticides**

Resource Element	Standard Operating Procedure
<p>Wilderness and Other Special Areas</p> <p>See handbooks H-8550-1 (<i>Management of Wilderness Study Areas (WSAs)</i>), and H-8560-1 (<i>Management of Designated Wilderness Study Areas</i>), and Manual 8351 (<i>Wild and Scenic Rivers</i>)</p>	<ul style="list-style-type: none"> • Encourage backcountry pack and saddle stock users to feed their livestock only weed-free feed for several days before entering a wilderness area. • Encourage stock users to tie and/or hold stock in such a way as to minimize soil disturbance and loss of native vegetation. • Revegetate disturbed sites with native species if there is no reasonable expectation of natural regeneration. • Provide educational materials at trailheads and other wilderness entry points to educate the public on the need to prevent the spread of weeds. • Use the “minimum tool” to treat noxious and invasive vegetation, relying primarily on the use of ground-based tools, including backpack pumps, hand sprayers, and pumps mounted on pack and saddle stock. • Use chemicals only when they are the minimum method necessary to control weeds that are spreading within the wilderness or threaten lands outside the wilderness. • Give preference to herbicides that have the least impact on non-target species and the wilderness environment. • Implement herbicide treatments during periods of low human use, where feasible. • Address wilderness and special areas in management plans. • Maintain adequate buffers for Wild and Scenic Rivers (¼ mile on either side of river, ½ mile in Alaska).
<p>Recreation</p> <p>See Handbook H-1601-1 (<i>Land Use Planning Handbook, Appendix C</i>)</p>	<ul style="list-style-type: none"> • Schedule treatments to avoid peak recreational use times, while taking into account the optimum management period for the targeted species. • Notify the public of treatment methods, hazards, times, and nearby alternative recreation areas. • Adhere to entry restrictions identified on the herbicide product label for public and worker access. • Post signs noting exclusion areas and the duration of exclusion, if necessary. • Use herbicides during periods of low human use, where feasible.
<p>Social and Economic Values</p>	<ul style="list-style-type: none"> • Consider surrounding land use before selecting aerial spraying as a method, and avoid aerial spraying near agricultural or densely-populated areas. • Post treated areas and specify reentry or rest times, if appropriate. • Notify grazing permittees of livestock feeding restrictions in treated areas, if necessary, as per herbicide product label instructions. • Notify the public of the project to improve coordination and avoid potential conflicts and safety concerns during implementation of the treatment. • Control public access until potential treatment hazards no longer exist, per herbicide product label instructions. • Observe restricted entry intervals specified by the herbicide product label. • Notify local emergency personnel of proposed treatments. • Use spot applications or low-boom broadcast applications where possible to limit the probability of contaminating non-target food and water sources, especially vegetation over areas larger than the treatment area. • Consult with Native American tribes and Alaska Native groups to locate any areas of vegetation that are of significance to the tribes and Native groups and that might be affected by herbicide treatments. • To the degree possible within the law, hire local contractors and workers to assist with herbicide application projects and purchase materials and supplies, including chemicals, for herbicide treatment projects through local suppliers. • To minimize fears based on lack of information, provide public educational information on the need for vegetation treatments and the use of herbicides in an integrated pest management program for projects proposing local use of herbicides.

**TABLE B-2 (Cont.)
Standard Operating Procedures for Applying Pesticides**

Resource Element	Standard Operating Procedure
Rights-of-way	<ul style="list-style-type: none"> • Coordinate vegetation management activities where joint or multiple use of a ROW exists. • Notify other public land users within or adjacent to the ROW proposed for treatment. • Use only herbicides that are approved for use in ROW areas.
Human Health and Safety	<ul style="list-style-type: none"> • Establish a buffer between treatment areas and human residences based on guidance given in the HHRA, with a minimum buffer of ¼ mile for aerial applications and 100 feet for ground applications, unless a written waiver is granted. • Use protective equipment as directed by the herbicide product label. • Post treated areas with appropriate signs at common public access areas. • Observe restricted entry intervals specified by the herbicide product label. • Provide public notification in newspapers or other media where the potential exists for public exposure. • Have a copy of MSDSs at work site. • Notify local emergency personnel of proposed treatments. • Contain and clean up spills and request help as needed. • Secure containers during transport. • Follow label directions for use and storage. • Dispose of unwanted herbicides promptly and correctly.

