# Invasive Weeds Management Plan

### Woodleaf-Kanaka Junction Transmission Line FERC Project No. 2281

### Sly Creek Transmission Line FERC Project No. 4851

#### **Butte County, California**

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Prepared for:



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# 1.0 <u>Introduction</u>

This document presents the Invasive Weed Management Plan (Plan) for the Woodleaf-Kanaka Junction Transmission Line Project (FERC No. 2281) and Sly Creek Transmission Line Project (FERC No. 4851) (projects collectively). The projects are owned and operated by the Pacific Gas and Electric Company (PG&E), which will be responsible for implementation of the Plan as part of compliance with its Federal Energy Regulatory Commission (FERC) licenses.

The projects are located in the Sierra Nevada in northern California within Butte County and the Plumas National Forest (PNF); with a maximum elevation of 4,000 feet (ft) (all elevations are provided in National Geodetic Vertical Datum, unless otherwise specified). In general, the area surrounding the projects can be characterized as primitive. The FERC Project Boundary extends 37.5 ft from center on either side of the transmission lines (i.e., 75-ft right-of-way [ROW]) throughout its entire length.

The Woodleaf-Kanaka Junction Transmission Line (Woodleaf Project) extends approximately 6.2 miles from the Woodleaf Powerhouse switchyard, a component of South Feather Water and Power Agency's South Feather Power Project (SFPP; FERC No. 2088), generally westerly, to the Kanaka Junction. The Woodleaf Project includes the 0.02-mile Forbestown Tap and spans approximately 3.5 linear miles of National Forest System (NFS) lands administrated by the PNF and 2.7 linear miles of privately-owned lands. The Woodleaf Project can be accessed via PNF roads 20N24 and 20N94X. Support structures for the transmission line consist of wood poles, H-frame construction with suspension type insulators. The average heights of the structures are 60 ft.

The Sly Creek Transmission Line Project (Sly Creek Project) is 5.4 miles long, originates at the Sly Creek Powerhouse, a component of South Feather Water and Power Agency's SFPP, and continues southwesterly to the switchyard at the Woodleaf Powerhouse, also a component of the SFPP. The Sly Creek Project spans approximately 0.2 linear miles of NFS land administrated by the PNF and 5.2 linear miles of privately-owned land. Access to the Sly Creek Project is primarily through the use of roads maintained by multiple private land owners and the PNF. The Sly Creek Project may be accessed from PNF Primary Route 16, leading to Sly Creek Reservoir, as well as roads 20N29 and 19N27. The majority of the structures supporting the line are two-pole, H-frame construction, with suspension type insulators, ranging from 55 to 70 ft in height.

This Plan defines PG&E's policy in regards to invasive weed prevention and management within the FERC Project boundaries for the Sly Creek Project and Woodleaf Project. The goal of the Plan is the minimization and control of invasive weed occurrences that are within the projects' boundaries, along projects' Access Roads<sup>1</sup> used for projects' operations and maintenance (O&M), and/or related to compliance activities under the projects licenses. For the purposes of the Plan, invasive weeds are defined as all species listed by the California Department of Food and Agriculture (CDFA) as A, B, C or Q invasive weeds (CDFA 2010) and other invasive nonnatives listed by the PNF.

<sup>&</sup>lt;sup>1</sup> Project Access Roads are listed in the Roads Management Plan (PG&E 2011a).

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The Plan recognizes that PG&E's activities are one of several contributing factors to current and potential invasive weed occurrences within the projects' boundaries. Other significant factors include public travel on roads, adjacent land management activities and cattle grazing. PG&E believes that an effective invasive weed prevention, containment, and control program will have the greatest potential for success if these non-project contributing factors are minimized.

The Plan involves four components: prevention, surveys and monitoring, weed management, and reporting. Tasks and activities in support of each are described below.

#### 2.0 <u>Prevention</u>

#### 2.1 Annual Employee Training

PG&E will provide for annual environmental training for staff (employees and contractors) potentially working in the projects' boundaries. The training will include an invasive weed component that emphasizes PG&E's policies on invasive weeds, as well as weed prevention guidelines listed below. In particular, employees will receive training on the location and identification of cheatgrass (*Bromus tectorum*), skeletonweed (*Chondrilla juncea*), yellow starthistle (*Centaurea solstitialis*), Klamathweed (*Hypericum perforatum*) and other invasive weeds known to occur in the projects' boundaries. The invasive weed component of annual environmental training will include, at a minimum:

- PG&E's invasive weed policy and weed prevention guidelines, especially as relating to vehicle use
- Environmental and economic impacts of invasive weeds
- Recognition of key invasive weeds
- Location of existing occurrences of invasive weeds
- Invasive weed reporting procedures, including notification of PNF when O&M staff observes new occurrences of cheatgrass or other invasive weeds

#### 2.2 Weed Prevention Guidelines

The following weed prevention guidelines will be used by all PG&E personnel and contractors working within the projects' boundaries. However, exceptions may occur in unusual or time-sensitive circumstances (e.g., emergency maintenance).

• PG&E or its contractors will ensure that all construction equipment brought into the area from outside the projects or from areas known to contain populations of invasive weeds is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of invasive weeds. All construction equipment, earth moving equipment, and vegetation management equipment (excepting chainsaws) will be thoroughly cleaned before entering the project areas, to reasonably ensure that seeds of invasive weeds are not introduced. Vehicles that are solely used for PG&E's regular O&M activities do not require cleaning.

- Minimize ground disturbance during projects' O&M. When ground disturbance is required, dispose of any resulting spoils on-site, grading to match local contours and mulch and/or reseed the disturbed areas. Consult with the PNF botanist, as needed, before seeding to determine a mix that complies with current guidelines. The seed mixture should be a commercially available product. If fill is required for O&M activities, use fill collected on-site whenever possible, and mulch and/or reseed the disturbed area as described above.
- Use certified weed-free straw or rice straw for all construction, erosion control, or restoration needs. Use gravel and sand from weed-free sources where possible.
- Restrict travel to established roads and trails when possible, and avoid entering areas with existing populations of invasive weeds. If entering such areas is required, conduct work in weed-free areas first.

### 3.0 Invasive Weed Surveys and Monitoring

Beginning in 2012 and every tenth year thereafter, PG&E will conduct a complete invasive weed survey of all lands within the FERC Project Boundary. Surveys will be conducted in concert with similarly scheduled special-status plant surveys (see PG&E's Special Status Species Management Plan, PG&E 2011b) and at an appropriate intensity to ascertain the nature and distribution of all invasive weed occurrences on all lands within the projects' boundaries and along projects' Access Roads. High use areas, defined as access roads and project areas which project personnel use on a weekly basis, will be surveyed for invasive weeds every 2 years.<sup>2</sup> Surveyors will record invasive weed species composition, location, and relative abundance, including global positioning system (GPS) coordinates documenting the boundaries of occurrences of high-priority weeds, if present. All mapping of invasive species will be done with Forest Service compatible software.

Monitoring for invasive weeds within occurrences of special-status plants will be conducted in concert with similarly scheduled monitoring for special-status plants. Any special status plant occurrences found to contain invasive weeds will be monitored annually for 3 years after detection to track the boundaries of the special-status plants and invasive weed occurrences. After the end of the 3<sup>rd</sup> year of monitoring, the PNF will be consulted to determine if further monitoring and/or invasive weed management is necessary.

Project-induced ground-disturbing activities, on NFS lands only, will be monitored annually for the first 3 years after disturbance to detect and map new occurrences of invasive weeds. Ground-disturbing activities include any non-routine activities that result in the change or alteration of the existing ground cover and/or soil topography. Such activities include: major pole replacements (>5 consecutive poles in a single area), reconductoring multiple spans (non-emergency), road construction or reconstruction, fuel management projects and major hazard tree removal projects. For emergency activities, PG&E and the Forest Service will consult on a case-by-case basis on the necessity of performing follow-up invasive weed surveys. However,

<sup>&</sup>lt;sup>2</sup> There are no high use areas currently on the Woodleaf or Sly Creek projects.

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ground-disturbing emergency activities will generally trigger follow-up invasive weed surveys. PG&E's normal O&M activities will be considered exempt.<sup>3</sup>

For most other invasive weed occurrences, monitoring efforts will consist of the periodic survey, which will provide general information on invasive weed distributions and the efficacy of prevention and management efforts. More intensive monitoring will be implemented following any future management effort to control high-priority weeds, or those potentially threatening other resources. Monitoring intensity and methods for these individual management activities are detailed in section 4.3.

#### 4.0 Invasive Weeds Management

#### 4.1 Guidelines

Under the Plan, invasive weeds occurring will be managed according to the degree and kind of threat they pose. High-priority species (typically CDFA A- and B-listed species) will be designated for active management efforts aimed at control. Due to their tendency to be highly invasive and to reduce the efficacy of fuel breaks, Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*) and Spanish broom (*Spartium junceum*) will be addressed as high priority species. Lower-priority species (typically CDFA C-listed or unlisted exotic nuisance species) will be addressed through project-wide prevention and education efforts and/or less intensive management aimed at containment. In general, emphasis will be placed on the feasibility of successful control of a given species, and the threat posed to other resources, such as special-status species. All management will be consistent with state and federal law, which will take precedence in the event any conflicts occur. Invasive weeds occurring on private lands are not addressed under this plan.

The following guidelines will be used to define approaches to invasive weed management:

Current Weed Status	Typical CDFA Listing <sup>1</sup>	Plan Priority	Management Method and Examples
Not currently present, potential to invade	А	High	Prevention: education, surveys of Project Boundary
Present, localized	All classes	High	Control: intensive herbicide treatment; <sup>2</sup> mapping; detailed monitoring
Present, widespread	B and C	Moderate	Containment: implementation of weed prevention guidelines; localized treatment near sensitive resources

 Table 4.1-1. Guidelines for invasive weed management and containment.

CDFA Listings:

A: An organism of known economic importance subject to state action involving: eradication, quarantine, containment, rejection or other holding action.

B: An organism of known economic importance subject to: eradication, containment, control or other holding action.

C: An organism subject to no state enforced action outside of nurseries except to retard spread.

<sup>&</sup>lt;sup>2</sup> Any use of chemicals in the projects' corridors will be in full compliance with PNF Standards and Guidelines. PG&E understands that the use of herbicides to control invasive weed infestation on NFS lands within the Project Boundary will require appropriate documentation under the National Environmental Policy Act.

<sup>&</sup>lt;sup>3</sup> PG&E's routine O&M activities do not include any ground disturbing activities.

Site-specific circumstances may dictate deviations from these guidelines. In particular, on lands with other resource concerns (e.g., special-status plant occurrences) invasive weed management will emphasize the protection of those resources.

#### 4.2 Existing Weed Populations

Seven species of invasive weeds were detected on the projects during invasive weed surveys in 2004: yellow starthistle, skeletonweed, Scotch broom, French broom, Klamathweed, Himalayan blackberry (*Rubus discolor*) and medusahead (*Elymus caput-medusae*). Skeletonweed is a CDFA A-listed species; yellow starthistle, Scotch broom, French broom, Klamathweed and Medusahead are CDFA C-listed species, and Himalayan blackberry is an unlisted weed of interest to the PNF.

Skeletonweed, the only CDFA A- or B-listed invasive weed species found on either project was located on the Sly Creek Project. In 2004, it occurred as a single infestation (approximately 50 by 50 ft) adjacent to road 21N16, which is a main public access road to Sly Creek Reservoir. In 2014, there were 15 occurrences of skeletonweed located on the Project. These are all located in fields and meadow on the Woodleaf Project.

Klamathweed and Himalayan blackberry were the most common and well-distributed weeds in the projects. Both occur in early-successional habitats present in cleared transmission line corridors, as well as disturbed areas (e.g., roadsides). Klamathweed also occurred under most transmission towers, which less frequently supported Himalayan blackberry. Both of these species are common and well-distributed in Butte County and elsewhere in the Sierra Nevada.

