

Appendix N

INTEGRATED WEED MANAGEMENT PLAN

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Easley Renewable Energy Project

Prepared for



IP Easley, LLC

a subsidiary of Intersect Power, LLC

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LIST OF ACRONYMS

Easley or Project	Easley Renewable Energy Project
BLM	United States Bureau of Land Management
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
Cal IPC	California Invasive Plant Council
EPA	United States Environmental Protection Agency
gen-tie line	Generation interconnection-tie line
GPS	Global positioningpdf system
IWMP	Integrated Weed Management Plan
mph	Miles per hour
MW	Megawatt
PEIS	Programmatic Environmental Impact Statement
PV	Photovoltaic
SCE	Southern California Edison
USFWS	United States Fish and Wildlife Service

1. INTRODUCTION

IP Easley, LLC (Applicant or Proponent), a subsidiary of Intersect Power, LLC, proposes to construct, operate, and decommission the Easley Renewable Energy Project (Easley or Project), a utility-scale solar photovoltaic (PV) electrical generating and storage facility, and associated infrastructure to generate, store, and deliver renewable electricity to the statewide electricity transmission grid. The approximately 3,700-acre Project site is located in Riverside County near Desert Center (see POD [Plan of Development] Appendix A, Figure 1).

The Project would generate and store up to 650 megawatts (MW) of renewable electricity via arrays of solar photovoltaic (PV) panels, battery energy storage system (BESS), and appurtenant facilities. A 6.7-mile 500 kilovolt (kV) generation-tie (gen-tie) line would mainly traverse the adjacent Oberon Renewable Energy Project that is owned by Intersect Power and connect into its approved substation, currently under construction (see POD Appendix A, Figure 2). From the Oberon Substation, the power generated by the Easley Project would be transmitted to the SCE Red Bluff Substation via the Oberon 500 kV gen-tie line, which is expected to be fully energized by the end of 2023. For a complete Project description and summary of the Project location, refer to the POD main text.

The Project includes both public and private lands (see POD Appendix A, Figure 2). Public lands within the Project solar application area are managed by the U.S. Bureau of Land Management (BLM) and are designated as Development Focus Area (DFA) by the Desert Renewable Energy Conservation Plan (DRECP) and associated Record of Decision (ROD), and thus, have been targeted for renewable energy development. Because the proposed Project is partially located on federal land under management of the BLM, the BLM is the lead agency under the National Environmental Policy Act (NEPA), 42 U.S.C. section 4321 et seq. Private lands within the Project solar application area are under the jurisdiction of Riverside County who will serve as the lead agency under the California Environmental Quality Act (CEQA).

Clean, renewable energy generation will have an overall benefit to plant and wildlife species on a local, regional, and global scale by replacing fossil fuel energy sources, reducing toxic emissions, and mitigating the effects of climate change on ecosystems.

This Integrated Weed Management Plan (IWMP) describes the proposed Project activities and components that may facilitate weed infestations and assesses potential risks that weeds may pose to natural resource values on the Project site and in the surrounding area. It summarizes baseline data regarding weeds in the Project vicinity and describes monitoring and control measures to be implemented to minimize those risks. Control measures may consist of manual, mechanical, and/or chemical methods.

Throughout this IWMP, the word “weed” is used to include any noxious, invasive, and non-native plant that may interfere with natural resource values on the Easley site or on surrounding lands. The most important effect of weeds on natural resources is invasion into natural habitats. Invasive weeds can displace native species, supplant wildlife food plants or other habitat elements (e.g., cover), alter natural habitat structure and ecological function, alter natural wildfire patterns, or displace special-status plant occurrences and habitat (Zouhar et al., 2008; Lovich and Bainbridge, 1999). Due to this disruption of habitat and natural systems, these plants are considered “weeds” or “pest plants” when they invade natural landscapes (Bossard et al., 2000). The spread of invasive plants is an important threat to biological resources in the California desert. Human activities, including the proposed Project, can affect weed distribution and abundance in two ways: they can introduce new weed species to an area, and they can facilitate propagation and spread of weeds already present.

Weeds and pest plants addressed in this IWMP will not be limited to “noxious weeds” as designated by federal and state agencies. Instead, weeds are defined here to include any species of non-native plants identified on the weed lists of the California Department of Food and Agriculture (CDFA), the California

Invasive Plant Council (Cal IPC), or of special concern identified by BLM or Riverside County. In addition, any non-native species found on the site that has not been evaluated for its potential to invade or alter surrounding natural lands will be considered a weed for purposes of IWMP implementation.

1.1. Integrated Weed Management Plan Objectives

This Integrated Weed Management Plan will be implemented concurrently with the Project's Vegetation Resources Management Plan (VRMP) (see POD Appendix L), and the two plans are designed to supplement one another. Together, they describe the overall approach to vegetation and weed management, to be implemented over the life of the Project.

The IWMP has been prepared to conform to the DRECP Conservation and Management Action (CMA) LUPA-BIO-10 (Standard Practices for Weed Management) see below:

LUPA-BIO-10 Consistent with BLM state and national policies and guidance, integrated weed management actions, will be carried out during all phases of activities, as appropriate, and at a minimum will include the following:

- Thoroughly clean the tires and undercarriage of vehicles entering or reentering the project site to remove potential weeds.
- Store project vehicles on site in designated areas to minimize the need for multiple washings whenever vehicles re-enter the project site.
- Properly maintain vehicle wash and inspection stations to minimize the introduction of invasive weeds or subsidy of invasive weeds.
- Closely monitor the types of materials brought onto the site to avoid the introduction of invasive weeds and non-native species.
- Reestablish native vegetation quickly on disturbed sites.
- Monitor and quickly implement control measures to ensure early detection and eradication of weed invasions to avoid the spread of invasive weeds and non-native species on site and to adjacent off-site areas.
- Use certified weed-free mulch, straw, hay bales, or equivalent fabricated materials for installing sediment barriers.

The weed management objectives for the Easley Renewable Energy Project include the following:

Prevention. This IWMP seeks to prevent weeds already present on the site from becoming larger or more persistent infestations, and to prevent new weeds from becoming established on the site by early detection and a rapid response to eradicate the weeds.

Detection/identification. The monitoring measures described in this plan are designed to identify weed infestations for further control efforts.

Control. Control strategies will be based on the potential threat of any given infestation. Control strategy will be based on the threat posed by a given weed species, and the location, abundance, and extent of the infestation. For each infestation, potential control strategies are:

- *Eradication.* This control objective is to eliminate all individuals of a particular species within a specified area. This will be the goal for weed species that are new to the area (i.e., unknown threat) or known species posing (1) significant environmental concern; and (2) not already widespread in surrounding landscapes.