APPENDIX B

**HERBICIDES APPROVED FOR USE ON PUBLIC LANDS IN
CALIFORNIA**



<i>Herbicides Approved for Use on BLM Lands*</i>					
					Update October 10, 2008
	STATES WITH APPROVAL BASED UPON CURRENT ACTIVE				
INGREDIENT	EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Bromacil	AK, AZ, CA, CO, ID, MT, ND, NE, NM, NV, OK, SD, TX, UT, WA, WY	Bromacil 80DF Hyvar X Hyvar XL	Alligare, LLC DuPont DuPont	81927-4 352-287 352-346	Y Y Y
Bromacil + Diuron	AK, AZ, CA, CO, ID, MT, ND, NE, NM, NV, OK, SD, TX, UT, WA, WY	Bromacil/Diuron 40/40 Krovar I DF Weed Blast Res. Weed Cont. DiBro 2+2 DiBro 4+4 DiBro 4+2 Weed Blast 4G	Alligare, LLC DuPont Loveland Products Inc. Nufarm Americas Inc. Nufarm Americas Inc. Nufarm Americas Inc. SSI Maxim	81927-3 352-505 34704-576 228-227 228-235 228-386 34913-19	Y Y N Y N N N
Chlorsulfuron	AK, AZ, CA, CO, ID, MT, ND, NE, NM, NV, OK, SD, TX, UT, WA, WY	Telar DF Telar XP	DuPont DuPont	352-522 352-654	Y Y
Clopyralid	AK, AZ, CA, CO, ID, MT, ND, NE, NM, NV, OK, SD, TX, UT, WA, WY	Spur Pyramid R&P Clopyralid 3 Cody Herbicide Reclaim Stinger Transline CleanSlate	Albaugh, Inc. Albaugh, Inc. Alligare, LLC Alligare, LLC Dow AgroSciences Dow AgroSciences Dow AgroSciences Nufarm Americas Inc.	42750-89 42750-94 42750-94-81927 81927-28 62719-83 62719-73 62719-259 228-491	N N Y Y N Y Y Y
Clopyralid + 2,4-D	AK, AZ, CA, CO, ID, MT, ND, NE, NM, NV, OK, SD, TX, UT, WA, WY	Curtail Commando	Dow AgroSciences Albaugh, Inc.	62719-48 42750-92	N N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
2,4-D	AK, AZ, CA, CO, ID, MT, ND,	Agrisolution 2,4-D LV6	Agriliance, L.L.C.	1381-101	N
	NE, NM, NV, OK, OR, SD, TX,	Agrisolution 2,4-D Amine 4	Agriliance, L.L.C.	1381-103	N
	UT, WA, WY	Agrisolution 2,4-D LV4	Agriliance, L.L.C.	1381-102	N
		2,4-D Amine 4	Albaugh, Inc./Agri Star	42750-19	Y
		2,4-D LV 4	Albaugh, Inc./Agri Star	42750-15	Y
		Solve 2,4-D	Albaugh, Inc./Agri Star	42750-22	Y
		2,4-D LV 6	Albaugh, Inc./Agri Star	42750-20	N
		Five Star	Albaugh, Inc./Agri Star	42750-49	N
		D-638	Albaugh, Inc./Agri Star	42750-36	N
		2,4-D LV6	Helena Chem. Co.	4275-20-5905	N
		2,4-D Amine	Helena Chem. Co.	5905-72	N
		Opti-Amine	Helena Chem. Co.	5905-501	N
		Barrage HF	Helena	5905-529	N
		HardBall	Helena	5905-549	N
		Unison	Helena	5905-542	N
		Amine 4CA 2,4-D Weed Killer	Loveland Products Inc.	34704-5	Y
		Clean Amine	Loveland Products Inc.	34704-120	N
		Low Vol 4 Ester Weed Killer	Loveland Products Inc.	34704-124	N
		Low Vol 6 Ester Weed Killer	Loveland Products Inc.	34704-125	N
		LV-6 Ester Weed Killer	Loveland Products Inc.	34704-6	Y
		Saber	Loveland Products Inc.	34704-803	N
		Saber CA	Loveland Products Inc.	34704-803	Y
		Salvo	Loveland Products Inc.	34704-609	N
		Savage DF	Loveland Products Inc.	34704-606	Y
		Aqua-Kleen	NuFarm Americas Inc.	71368-4	N
		Esteron 99C	NuFarm Americas Inc.	62719-9-71368	N
		Weedar 64	NuFarm Americas Inc.	71368-1	Y
		Weedone LV-4	NuFarm Americas Inc.	228-139-71368	Y
		Weedone LV-4 Solventless	NuFarm Americas Inc.	71368-14	Y
		Weedone LV-6	NuFarm Americas Inc.	71368-11	Y
		Formula 40	Nufarm Americas Inc.	228-357	Y
		2,4-D LV 6 Ester	Nufarm Americas Inc.	228-95	Y
		Platoon	Nufarm Americas Inc.	228-145	N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
2,4-D - cont.	AK, AZ, CA, CO, ID, MT, ND,	WEEDstroy AM-40	Nufarm Americas Inc.	228-145	Y
	NE, NM, NV, OK, OR, SD, TX,	Hi-Dep	PBI Gordon Corp.	2217-703	N
	UT, WA, WY	2,4-D Amine	Setre (Helena)	5905-72	N
		Barrage LV Ester	Setre (Helena)	5905-504	N
		2,4-D LV4	Setre (Helena)	5905-90	N
		2,4-D LV6	Setre (Helena)	5905-93	N
		Clean Crop Amine 4	UAP-Platte Chem. Co.	34704-5 CA	Y
		Clean Crop Low Vol 6 Ester	UAP-Platte Chem. Co.	34704-125	N
		Salvo LV Ester	UAP-Platte Chem. Co.	34704-609	N
		2,4-D 4# Amine Weed Killer	UAP-Platte Chem. Co.	34704-120	N
		Clean Crop LV-4 ES	UAP-Platte Chem. Co.	34704-124	N
		Savage DF	UAP-Platte Chem. Co.	34704-606	Y
		Cornbelt 4 lb. Amine	Van Diest Supply Co.	11773-2	N