Yellow starthistle was also found on both projects, though it occurred infrequently and was generally restricted to roadsides, under transmission towers and in other heavily disturbed areas. Yellow starthistle was a dominant species along some roadsides in the zone of potential effects of both projects. The species occurred on both NFS and private lands.

Medusahead occurred only on the Woodleaf Project in a series of diffuse infestations in the Fields Meadow area. In 2004, French broom and Scotch broom were also restricted to the Woodleaf Project, each limited to a single occurrence. Scotch broom occurred as a linear infestation of about 200 ft along the side of road 20N94X. A single specimen of French broom was located in the transmission line corridor, approximately 20 ft from road 20N24D. In 2014, there were seven occurrences of French broom and four occurrences of scotch broom on the projects. The French broom is all located on the Woodleaf Project, while two of the Scotch broom are on the Sly Creek Project, and one is on the Woodleaf Project.

Skeletonweed, French broom and Scotch broom, given their localized occurrences, will be addressed under control, which is discussed in section 4.3. All other invasive weed species, being both present and widespread, will be addressed in the short term under a containment strategy, with no active management efforts. The containment strategy, discussed in Table 4.1-1, consists of implementation of the weed prevention guidelines (detailed in Section 2.2) and localized treatment of weed occurrences near sensitive resources.

#### 4.3 Control Strategies

Beginning in 2013, PG&E will initiate management efforts for those invasive weed species designated for control, including new, high-priority invasive weeds located in the projects' boundaries, and/or after consultation with the Forest Service, existing weeds found to pose a management concern (e.g., invasive weeds found to be affecting special-status plant occurrences). Management will target the weed species in question, following the guidelines detailed in Section 4.1.

New infestations of CDFA A- and B-listed invasive weeds will be controlled within 12 months of their detection or as soon as is feasible and practical. For each of these efforts, PG&E will prepare an individual project plan, known as the Invasive Weed Management Strategy (Strategy), detailing the following items:

- Objective of project
- Treatment method
- Specific tasks to be completed, including treatment frequency and monitoring protocols
- Schedule, timing, and duration of project
- Evaluation criteria to be implemented during annual monitoring efforts.

Occurrences will be monitored annually beginning the first year following application of control treatments. Over time, if monitoring shows a decline in the weed occurrence, the frequency of monitoring may be reduced. Monitoring will end once an occurrence is determined to no longer warrant control measures. Monitoring of invasive weed occurrences will follow these guidelines:

- Monitoring will follow standard scientific methods (e.g., Elzinga et al. 1998).
- Monitoring data will include a GPS-determined occurrence boundary for small or welldelineated occurrences, as well as relative abundance measures and other data that may be required and mutually agreed upon to maintain the NFS weed database.
- Qualitative descriptions will be preferred in evaluating management efforts.

PG&E shall restore/revegetate areas where treatment has eliminated invasive weeds. Restoration/revegetation efforts shall target desired conditions for vegetation as described in Section 2.1 of Attachment A, Description of Herbicide Use for Facilities Management and Invasive Weed Management. PG&E shall discuss the need to restore/revegetation areas during the Annual Consultation meeting with the Forest Service and develop a revegetation plan to be approved by the Forest Service (PNF) as appropriate.

Individual project plans will be subject to Forest Service review and approval and included in annual reporting efforts. Each project plan will then be implemented and completed by PG&E.

## 5.0 <u>Herbicide Application</u>

PG&E proposes the use of six, EPA-approved herbicides to eradicate high-priority invasive weeds within the two subject FERC-jurisdictional transmission line ROW. The six herbicides were detailed in an Environmental Assessment entitled Herbicide Use on Transmission Line Right-of-Ways (Forest Service 2014a). On October 15, 2014, the PNF Forest Supervisor signed a Decision Notice in accordance with the National Environmental Policy Act for the Environmental Assessment (Forest Service 2014b). The two projects' ROWs are approximately 75 ft wide. The work-area footprint for the projects' ROWs is 33.79 acres, and the area incorporates about 3.7 miles of transmission line corridor. The Description of Herbicide Use for Facilities Management and Invasive Weed Management (PG&E 2015, Attachment A) contains details of the proposed use of herbicides. Although the Environmental Assessment fully analyzed the proposed use of herbicides along the Woodleaf-Kanaka Junction and Sly-Creek transmission lines, the Decision Notice for other PG&E transmission lines on the PNF to these two projects.

Herbicide use will be as specified on the label and in compliance with agency standards. During the Annual Consultation Meeting, PG&E shall submit a request for approval of planned uses of herbicides on NFS land for the upcoming year. PG&E shall provide information essential for review, including specific locations and timeframes for application, as well as analysis necessary to ensure compliance with the PNF Land and Resource Management Plan (Forest Service 1988), as amended (Forest Service 2004), and any amendments or additional Forest Service requirements. PG&E will develop, in consultation with the PNF, the Strategy that includes details of the occurrences to be managed and the techniques that will be used, including herbicides. The Strategy will be updated annually, if needed, and submitted to the PNF for review, prior to the Annual Consultation Meeting.

Exceptions to this schedule may be allowed only when unexpected outbreaks of invasive weeds require treatment measures that were not anticipated at the time the Strategy was submitted. In such an instance, an emergency request to-and approval by-the Forest Service may be made.

PG&E shall use only those materials registered by both the California Department of Pesticide Regulation and the United States Environmental Protection Agency for the specific purpose planned. PG&E shall strictly follow label instructions in the preparation and application of herbicides and disposal of excess materials and containers. Forest Service Handbook 2109.14 (Forest Service 1994) guides herbicides use on NFS lands and requires compliance with Forest Service standards and guidelines, and other management direction. Licensed Pest Control Advisor's would manage and prepare all recommendations for the use of herbicides. Any herbicides applied within or adjacent to any river, stream, lake, impoundment, and/or associated riparian habitat and/or floodplain shall be registered for aquatic use by the California Department of Pesticide Regulation. Per 4(e) Condition No. 6 of both licenses, herbicide use will be excluded within 500 ft of known locations of California red-legged frog (*Rana draytonii*), Sierra

Nevada yellow-legged frog (*Rana sierrae*) or foothill yellow-legged frog (*Rana boylii*).<sup>4</sup> Application of herbicides shall also be consistent with Forest Service riparian conservation objectives.

#### 5.1 Use of New Pesticides and Annual Pesticide Use Proposals

Changes in infestation conditions, treatment effectiveness, and resource conditions may result in the need to adapt treatment prescriptions. Accordingly, the tools needed for efficient treatment, including treatment methods and herbicides, may also change over time; utilizing best available technologies is a critical component of an integrated pest management approach. Changes involving new herbicides or treatment methods will be evaluated and approved based on the following procedures.

1) If new herbicides or treatment methods are proposed, this Plan will be revised with an addendum (see Section 7.0) and a letter documenting the revisions and demonstrating approval by the Forest Service will be filed with FERC.

The revisions and addendum will include:

- a) A Syracuse Environmental Research Associates Environmental Risk assessment and any relevant documents such as a human health and ecological risk assessment for the proposed herbicide.
- b) A Biological Assessment/Evaluation analyzing the effects of the proposed herbicide, surfactants, and /or treatment methods for wildlife, fish, and botanical resources (e.g. Forest Service Sensitive, Watchlist, Threatened and Endangered Species, and Proposed species).
- c) A No Effect determination, documentation of informal/formal consultation with United States Fish and Wildlife Service or Biological Opinion for listed species.
- d) Any modifications or additions to existing Best Management Practices detailed in Attachment A.
- 2) Each year, prior to the application of any pesticides, a Pesticide Use Proposal(s) ("PUP", FS-2100-2) will be provided to the Forest Service for approval to the Forest Supervisor via the Forest Pesticide Use Coordinator. The following documentation will be included with the FS-2100-2 form. If documents from the previous year(s) PUP are accurate for the current year, PG&E will reference those documents in FS-2100-2 form by the prior submission date, but does not need to resubmit the documents.
  - a) Updated Spill plan
  - b) Maps
  - c) Copy of any mitigation plans or Best Management Practice references on the 2100-2 form

<sup>&</sup>lt;sup>4</sup> There is no suitable habitat for California red-legged frog or Sierra Nevada yellow-legged frog on the projects. Foothill yellow-legged frog was located near Woodleaf Powerhouse, but there was no other suitable habitat on the projects. (PG&E 2007a, 2007b)

d) Copy of PG&E's latest Attachment A that covers proposed herbicides, surfactants, and treatment methods

To aid Forest Service review, the associated human health and ecological risk assessments (e.g., Syracuse Environmental Research Associates spreadsheets or similar analysis) and Biological Assessment/Evaluation would be developed for the modified treatment, and submitted by PG&E to the Forest Service for review. When submitting the PUPs/FS-2100-2's, PG&E will also present a summary memo, notifying the PNF of the proposed treatment changes, and summarizing the results of the risk assessments and the proposed revisions to the Plan that covers proposed herbicides, surfactants and treatment methods.

These materials will be reviewed by PNF resource specialists to ensure that the proposed treatment modifications fall within the scope of the License and 4(e) Conditions, are covered by existing Biological Evaluations/Assessments, and that appropriate mitigation measures have been proposed. PG&E would implement any new herbicides and treatment methods only after the PUPs are approved by the Forest Service.

## 6.0 <u>Monitoring and Reporting</u>

PG&E will provide the PNF with a report of invasive weed survey and monitoring by December 31 of the year in which any such work was conducted. Other management activities and updates on individual project plans will be reported during the Annual Operations Meeting, no later than April 15 of the following year.<sup>5</sup> These reports will detail plans for the following year, in addition to any of the following that occurred during the year:

- Invasive weed survey and monitoring activities and results
- Summary of new invasive weed species or occurrences, including mapping
- Individual weed management project plans, including spatial data for treatment areas
- Follow-up results for earlier weed management projects, relative to evaluation criteria defined in weed management project plans

PG&E will submit a report to the appropriate PNF botanist and hydroelectric coordinator by November 1 of each year, describing the nature and results of work performed. The report will use the most current PUP Form (e.g., FS-2100-2, Attachment B) and also include the following information: maps of locations where herbicide applications occurred, with GPS spatial and attribute data collected in the field and entered into a Geographic Information System geodatabase, name of chemicals used, application rate, amount applied, acres treated, and any other applicable information, such as use of herbicides within buffers for special-status plant species, or within culturally significant areas. In addition, PG&E will provide the PNF botanist with a draft reporting of the acres treated for each invasive weed species by September 1. If no herbicide application on NFS land is planned in a given year, PG&E will inform the Forest

<sup>&</sup>lt;sup>5</sup> Monitoring information in database and GIS formats will be provided to the Forest Service during the Annual Consultation.

Service at the Annual Meeting, prior to the usual weed treatment season that PG&E does not otherwise need to provide a report to the Forest Service in such years.

In years where PG&E uses herbicides for invasive weed treatments, water quality sampling locations will be determined by PG&E and the PNF, prior to weed treatments (see PG&E 2015 Appendix G of Attachment A). PG&E will be responsible for conducting the monitoring once the sampling locations are finalized. The number of sample locations in a given year would reflect relative sensitivity to water contamination of the sites to be treated. Reporting will follow the parameters in the Description of Herbicide Use for Facilities Management and Invasive Weed Management (PG&E 2015, Appendix G of Attachment A), and be submitted within 120 days after completion of the post-treatment sampling.