- *Suppression*. This objective will be selected for weed species and populations already widespread throughout the region and common on disturbed soils. The objective will be to reduce infestation density and minimize seed production and the threat for off-site spread, but not necessarily to reduce the total area or boundary of the infestation. This strategy will apply to many widely distributed, high-density weeds where eradication is not feasible.
- *Containment*. This objective will be aimed at preventing infestation expansion and spread and may be conducted with or without any attempt to reduce infestation density. Containment 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 propagules can be prevented.

This plan may be revised to conform to requirements of: (1) mitigation requirements of the Project's Final Environmental Impact Report or Environmental Assessment, (2) any USFWS Biological Opinion (BO) or CDFW Consistency Determination or Incidental Take Permit (ITP) issued for the Project, (3) any revisions to relevant mitigation measures (MMs) that may be adopted in the BLM Record of Decision and/or by Riverside County, or (4) any further direction from the resource agencies.

2. KNOWN AND POTENTIAL WEED OCCURRENCES

Numerous weeds have already become widespread throughout the Colorado Desert and for some species the prevention of further spread is impracticable. Examples of these species include Mediterranean grass (*Schismus barbatus*), Russian thistle (*Salsola tragus*), and Saharan mustard (*Brassica tournefortii*). Others (e.g., saltcedar, *Tamarix ramosissima*) are damaging to specific habitat types but pose little or no threat to widespread upland desert habitat.

Most of the solar facility land and the gen-tie route consists of a natural desert landscape. Two primary natural vegetation communities occur in the Project site, creosote bush scrub and desert dry wash woodland, a subtype of microphyll woodland. One distinct natural habitat type, desert pavement, occurs on the Project site. One vegetation community, desert dry wash woodland, is identified by BLM and CDFW as sensitive due to the association with alluvial processes (Ironwood, 2022). Vegetation communities on the Project site are described in further detail and mapped in the Project's Biological Resources Technical Report (BRTR) (see POD Appendix G [Ironwood, 2022]).

Weeds that have been found on the solar facility site and in the surrounding areas include Saharan mustard, Russian thistle, Tamarisk or saltcedar, Mediterranean grass, London rocket (*Sisymbrium irio*), red brome (*Bromus madritensis ssp. rubens*), foxtail barley (*Hordeum jubata*), annual beard grass (*Polypogon monspeliensis*), and athel tamarisk (*Tamarisk aphylla*).

Other weeds observed on the Project site that are not considered invasive but have become naturalized include date palm (*Phoenix dactylifera*), prickly lettuce (*Lactuca seriola*), spiny sowthistle (*Sonchus asper*), sowthistle (*Sonchus oleraceus*), field sowthistle (*Sonchus arvensis*), shepherd's purse (*Capsella bursa-pastoris*), hedge mustard (*Sisymbrium officinale*), and cheeseweed (*Malva parviflora*).

These and other weed species with potential of occurring on the site now or in the future are listed in Table 1.

Table 1 presents threat rankings for each species as assigned by the CDFA and by Cal-IPC (as applicable). Species were selected for inclusion in the table based on occurrence on or around the Easley site and gen-tie alignments, or from comparable habitats of the broader Colorado Desert region in California. Each

plant on Table 1 received an overall ranking of High, Moderate or Limited based on evaluation by CAP-IPC (CAL-IPC, 2006). The meaning of these overall ranking is described below.

- *High*: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed.
- *Moderate*: These species have substantial and apparent — but generally not severe — ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, although establishment is generally dependent on ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
- *Limited*: These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Two CDFA Class C weeds (Russian thistle and Mediterranean grass) occur on the site and throughout the local area. One CDFA Class B weed (saltcedar) was observed along channels and around ponds artificially created from drainage from the adjacent aquaculture farms or other agricultural activities. No CDFA Class A weeds have been documented on the site.

BLM Risk Assessment guidelines recommend ranking risks according to (1) likelihood that a weed will spread to the project site, and (2) consequences of its establishment on the site.

BLM's recommended assessment of the first factor (likelihood of spread to the site) range from "none" to "high," based on occurrence and abundance in the surrounding area. However, these guidelines do not account for potential weed introduction via vehicle traffic from outside a project area, and therefore do not address the most likely vector for weed introduction onto the Easley site. For most weed species below, the likelihood of spread to the Project site from adjacent areas is low or none (the only exceptions are those species already occurring on the Easley site). However, any of these species, as well as species of unknown threat, could be spread to the Project area by vehicle traffic during Project construction, operation, or decommissioning. The most likely vector would be via seed or rhizomes that may be caught in the undercarriages of construction equipment.

Similarly, the BLM guidelines addressing consequences of establishment primarily refer to on-site consequences. These guidelines appear to address local habitat or range improvement projects, rather than land use conversions to renewable energy facilities. Whereas many weed infestations could degrade a range project, most weed infestations would have only minimal consequences for the solar facility. For the Easley Project, the most important consequences of any potential weed infestation are the likelihood that infestations may spread off the site and into surrounding natural landscapes.

Due to the general inapplicability of the BLM guidelines to renewable energy land use conversion, the descriptions of likelihood of occurrence at the Easley site and consequences of occurrence/spread in Table 1 are based upon field experience on the site and throughout the Colorado Desert in California, rather than the BLM's recommended risk assessment methodology.

Human activities such as transportation and trade provide a constant source of new exotic species into California, including the Colorado Desert region, and serve to disperse exotic species already established into new areas. We cannot predict what new weed species might become problematic on the Easley site or the surrounding area in coming decades. Therefore, the monitoring section of this IWMP includes measures to identify and control (generally by eradication) any weed species new to the area that may be discovered on the site.

Table 1. Weeds of the Chuckwalla Valley Area

Weed Species	Habitats, Range, and Control Notes	Rankings	Likelihood of Occurrence at Easley Site	Consequences of Occurrence/Spread
<i>Alhagi pseudalhagi</i> Camel thorn	Widespread in California, many habitats, generally controlled by eradication efforts but new infestation sources are abundant in surrounding states	CDFA: A Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/B	Currently low, but may be introduced via vehicles or other vectors from surrounding areas; potential to colonize and infest in periodically mesic places (e.g., evaporation pond margins, leaking tanks)	Unknown likelihood of spread in arid bajada soils; high potential resource damage.
<i>Avena</i> spp. Wild oat	Widespread and abundant in western California; less common in deserts; new introductions are probably chronic in region; spread limited in low desert by soils and climate	CDFA: n/a Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/A	High (generally in low numbers)	Low likelihood for spread low consequences from low-level infestations
<i>Brassica tournefortii</i> Saharan mustard	Widespread and abundant in California deserts; common in interior valleys (e.g., W Riverside Co.); especially invasive in open sands and in disturbed soils (including natural disturbance)	CDFA: n/a Cal IPC: High Impacts/Invasiveness/ Distribution: A/A/B	Found throughout the Project site and throughout the region.	Minimal consequence for chronic low-density infestation; high-density infestation could cause further invasion in local naturally disturbed soils such as washes and windblown sand.
<i>Brassica</i> spp., Other non-native mustards	Widespread and abundant in western California; less common in deserts; new introductions are probably chronic in region; spread limited in low desert by soils and climate	CDFA: n/a Cal IPC: Moderate-High Impacts/Invasiveness/ Distribution: vary by species	High (generally in low numbers)	Low likelihood for spread low consequences from low-level infestations
<i>Bromus madritensis</i> ssp. <i>rubens</i> Red brome	Ubiquitous and often abundant or dominant throughout region and throughout most of California.	CDFA: n/a Cal IPC: High Impacts/Invasiveness/ Distribution: A/B/A	Occurs on the site and throughout the region	Minimal consequence for chronic low-density infestation; high-density infestation could cause further invasion in surrounding habitat
<i>Bromus</i> spp. Other non-native brome grasses, including cheatgrass (<i>B. tectorum</i>)	Widespread and abundant in western California or at higher elev. or latitude in deserts; new introductions are probably chronic in region; spread limited in low desert by soils and climate	CDFA: n/a Cal IPC: Moderate-High Impacts/Invasiveness/ Distribution: vary by species	High (generally in low numbers)	Low likelihood for spread, low consequences from low-level infestations