		Cornbelt 4# LoVol Ester	Van Diest Supply Co.	11773-3	N
		Cornbelt 6# LoVol Ester	Van Diest Supply Co.	11773-4	N
		Amine 4	Wilbur-Ellis Co.	2935-512	N
		Lo Vol-4	Wilbur-Ellis Co.	228-139-2935	N
	Lo Vol-6 Ester	Wilbur-Ellis Co.	228-95-2935	N	
	Agrisolution 2,4-D LV6	Winfield Solutions, LLC	1381-101	N	
	Agrisolution 2,4-D Amine 4	Winfield Solutions, LLC	1381-103	N	
	Agrisolution 2,4-D LV4	Winfield Solutions, LLC	1381-102	N	
Dicamba	AK, AZ, CA, CO, ID, MT, ND,	Dicamba DMA	Albaugh, Inc./Agri Star	42750-40	N
	NE, NM, NV, OK, OR, SD, TX,	Vision	Albaugh, Inc.	42750-98	N
	UT, WA, WY	Cruise Control	Alligare, LLC	42750-40-81927	N
		Banvel	Arysta LifeScience N.A. Corp.	66330-276	Y
		Clarity	BASF Ag. Products	7969-137	Y
		Rifle	Loveland Products Inc.	34704-861	Y
		Banvel	Micro Flo Company	51036-289	Y
		Diablo	Nufarm Americas Inc.	228-379	Y
		Vanquish Herbicide	Nufarm Americas Inc.	228-397	Y
		Vanquish	Syngenta	100-884	N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Dicamba +	AK, AZ, CA, CO, ID, MT, ND,	Outlaw	Albaugh, Inc./Agri Star	42750-68	N
2,4-D	NE, NM, NV, OK, OR, SD, TX,	Range Star	Albaugh, Inc./Agri Star	42750-55	N
	UT, WA, WY	Weedmaster	BASF Ag. Products	7969-133	Y
		Rifle-D	Loveland Products Inc.	34704-869	N
		KambaMaster	Nufarm Americas Inc.	71368-34	N
		Veteran 720	Nufarm Americas Inc.	228-295	Y
Dicamba +	AZ, CO, ID, MT, ND, NE, NM,	Distinct	BASF Ag. Products	7969-150	N
Diflufenzopyr	NV, OK, SD, TX, UT, WA, WY	Overdrive	BASF Ag. Products	7969-150	N
NOTE: In accordance with the Record of Decision for the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS), the aerial application of these herbicides is prohibited.					
Diquat	AK, AZ, CA, CO, ID, MT, ND, NE,	Reward	Syngenta Crop Prot., Inc.	100-1091	Y
	NM, NV, OK, SD, TX, UT, WA, WY				
Diuron	AK, AZ, CA, CO, ID, MT, ND,	Diuron 80DF	Agriliance, L.L.C.	9779-318	N
	NE, NM, NV, OK, SD, TX, UT,	Diuron 80DF	Alligare, LLC	81927-12	Y
	WA, WY	Karmex DF	DuPont	352-692	Y
		Karmex XP	DuPont	352-692	Y
		Karmex IWC	DuPont	352-692	Y
		Direx 4L	DuPont	352-678	Y
		Direx 80DF	Griffin Company	1812-362	Y
		Direx 4L	Griffin Company	1812-257	Y
		Diuron 4L	Loveland Products Inc.	34704-854	Y
		Diuron 80 WDG	Loveland Products Inc.	34704-648	N
		Diuron 4L	Makteshim Agan of N.A.	66222-54	N
		Diuron 80WDG	UAP-Platte Chem. Co.	34704-648	N
		Vegetation Man. Diuron 80 DF	Vegetation Man., LLC	66222-51-74477	N
		Diuron-DF	Wilbur-Ellis	00352-00-508-02935	N
		Diuron 80DF	Winfield Solutions, LLC	9779-318	N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Fluridone	AK, AZ, CA, CO, ID, MT, ND,	Avast!	SePRO	67690-30	Y
	NE, NM, NV, OK, SD, TX, UT,	Sonar AS	SePRO	67690-4	Y
	WA, WY	Sonar Precision Release	SePRO	67690-12	Y
		Sonar Q	SePRO	67690-3	Y
		Sonar SRP	SePRO	67690-3	Y
Glyphosate	AK, AZ, CA, CO, ID, MT, ND,	Aqua Star	Albaugh, Inc./Agri Star	42750-59	Y
	NE, NM, NV, OK, OR, SD, TX,	Forest Star	Albaugh, Inc./Agri Star	42570-61	Y
	UT, WA, WY	Gly Star Original	Albaugh, Inc./Agri Star	42750-60	Y
		Gly Star Plus	Albaugh, Inc./Agri Star	42750-61	Y
		Gly Star Pro	Albaugh, Inc./Agri Star	42750-61	Y
		Glyphosate 4 PLUS	Alligare, LLC	81927-9	Y
		Glyphosate 5.4	Alligare, LLC	81927-8	Y
		Glyfos	Cheminova	4787-31	Y
		Glyfos PRO	Cheminova	67760-57	Y
		Glyfos Aquatic	Cheminova	4787-34	Y
		ClearOut 41	Chem. Prod. Tech., LLC	70829-2	N
		ClearOut 41 Plus	Chem. Prod. Tech., LLC	70829-3	N
		Accord Concentrate	Dow AgroSciences	62719-324	Y
		Accord SP	Dow AgroSciences	62719-322	Y
		Accord XRT	Dow AgroSciences	62719-517	Y
		Accord XRT II	Dow AgroSciences	62719-556	Y
		Glypro	Dow AgroSciences	62719-324	Y
		Glypro Plus	Dow AgroSciences	62719-322	Y
		Rodeo	Dow AgroSciences	62719-324	Y
		Mirage	Loveland Products Inc.	34704-889	Y
	Mirage Plus	Loveland Products Inc.	34704-890	Y	
	Aquamaster	Monsanto	524-343	Y	
	Roundup Original	Monsanto	524-445	Y	
	Roundup Original II	Monsanto	524-454	Y	
	Roundup Original II CA	Monsanto	524-475	Y	
	Honcho	Monsanto	524-445	Y	
	Honcho Plus	Monsanto	524-454	Y	