## 7.0 <u>Plan Revisions</u>

PG&E, in consultation with the PNF for NFS land within the FERC Project Boundary, will review, update, and/or revise the Plan as needed when significant changes in the existing conditions occur. Changes or revisions to the Plan would be expected if conditions change, as a result of unforeseen effects, either from new or existing project-related activities or from natural events, changes to CDFA's weed list or the PNF's invasive weed list, and current management directions. Changes may also be implemented if monitoring feedback indicates that resource objectives are not being met.

Any updates to the Plan would be prepared in coordination and consultation with the Forest Service. A minimum of 60 days would be allowed for the Forest Service to comment and make recommendations before PG&E files the updated Plan with FERC. PG&E will include all relevant documentation of the coordination/consultation with the updated Plan filed with FERC. If PG&E does not adopt a particular recommendation by the Forest Service, the filing will include the reasons for not doing so, based on project-specific information. PG&E will implement the Plan as approved by FERC.<sup>6</sup>

### 8.0 <u>References Cited</u>

- California Department of Food and Agriculture (CDFA). 2010. Encycloweedia. Available online: < http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo\_table-commname.htm>.
- Elzinga, C.L., D.W. Salzer, and J.W. Willoughby. 1998. Measuring and monitoring plant populations. US Department of the Interior Bureau of Land Management, Denver, Colorado.
- Pacific Gas & Electric Company (PG&E). 2015. Description of Herbicide Use for Facilities and Invasive Weed Management. Woodleaf-Kanaka Junction and Sly Creek Transmission Line Projects. March 2015.

<sup>&</sup>lt;sup>6</sup> The Plan will not be considered revised until FERC issues its formal approval.

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- \_\_\_\_\_. 1994. Forest Service Handbook 2109. Region 5. Available online: <a href="http://www.fs.fed.us/im/directives/fsh/2109.14/2109.14,10.txt">http://www.fs.fed.us/im/directives/fsh/2109.14/2109.14,10.txt</a>>.
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# ATTACHMENT A

# WOODLEAF-KANAKA JUNCTION TRANSMISSION LINE PROJECT

# (FERC No. 2281)

AND

SLY-CREEK TRANSMISSION LINE PROJECT (FERC No. 4851)

# DESCRIPTION OF HERBICIDE USE FOR FACILITIES MANAGEMENT AND INVASIVE WEED MANAGEMENT

# AUGUST 2016



Prepared for:



Pacific Gas & Electric Company 4636 Missouri Flat Rd. Placerville, CA 95667 Prepared by:



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# 1.0 Background

Pacific Gas and Electric Company's (PG&E) transmission line right-of-ways (ROW) within the Plumas National Forest (PNF) require vegetation management with herbicides due to brush and conifer re-growth, which have the potential to grow too close to the lines. Additionally, on certain lines, herbicides would also be effective to manage and eradicate invasive weeds. The term herbicide refers to any substance or mixture of substances used to prevent or destroy undesirable vegetation and includes herbicides, surfactants and dyes. This document describes the proposed use of herbicides in ROW's where mechanical and manual vegetation removal methods are currently being used. Herbicides would thus provide a more effective method for PG&E's existing Integrated Pest Management Program. The proposed use of herbicides would improve safety and reliability of the facilities and reduce the possibility of wildfires. The use of herbicides would help maintain the ROWs to the standards of the wire zone-border zone method as described below. Included in this document are guidelines for the use of herbicides to control undesirable vegetation within transmission line ROWs while providing for the protection and maintenance of forest resources.

On October 15, 2014, Mr. Earl Ford, the PNF Forest Supervisor, signed a Decision Notice in accordance with a National Environmental Policy Act (NEPA) for an Environmental Assessment (EA) entitled PG&E Vegetation Management Program along Transmission Line ROWs. That EA addressed the use of herbicides within 10 PG&E transmission line ROWs on the PNF that are under Special Use Authorization (SUA). However, four of PG&E's transmission lines on the PNF are inside Federal Energy Regulatory Commission (FERC) license boundaries and are, therefore, under a separate approval process guided by the Federal Power Act (see Table 1). The Forest Service retains Section 4(e) conditioning authority for the four FERC transmission line licenses. Per these FERC licenses, the Sly Creek and Woodleaf-Kanaka Junction Transmission lines described herein each require Forest Service approval for the use of herbicides inside the FERC Project boundary. The Biological Evaluations and other resource analyses compiled for the NEPA Project Record addressed both the 10 lines under SUA and the lines under FERC jurisdiction. These reports will form the basis for Forest Service concurrence for the use of herbicides along the transmission lines inside the FERC boundaries.

Transmission Line	Part of FERC Licensed Project?	4(e) Condition Requiring Forest Service Approval for Pesticides	FERC License Language	
Sly Creek Transmission Line Project 115 kV	YES Sly Creek Transmission Line Project (FERC No. 4851)	Condition No. 6	Condition No. 6—Pesticide Use Restrictions: Pesticides may not be u on National Forest System lands or in areas affecting National For System lands to control undesirable woody and herbaceous vegeta aquatic plants, insects, rodents, trash fish, etc., without the prior wr approval of the Forest Service. During the Annual Consultation mee described in Condition 3, the Licensee shall submit a request approval of planned uses of pesticides for the upcoming year. Licensee shall provide at a minimum the following information esse	
Woodleaf- Kanaka Junction / Forbestown Tap 115 kV	YES Woodleaf- Kanaka Junction (FERC No. 2281)	Condition No. 6	for review: whether pesticide applications are essential for use on National Forest System lands, specific locations of use, specific herbicides proposed for use, application rates, dose and exposure rates, safety risk and timeframes for application. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures that were not anticipated at the time the report was submitted. In such an instance, an emergency request and approval may be made. Pesticide use will be excluded from National Forest System lands within 500 feet of known locations of California red-legged frog, Mountain yellow-legged frog or Foothill yellow legged frog. Application of pesticides must be consistent with Forest Service riparian conservation objectives. The Licensee shall use on National Forest System land only those materials registered by the U.S. Environmental Protection Agency and consistent with those applied by the Plumas National Forest and approved through Forest Service review for the specific purpose planned. The Licensee must strictly follow label instructions in the preparation and application of pesticides and disposal of excess materials and containers. The Licensee may also provide an Integrated Pest Management Plan that describes planned pesticide use on a regular basis for the term of the license. Submission of this plan will not relieve the Licensee of the responsibility of annual notification and review.	

#### Table 1. PG&E Transmission Lines on PNF under FERC Jurisdiction.

### 1.1 Public Collaboration Conducted for the NEPA Process

The notice of pending action for the 10 lines analyzed in the EA first appeared in the PNF quarterly Schedule of Proposed Actions (SOPA) as the "PG&E Vegetation Management Program along Transmission Line ROWs" in March of 2011, and has been on each subsequent SOPA. As stated above, this project description proposes the use of the same herbicides as outlined in the NEPA EA.

The PNF started the NEPA EA scoping process with an amended publication in the Feather River Bulletin on August 8, 2012. The PNF and PG&E mailed over 50 Proposed Action description packets (Proposed Action, figures and maps) to interested parties, such as Californians for Alternatives to Toxins, Native American entities (including federally recognized tribal governments, tribal groups currently applying for federal recognition and Native American organizations/non-profit groups), landowners immediately adjacent to the ROWs, various individuals, organizations and government agencies. The public comment period officially ended on September 7, 2012. The PNF received one comment letter concerning the Proposed Action which was supportive. The PNF initiated the public review process with publication of the legal notice in the Feather River Bulletin on December 18, 2013. A detailed interested party letter outlining general existing conditions, proposed herbicide treatments, and acres planned for treatments was mailed to 59 landowners and seven individuals, organizations, government entities and tribes. A total of five comment letters were received. One comment letter strongly opposed the use of glyphosate in particular and one was generally opposed to the use of all herbicides on National Forest System lands. A third letter from the State Water Board resulted in minor edits and clarifications to the Water Quality Monitoring Plan. The other two comment letters did not address any opposition to the project. The PNF initiated the objection process with publication of the legal notice in the Feather River Bulletin on June 4, 2014. A detailed interested party letter outlining general existing conditions, proposed herbicide treatments, and acres planned for treatments was mailed to all the commenters. No objections were received as a result of this process. The Herbicide Vegetation Management Program project file contains public letters, records of phone calls and visits to the area, mailing lists, and other documentation of the outreach and discussions held with members of the public.

# 2.0 Management Objectives

2.1 Purpose and Need 1: Improve public safety and service reliability by managing vegetation in the ROWs in accordance with industry standards and in compliance with state and federal regulations.

**Objective:** The objective for the use of herbicides is to establish compatible vegetation (and eliminate incompatible vegetation) within the ROWs. Compatible vegetation is desirable or compatible with the intended use of the ROW. For example, plant species that will never grow sufficiently close to violate minimum clearances with electric conductors such as grasses, forbs, and low growing shrubs. Compatible vegetation will not interfere with the safe and reliable transmission of electricity or the inspection and maintenance of facilities. Incompatible vegetation is undesirable or unsafe and may interfere with the intended use of the ROW now or at any time in the natural lifespan of the plant species.

Herbicide Use Vegetation Management Objectives:

- Improve efficacy of PG&E Herbicide Vegetation Management Program and improve safety and reliability of electric transmission service.
- Prevent massive power outages, blackouts, and disruptions that can lead to injuries and possible fatalities.

- Comply with federal and state regulations for vegetation management in transmission line ROWs.
- Establish low shrub-forbs-grass cover type in the wire zones and a taller shrub-forbs grass cover type in the border zones.
- Control incompatible vegetation within the ROW beneath the lines, poles and facilities out to the edge of the ROW.
- Avoid the dense re-growth resulting from manual and mechanical-only tree and brush removal and subsequent re-sprouting of vegetation while minimizing the need for repeated removal methods.

#### **2.1.1 Need for Action**

Federal and state regulations require PG&E to manage vegetation that presents a risk to its electric transmission facilities. The failure to adequately manage tree growth underneath transmission lines can lead to blackouts, as demonstrated by the massive power outage in the northeastern United States and southwestern Canada in August 2003. The massive power outage in 2003 affected over 50 million people and investigators determined the cause of the outage was "the failure to manage tree-growth underneath transmission lines" (PG&E n.d.). This power outage led to new standards for vegetation clearance below transmission lines. The use of herbicides would prevent dense re-growth and sprouting of the roots from incompatible woody vegetation such as oaks (*Quercus* spp.), madrones (*Arbutus* spp.), and deer brush (*Ceanothus integerrimus*), and allow the selection of compatible, low-growing plant species within the ROW. Specific vegetation (Section E) from the Forest Service; 2) FERC/North American Electric Reliability Corporation (NERC) FAC 003-3; 3) California Independent System Operator (CAISO); 4) Public Utilities Commission General Order (GO) No. 95; and 5) Public Resource Codes (PRC) 4292 and 4293.

The status-quo management of ROW vegetation for the transmission lines on the PNF has relied on mechanically removing and trimming trees within the corridor and removing select hazard trees. These management techniques have been inadequate to keep up with tree, brush and conifer re-sprouting from the roots, and re-growth which now potentially threatens the transmission lines' reliability. PG&E needs an improved method for managing vegetation within the ROWs in order to maintain the highest standard of reliability and reduce the risk of massive power outages that could lead to injuries and fatalities.

#### **2.1.2 Desired Conditions**

The desired condition of vegetation within transmission line ROWs includes a low growing native grass, forbs, and shrub complex immediately under the conductors (wires) with a taller shrub complex adjacent to conductors and extending out to the edge of the ROW. This management strategy is known as a wire zone-border zone vegetation management strategy as depicted in Figure 1. The "wire zone" refers to the segment of the ROW directly beneath the

transmission wires where the poles and facilities are located, plus a minimum of 10 feet on both sides. It is managed to promote only low-growing, primarily herbaceous vegetation.