Weed Species	Habitats, Range, and Control Notes	Rankings	Likelihood of Occurrence at Easley Site	Consequences of Occurrence/Spread
<i>Carpobrotus edulis</i> Highway ice plant	Available in nurseries for ornamental ground cover and erosion control. Tolerates a range of soil moisture and nutrient conditions.	CDFA: n/a CAL-IPC: High	A few isolated individuals were observed in the easternmost parcel near the date farm where artificial water sources accumulated.	Invasiveness is low due to the few individuals observed and can be mechanically removed.
<i>Centaurea melitensis</i> , <i>C. solstitialis</i> Annual star-thistles	Widespread and abundant in western California; new introductions are probably chronic in region; spread may be limited in low desert by soils and climate	CDFA: varies by species Cal IPC: Moderate-High Impacts/Invasiveness/ Distribution: B/B/B	Moderate (periodic introductions are likely; potential for localized establishment in low density infestations)	Probably minimal consequence for low-density infestation; high-density infestation could cause further invasion in surrounding habitat
<i>Cynodon dactylon</i> Bermuda grass	Widespread and abundant in much of California; new introductions are probably chronic in region; in deserts, requires mesic soil conditions	CDFA: C Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/B	Moderate (periodic introductions are likely; potential for localized establishment in periodically mesic places such as evaporation pond margins, leaking tanks)	Potential for spread off site along road margins; spread limited by well-drained soils and arid climate
<i>Descurainia sophia</i> Fixweed	Common mostly in disturbed soils in California deserts	CDFA: n/a Cal IPC: Limited Impacts/ Invasiveness/ Distribution: C/B/B	Occurs in small patches throughout the site.	Minimal consequence for low-density infestation; high-density infestation not expected
<i>Erodium cicutarium</i> Redstem filaree; crane’s bill	Ubiquitous and often abundant or dominant throughout region and throughout most of southern California.	CDFA: n/a Cal IPC: Limited Impacts/Invasiveness/ Distribution: C/C/A	Occurs on the site and throughout the region	Minimal consequence for chronic low-density infestation; high-density infestation could cause further invasion in surrounding habitat
<i>Halogeton glomeratus</i> Halogeton	Widespread in arid regions of California and other western states; apparently spreading; to date, generally not invasive on well-drained bajada soils	CDFA: A Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/A/B	Moderate (periodic introductions are likely; potential for localized establishment in periodically mesic places such as evaporation pond margins, leaking tanks)	Potential for spread off site along road margins; spread limited by well-drained soils and arid climate
<i>Hirschfeldia hirsiculata</i> Summer mustard; short-pod mustard	Widespread and often abundant throughout much of California, including deserts;	CDFA: n/a Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/A	High (not reported on site, but expected in surrounding area and likely to be introduced to the site)	Minimal consequence for low-density infestation; high-density infestation could cause further invasion in surrounding habitat

Weed Species	Habitats, Range, and Control Notes	Rankings	Likelihood of Occurrence at Easley Site	Consequences of Occurrence/Spread
<i>Hordeum</i> spp. Hare barley (= foxtail barley), Mediterranean barley	Widespread and often abundant throughout much of California; less invasive in well-drained desert bajadas	CDFA: n/a Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/A	High (periodic introductions are likely; potential for localized establishment on roadsides or periodically mesic places such as evaporation pond margins, leaking tanks)	Potential for spread off site along road margins; spread limited by well-drained soils and arid climate
<i>Malva parviflora</i> Cheeseweed	Widespread and often abundant throughout much of California; less invasive in well-drained desert bajadas	CDFA: n/a	Occurs on the site and occasional in the region.	Minimal consequence for low-density infestation; high-density infestation not expected
Other weedy Asteraceae species, incl. prickly lettuce (<i>Lactuca serriola</i>) and sowthistles (<i>Sonchus</i> spp.)	Widespread and abundant in western California; limited in desert to slightly mesic or shaded locations; spread may be limited in low desert by soils and climate	CDFA: n/a	Occur on the site (but limited numbers and locations)	Minimal consequence for low-density infestation; high-density infestation not expected
<i>Pennisetum setaceum</i> Fountain grass	Widely planted as an ornamental, and spreading throughout southern California in surrounding habitats	CDFA: n/a Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/B	High (periodic introductions are likely; ongoing potential for establishment on the site)	High; actively spreading in low desert region surrounding areas of persistent sources, e.g., Coachella Valley
<i>Polypogon monspeliensis</i> Annual beard grass	Widespread and often abundant throughout much of California; less invasive in well-drained desert bajadas	CDFA: n/a Cal IPC: Limited Impacts/Invasiveness/ Distribution: C/C/B	Occurs on the site and occasional in the region.	Minimal consequence for low-density infestation; high-density infestation not expected
<i>Salsola</i> spp. Russian thistle, tumbleweed	Widespread and often abundant throughout much of California; including deserts	CDFA: C Cal IPC: Limited-Moderate Impacts/Invasiveness/ Distribution: vary by species	Observed near adjacent fallow agriculture.	Minimal consequence for chronic low-density infestation; high-density infestation could cause further invasion in surrounding habitat
<i>Schismus</i> spp. Mediterranean grass, split grass	Widespread and often abundant throughout much of California; including deserts	CDFA: C Cal IPC: Limited Impacts/Invasiveness/ Distribution: B/C/A	Occurs throughout the Project site and throughout the region.	Minimal consequence for chronic low-density infestation; high-density infestation could cause further invasion in surrounding habitat