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Glyphosate - cont.	AK, AZ, CA, CO, ID, MT, ND,	Roundup PRO	Monsanto	524-475	Y
	NE, NM, NV, OK, OR, SD, TX,	Roundup PRO Concentrate	Monsanto	524-529	Y
	UT, WA, WY	Roundup PRO Dry	Monsanto	524-505	Y
		Roundup PROMAX	Monsanto	524-579	Y
		GlyphoMate 41	PBI Gordon Corp.	2217-847	Y
		Aqua Neat	Nufarm Americas Inc.	228-365	Y
		Foresters	Nufarm Americas Inc.	228-381	Y
		Razor	Nufarm Americas Inc.	228-366	Y
		Razor Pro	Nufarm Americas Inc.	228-366	Y
		AquaPro Aquatic Herbicide	SePRO Corporation	62719-324-67690	Y
		Rattler	Setre (Helena)	524-445-5905	Y
		Buccaneer	Tenkoz	55467-10	Y
		Buccaneer Plus	Tenkoz	55467-9	Y
		Mirage Herbicide	UAP-Platte Chem. Co.	524-445-34704	Y
		Mirage Plus Herbicide	UAP-Platte Chem. Co.	524-454-34704	Y
		Glyphosate 4	Vegetation Man., LLC	73220-6-74477	Y
Glyphosate +	AK, AZ, CA, CO, ID, MT, ND,	Landmaster BW	Albaugh, Inc./Agri Star	42570-62	N
2,4-D	NE, NM, NV, OK, OR, SD, TX,	Campaign	Monsanto	524-351	N
	UT, WA, WY	Landmaster BW	Monsanto	524-351	N
Glyphosate +	AK, AZ, CA, CO, ID, MT, ND,	Fallowmaster	Monsanto	524-507	N
Dicamba	NE, NM, NV, OK, OR, SD, TX,				
	UT, WA, WY				
Hexazinone	AK, AZ, CA, CO, ID, MT, ND,	Velpar ULW	DuPont	352-450	N
	NE, NM, NV, OK, SD, TX, UT,	Velpar L	DuPont	352-392	Y
	WA, WY	Velpar DF	DuPont	352-581	Y
		Pronone MG	Pro-Serve	33560-21	N
		Pronone 10G	Pro-Serve	33560-21	Y
		Pronone 25G	Pro-Serve	33560-45	N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Hexazinone +	AK, AZ, CO, ID, MT, ND, NE,	Westar	DuPont Crop Protection	352-626	Y
Sulfometuron methyl	NM, NV, OK, SD, TX, UT, WA, WY	Oustar	DuPont Crop Protection	352-603	Y
NOTE: In accordance with the Record of Decision for the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS), the aerial application of these herbicides is prohibited.					
Imazapic	AZ, CO, ID, MT,ND, NE, NM,	Panoramic 2SL	Alligare, LLC	66222-141-81927	N
	NV, OK, SD, TX, UT, WA, WY	Plateau	BASF	241-365	N
		Imazapic E 2 SL	Etigra, LLC	79676-65	N
Imazapic +	AZ, CO, ID, MT,ND, NE, NM,	Journey	BASF	241-417	N
Glyphosate	NV, OK, SD, TX, UT, WA, WY				
Imazapyr	AK, AZ, CA, CO, ID, MT, ND,	Imazapyr 2SL	Alligare, LLC	81927-23	N
	NE, NM, NV, OK, SD, TX, UT,	Imazapyr 4SL	Alligare, LLC	81927-24	N
	WA, WY	Ecomazapyr 2SL	Alligare, LLC	81927-22	N
		Arsenal Railroad Herbicide	BASF	241-273	N
		Chopper	BASF	241-296	Y
		Arsenal Applicators Conc.	BASF	241-299	N
		Arsenal	BASF	241-346	N
		Arsenal PowerLine	BASF	241-431	N
		Stalker	BASF	241-398	N
		Habitat	BASF	241-426	Y
		Imazapyr E-Pro 2 - VM &	Etigra, LLC	81959-8	Y
		Aquatic Herbicide			
		Imazapyr E-Pro 4 - Forestry	Etigra, LLC	81959-9	N
		Imazapyr E-Pro 2E - Site Prep & Basal	Etigra, LLC	81959-7	N
		Polaris RR	Nufarm Americas Inc.	241-273-228	N
		Polaris SP	Nufarm Americas Inc.	241-296-228	Y
		Polaris AC	Nufarm Americas Inc.	241-299-228	Y