The "border zone" encompasses the remainder of the ROW on both sides of the wire zone and extends from the wire zone to the edge of the ROW. It is selectively managed to include a mix of compatible herbaceous and low-growing woody vegetation below a specified height.

The proposed vegetation management program is developed to manage compatible species. Herbicides are used consistent with those management objectives. Typically this vegetation structure would take 5 to 7 years to establish with the use of herbicides.

The vegetation species composition can vary within the ROW depending on site-specific characteristics such as topography, geography, land ownership, land use and the surrounding environment. Depending on the ground-to-conductor-distance, riparian shrubs and other vegetation may be compatible under the lines. In a riparian environment or in areas where water features intersect (stream crossing) with the ROW, consideration must be given to potential impacts including streambed alteration, sedimentation, water temperature, and sensitive aquatic species that may result from a prescribed vegetation management program. The objective remains the same: the safe and reliable transmission of electricity while providing for the protection and maintenance of forest resources. The vegetation management objectives and associated Project Design Features can be adapted to meet objectives within the riparian corridor. For example, trees encroaching on the conductors in a riparian zone may be trimmed to a safe distance or slightly beyond but not removed completely. Herbicides may be used in such a way as to impact only the target vegetation, thereby reducing the threat to the facility while providing canopy cover and habitat for riparian species.



Figure 1: Wire Zone-Border Zone- Hazard Tree Zone

# 2.2 Purpose and Need 2: Reduce fuel loads and post-treatment residue within the transmission line ROWs.

**Objective:** The use of herbicides would prevent fuel-build-up that results from the rapid, dense re-growth and sprouting of the roots and then promote the subsequent cut-back of undesired vegetation in the ROW. The disposal of post-treatment residue (e.g., dead and dry vegetation/burn piles) would be discussed annually with the Forest Service Fuels Officer. Over time, it is expected the post-treatment residue would decline significantly with the use of herbicides as compatible plant species become established in the ROW, and the use of herbicides would prevent re-sprouting from the roots subsequent cut back.

Herbicide Use Vegetation Management Objectives:

- Prevent ignition starts under the lines.
- Reduce fuel loading and post-treatment residue build-up.
- Selectively remove those species most prone to fire.

#### 2.2.1 Need for Action

The use of herbicides would allow the controlled selection of plant species in the ROW, thereby reducing the risk of fuel loading that could lead to a catastrophic fire.

On August 17, 2000, the Storrie Fire ignited in the Feather River Canyon within the PNF and quickly grew to 52,000 acres. The burned area was situated within the Almanor Ranger District on the Lassen National Forest and the Mt. Hough Ranger District on the PNF. The fire had significant impacts on Plumas County communities, businesses, residents, private land and forest visitors, and resulted in significant damage of PG&E facilities, including several miles of transmission lines. The Forest Service fuels specialists have expressed a need to reduce fuel loading in the ROWs as well.

#### **2.2.2 Desired Conditions**

The desired condition for the ROWs would be the wire zone-border zone vegetation structure as depicted above in Figure 1. The use of herbicides would allow for the selection of low shrub-forbs-grass cover type in the wire zones and a tall shrub-forbs-grass cover type in the border zones.

Measurement Indicators: Vegetation composition, average height, percent canopy, percent mortality of target vegetation.

# 2.3 Purpose and Need 3: Manage and/or Evaluate Invasive Weed Species.

**Objective:** The use of herbicides would facilitate the successful control and/or eradication of invasive weed species targeted under the Invasive Weed Management Plan (IWMP, PG&E 2011a). Per the IWMP, high-priority invasive weed species are designated for active management efforts. High-priority species include all species listed by the California Department of Food and Agriculture (CDFA) as A or B, as well as French broom (*Genista monspessulana*), Scotch broom (*Cytisus scoparius*) and Spanish broom (*Spartium junceum*) (PG&E 2011a).

#### 2.3.1 Need for Action

Currently, there are 15 occurrences of skeletonweed (*Chondrilla juncea*), a CDFA A-listed species, five French broom occurrences, and three Scotch broom occurrences on the Sly-Creek and Woodleaf-Kanaka transmission lines (PG&E 2014). Per the IWMP, these occurrences must be actively controlled with the end target of eradication. Currently, only mechanical and hand techniques are available for use. This is additionally complicated by the location of numerous of these occurrences in areas of cultural sensitivity, where ground-disturbing activities cannot be performed. Herbicides are an effective tool for eradicating invasive weeds, and may be utilized in areas where ground disturbance is not allowed.

#### **2.3.2 Desired Conditions**

The desired condition for the ROWs would be the eradication of all invasive weeds specified for active management under the IWMP. The use of herbicides would allow for more effective eradication of targeted invasive weed occurrences, particularly those in areas where ground-disturbing activities are not allowed.

Measurement Indicators: Annual monitoring for percent mortality at target occurrences, vegetation composition, area at occurrences.

# 3.0 Project Location for Herbicide Use

PG&E proposes the use of six, EPA-approved herbicides to control undesirable vegetation and eradicate invasive weeds within two existing transmission line ROWs. The two ROWs are about 75 feet wide and in FERC's jurisdiction, as well as within the PNF on the Feather River Ranger District. The work-area footprint for the transmission line ROWs is 33.79 acres and the area incorporates about 3.7 miles of transmission line corridor. The locations of the transmission lines, and the legal description of the ROWs are included in Appendix B.

# 4.0 Herbicide Treatment Methods

This section provides a detailed description of the proposed use of herbicides and illustrates the differences between vegetation management with and without the use of herbicides. PG&E proposes the use of herbicides to maintain the required clearance from power lines PRC 4293)

and to clear (brush) vegetation from around the base of structures in accordance with California PRC 4292 and GO 95 (see Appendix C), as well as to eradicate targeted occurrences of invasive weeds.

### 4.1 Vegetation Treatment Methods

The proposed vegetation management activities would typically involve the use of pick-up trucks (non-duel axle) on existing access roads to transport workers and equipment to the ROWs. In general, duel axle vehicles do not access the ROWs; however in some instances, due to the weight of water tanks, duel axle trailers pull the tanks. Crews of approximately 5 to 12 workers per day would access each site. In remote areas where there is no existing vehicle access to the ROW, workers may access the site on foot.

### 4.2 **Proposed Herbicide Treatments**

Forest Service Handbook 2109.14 (USFS 1994a) guides pesticide use on National Forest System lands and requires compliance with Forest Service standards and guidelines, and other management direction. Licensed Pest Control Advisor's (PCA's) would manage and prepare all recommendations for the use of herbicides. Herbicide applications require the following:

- 1. Annual safety and product training for workers for each herbicide.
- 2. Use of safety equipment, including goggles, gloves, long pants, long sleeved shirts, shoes and socks.
- 3. Written Pest Control Recommendation by a Licensed PCA.
- 4. Monthly reporting of each use of herbicide by county.
- 5. Inspections when requested by the respective County Agricultural Commissioner.

Herbicides are used to help control undesirable vegetation, including invasive weeds. In each specific location, a PCA would evaluate a variety of environmental and biological factors. These factors include, but are not limited to the following: existing vegetation composition, topography, soil type, hydrologic features, surrounding wildlife, (including Threatened and Endangered species), domestic animals, livestock, resident adjacency, apiaries, and proximity to and volume of recreational use. Based on this evaluation process, the PCA would determine the appropriate product, application rate, timing and method for each location. The annual Pesticide Use Permits submitted to the PNF for approval would identify the specific chemicals recommended for a specific locale. PG&E proposes an adaptive herbicide management program, which would provide the flexibility to make use of the best available herbicides on the market and to adapt to changing circumstances for the protection of forest resources.

The following sections and Table 2 describe the types of herbicides proposed for use, including application rates.

### **4.2.1** Directed foliar herbicide applications

Directed foliar herbicide applications can provide selective control of vegetation by directly targeting undesirable species, such as resprouting live oak or conifers, while avoiding desirable forbs. Selectivity is also the result of timing applications later in the season after desirable annual species have produced seed and senesced (dropped leaves) and after target species are actively growing and susceptible.

#### **4.2.2** Basal stem treatments

Basal stem treatments are selective applications using a backpack sprayer. Herbicide is diluted in a modified seed oil carrier and is then applied to the lower 12 to 18 inches of woody plants to allow adequate bark penetration. This method is effective when stems are less than 6 inches in diameter and have juvenile bark. Basal stem treatments have a longer application season and can provide good control from June through December, depending on elevation and aspect. Dormant season applications have less visual impact than other application methods, since the target species do not "leaf-out" in the subsequent spring and therefore, no leaf brownout is typically visible.

#### 4.2.3 Frill Treatment

Frill Treatment is a plant-specific injection treatment. A hatchet or similar device cuts completely through the bark and cambium at a downward angle at intervals of 1 cut per 2 to 3 inch diameter breast height minimum 2 cuts per stem on smaller diameter trees. Using a squirt bottle, syringe or similar device, herbicide is applied to the cut or "hack" so the application solution does not run out of the cut.

#### **4.2.4 Cut-stump treatments**

Cut-stump treatments prevent woody species from resprouting. Woody vegetation is manually cut (as part of ongoing maintenance activities), and then the cut stumps are treated with herbicide. Cut-stump treatments can be made year-round.

Herbicide	Trade Names	Target Species	Timing	Application Time Period
Aminopyralid	Milestone, Milestone VM or equivalent	Yellow starthistle, Rush skeletonweed, Italian thistle, Scotch Broom, & other resprouting species	pre-emergent to bolting for thistles & broadleaf forbs; summer to fall for brush	Fall - Spring
Clopyralid	Transline or equivalent	Yellow starthistle, thistle species	rosette to pre-bud	Spring
Glyphosate	Accord, Rodeo or equivalent	Scotch broom, yellow starthistle, oaks, madrones, manzanita, and other resprouting species	when target plants are actively growing	Spring - Fall
Imazapyr	Chopper or equivalents	Rush skeletonweed, oaks, madrones, maples,	when target plants are actively growing	Late Spring through Early Winter

#### Table 2. Product, Target Species and Timing.

Herbicide	Trade Names	Target Species	Timing	Application Time Period
		manzanita, and other resprouting species. perennial grasses		
Triclopyr (Amine Formulation)	Garlon 3A	Scotch broom, oaks, madrones, maples, manzanita, blackberry, and other resprouting species	when target plants are actively growing	Spring – Late Fall
Triclopyr (Ester Formulation)	Garlon 4 Ultra or Forestry Garlon XRT	Scotch broom, oaks, madrones, maples, manzanita, blackberry, and other resprouting species	when target plants are actively growing through the fall as plants begin to shut down	Spring – Late Fall
Adjuvant	Trade Names for Analyses			
Spreader-Penetrator	Hasten, Competitor (aquatic formulation)	N/A	All applications	Spring - Winter
Marker Dye	Colorfast Purple	N/A	All applications	Spring- Winter
Non-ionic Surfactant (Spreader-Sticker)	R-11	N/A	All Applications	Spring - Winter

# 5.0 Dose and Exposure Rates and Safety Risk Assessment

As described in the Human Health and Risk Assessment in the NEPA project file, there will be no significant effects to public health and safety due to the dose or exposure rates or the project-specific design features and mitigations or the implementation of Standard Operating Procedures (PG&E Herbicide EA, Appendix D, page 200). As described in Appendix D, Table D-1 of the EA, the risks of the use of herbicides will be reduced through Standard Operating Procedures including water quality monitoring and reporting. The District Ranger will monitor potential conflicts and act accordingly.

The two documents listed below provide detailed descriptions of the dose and exposure rates for humans and biological organisms and detailed safety risk assessments. As described in these reports, the proposed docs and exposure rates are below the level of concern.