Weed Species	Habitats, Range, and Control Notes	Rankings	Likelihood of Occurrence at Easley Site	Consequences of Occurrence/Spread
<i>Sisymbrium irio</i> London rocket and <i>Sisymbrium orientale</i> Hedge mustard	Widespread and often common throughout much of California; less common in deserts, mainly in seasonally slightly mesic or shaded sites	CDFA: n/a Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/A	Generally limited to areas directly underneath desert ironwood trees in small patches throughout the Project site.	Minimal consequence for chronic low-density infestation; high-density infestation could cause further invasion in surrounding habitat
<i>Stipa capensis</i> (= <i>Achnatherum capensis</i>) Cape ricegrass, various other common names	Established in western Coachella Valley, apparently spreading rapidly in that area	CDFA: n/a Cal IPC: Moderate Impacts/Invasiveness/ Distribution: B/B/D	High (periodic introductions are likely; ongoing potential for establishment on the site)	High; actively spreading in low desert region)
<i>Tamarix</i> spp. Tamarisk, saltcedar, including Athel tamarisk (<i>T. aphylla</i>)	Widespread and strongly invasive in riparian habitats throughout California and southwestern desert regions	CDFA: B Cal IPC: Limited-High Impacts/Invasiveness/ Distribution: vary by species	Observed near fallow agriculture lands, ephemeral washes	Moderate; already widespread in deserts, but any new persisting seed source can become source of further invasion into natural riparian habitats
<i>Washingtonia robusta</i> Mexican fan palm	Commonly used as a landscape ornamental that has become invasive in riparian areas, orchards, and landscaped areas.	CDFA: n/a CAL-IPC: moderate alert	Only a few individuals were observed on the eastern parcel near the date farm where artificial water exists. Should be easily controlled by removing the individuals and seedlings.	Can create monospecific stands in riparian areas, and dead fronds of the tree can create a fire hazard.
<i>Tribulus terrestris</i> Puncture vine	Widespread, especially roadsides, disturbed sites, and agricultural lands	CDFA: C Cal IPC: limited	High (periodic introductions are likely; ongoing potential for establishment on the site)	Moderate; apparently adapted to regional soils/climate, though may require additional water

California Department of Food and Agriculture ratings (CDFA, 2011):

- A Eradication, containment, rejection, or other holding action at the state-county level. Quarantine interceptions to be rejected or treated at any point in the state;
- B Eradication, containment, control or other holding action at the discretion of the commissioner;
- C State endorsed holding action and eradication only when found in nursery; action to retard spread outside of nurseries at the discretion of the commissioner — reject only when found in a crop seed for planting or at the discretion of the commissioner

Cal-IPC Distribution: (Cal-IPC, 2006):

A= High; B= Moderate; C= Limited; D= None; U= Unknown

3. WEED MANAGEMENT BIOLOGIST RESPONSIBILITIES

IP Easley, LLC, will identify a Weed Management Biologist (e.g., a botanist or restoration specialist), responsible for coordination of biological resources compliance requirements among the Project owner and regulatory agencies throughout Project construction, operation, and decommissioning. The Weed Management Biologist's responsibilities will include managing and implementing weed monitoring and control efforts, as follows:

- Schedule all weed monitoring for all Project components.
- Verify that vehicle inspections are conducted properly and completely.
- Review planting materials, erosion control materials, and other materials to ensure they are certified weed free.
- Ensure that each person assigned to monitor for weeds is skilled in weed identification.
- Manage weed monitoring data.
- Prioritize and implement control efforts.
- Communicate with IP Easley, LLC and resource agencies regarding weed management needs and priorities; and
- Prepare and submit reports.

4. PREVENTION

Prevention or minimization of weed introduction and establishment will be implemented as follows:

- **Design and Construction.** The extent of soil disturbance will be limited to the fenced Project area and the minimum necessary area at each gen-tie tower, pull site, or other work area.
- **Worker Environmental Training.** Weed management information will be incorporated into the mandatory Worker Environmental Awareness Program (WEAP) training for all contractors, subcontractors, inspection personnel, construction managers, construction personnel, groundskeepers, maintenance personnel, and all individuals bringing vehicles or equipment onto the site during construction, operations, and decommissioning phases of the Project. Training will include an explanation of the importance of weed management to maintain natural resource values; specific requirements for vehicle washing; and other applicable measures to prevent the introduction and spread of weeds. Training will be incorporated into the Worker Environmental Awareness Program.

Workers will be required to inspect their clothing, shoes, and personal equipment before arriving on the site and to remove and dispose of weed seed and plant parts. The material will be bagged for disposal in an offsite landfill.

- **Vehicle, Equipment & Tool Inspections.** Prior to entering the Project site, all vehicles, equipment, and tools will be cleaned to remove weed seeds and propagules, dried mud, or any other potential source of weed seed. Vehicles shall be cleaned at construction yards or commercial car or truck washes. This shall include cleaning of wheels, undercarriages, fuel pans, skid plates, bumpers, and vacuuming interiors. Heavy equipment and hand tools (shovels, rakes, hand clippers, pruners) and power tools (i.e., chainsaws) shall also be washed before entering the Project site.

The Project owner shall ensure that all equipment (including heavy equipment entering the site on trailers) and vehicles that enter the Project area have been cleaned and will conduct inspections of vehicles and equipment before entering the work areas. All vehicles entering the site for the first time or returning to the site after being operated outside the vicinity (i.e., the Chuckwalla Valley), will be inspected. The inspector will ensure that vehicles (including vehicle interiors) 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, equipment, or tools failing the inspection will not

be permitted to enter the site. The Project owner will maintain a record of all vehicles inspected, available for County or BLM review upon request.

- **Weed-Free Materials.** Any plant materials (such as hay bales, wattles, or other erosion control materials) brought onto the site shall be certified weed free. Any seed used in revegetation efforts will be sourced from within the appropriate provisional seed zone. Natural materials for erosion control will be certified weed free and will consist only of plant species native to the Chuckwalla Valley. Additional products such as gravel, sandbags, silt fences, and mulch may also carry weeds. Such products will be obtained from suppliers who can provide certified weed free materials. Where feasible, mulch used for erosion control will be generated from native vegetation cleared from the site itself. The Weed Management Biologist will be responsible for checking deliveries and confirming certification of all materials. Installed erosion control materials will be inspected at the appropriate time of the year for winter and spring germinating weed species to ensure that they are weed free (see Section 6.2 below).

5. MONITORING

5.1. Weed Identification, Mapping, and Data Management

Effective monitoring for weed infestations necessitates accurate identifications of weeds, and accurate distinction among native and non-native species, especially during early growth and before the plants mature and set seed, to allow for early control or eradication. All weed monitoring will be conducted by a biologist experienced with the regional flora and experienced with seedling and early vegetative growth forms of regional weeds (Table 1), common, and special-status native species on the Project site. All monitoring reports will include comprehensive species lists of all native and non-native species observed in the survey area. Any species not recognized in the field will be collected and identified using regional identification manuals (e.g., Baldwin et al., 2002). Botanists will make pressed specimens of seedling, early flowering, and mature plant samples of all native and non-native species found on the Project site for further reference and training purposes. Any species not readily identifiable using regional identification manuals will be preserved as a labeled specimen and forwarded to a recognized herbarium for identification by experts.