		Polaris AQ	Nufarm Americas Inc.	241-426-228	Y
		Polaris Herbicide	Nufarm Americas Inc.	241-346-228	N
		SSI Maxim Arsenal 0.5G	SSI Maxim Co., Inc.	34913-23	N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Imazapyr - cont.	AK, AZ, CA, CO, ID, MT, ND,	Ecomazapyr 2 SL	Vegetation Man., LLC	74477-6	N
	NE, NM, NV, OK, SD, TX, UT,	Imazapyr 2 SL	Vegetation Man., LLC	74477-4	N
	WA, WY	Imazapyr 4 SL	Vegetation Man., LLC	74477-5	N
Imazapyr +	AK, AZ, CA, CO, ID, MT, ND, NE,	Mojave 70 EG	Alligare, LLC	74477-9-81927	N
Diuron	NM, NV, OK, SD, TX, UT, WA, WY	Sahara DG	BASF	241-372	N
		Imazuron E-Pro	Etigra, LLC	79676-54	N
		SSI Maxim Topside 2.5G	SSI Maxim Co., Inc.	34913-22	N
Imazapyr +	AK, AZ, CA, CO, ID, MT, ND,	Lineage Clearstand	DuPont	352-766	N
Metsulfuron methyl	NE, NM, NV, OK, SD, TX, UT,				
	WA, WY				
Imazapyr +	AK, AZ, CA, CO, ID, MT, ND,	Lineage HWC	DuPont	352-765	N
Sulfometuron methyl +	NE, NM, NV, OK, SD, TX, UT,	Lineage Prep	DuPont	352-767	N
Metsulfuron methyl	WA, WY				
NOTE: In accordance with the Record of Decision for the <i>Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS)</i>, the aerial application of these herbicides is prohibited.					
Metsulfuron methyl	AK, AZ, CO, ID, MT, ND, NE,	MSM 60	Alligare, LLC	81927-7	N
	NM, NV, OK, SD, TX, UT, WA,	Escort DF	DuPont	352-439	N
	WY	Escort XP	DuPont	352-439	N
		MSM E-AG 60 EG Herbicide	Etigra, LLC	81959-14	N
		MSM E-Pro 60 EG Herbicide	Etigra, LLC	81959-14	N
		Patriot	Nufarm Americas Inc.	228-391	N
		PureStand	Nufarm Americas Inc.	71368-38	N
		Metsulfuron Methyl DF	Vegetation Man., L.L.C.	74477-2	N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Metsulfuron methyl +	AK, AZ, CO, ID, MT, ND, NE,	Cimarron Extra	DuPont	352-669	N
Chlorsulfuron	NM, NV, OK, SD, TX, UT, WA,	Cimarron Plus	DuPont	352-670	N
	WY				
Metsulfuron methyl +	AK, AZ, CO, ID, MT, ND, NE, NM	Cimarron MAX	DuPont	352-615	N
Dicamba + 2,4-D	NV, OK, SD, TX, UT, WA, WY				
Picloram	AZ, CO, ID, MT, ND, NE, NM,	Triumph K	Albaugh, Inc.	42750-81	N
	NV, OK, OR, SD, TX, UT, WA,	Triumph 22K	Albaugh, Inc.	42750-79	N
	WY	Picloram K	Alligare, LLC	42750-81-81927	N
		Picloram K	Alligare, LLC	81927-17	N
		Picloram 22K	Alligare, LLC	42750-79-81927	N
		Picloram 22K	Alligare, LLC	81927-18	N
		Grazon PC	Dow AgroSciences	62719-181	N
		OutPost 22K	Dow AgroSciences	62719-6	N
		Tordon K	Dow AgroSciences	62719-17	N
		Tordon 22K	Dow AgroSciences	62719-6	N
Picloram +	AZ, CO, ID, MT, ND, NE, NM,	GunSlinger	Albaugh, Inc.	42750-80	N
2,4-D	NV, OK, OR, SD, TX, UT, WA,	Picloram + D	Alligare, LLC	42750-80-81927	N
	WY	Picloram + D	Alligare, LLC	81927-16	N
		Tordon 101M	Dow AgroSciences	62719-5	N
		Tordon 101 R Forestry	Dow AgroSciences	62719-31	N
		Tordon RTU	Dow AgroSciences	62719-31	N
		Grazon P+D	Dow AgroSciences	62719-182	N
		HiredHand P+D	Dow AgroSciences	62719-182	N
		Pathway	Dow AgroSciences	62719-31	N