- 1. Garcia and Associates. 2013. PG&E Herbicide Vegetation Management Program Biological Evaluation for Threatened, Endangered, or Sensitive Plant Species. Reviewed by Beckwourth Ranger District, Plumas National Forest. Blairsden, CA.
- 2. Garcia and Associates. 2013. PG&E Herbicide Vegetation Management Program Human Health and Risk Analysis. Reviewed by Beckwourth Ranger District, Plumas National Forest. Blairsden, CA.

# 6.0 Timeframes for Application

The proposed vegetation management program involves the use of herbicides annually to control vegetation within PG&E Transmission Line ROWs. Once approved, the program would remain in effect as long as monitoring indicates there are no effects to water quality or other forest resources. Applications for Pesticide Use Permits (PUP) would be submitted annually. The annual PUP submittals would include a list of facilities and proposed herbicide treatments to be used that year, and the timing of treatments. Vegetation Management Program updates would occur as needed to meet regulatory requirements and to incorporate additional analysis, if warranted.

For vegetation management, maintenance would occur every one to seven years, depending on field conditions. PG&E would continue to perform annual routine line clearance patrols to identify vegetation that is or would be a compliance issue within 12 – 18 months (see PRC 4292, 4293, California Public Utilities Commission (CPUC) GO 95, and/or CAISO Guidelines). Herbicides maintain the ROWs in the desired condition to the standards defined as wire zoneborder zone method, to the desired condition. Treatment activities would be most intensive the first two years of implementation to achieve control of overgrown vegetation. After the first two years and once undesirable vegetation is under control, the level of treatment activities to maintain control may decrease. Not all ROW acres would be treated in a single year continually for 10 years. PG&E estimates only 80 percent of the ROW acres are treatable on the Sly Creek and Woodleaf-Kanaka transmission lines, when accounting for stream buffers, sensitive areas and inaccessible/unsafe areas. The initial acres treated would subsequently be ready for second treatment in year four and followed by the remaining acres in years 5 and 6. At year 9 or 10, a final sweep of the entire ROW acreage would be conducted to spot-treat any re-growth or sprouting, which would likely be needed over 25 to 30 percent of the work area. Herbicide application for brush control and incompatible species would be prescribed for mid June through the dry season, as needed.

For invasive weed management, herbicide application would occur annually until occurrences are controlled, eradicated, or other management activities are implemented in place of herbicide application. Herbicide application would be most intense in the first five or so years to control the known 23 occurrences of invasive weeds requiring active management. After that time, herbicide application is anticipated to decrease and may cease at some point if all occurrences are eradicated or other management strategies are put into place. Conversely, additional occurrences of invasive weeds requiring active management may be located, necessitating an increase in herbicide application at those locations. Application times will vary depending on targeted species. Herbicide applications intended for invasive weed control would be prescribed for the months of March (late winter) through mid-June. Depending on species, population density and location, a late fall or winter application of a pre-emergent selective herbicide could be considered for larger infestations.

A Limited Operating Period (LOP) for herbicide application would be implemented from; October 1st, or the first wetting rain through April 15th (See Table 2, Project Design Features). The LOP would apply to all suitable habitat, occupied habitat, and unsurveyed areas for California Red-

Legged Frog (CARLF), Foothill Yellow-Legged Frog (FYLF) and Sierra Nevada Yellow-Legged Frog (SNYLF) habitat from October 1st through April 15th (rainy season), and/or after the first frontal system resulting in greater than ¼ inch precipitation. If a dry period greater than 72 hours occurs after the onset of the rainy season, operations can resume. Per relicensing studies for both the Sly Creek and Woodleaf-Kanaka transmission lines, there is no suitable habitat on either transmission lines for CARLF or SNYLF. FYLF were located near the Woodleaf Powerhouse, but there was no other appropriate habitat on the transmission lines (PG&E 2007a, 2007b).

# 7.0 Ongoing Activities and Resource Protection Measures

The ongoing Forest Service approval process for treating ROWs includes PG&E submittal of annual operating plans, in accordance with the FERC licenses. Under the Proposed Action, the Forest Service annual approval process of operating plans would be updated to also address the use of herbicides at specific locations. The following discussion provides general descriptions of treatment methods.

The first selective backpack foliar herbicide application would occur when the vegetation reaches appropriate size, typically one growing season following treatment. In areas that are manually treated with cut stumps, the herbicide applications would be applied at the time of treatment and the first selective backpack foliar herbicide application would typically occur when vegetation reaches appropriate size, usually one to four years after the initial treatment. For both backpack foliar and cut-stump herbicide applications, the next application typically occurs three to five years later. The first herbicide application for invasive weeds would occur as soon as feasible, after PNF and FERC approval of herbicide application in the ROWs. As previously stated, herbicide application at invasive weed occurrences would occur annually until successful eradication or other strategies were implemented.

PG&E typically presents the proposed site-specific locations for routine vegetation management activities and invasive weed treatments during annual meetings held each spring with PG&E and the PNF. On both lines, the FERC license mandates an Annual Consultation Meeting, where any proposed herbicide applications along with planned operation and maintenance activities, must be discussed. The ongoing Forest Service approval process for proposed routine vegetation maintenance of the ROW includes defining resource protection measures for cultural and biological resources and Best Management Practices (BMP). These measures respond to the issues identified within the specific locale of proposed activities. This process for resource protection would continue with or without the use of herbicides.

Section IV A and B (part 4) of the Operations and Maintenance Plans (OMPs) describe ongoing routine vegetation maintenance activities that currently occur as part of vegetation management within the ROWs.

#### **Section IV**

#### Part A (4) Brush and Grass Abatement

In addition to maintaining vegetation-free access roads and clearances around electrical lines, clearance of brush and vegetation around poles and transmission tower pads is necessary for fire protection. A 10-foot radial clearance around non-exempt poles (PRC 4292 non-exempt towers) is maintained. Brush and vegetation typically are hand-cleared with power brush cutters (string trimmers). Debris will be lopped and scattered outside of the cleared area, chipped or removed to location agreed upon with the Forest Service. Herbicides may be used for abatement purposes when approved and authorized by the Forest Service.

#### Part B (4) Tree Pruning

It is [PG&E's] intent that this work occurs on annual basis on every transmission line. Regular tree pruning must be performed to comply with existing State and Federal laws and regulations and is crucial for maintaining public safety, and reliable electric service, especially during severe weather or disasters.

# 7.1 Management Requirements, Constraints, and Mitigation Measures

PG&E proposes to implement resource protection measures, including BMPs, Standards and Guidelines for Forest Service, as well as herbicide buffers. The proposed BMPs employed during herbicide treatments would protect water quality and riparian vegetation and prevent degradation of downstream water quality. The BMPs pertinent to the use of pesticides and the Proposed Action are BMPs 5-7, 5-8, 5-9, 5-10, 5-11, 5-12, and 5-13 Appendix D. As required by the Special Use Easement and annual OMPs, PG&E presents the proposed site-specific locations for routine vegetation management activities during annual meetings typically held each spring with PG&E and the PNF.

The EPA, the California Environmental Protection Agency, and the California Department of Pesticide Regulation regulate herbicide use. Agricultural Commissioners in Plumas and Butte Counties are responsible for monitoring pesticide use in their respective counties. Forest Service Handbook 2109.14 (USFS 1994a) directs pesticide-use on NFS lands and requires compliance with Forest Service standards and guidelines and other management direction. Coordination with the appropriate County Agricultural Commission would occur to obtain all required licenses and permits prior to any pesticide application.

## 7.2 **Project Specific Design Features**

Appendix D provides a detailed description of pertinent regulations, BMPs, Standard Operating Procedures and Project Design Features (including a Water Quality Monitoring Plan) for the protection of public, workers, biological organisms, water quality and visual quality.

Pacific Gas and Electric Company Woodleaf-Kanaka Junction & Sly Creek 115kV Transmission Line Projects (FERC Nos. 2281 & 4851)

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# Appendix A: References

The following reports were prepared for the PG&E Herbicide Vegetation Management Program, NEPA EA. These reports addressed environmental impacts within all 14 ROWs on the PNF, including those inside the FERC boundaries.

- Garcia and Associates. 2013. PG&E Herbicide Vegetation Management Program Biological Assessment/Biological Evaluation Terrestrial and Aquatic Wildlife. Reviewed by Beckwourth Ranger District, Plumas National Forest. Mohawk, CA.
- Garcia and Associates. 2013. PG&E Herbicide Vegetation Management Program Biological Evaluation for Threatened, Endangered, or Sensitive Plant Species. Reviewed by Beckwourth Ranger District, Plumas National Forest. Blairsden, CA.
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# Appendix B: Project Location

## Plumas National Forest Environmental Assessment for PG&E Vegetation Management Program on Transmission Line Right of Ways

The work area is located within the Plumas National Forest on the Feather River Ranger Districts. This appendix displays the locations of the transmission lines on Figure B-1 and the legal description of the proposed action, using the Mt. Diablo meridian is as follows:

Township	Range	Sections
T20N	R6E	25, 26, 34, 35, 36
T20N	R7E	30, 32
T20N	R8E	19

Table 1. PG&E Transmission Lines on PNF under FERC Jurisdiction.



Figure B-1. Sly Creek Transmission Line Project ROW.



Figure B-2. Woodleaf-Kanaka Junction Transmission Line Project ROW.

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# Appendix C: Laws and Regulations for Vegetation Management within PG&E Transmission Line ROWs

## Plumas National Forest Environmental Assessment for PG&E Herbicide Vegetation Management Program Transmission Line Right of Ways

Source: http://www.pge.com/myhome/customerservice/other/treetrimming/lawsregulations/

## Laws and Regulations

Pacific Gas and Electric Company, is a California-based utility, regulated by the California Public Utilities Commission (CPUC). Pacific Gas and Electric Company will obtain a reasonable amount of clearance beyond the minimum requirements to allow for a several years worth of growth, potential wind sway and other environmental factors. Distance obtained from the line after a pruning cycle may be more than 20 feet for fast growing species such as a mulberry or eucalyptus trees along distribution lines and for high voltage transmission lines 4 years or 40 feet of clearance is required.



Figure C-1. Regulatory Clearance Requirements.

There are rules and regulations designed to ensure public safety and electric service reliability. Major regulations covering vegetation management include:

- **Public Resource Code 4292: Firebreak Clearing**. Utilities are required to maintain firebreaks around poles located in wild land areas during fire season that have certain equipment with the potential to emit sparks when operating properly.
- **Public Resource Code 4293: State Responsibility**. Utilities are required to maintain clearance between vegetation and high voltage power lines during fire season in wild land areas to prevent wild fires. Also requires removal of dead, diseased or dying trees that could fall into power lines.
- General Order 95: Utility Vegetation Management Requirements. Utilities are required to maintain clearance between vegetation and high voltage power lines at all times in all areas for public safety and electric system reliability.
- North American Electric Reliability Council (NERC) Standard FAC-003-3: Transmission Vegetation Management Standard. FAC-003-3 is a Federal Energy Regulatory Commission (FERC) mandated standard, enforced by NERC which requires utilities to take preventative action to reduce widespread outages caused by vegetation

conflicts on critical electric transmission lines over 60,000 volts. Utilities must have a formal vegetation management program that meets specific standards and maintains required clearances between vegetation and transmission electric facilities at all times in all conditions.

# Public Resource Code, Section 4292: Power Line Hazard Reduction

Except as otherwise provided in Section 4296, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or forestcovered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for fire protection of such areas, maintain around and adjacent to any pole or tower which supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole, a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower. This section does not, however, apply to any line which is used exclusively as telephone, telegraph, telephone or telegraph messenger call, fire or alarm line, or other line which is classed as a communication circuit by the Public Utilities Commission. The director or the agency which has primary fire protection responsibility for the protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

## **Section 1254 - Minimum Clearance Provisions**

The firebreak clearances required by PRC 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of 14, CCR, 1255 or PRC 4296. The radius of the cylindroid is 3.1 m (10 feet) measured horizontally from the outer circumference of the specified pole or tower with height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid with the ground to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows:

- (a) At ground level remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will propagate fire, and;
- (b) From 0 2.4 m (0-8 feet) above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 2.4 m (8 feet).
- (c) From 2.4 m (8 feet) to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Figure 1: Graphical representation of Section 1254 showing the minimum clearances required around a utility pole.