For certain weed species already known from the site, or that are ubiquitous in the region, infestations will be recorded where the density and extent is greater (based on visual estimation) than baseline abundance in the surrounding natural landscape. This will apply only to the following 5 species (see Table 1). See BRTR Section 4.3, Invasive Weeds, and Figure 16 for more information (POD Appendix G).

- Saharan mustard
- Red brome
- Redstem filaree
- Russian thistle
- Mediterranean grass

Baseline abundance will vary from year to year, depending on rainfall. Therefore, the Weed Management Biologist and qualified monitors will develop guidelines to estimate baseline abundance for each seasonal monitoring period. For all other weed species, every occurrence documented during monitoring efforts will be recorded and targeted for follow-up treatment.

The locations of all weed infestations will be recorded and mapped during monitoring efforts using hand-held global positioning system (GPS) units; short descriptions of the location, extent, abundance, and phenology of each weed species (if known) will be recorded. Locations of any species (other than the 5 above), including any species not previously known from the site will also be flagged in the field to enable precise control efforts or other follow-up measures (Section 7). All monitoring data will be retained and managed by the Weed Management Biologist in a spreadsheet or other data management software, along with all data regarding follow-up control efforts and monitoring.

5.2. Scheduling and Field Methods

Monitoring for weeds will be conducted throughout the approved Project ROW Grant area. Monitoring will be conducted twice annually throughout the construction, operations, and decommissioning phases of the Project, and for a minimum 5-year period following decommissioning, or until any high-priority target weed species has been effectively controlled or eradicated. Complete weed-monitoring surveys will be conducted once in early spring (February or March) to detect winter-germinating species before they set seed; and once in late summer or early fall, to detect summer-germinating species. Depending on timing and amount of annual rainfall on the site (per the data collected at the on-site meteorological station) survey schedules may be adjusted or suspended, based on recommendation of the Weed Management Biologist and written agreement of BLM, California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service (USFWS). All monitoring reports will be submitted to the BLM PUP Coordinator.

Full-coverage weed monitoring of the Project area will be conducted by walking over all access routes, parking areas, lay-down areas, other disturbed areas (including internal roads throughout the site and the gen-tie line access route), and throughout a 100-foot buffer in natural lands surrounding the work sites. Special emphasis will be given to areas vulnerable to colonization including roadsides, soil stockpiles, wash stations, previously disturbed areas, areas of prior weed infestation, areas near known weed infestations, and all areas with disturbed soils.

Along the Project's linear features, in the adjacent buffer areas, and within the entire weed monitoring area, monitors will also record locations of special status plant occurrences or any other biological resources where herbicide application would be inappropriate.

In addition, the Weed Management Biologist or other qualified Biological Monitor will periodically monitor all water sources or other wet areas on the site to check for water leaks and to determine if any weeds have become established at those locations. These areas will include, but will not be limited to:

- Water tanks
- Roadsides where dust control water may collect
- Water pipelines on the ground surface
- Bathrooms, eating areas, wash stations, or any other sites where workers may use water.

Monitoring of these sites will be conducted monthly at minimum, and records of each monitoring date and results will be maintained in the Easley Renewable Energy Project data files.

6. WEED CONTROL

6.1. Control Strategies and Prioritization

Weeds will be treated according to abundance and extent of infestations and potential threat to on- and off-site habitat. The treatment strategy for weeds that are ubiquitous in the region (e.g., red brome, redstem filaree, Russian thistle, Mediterranean grass, and Saharan mustard) will be suppression, with the objective of maintaining densities and extent at or below baseline levels. Strategies for weeds that are actively spreading in the region (e.g., Cape ricegrass), species that are strongly invasive in riparian habitats (e.g., saltcedar), or species altogether new to the region will be immediate treatment and eradication if possible, and containment until eradication is complete.

Infestation sites flagged during monitoring (see Section 6 above) will be targeted for treatment as early as feasible, to prevent weeds from going to seed, or reestablishing their seed bank, and spreading into surrounding areas beyond their current extent. Until control is implemented, the infestations will be encompassed by temporary orange vinyl construction fencing to prevent vehicles or pedestrians from

entering the area and risking further spread of the targeted weeds. The Weed Management Biologist will be responsible for ensuring that temporary fencing is in place and maintained as necessary.

Specific treatment methods will be planned and implemented for each infestation. The Weed Management Biologist will review and approve each method prior to its implementation.

Weed infestations on linear Project features, in high-traffic areas such as Project staging areas, and along access routes shall be high priority for treatment. Weeds that are common within the site and surrounding area will generally be given low priority where they occur in relatively low densities or in the interior of the area, distant from surrounding native vegetation. However, these infestations will be given higher priority if abundance is high enough to create a significant new seed source that may increase weed infestation densities on adjacent lands.

6.2. Manual Treatment

Where weed infestations are small, or where they are adjacent to native vegetation or other sensitive biological resources (e.g., the site perimeter or in buffer areas), manual control methods will be implemented. Manual treatment may be appropriate for any of the three control strategies (suppress, contain, or eradicate), depending on the species and extent of the infestation. Manual treatment must be scheduled and implemented to prevent further spread of weed seeds. Ideally, manual treatment will be scheduled early enough in the growing season to remove weeds before their seeds mature. If seeds have matured and begun to disperse, then control measures must be designed to prevent further spread of seeds from the infestation site, and (if feasible) recover or destroy seeds that may have already fallen from the plants. Soil solarization (covering the infestation area with plastic for several weeks during summer) may be effective in killing weed seeds.

Manual control methods include hand pulling of weeds and the use of hand tools to uproot, girdle, or cut plants. Lever arm tools such as Weed Wrench™ and Root Jack™ may be used to pull out woody shrubs such as tamarisk. Hand removal by pulling is appropriate when the plants are large enough that they will not break and leave the roots in the soil, where they would be likely to re-sprout. For control of small numbers of rooted woody species, this is the most effective method.

Hand pulling is less effective for weed species that spread via rhizomes (e.g., Bermuda grass). Hoeing or other methods may be effective for these infestations, by carefully avoiding any adjacent native plants. Hoeing or other mechanical disturbance should not be used if weeds have set seed, to avoid further seed dispersal. Hoeing works best on patches of small weeds and on weeds that have a single root mass. It is less effective on larger weeds that can regenerate from cut roots.

Any plant material removed by manual control methods will be bagged and removed from the site and transported to a landfill in a covered vehicle. No mulch or green waste from weed material will be stored or disposed of on the Project site.