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Sulfometuron methyl	AK, AZ, CA, CO, ID, MT, ND,	SFM 75	Alligare, LLC	81927-26	Y
	NE, NM, NV, OK, SD, TX, UT	Oust DF	DuPont	352-401	N
	WA, WY	Oust XP	DuPont	352-601	Y
		SFM E-Pro 75EG	Etigra, LLC	79676-16	Y
		Spyder	Nufarm Americas Inc.	228-408	Y
		SFM 75	Vegetation Man., L.L.C.	72167-11-74477	Y
NOTE: In accordance with the Record of Decision for the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS), the aerial application of these herbicides is prohibited.					
Sulfometuron methyl +	AK, AZ, CA, CO, ID, MT, ND,	Landmark XP	DuPont	352-645	Y
Chlorsulfuron	NE, NM, NV, OK, SD, TX, UT				
	WA, WY				
NOTE: In accordance with the Record of Decision for the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS), the aerial application of this herbicide is prohibited.					
Sulfometuron methyl +	AK, AZ, CA, CO, ID, MT, ND,	Oust Extra	DuPont	352-622	N
Metsulfuron methyl	NE, NM, NV, OK, SD, TX, UT				
	WA, WY				
NOTE: In accordance with the Record of Decision for the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS), the aerial application of this herbicide is prohibited.					
Tebuthiuron	AZ, CA, CO, ID, MT, ND, NE,	Spike 20P	Dow AgroSciences	62719-121	Y
	NM, NV, OK, SD, TX, UT, WA,	Spike 80DF	Dow AgroSciences	62719-107	Y
	WY	SpraKil S-5 Granules	SSI Maxim Co., Inc.	34913-10	Y
Tebuthiuron +	AZ, CA, CO, ID, MT, ND, NE,	SpraKil SK-13 Granular	SSI Maxim Co., Inc.	34913-15	Y
Diuron	NM, NV, OK, SD, TX, UT, WA,	SpraKil SK-26 Granular	SSI Maxim Co., Inc.	34913-16	Y
	WY				