**Firebreak Clearance Requirements** 

#### Figure C-2. Fire Break Regulatory Clearance Requirements.

## Public Resource Code, Section 4293: Line Clearance Guidelines

Except as otherwise provided in Sections 4294 to 4296, inclusive, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for the fire protection of such areas, maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current:

- (a) For any line which is operating at 2,400 or more volts, but less than 72,000 volts, four feet.
- (b) For any line which is operating at 72,000 or more volts, but less than 110,000 volts, six feet.
- (c) For any line which is operating at 110,000 or more volts, 10 feet.

In every case, such distance shall be sufficiently great to furnish the required clearance at any position of the wire, or conductor when the adjacent air temperature is 120 degrees Fahrenheit, or less. Dead trees, old decadent or rotten trees, trees weakened by decay or disease and trees

or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line shall be felled, cut, or pruned so as to remove such hazard. The director or the agency which has primary responsibility for the fire protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

## General Order 95, Rule 35: Tree Pruning

Where overhead wires pass through trees, safety and reliability of service demand that tree pruning be done in order that the wires may clear branches and foliage by a reasonable distance. The minimum clearances established in Table 1, Case 13, measured between line conductors and vegetation under normal conditions, shall be maintained. (Also see Appendix E for tree pruning guidelines.)

When a utility has actual knowledge, obtained either through normal operating practices or notification to the utility, dead, rotten and diseased trees or portions thereof, that overhang or lean toward and may fall into a span, should be removed.

Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of limbs and foliage, in new construction and when circuits are reconstructed or repaired, whenever practicable. When a utility has actual knowledge, obtained either through normal operating practices or notification to the utility, that any circuit energized at 750 volts or less shows strain or evidences abrasion form tree contact, the condition shall be corrected by slacking or rearranging the line, pruning the tree or placing mechanical protection or the conductor(s).

### **EXCEPTIONS:**

- 1. Rule 35 requirements do not apply to conductors, or aerial cable that complies with Rule 57.4-C, energized at less than 60,000 volts, where pruning or removal is not practicable and the conductor is separated from the tree with suitable materials or devices to avoid conductor damage by abrasion and grounding of the circuit through the tree.
- 2. Rule 35 requirements do not apply where the utility has made a "good faith" effort to obtain permission to prune or remove vegetation but permission was refused or unobtainable. A "good faith" effort shall consist of current documentation of a minimum of an attempted personal contact and a written communication, including documentation of mailing or delivery. However, this does not preclude other action or actions from demonstrating "good faith". If permission to prune or remove vegetation is unobtainable and requirements of exception 2 are met, the utility is not compelled to comply with the requirements of exception 1.
- 3. The Commission recognizes that unusual circumstances beyond the control of the utility may result in nonconformance with the rules. In such cases, the utility may be directed by the Commission to take prompt remedial action to come into conformance, whether

or not the nonconformance gives rise to penalties or is alleged to fall within permitted exceptions or phase-in requirements.

Note: Revised November 6, 1992, by Resolution No. SU-15, September 20, 1996, by Decision No. 96-09-097 and January 29, 1997, by Decision No. 97-01-044.

4. Mature trees whose trunks and major limbs are located more than six inches, but less than 18 inches, from primary distribution conductors are exempt from the 19-inch minimum clearance requirement under this rule. The trunks and limbs to which this exemption applies shall only be those of sufficient strength and rigidity to prevent the trunk or limb from encroaching upon the six-inch minimum clearance under reasonable foreseeable local wind and weather conditions. The utility shall bear the risk of determining whether this exemption applies, and the Commission shall have the final authority to determine whether the exemption applies in any specific instance, and to order hat corrective action be taken in accordance with this rule, if it determines that the exemption does not apply.

Note: Added October 22, 1997, by Decision No. 97-10-056.

The following are guidelines to Rule 35.

The radial clearances shown below are minimum clearances that should be established, at time of pruning, between the vegetation and the energized conductors and associated live parts where practicable.

# Vegetation management practices may make it advantageous to obtain greater clearances than those listed below:

- A. Radial clearances for any conductor of a line operating at 2,400 or more volts, but less than 72,000 volts 4 feet
- B. Radial clearances for any conductor of a line operating at 72,000 or more volts, but less than 110,000 volts 6 feet
- C. Radial clearances for any conductor of a line operating at 110,000 or more volts, but less than 300,000 volts 10 feet
- D. Radial clearances for any conductor of a line operating at 300,000 or more 15 feet

#### Table 1: Radial Clearances

Radial Clearances						
		Wire or Conductor Concerned				
		A		В	C	
Case No.	Nature of Clearance	Span Wires (Other than Trolley Span Wires) Overhead Guys and Messengers		Communication Conductors (Including Open Wire, Cables and Service Drops), Supply Service Drops of 0 - 750 Volts	Tolley Contact, Feeder and Span wires, 0 - 5,000 Volts	
13	Radial clearance of bare line conductors from tree branches or foliage (aaa)(ddd)				18 inches (bbb)	
		Wire or Conductor Concerned				
		D	E	F	G	
Case No.	Nature of Clearance	Supply Conductors of 0 - 750 Volts and Supply Cables Treated as in Rule 57.8	Supply Conductors and Supply Cables, 750 - 22,500 Volts	Supply Conductors and Supply Cables, 22.5 - 300 kV	Supply Conductors and Supply Cables, 300 - 550 kV(mm)	
13	Radial clearance of bare line conductors from tree branches or foliage (aaa) (ddd)		18 inches (bbb)	1/4 pin spacing shown in table 2, Case 15 (bbb) (ccc)	1/2 pin spacing shown in table 2, Case 15	

(aaa) Special requirements for communication and supply circuits energized at 0 - 750 volt

(bbb) May be reduced for conductor of less than 60,000 volts when protected from abrasion and grounding by contact with tree.

(ccc) For 22.5 kV to 105 kV, minimum clearance shall be 18 inches.

(ddd) Clearances in this case shall be maintained for normal annual weather variations, rather than at 60 degrees, no wind.

## Federal Regulations Electric Reliability Standard FAC-003-3

Source: http://www.ferc.gov/industries/electric/indus-act/reliability/vegetation-mgt.asp

### Why Tree Work is Necessary

• Tree contact with transmission lines is a leading cause of electric power outages and a common cause of past regional blackouts, including the August 2003 blackout that affected 50 million people in the Northeast United States and Canada.

Following the 2003 blackout and subsequent federal legislation, the Commission designated the North American Electric Reliability Corporation (NERC) as the Electric Reliability Organization (ERO), with the responsibility to develop and enforce standards to ensure the reliability of the Bulk Power System, including the Reliability Standard that

### **Clearances between power lines and trees**

Electric service reliability and public safety require clearance between trees and transmission lines in the right-of-way, be maintained at all times.

- Electric Reliability Standard FAC-003-3 requires that trees and other vegetation growing in or adjacent to the power line right-of-way be trimmed to prevent power outages caused by tree contact with a transmission line. Any power line contact with a tree can cause a short circuit which may lead to a blackout or threaten public safety.
- Trees and other vegetation are regularly pruned beyond the minimum clearance distance to account for the fact that they continuously grow and sway with the wind. Power lines can also sag due to high usage, heat, or snow/ice build-up. Thus prudent right-of-way maintenance necessitates a greater clearance distance between power lines and trees than may occasionally appear to be necessary.
- Each utility develops and implements its own tree work or vegetation management plan. Each plan must conform to requirements of state or local authorities and any applicable right-of-way or easement agreement with the property owner.

## Not all power lines are subject to national Reliability Standards

The nation's electric system is divided into two different domains for regulatory purposes, largely based on the voltage of the facilities: high voltage transmission lines and lower voltage distribution lines.

- High voltage transmission lines operated above 200,000 volts (200 kV) and some transmission lines between 100 kV-200 kV are subject to Reliability Standard FAC-003-3. These transmission lines are typically those on high steel towers with multiple lines.
- Lower voltage **distribution lines**, (generally those lines below 100 kV) are controlled by the utility regulatory commissions within each state. These are typically the lines running in residential neighborhoods on wooden or metal poles, and usually operated at voltages between 4 kV and 21 kV.
- Most but not all tree work or vegetation management activities that directly affects homeowners involves local distribution, not transmission, and is, therefore, exclusively subject to state and local requirements and oversight (not Reliability Standard FAC-003-3).
- addresses vegetation management covering tree work on rights-of-way, FAC-003-3.

## Clause 1 excerpted from American National Standards Institute (ANSI) A300

## (Part 1)-2008 Pruning

#### 1 ANSI A300 standards

1.1 Scope

ANSI A300 standards present performance standards for the care and management of trees, shrubs, and other woody plants.

1.2 Purpose

ANSI A300 performance standards are intended for use by federal, state, municipal and private entities including arborists, property owners, property managers, and utilities for developing written specifications.

1.3 Application

ANSI A300 performance standards shall apply to any person or entity engaged in the management of trees, shrubs, or other woody plants.

#### 70 Part 7 – Integrated Vegetation Management (IVM) standards

70.1 Purpose

The purpose of this document is to provide standards for developing specifications to implement an integrated approach to management of vegetation.

70.2 Reasons for Integrated Vegetation Management (IVM)

The reason for Integrated Vegetation Management is to promote sustainable plant communities that are compatible with the intended use of the site, and discourage incompatible plants that may pose concerns, including safety, security, access, fire hazard, utility service reliability, emergency restoration, visibility, line-of-sight requirements, regulatory compliance, environmental, or other specific concerns.

- 70.3 Implementation
  - 70.3.1 Specifications for integrated vegetation management should be written and administered by a vegetation manager.

70.3.2 IVM specifications shall be adhered to.

- 70.4 Safety
  - 70.4.1 IVM shall be implemented by a qualified vegetation manager, familiar with the practices and hazards of vegetation management and the equipment used in such operations.

- 70.4.2 This standard shall not take precedence over applicable industry safe work practices.
- 70.4.3 Operations shall comply with applicable Federal and State Occupational Safety and Health standards, ANSI Z133, FIFRA, Federal EPA, as well as state and local regulations.

#### 71 Normative references

ANSI A300 for Tree Care Operations – Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices

ANSI Z133 Arboricultural Safety Requirements5 29 CFR 1910, General Industry

29 CFR 1910.268, Telecommunications

29 CFR 1910.269, Electric Power Generation & Distribution

29 CFR 1910.331-335, Electrical Safety

FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act)

NERC Standard FAC-003-3, Transmission Vegetation Management Program

# 72 Definitions (The definitions subclause is part of the ANSI A300 Part 7 IVM standard)

- 72.1 action threshold: The maximum acceptable levels of plant density and height that initiates implementation of a control method.
- 72.2 biological control methods: Control of vegetation using plant competition, allelopathy, animals, insects, or pathogens.
- 72.3 chemical control methods: Control of vegetation through the use of herbicides, growth regulators, or other pesticides.
- 72.4 cultural control methods: Control of vegetation through the establishment of compatible stable plant communities or the use of crops, pastures, parks, or other managed landscapes.
- 72.5 integrated vegetation management (IVM): A system of managing plant communities in which compatible and incompatible vegetation is identified, action thresholds are considered, control methods are evaluated, and selected control(s) are implemented to achieve a specific objective. Choice of control methods is based on effectiveness, environmental impact, site characteristics, safety, security and economics.
- 72.6 maintenance cycle: Planned length of time between vegetation management activities.
- 72.7 manual control method: Control of vegetation using hand-operated tools.
- 72.8 mechanical control methods: Control of vegetation using equipment-mounted saws, mowers, or other devices.