6.3. Mechanical Treatment

Where weed infestations are small, or where they are adjacent to native vegetation or other sensitive biological resources (e.g., the site perimeter or in buffer areas), mechanical control methods will be implemented. Mechanical treatment may be appropriate for any of the three control strategies (suppress, contain, or eradicate), depending on the species and extent of the infestation. Mechanical treatment must be scheduled and implemented to prevent further spread of weed seeds. Ideally, mechanical treatment will be scheduled early enough in the growing season to remove weeds before their seeds mature. If seeds have matured and begun to disperse, then control measures must be designed to prevent further spread of seeds from the infestation site, and (if feasible) recover or destroy seeds that may have already fallen from the plants. Soil solarization (covering the infestation area with plastic for several weeks during summer) may be effective in killing weed seeds.

Mechanical control methods include the use of power tools or mechanical equipment to uproot, girdle, or cut plants. For control of small numbers of rooted woody species, this is the most effective method.

Power weed-whips can be used for removal of tall annual species (such as Saharan mustard) but they should not be used on weeds approaching maturity unless all cut material is carefully collected and removed from the site to prevent spreading seeds. Even seeds that have not matured at the time of cutting can finish maturing on the cut material, and then propagate the infestation.

Any plant material removed by mechanical control methods will be bagged and removed from the site and transported to a landfill in a covered vehicle. No mulch or green waste from weed material will be stored or disposed of on the Project site.

6.4. Chemical Control

Where infestations are too large for effective manual or mechanical control and are not adjacent to native vegetation or other sensitive biological resources, herbicides generally will be used for control. Herbicides and associated adjuvants¹ may be used for any of the three control strategies (suppress, contain, or eradicate), depending on the species and extent of the infestation. Herbicides and adjuvants used on the Project site will be those approved by the BLM in the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (BLM 2007), *Vegetation Treatments of the Western 17 States*, approved by the State of California, and included in the current *List of BLM-Approved Formulations* (BLM 2023, CA only).

This section describes the permitting and regulatory requirements relevant for chemical control of weeds, the types of herbicides available, general application and handling procedures, and specific herbicide application methods for pre- and post-emergent application.

Permitting and Regulatory Requirements

Prior to herbicide use on BLM-administered lands, the BLM requires that a Pesticide Use Proposal (PUP) and a site-specific Environmental Assessment (EA) be submitted to ensure that all applications would follow BLM and Department of Interior policies regarding herbicide use. The analysis of herbicide use on the Easley Project site will be included within the Project EA; however, a separate PUP will be submitted.

As submitted by a 3rd party proponent, the PUP must be submitted by a State-licensed and registered Pesticide Control Advisor (PCA) and provided to BLM on the most currently approved form, for inclusion into BLM's VMAP database. The PUP details all the required information for herbicide use on a project, including which herbicides and associated adjuvants will be used for treatment, location of applications, responsible parties, timeline for treatment, application methods, application rates and maximum annual amounts, target species, and precautions for humans, sensitive resources, and non-target vegetation. The PUP is then approved by BLM personnel at the local field office and State level.

Contractors applying herbicides must possess required permits from both the California Department of Food and Agriculture (CDFA) and Riverside County Agricultural Commissioner (as applicable). Permits may contain terms and conditions in addition to those described in this plan. Only a State of California- and federally certified contractor will be permitted to perform herbicide applications. All herbicides will be applied in accordance with applicable laws, regulations, and permit stipulations. Only herbicides and adjuvants approved by the State of California and BLM for use on public lands will be used within or adjacent to the federal land segments of the Project.

¹ An adjuvant is a substance in an herbicide formulation, added to the spray tank, to improve herbicidal activity or application characteristics. Adjuvants include, but are not limited to, such substances as surfactants, spreaders, and marking dyes.

Types of Herbicides

Herbicides can be characterized as pre-emergent, post-emergent, selective, and non-selective. A pre-emergent herbicide is one that generally controls un-germinated seeds by inhibiting germination. Post-emergent herbicides are generally lethal to plants after germination, but not to seeds. A few herbicides have both pre- and post-emergent activity. Herbicides can be selective or nonselective. If an herbicide is selective, it will affect some species of plants and not others, e.g., monocots (grasses) vs. dicots (broadleaf plants). A non-selective herbicide is one that is lethal to any plant species to which it is applied.

Herbicides kill plants through contact or systemic action. Contact herbicides are most effective against annual weeds and kill only the plant parts to which the chemical is applied. Systemic herbicides are absorbed either by roots or foliar parts of a plant and are then translocated within the plant. 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, stolons, or other vegetative structures. Common herbicide classes include the following:

- **Pyridine (Picolinic Acid):** Examples of this class are clopyralid (Transline™) and triclopyr (Garlon 4™). These herbicides provide for post-emergence control of annual and perennial woody and herbaceous broadleaf weeds, particularly plants in the Asteraceae (sunflower family), Fabaceae (legume family), Solanaceae (nightshade family), Polygonaceae (knotweed family), and Violaceae (violet family). These herbicides are degraded primarily by microbial action in the soil and are moderately persistent in soils.
- **Sulfonylurea:** Examples include chlorsulfuron (Telar XP™). These selective broad-leaf herbicides are pre-emergent or early post-emergent herbicides used in non-cropland areas.
- **Imidazolinone:** Examples include Imazapyr (Polaris™). Non-selective herbicide used for the control of a broad range of weeds including terrestrial annual and perennial grasses and broadleaved herbs, woody species, and riparian and emergent aquatic species. It breaks down slowly in the soil via microbial metabolism and photolysis.
- **Glyphosates:** The most commonly used post-emergent, non-selective herbicides are in a group called glyphosates. Glyphosate (e.g., Roundup™) is a nonselective, systemic herbicide that is effective on many annual and perennial plants. Glyphosate is most effective if the entire plant is covered. Glyphosate should not be applied when the temperature exceeds 90°F. Glyphosate has a low toxicity to humans, is no more than slightly toxic to birds, and is practically nontoxic to fish, aquatic invertebrates, and honeybees (EPA, 2018).
- **Adjuvants:** Spray adjuvants are generally grouped into activator adjuvants and special purpose adjuvants. Special purpose adjuvants widen the range of conditions under which an herbicide formulation is useful. They include compatibility agents, buffering agents, antifoam agents, and drift control agents. Activator adjuvants are used to enhance post-emergence herbicide performance, and can increase herbicide activity, absorption into plant tissue, and rainfastness. They include surfactants, crop oil concentrates, nitrogen fertilizers, spreader-stickers, wetting agents, and penetrants.

All herbicides and adjuvants that could be utilized during implementation of the IWMP are listed in Table 2.