	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Triclopyr	AK, AZ, CA, CO, ID, MT, ND,	Triclopyr 4EC	Alligare, LLC	72167-53-74477	Y
	NE, NM, NV, OK, SD, TX, UT	Triclopyr 3	Alligare, LLC	81927-13	Y
	WA, WY	Triclopyr 4	Alligare, LLC	81927-11	Y
		Element 3A	Dow AgroSciences	62719-37	Y
		Element 4	Dow AgroSciences	62719-40	Y
		Forestry Garlon XRT	Dow AgroSciences	62719-553	Y
		Garlon 3A	Dow AgroSciences	62719-37	Y
		Garlon 4	Dow AgroSciences	62719-40	Y
		Garlon 4 Ultra	Dow AgroSciences	62719-527	Y
		Remedy	Dow AgroSciences	62719-70	Y
		Remedy Ultra	Dow AgroSciences	62719-552	Y
		Pathfinder II	Dow AgroSciences	62719-176	Y
		Tahoe 3A	Nufarm Americas Inc.	228-384	Y
		Tahoe 3A	Nufarm Americas Inc.	228-518	Y
		Renovate 3	SePRO Corporation	62719-37-67690	Y
		Renovate OTF	SePRO Corporation	67690-42	Y
		Ecotriclopyr 3 SL	Vegetation Man., LLC	72167-49-74477	N
	Triclopyr 3 SL	Vegetation Man., LLC	72167-53-74477	N	
Triclopyr +	AK, AZ, CA, CO, ID, MT, ND,	Everett	Alligare, LLC	81927-29	Y
2,4-D	NE, NM, NV, OK, SD, TX, UT,	Crossbow	Dow AgroSciences	62719-260	Y
	WA, WY				
Triclopyr +	AK, AZ, CA, CO, ID, MT, ND,	Prescott Herbicide	Alligare, LLC	81927-30	Y
Clopyralid	NE, NM, NV, OK, SD, TX, UT,	Redeem R&P	Dow AgroSciences	62719-337	Y
	WA, WY				
* Refer to the complete label prior to considering the use of any herbicide formulation. Label changes can impact the intended use through, such things as, creation or elimination of Special Local Need (SLN) or 24 (c) registrations, changes in application sites, rates and timing of application, county restrictions, etc.					
** Just because a herbicide has a Federal registration, and is approved under the current EIS, it may or may not be registered for use in California. This column identifies those formulations for which there is a California registration.					