- 72.9 non-selective management: Methods used to control vegetation within a prescribed area without regard to retaining compatible vegetation.
- 72.10 right-of-way reclamation: Reestablishing IVM on a right-of-way that is not currently managed to the full extent of its easement or ownership rights and intended purpose. Conditions on a right-of-way in need of reclaiming include tall, dense amounts of undesirable vegetation, and utility facilities that are inaccessible. Reclamation usually involves initial non-selective methods of mowing or hand-cutting, or broadcast application of herbicides.
- 72.11 selective management: Methods used to target specific vegetation within a prescribed area while retaining compatible vegetation.
- 72.12 shall: As used in this standard denotes a mandatory requirement.
- 72.13 should: As used in this standard denotes an advisory recommendation.
- 72.14 specifications: A detailed, measurable plan or proposal for performing a work activity or providing a product, usually a written document.
- 72.15 standard, ANSI A300: The performance parameters established by industry consensus as a rule for the 6 measure of extent, quality, quantity, value or weight used to write specifications.
- 72.16 utility facilities: Any privately, publicly, or cooperatively owned line, structure, or system for producing, transmitting, or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, or storm water, which directly or indirectly serves the public.
- 72.17 utility right-of-way: A corridor of land over or through which utility facilities are located. The utility may own the land in fee, own an easement, or have certain franchise, prescription, or license rights to construct and maintain utility facilities.
- 72.18 vegetation, compatible: Vegetation that is desirable and/or suitable to the intended use of the site.
- 72.19 vegetation, incompatible: Vegetation that is undesirable, presents a safety hazard, or is unsuitable to the intended use of the site.
- 72.20 vegetation manager: An individual engaged in the profession of vegetation management who, through appropriate experience, education, and related training, possesses the competence to provide for or supervise an integrated vegetation management program.

#### 73 IVM a. Utility Rights-of-way practices

- 73.1 IVM objectives
  - 73.1.1 The vegetation manager (VM) shall define the objectives based on the intended purpose and use of the site.
  - 73.1.2 The vegetation manager shall define action thresholds.

Figure 1: The following IVM flow chart illustrates the IVM process as represented in the ANSI A300 Part 7 standard. Each element is explained in this standard.BSR A300 Part 7 IVM Revision Draft 1 Version 1

- 73.2 Site evaluation
  - 73.2.1 The management area shall be inspected to evaluate existing conditions to determine what type of control method(s), if any, is appropriate to meet defined objectives.
  - 73.2.2 Pre-control evaluations should consider right-of-way use, type of utility facility, general conditions, ownership, intended uses of the site, adjacent land use, existing vegetation, topography, soils, fire risk, sensitive or protected areas, water resources, sensitive or protected species, and regulations.
  - 73.2.3 Vegetation that is compatible or incompatible with the objectives should be identified.
  - 73.2.4 Post-control evaluations should monitor efficacy and appropriateness of methods used, general site conditions, other impacts of treatments, and provide recommendations for future actions.
  - 73.2.5 The results of site evaluation should be documented.
- 73.3 Management control method selection
  - 73.3.1 The vegetation manager shall choose from available management control methods and implement appropriate methods.
  - 73.3.2 Control methods selection should be based on pre-control evaluations, expected growth rates, electric supply line priority, economics, regulations, and specified objectives.
  - 73.3.3 Efficacy of IVM control methods should be considered when scheduling implementation.
  - 73.3.4 Control methods should promote compatible vegetation.
- 73.4 Communication
  - 73.4.1 Communication with various stakeholders such as underlying or adjacent property owners, customers, and regulators regarding IVM activities should be proactive; and shall be in compliance with federal, state, and local regulations.

#### 74 IVM implementation

- 74.1 All laws, rules and regulations regarding public and worker safety shall be followed.
- 74.2 Specifications developed for IVM shall be adhered to.

- 74.3 Maintenance cycles should be based on existing vegetation, expected growth rates, and action thresholds.
- 74.4 Cultural control method
  - 74.4.1 Cultural control methods should be implemented as incompatible vegetation is controlled, and as conditions allow.
- 74.5 Biological control method

Biological control methods should be implemented as site conditions allow.

- 74.6 Initial clearing of rights-of-way
  - 74.6.1 When planning, designing, and constructing new rights-of-way, consideration should be given to future vegetation management needs.
  - 74.6.2 When rights-of-way are being initially established, written easements should be secured defining rights to implement IVM methods as necessary to meet objectives.
- 74.7 Monitoring, Quality Assurance, and Adjustment
  - 74.7.1 An IVM program should include monitoring and quality assurance to ensure best practices are followed, objectives of IVM are met, and that all specifications are adhered to.
  - 74.7.2 The results of IVM treatments and of the quality assurance program shall be clearly documented.
  - 74.7.3 Results and findings from monitoring and quality assurance should be used to adjust and improve the IVM program.

#### 75 IVM applications

- 75.1 Tools and equipment
- 75.1.1 IVM equipment used to implement the program shall be in proper working condition.
- 75.1.2 Equipment shall be used according to manufacturers' instructions.
  - 75.2 Chemical control application
    - 75.2.1 Materials
      - 75.2.1.1 Materials shall be used in accordance with federal, state, and local regulations. BSR A300 Part 7 IVM Revision Draft 1 Version 1
        75.2.1.2 Materials shall be applied according to manufacturers' labels.
        75.2.1.3 Consideration should be given to utilizing products that minimize the risk to humans and the environment.

- 75.2.1.4 Consideration should be given to minimizing the amount of materials utilized over time to minimize the risk to humans and the environment.
- 75.2.1.5 Materials and methods should be selected to reduce the chance of developing resistance when the threat exists.
- 75.3 Selective management
  - 75.3.1 The vegetation manager should employ selective management of vegetation whenever there is sufficient compatible vegetation actively growing on the right-of-way.
  - 75.3.2 Where rights-of-way cross surface water resources, selective management should be utilized to create a buffer, retaining as much compatible vegetation as possible.
  - 75.3.3 When incompatible vegetation with the potential for re-sprouting is manually-cleared, herbicide should be applied to the remaining stump.
- 75.4 Non-selective management
  - 75.4.1 Right-of-way reclamation utilizing non-selective methods should be implemented as an initial step toward developing selective management on the site as conditions allow.
- 75.5 Mechanical methods
  - 75.5.1 When performing right-of-way reclamation, mechanical clearing methods should be considered.
  - 75.5.2 Where rights-of-way cross surface water resources, selective management should be utilized to create a buffer, retaining as much compatible vegetation as possible.
- 75.6 Tree pruning and tree removal
  - 75.6.1 Tree pruning shall comply with ANSI A300 Part 1 *Utility Pruning* subclause.
  - 75.6.2 Trees and tree branches with the potential to affect utility facilities should be monitored for risk, and pruned or removed as appropriate (refer to ANSI A300 Part 9, *Tree Risk Assessment*). Monitoring intervals and action thresholds for mitigation shall be determined by the type of facility, regulatory requirements, and available resources.BSR A300 Part 7 IVM Revision Draft 1 Version 1

# Annex A: Wire Zone – Border Zone Concept (This annex is not part of the ANSI A300 Part 7 IVM standard)

The wire zone – border zone concept is a proven IVM method that ensures the reliability of electric supply lines while promoting stable, compatible plant communities and improved wildlife habitat on suitable electric utility rights-of-way. This method delineates the portion of the right-of-

way beneath the conductors (wire zone) from the portion on either side (border zone), and prescribes different management strategies for each area. Annex A provides supplemental information about this method.

#### A-1 Annex A Glossary

- A-1.1 Border zone: Portion of electric utility right-of-way on either side of the wire zone and extending to the outer edge of the established right-of-way, selectively managed to include a mix of compatible herbaceous and low-growing woody vegetation below a specified height.
- A-1.2 Wire zone: Portion of electric utility right-of-way directly beneath electric supply lines and extending outward to a utility-specified distance, managed to promote only low-growing, primarily herbaceous vegetation.
- A-2 The wire zone border zone method requires the use of separate management strategies for the wire zone and border zone on the same right-of-way, which may not be optimum for all sites. The method is especially useful in areas where ecological concerns, such as visual impact and wildlife diversity, are a consideration. When properly implemented, use of the wire zone border zone method will not affect the reliability of utility facilities. The vegetation manager must determine the suitability of a particular site or right-of-way for management using the wire zone border zone method.

During initial establishment, especially on rights-of-way that have not been regularly maintained, or contain minimal or no compatible vegetation, non-selective methods may be used; however, the effect of these methods on surrounding land owners and other stakeholders must be carefully considered prior to implementation.

- A-3 In the border zone, incompatible vegetation is selectively controlled, and compatible vegetation that will not grow above a specified height is conserved. By retaining a greater variety of vegetation types, wildlife habitat is improved, and the visual impact of the right-of-way is softened.
- A-4 In the wire zone, woody stems, climbing vines or other vegetation that could impair access or harbor young trees may be controlled using selective or non-selective methods. Maintaining low-growing, primarily herbaceous cover in this area allows access to utility infrastructure for inspection, repair, and maintenance, and to inspect vegetation on and off the right-of-way. In addition, the wire zone is often ideal for wildlife species that prefer a meadow-like habitat.
- A-5 Over the long term, the wire zone border zone method increasingly makes use of cultural and biological controls to develop stable plant communities in each zone, thus minimizing the need for other IVM control methods. These plant BSR A300 Part 7 IVM Revision Draft 1 Version 1 communities attract and aid in the establishment of stable wildlife populations, which in turn may further enhance biological controls. The wire zone border zone method can be implemented in most areas; however, the need for additional control methods, as well as the species of flora and fauna present, will vary depending on local climate and site conditions. BSR A300 Part 7 IVM Revision Draft 1 Version 1

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# Appendix D: Environmental Protection Measures

## Introduction

Land management activities have been recognized as potential sources of non-point water pollution. By definition, non-point pollution is not controllable through conventional treatment plant means. Containing the pollutant at its source or precluding delivery to surface water controls non-point pollution. Sections 208 and 319 of the Federal Clean Water Act, as amended, acknowledge land treatment measures as being an effective means of controlling non-point sources of water pollution and emphasizes their development.

Working cooperatively with the California State Water Quality Board, the Forest Service has developed and documented non-point pollution control measures applicable to National Forest System lands. Following evaluations of the control measures by State Water Quality Board personnel as they were applied on site during management activities, an assessment of monitoring data, and the completion of public workshops and hearings, the Forest Service's measures were certified by the State and approved by the Environmental Protection Agency as the most effective means the Forest Service could implement to control non-point source pollution. These measures were termed "Best Management Practices" (BMP's). Best Management Practice control measures are designed to accommodate site-specific conditions. They are tailor made to account for the complexity and physical and biological variability of the natural environment. In the 1981, Management Agency Agreement between the State Water Resources Control Board and the Forest Service, the State agreed that; "The practices and procedures set forth in the Forest Service document constitute sound water quality protection and improvement on National Forest System lands". The implementation of BMP's is the performance standard against which the successes of the Forest Service's non-point pollution water quality management efforts are judged. Below is a listing of Best Management Practices that would guide the projects associated with the herbicide treatment within the Project Analysis Area.

## **Best Management Practices**

### **Practice 5-7 - Pesticide-Use Planning Process**

The Plumas National Forest, Beckwourth District hydrologist is a member of the ID team for this Environmental Assessment (EA) supported by Garcia and Associates (GANDA) consulting biologists and soil scientists. The hydrologist and GANDA scientists evaluated soil and watershed responses to the proposed herbicide applications and provided criteria for identifying sensitive areas to be avoided or needing additional protection. The hydrologist developed a site-specific water quality monitoring plan for this project (Appendix D). This process allows the team to assess the practicality of treatments and the degree of risk involved, and set forth means of avoiding adverse effects as discussed in this document.