Table 2. Herbicides Proposed for Easley Renewable Energy Project

Active Ingredient	Trade name	Manufacturer	EPA Reg.#	Formulation
Herbicides				
Clopyralid	Transline	Corteva Agriscience	62719-259	Liquid
Chlorsulfuron	Telar XP	Bayer Environmental Science	432-1561	Extruded Pellet, Dry flowable

Active Ingredient	Trade name	Manufacturer	EPA Reg.#	Formulation
Glyphosate	Roundup Custom	Bayer CropScience	524-343	Liquid
	Roundup PROMax	Bayer CropScience	524-579	Liquid
Imazapyr	Polaris	Nu Farm Americas Inc.	228-534	Liquid
Imazapyr	Polaris SP	Nu Farm Americas Inc.	228-536	Liquid
Triclopyr	Garlon4	Corteva AgriScience	62719-40	Liquid
Adjuvants				
Non-ionic surfactant NIS)	Activator 90	Loveland Products, Inc.	CA#34704-50034-AA	Liquid
Methylated Seed Oil	MSO	Loveland Products, Inc.	CA#34704-50067	Liquid

Application and Handling

It is the responsibility of the herbicide user to observe all directions, restrictions, and precautions on herbicide labels, to store all herbicides in original containers with labels intact and behind locked doors, and to keep herbicides out of the reach of children. The following general precautions will be implemented for herbicide application:

- Use herbicides at correct label application rates and intervals to avoid harmful residues from injuring plants and animals.
- Use herbicides carefully to avoid drift to or contamination of non-target areas.
- Surplus herbicides and containers should be disposed of in accordance with label instructions to prevent contamination of water and other hazards.
- Follow directions on the herbicide label regarding restrictions as required by state or federal laws and regulations.
- Avoid any action that may threaten a rare, threatened, or endangered species or its habitat, including BLM sensitive species.

Limitations

Herbicide applications must follow EPA 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.

Transport and Mixing

Herbicides will be transported within the site with the following provisions:

- Only the quantity needed for that day's work will be transported at any given time.
- 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 occur 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, herbicides will be stored only in cabinets of approved design and will be under lock and key.

Spray Methods

Broadcast application of herbicides consists of applying a spray solution uniformly over an entire treated area. Broadcast applications are conducted using vehicle-mounted sprayers (e.g., handgun, boom, and injector) which will be used only in open areas that are readily accessible by vehicle and that are appropriate for this type of application.

Spot application of herbicides consists of directed spray only on individual target plants, limiting impacts to non-target vegetation. Spot or hand application methods (e.g., backpack spraying) will be used to treat small or scattered weed populations or in rough terrain.

Calibration checks of equipment will be conducted at the beginning of spraying and periodically throughout treatment to ensure proper application rates.

Herbicide Spills and Cleanup

Reasonable precautions will be taken to avoid herbicide spills. In the event of a spill, immediate cleanup will be implemented. 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)
- detergent

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

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

Herbicide Application Methods by Plant Type

Controlling post-emergent herbaceous species:

- Apply a foliar application of chosen herbicide from Table 3 on each plant at a minimum rate of 2.5 percent (plus 2 percent by volume [V/V] of nonionic surfactant). The Weed Management Biologist will determine the appropriate herbicide to use at each location. Different herbicides should be used in different years, or on a rotation, to prevent the selection of herbicide-resistant strains of target weed species.
- Provide applications on a spray-to-wet basis with coverage uniform and complete.
- Avoid contact with established native shrub and grass species.
- Temporarily discontinue work in the event of gusty winds or winds in excess of 6 mph.

- Temporarily discontinue in the event of rainfall.
- Ensure applicators possess current pest control licenses valid in the State of California and wear gloves, masks, and long sleeves as protection from chemical injuries.
- Leave sprayed vegetation undisturbed for 7 days until visible effects of herbicide application are present such as wilted and brown foliage.
- If any seeds reached maturity, remove all treated plant materials by placing all weed material potentially containing propagules in durable bags. Bags shall be sealed prior to transport. All weed material shall be disposed of by covered transport to an appropriate landfill.

Controlling post-emergent woody species:

- Cut sprouts or woody stems to a height of 12 inches or less above ground and remove all aboveground debris for disposal at a suitable landfill.
- Apply Round-Up™ or Garlon 4™ at a 100 percent rate to the cut sprouts or stems within 2 minutes of cutting. Use Round-up™ in upland areas. The Weed Management Biologist will determine the appropriate herbicide to use at each location.
- Cover all loads with a tarpaulin to transport vegetation trimmings.
- Apply follow-up foliar applications as described in the previous section to stem regrowth that occurs after initial control effort.
- Continue monitoring cut stems for as long as necessary to ensure complete mortality.

Controlling seed banks with pre-emergent herbicides:

Pre-emergent herbicides may be used in areas that have repeated infestations of annual weeds, with evidence of a persisting seed bank. These areas will be sprayed with pre-emergent herbicides during appropriate pre-germination periods. Application will follow the spray application guidelines described above for post-emergent herbaceous species.

6.5. Proposed Herbicide Application

The primary use of herbicides at the Project will be for control of annual herbaceous upland weeds expected to propagate on disturbed soils throughout all Project facilities. The most common annual upland weeds are likely to be Saharan mustard, red brome, redstem filaree, Russian thistle, and Mediterranean grass. Herbicide treatment will be used within the solar generation site and related facilities, and on disturbed soils at the gen-tie structures and other work sites (only as compatible with revegetation efforts). Herbicides will not be used within or adjacent to any undisturbed native vegetation, such as buffer areas beyond the perimeter of the Easley Project site and work areas.

The method of herbicide treatment for the control of upland weeds would not be expanded beyond those herbicides analyzed in the BLM's 2007 Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States PEIS. Ground applications of herbicides approved for use in California such as Glyphosate, Imazapyr, or Clopyralid-based herbicides would be used at application rates consistent with the label and the BLM 2007 PEIS. See Table 3 for maximum and prescribed rates of herbicide application for the Easley Renewable Energy Project. Application methods consistent with the label would be used to treat upland weeds. These methods would consist of using a hand-held compression sprayer (broadcast application) or backpack sprayer (spot treatment). All treatments would be supervised or overseen by a certified pesticide applicator who is knowledgeable in plant identification and familiar with proper herbicide application techniques.

Table 3. Maximum and Prescribed Rates of Herbicide Application¹

Herbicide	Maximum Application ² Rate/Acre/Year		Prescribed Application ³ Rate/Acre	
	Product	AI/AE	Product	AI/AE
Round-Up Custom	256 oz. (2 gallons)	8.0 lbs. a.e.	3 quarts	2 lbs. a.e.
Roundup PROMax	224 oz. (1.75 gallons)		2.67 quarts	
Transline	1.33 pints	0.5 lb. a.e.	15 oz.	0.35 lb. a.e.
Polaris ⁴	6 pints	1.5 lbs. a.e.	1.33 pints	0.3 lb. a.e.
Telar XP	3.0oz.	0.141 oz. a.i.	1 oz.	0.047 oz. a.i.
Garlon4	2.0 gal/ac	8.0 lbs. a.e.	0.5 gal/ac	2.0 lbs. a.e./ac

MSO,⁵ when used, will be used at a concentration of 1% volume/volume in each tank mixture.