**EXHIBIT 3
Example California BLM Herbicide Use Proposal**

PROPOSAL NUMBER:
REFERENCE NUMBER:

FIELD OFFICE _____ COUNTY _____

LOCATION:

DURATION OF PROPOSAL:

I. HERBACIDE APPLICATION (including mixtures and surfactants):

	Trade Names	Common Names	EPA Registration No.	Manufacturer	Formulations (Liquid or Granular)	Method of Application
1						
2						
3						

MAXIMUM RATE OF APPLICATION:	
USE UNIT ON LABEL:	POUNDS ACID EQUIVALENT/ACRE:
1.	1.
2.	2.

INTENDED RATE OF APPLICATION:

APPLICATION DATES:

NUMBER OF APPLICATIONS:

II. PEST (List specific pest(s) and reason(s) for application):

III. MAJOR DESIRED PLANT SPECIES PRESENT:

IV. TREATMENT SITE: (Describe land type or use, size, stage of growth of target species, slope and soil type).

EXHIBIT 3 (Cont.)
Example California BLM Herbicide Use Proposal

ESTIMATED ACRES

V. SENSITIVE ASPECTS AND PRECAUTIONS: (Describe sensitive areas [e.g., marsh, endangered, threatened, candidate and sensitive species habitat] and distance to treatment site. List measures taken to avoid impact to sensitive areas).

VI. NON-TARGET VEGETATION: (Describe the impacts, cumulative impacts, and mitigations to non-target vegetation that will be lost as a result of this chemical application).

VII. INTEGRATED PEST MANAGEMENT: (Describe how this chemical application fits into your overall integrated pest management program for the treatment area.)

Originator: _____
Company Name: _____
Phone: _____

Date: _____

Certified Herbicide Applicator:

(Signature)

Date: _____

Field Office Pesticide/Noxious Weed Coordinator

(Signature)

Date: _____

APPROVALS:

BLM Assistant Field Manager
Renewable Resources
(Signature)

Date: _____

APPROVALS (State Office Use Only):

BLM State Pesticide Coordinator
(Signature)

Deputy State Director, Natural Resources,
Lands and Planning
(Signature)

Date: _____

Date: _____

- CONCUR OR APPROVED
- NOT CONCUR OR DISAPPROVED
- CONCUR OR APPROVED WITH MODIFICATIONS

APPENDIX D

**EXAMPLE CALIFORNIA BLM PESTICIDE
APPLICATION RECORDS FORM**



EXHIBIT 3 (Cont.)
Example California BLM Herbicide Application Records Form

1. General Information

- a. Project Name: _____
- b. Operator: _____
- c. Herbicide Use Proposal Number: _____
- d. Reference Number: _____

2. Name of Applicator or Employee(s) Applying the Herbicide:

3. Date(s) of Application: _____
(MONTH, DAY, YEAR)

4. Time Frame of Application: _____

5. Location of Application: T _____, R _____, and Sec. _____
County _____

6. Type of Equipment Used: _____

7. Herbicide(s) Used: _____

Company or Manufacturer's Name: _____

Trade Name: _____

Type of Formulation: Liquid ___/ Granular ___/

8. Rate of Application Used:

- a. Active Ingredient per Acre _____
- b. Volume of Formulation per Acre _____

9. Treatment Area

- a. Actual Area Treated: _____
- b. Total Project Area: _____

10. Primary Pest(s) Involved: _____

11. Stage of Pest Development: _____

12. Site Treated: ___/ Native Vegetation ___/ Seeded Vegetation ___/ Other

13. Weather Conditions:

- a. Wind velocity: _____
- b. Wind direction _____
- c. Temperature _____

14. Monitoring Record (IF INSUFFICIENT SPACE-CONTINUE ON BACK):

This record is required and must be completed, except for monitoring within 24 hours after completion of application of herbicides. This record must be maintained for minimum of 10 years.