Activator 90, when used, will be used at a concentration of 0.5% v/v in each tank mixture.

1 - Choice of prescription will depend on site constraints, target species, and time of year. Treatments will be directed foliar.

2 - Maximum total application amount throughout the entire project area per year based on active ingredient.

3 - Maximum amount per application event; multiple applications may occur in a year, if needed to control weeds, until maximum annual application amount is reached.

4 - Polaris (Imazapyr) will be used only in disturbed habitat

5 - Either "MSO Concentrate" from Loveland or "Hasten" from Wilbur Ellis is recommended.

a.e. Acid Equivalent

a.i. Active Ingredient

ac Acre

gal Gallon

lbs Pounds

Treatment sites would be accessed via existing roads or new roads to be constructed as a part of the Easley Project. No additional access routes would be constructed for weed management, and there would be no vehicle access off established roads. Herbicide, equipment, and personnel would be brought to treatment sites by a truck, van, or car that are weed free as described in Section 5 above.

In addition to the specifications identified in this Plan, all herbicide application will conform to any requirements or authorizations from the BLM.

Table 4 provides an herbicide application matrix that outlines herbicides, application rate treatment method(s), and treatment timeframe for a variety of weeds that could occur on site.

Table 4. Herbicide Application Matrix

Weed Species	Treatment Timeframe	Treatment Method(s)	Active Ingredient/ Application Rate
Salt cedar (tamarisk)	Year-round	Cut stump or foliar	Imazapyr (3 qt./acre) or Triclopyr (2 gal./acre)
Saharan mustard	Early spring	Foliar	Glyphosate (4 qt./acre)
Camelthorn	Spring or fall	Foliar	Imazapyr (3-4 pt./acre)
Russian thistle	Early spring	Foliar	Imazapyr (2-3 pt./acre) or Glyphosate (4 qt./acre)
Common annuals, including red brome, redstem filaree, and Mediterranean grass	Spring	Foliar	Glyphosate (1 qt./acre)

6.6. Potential Effects of Herbicide Use

Herbicides pose risks to terrestrial and aquatic vegetation. Several terrestrial herbicides are non-selective and could adversely impact non-target vegetation near treatment areas through overspray or drift.

Herbicides may also pose risks to wildlife by persisting on vegetation used as habitat or food and in soils used by burrowing animals (e.g., desert tortoise). Section 7.4 includes specific measures to avoid application at Project perimeters, in the vicinity of native vegetation or special-status plants, and to avoid overspray or spillage in any areas.

Soil quality and soil health is critical to a healthy habitat and functioning ecosystem and can be impacted through invasive plant control. Soil quality is defined as the capacity of each soil to function, sustain productivity, enhance water and air quality, and to support human and animal health and habitation (Graber 2021). Soil quality is an inherent characteristic of a soil, such as water capacity, and it varies from soil to soil. Soil health, however, is the condition of the soil and its potential to sustain biological functions, maintain environmental quality, and promote plant and animal health (Graber 2018). Soils may be impacted when herbicides persist in the environment after application, reducing soil health. Utilizing herbicides in compliance with Section 7.4 will assist in minimizing and mitigating such harmful effects.

7. REPORTING

The Project will comply with all reporting requirements, including submittal of a pesticide application record to BLM within 24 hours of application. Throughout the construction, operation, and decommissioning phases, and for a minimum of 5 years following completion of decommissioning, the Weed Management Biologist will be responsible for providing annual Weed Management Reports to the BLM and the County for review and approval. In addition, the Weed Management Biologist will be responsible for providing a short memo to each agency after completing each of the two annual monitoring efforts (early spring and late summer/early fall). These memos will summarize the results of monitoring, briefly describe planned (or completed) control efforts, and highlight any new or unexpected findings, particularly any weeds new to the Project site or to the area.

Each annual report will include the following contents:

- The location, species, extent, and density of weeds on the Project site. Data will include maps, text, tabular data, and photographs of any significant findings (previously unrecorded weed species, or any dense weed infestations resistant to control and threatening to spread off-site);
- A description of management efforts, including date, location, type of treatment implemented, results, and ongoing evaluation of success of treatments;
- A summary of implementation and success of preventative measures, including status of equipment wash facilities, list of workers that have completed the worker environmental training program (WEAP), and copies of vehicle wash and inspection logs; and
- Tabulation of ambient air and earth surface temperature during herbicide application.

8. LITERATURE CITED

- Baldwin, B.G., S. Boyd, B.J. Ertter, R.W. Patterson, T.J. Rosatti, D. Wilken, and M. Wetherwax (eds.). 2002. *The Jepson Desert Manual: Vascular Plants of Southeastern California*. University of California Press, Berkeley, California. 624 pp.
- Bossard, C.C., J.M. Randall, and M.C. Hoshovsky (eds.). 2000. *Invasive Plants of California's Wildlands*. University of California Press, Berkeley. 360 pp. [pp. 18-19].
- BLM (Bureau of Land Management). 2023. List of BLM Approved Formulations. March 24, 2023.
- _____. 2007. Final programmatic environmental impact statement: vegetation treatments using herbicides on Bureau of Land Management lands in 17 western states. BLM, Washington, DC. http://www.blm.gov/wo/st/en/prog/more/veg_eis.html.

- Cal-IPC. 2006. California Invasive Plant Inventory. Cal-IPC Publication 2006-02. California Invasive Plant Council: Berkeley, CA.
- CDFA (California Department of Food and Agriculture). 2011. Integrated Pest Control. <http://www.cdffa.ca.gov/plant/ipc/index.html>
- EPA (Environmental Protection Agency). 2018. Glyphosate. <https://www.epa.gov/ingredients-used-pesticide-products/glyphosate>
- Graber, S. 2021. Soil Quality and Soil Health. Natural Resources Conservation Service, Kansas. Available at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ks/newsroom/features/?cid=nrcs142p2_033494
- _____. 2018. Soil Health. Natural Resources Conservation Service, Kansas. Conservation Edition: Fiscal Year 2018. Available at: <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ks/newsroom/features/?cid=nrcseprd1434227>
- Ironwood Consulting, Inc. 2022. Biological resources technical report: Easley Renewable Energy Project. Prepared for Aspen Environmental Group.
- Lovich, J.E., D. Bainbridge. 1999. Anthropogenic degradation of the southern California desert ecosystem and prospects for natural recovery and restoration. Environmental Management 24:309-326.
- Zouhar, K., J.K. Smith, S. Sutherland, and M.L. Brooks. 2008. Wildland Fire in Ecosystems: Fire and Nonnative Invasive Plants. General Technical Report RMRS GTR-42-Vol. 6, USDA Forest Service Rocky Mountain Research Station, Ogden, Utah: 355 pp.