## Practice 5-8 - Pesticide Application According to Label Directions and

#### APPLICABLE MONITORING AND EVALUATION

Application rates for all the proposed herbicides will vary somewhat depending upon vegetation condition (see table below). , All herbicide applications will adhere to applicable state laws, CalEPA regulations and safety regulations, and label directions for application rates and methods, mixing, and container disposal. All PG&E and Forest Service personnel in charge of herbicide projects will be Qualified Applicator Certified. All contract applicators will be appropriately licensed by the state. These actions will effectively avoid the misuse of the herbicides used in this project and thus decrease the risk of contaminating water or applying to non-target areas.

Chemical Name/Trade Name	Acid equivalent/acre <sup>1</sup> (AE/ac)/ Active ingredient per acre <sup>2</sup> (a.i./ac)	Volume (gallons per acre)	Target Species	Application Time Period
Aminopyralid/ Milestone VM	0.1 lbs AE/acre	20 gal/ac	Rush skeleton weed, Italian thistle, Scotch Broom, & other resprouting species	Fall - Spring
Clopyralid/ Transline	0.2 lbs AE/acre	20 gal/ac	Yellow starthistle, knapweeds	Fall to Spring
Glyphosate/ Aquamaster	2 lbs AE/acre	20 gal/ac	Scotch Broom, Oaks, Madrones, Manzanita,and other resprouting species.	Spring - Fall
Imazapyr/ Chopper/Habitat	0.5 lbs AE/acre	8 gal/ac	Rush skeletonweed, scotch broom, Oaks, Madrones, Maples, Manzanita, and other resprouting species	Year Round
Triclopyr (TEA) Formulation)/ Garlon 3A	2 lbs AE/acre	20 gal/ac	Scotch Broom, Oaks, Madrones, Maples, Manzanita, Blackberry, and other resprouting species	Spring – Late Fall
Triclopyr (BEE)/ Garlon 4 Ultra	2 lbs AE/acre	3 gal/ac	Scotch Broom, Oaks, Madrones, Maples, Manzanita, Blackberry, and other resprouting species	Spring – Late Fall
Nonylphenol polyethoxylates/ R- 11, Hasten Competitor	4 – 64 oz/acre	various	Scotch Broom, Oaks, Madrones, Maples, Manzanita, Blackberry, and other resprouting species	
Marker Dye/ Colorfast Purple®				

## Practice 5-9 - Pesticide Application and Monitoring and Evaluation

Prior to the start of application, all application equipment will be calibrated to insure accuracy of delivered amounts of herbicide. Periodically during application, equipment will be rechecked for calibration. Colorants or dyes will be added to the herbicide mixture to determine placement. A water quality monitoring plan has been developed for this project. If needed, it will be implemented prior to application to determine baseline conditions.

## Practice 5-10 - Pesticide Spill Contingency Planning

A Spill Management Plan (see below) was developed for this project and will be reviewed by all PG&E and Forest Service employees involved in the project, as well as by the contractor and the appropriate forest and district staff and line officers. Any herbicide application contract will contain clauses that will minimize the chances of herbicide spills (such as designating routes of travel and mixing sites, minimizing herbicide mix in tanks while traveling between units, requiring a separate water truck from the batch truck), and if a spill occurs, outlining responses required by the contractor. Spill kits will be required in Forest Service, PG&E and contractor vehicles on site and where contractor-supplied herbicides are stored. These actions would reduce the risk of contamination of water by accidental spills.

### Practice 5-11 - Cleaning and Disposal of Pesticide Containers and

### Equipment

All herbicide and adjuvant containers will be triple rinsed, with clean water, at a site approved by the Contracting Officer or Representative, or, in the case of application by Forest Service personnel, approved by the project director. The rinsate will be disposed of by placing it in the batch tank for application. Used containers will be punctured on the top and bottom to render them unusable, unless said containers are part of a manufacturer's container recycling program, in which case the manufacturer's instructions will be followed. Disposal of non-recycled containers will be at legal dumpsites; certification of such disposal will be required prior to final payment on contract applications. Equipment will not be cleaned and personnel will not bathe in a manner that allows contaminated water to enter any body of water on the national forest. These actions will effectively prevent water contamination and risk to humans from herbicide containers.

### **Practice 5-12 - Streamside Wet Area Protection During Pesticide Spraying**

Buffer strips would be established on most stream courses that might be impacted. The hydrologist determined the buffer strip locations and widths based on the Aquatic/Riparian Standards and Guidelines of the 2004 FEIS ROD Sierra Nevada Framework. Buffer width sizes are also based on the chemical properties and the labeled use of the herbicides being used.

### **Practice 5-13 - Controlling Pesticide Drift During Spray Applications**

To reduce off-site and off-target drift several measures have been placed into the project plans. Among them are: 1) using ground application equipment;; 3) requiring a spray nozzle that produces a relatively large droplet; 4) requiring low nozzle pressures (15 psi); 5) requiring the spray nozzle be kept within 24 inches of vegetation being sprayed; 6) requiring a pressure gauge or pressure regulator on the backpack sprayers; 7) requiring a directed spray away from conifer seedlings and oaks as well as the use of physical barriers (glyphosate only); and 8) requiring the use of a seedling wash-down solution for accidentally over-sprayed seedlings

(glyphosate only). These actions would minimize the risk of herbicides falling directly into water or other non-target areas.

# Appendix E: Herbicide Applications Standard Operating Procedures

- 1. Herbicide application will comply with product label directions and applicable legal requirements.
- 2. Herbicide application methods are limited to select (e.g. wicking, wiping, stem injection, hack and squirt, and cut stump), and directed spray (use of backpack sprayer hand held nozzle to aim application at specific target species), as permitted by the product label and project design features. No a broadcast or aerial herbicide applications will occur.
- 3. Spray application drift control measures:
  - 1) Only ground based equipment will be used.
  - 2) All applications will cease when weather conditions exceed those on the label.
  - 3) Applications will not be performed when the National Weather Service forecasts a >70% probability of measurable precipitation (>0.1") within the next 24 hour period.
  - 4) Applications will cease when wind speed exceeds 5 mph.
  - 5) Spray nozzles will produce a relatively large droplet size (500-800 microns).
  - 6) Low nozzle pressures will be used (15 psi).
  - 7) Spray nozzles will be kept within 24 inches of target vegetation during spraying.
  - 8) A pressure gauge or pressure regulator will be required on each backpack sprayer.
- 4. Herbicides will be applied by trained and/or certified applicators in accordance with label instructions and applicable federal and state pesticide laws. Mixing of herbicides will be supervised onsite by, at a minimum, a Qualified Applicator (QAC) certified by the State of California.
- 5. Personal Protective Equipment (PPE) will be used in accordance with the product label and Chemicals will be stored in designated storage facilities consistent with FSM 2109.14, Chapter 40. There will be no storage of chemical on the project site. The material that is not being mixed will only be amounts needed for short-term use. This will be in locked truck boxes or trailer- locked compartments. All storage will be off site.
- Unused herbicides will be disposed of in accordance with the product label and FSM 2109.14, Chapter 40. If the product label and FSM differ, the more restrictive storage and disposal guidelines will be followed. California Department of Pesticide Regulation requirements.
- 7. The Plumas National Forest Hazardous Materials Emergency Response Plan (2009) and spill kit will be on-site when herbicide treatment methods occur. The Spill Management Plan (Plan) includes reporting procedures, project safety planning, methods of clean-up of accidental spills, and information including a spill kit contents and location as noted in Forest Service Water Quality Management Handbook 2509.22-22011-1 (USFS 2011), Soil Management Handbook 2500-2012-1 (2012) Pesticide-Use Management and Coordination and Handbook (FSH) 2109.14 (USFS 1994a). These plans ensure:

- a) No more than projected daily use quantities of herbicides will be transported to the project site.
- b) Equipment used for transportation, storage, or application of herbicides will be maintained in good repair and free of leaks or damage that could allow for a spill.
- c) Herbicide containers must be secured and prevented from tipping during transport.
- d) To reduce the potential for spills, impervious material, such as a bucket or plastic, will be placed beneath mixing areas in such a manner as to contain any spills associated with mixing/refilling.
- e) Applications will not be performed when the National Weather Service forecasts a >70% probability of measurable precipitation (>0.1") within the next 24 hour period. In uplands, immediately upslope of occupied foothill yellow-legged frog, Sierra Nevada yellow-legged frog, Cascades frog, California red-legged frog, leopard frog, or western pond turde, hardhead habitat, this restriction is increased to 48 hours for use of triclopyr BEE formulations.
- f) Immediate control, containment, and cleanup of fluids and herbicides due to spills or equipment failure (broken hose, punctured tank, etc.) will be implemented. All contaminated materials will be disposed of promptly and properly to prevent contamination of the site. All hazardous spills will be reported immediately to the Forest Hazardous Spill Coordinator.
- g) Herbicide spray equipment will not be washed or rinsed within 300 feet of any body of water or perennial stream channel. All herbicide containers and rinse water will be disposed of in a manner that would not cause contamination of waters (Best Management Practices [BMP] 5-11)<sup>1</sup>.
- h) Mixing and loading of herbicide(s) will take place a minimum of 300 feet away from any body of water or perennial stream channel unless prior approval is obtained from a Forest Service hydrologist or biologist (also note design feature 10c).
- 8. In order to minimize drift, applications will not occur if wind speeds are over 5 miles per hour sustained as determined by the PCA and Pest Control Operator (PCO) on site.
- 9. If foliar/spot spraying application is required, the following techniques will be used to minimize drift (BMP 5-13):

Pest Control Recommendations include restriction on wind speed, temperature and rainfall

<sup>&</sup>lt;sup>1</sup> Best Management Practices are found at http://www.fs.fed.us/r5/publications/waterresources/waterquality

Within 25 feet of occupied native frog, western pond turtle, and hardhead habitat, herbicides will not be sprayed when winds are greater than 5 miles per hour (mph) sustained as determined by the PCA and PCO.

- 10. Spill Management Plan (see below): An herbicide spill contingency plan was developed as part of the Spill Management Plan, and PCOs and other personnel will follow the measures in this plan. This plan will include measures such as the availability of spill kits, secondary containment, and measures for clean-up and minimizing impacts of spills in both dry land and aquatic areas.
- 11. Maintain a safety plan specific to this project that includes a job hazard analysis, including personal protective equipment/clothing (PPE) needs (FSH 6709.11; USFS 1999) and addresses risk and standard cleanup procedures (Forest Plan, part 2, p. 106; FSM 2153.3 [USFS 1994b]; FSH 2109.14,16 [USFS 1994b]).
- 12. Environmental Tailboard Training Sessions: All PCOs and personnel carrying out treatment activities under the Proposed Action will be required to undergo environmental training prior to the onset of project work. The environmental training will be specific to the areas that are being treated, the sensitive biological resources that are located there, and the design criteria and mitigations that apply in those locations. If new personnel are added to the project, they must receive the training before starting work. As part of the training, an environmental awareness handout will be provided to all personnel that describes and illustrates sensitive resources (i.e., waters of the U.S. and State, specialstatus plant populations, and special-status wildlife habitat) to be avoided during project implementation and lists applicable permit conditions identified by State and Federal agencies to protect these resources. Training will include a description of the California red-legged frog, Sierra Nevada yellow-legged frog, and Layne's butterweed, the specific measures that are being implemented to conserve the species for the current location, the penalties for non-compliance, and the boundaries of the project area. Personnel should also be informed that if a California red-legged frog or Sierra Nevada vellowlegged frog is encountered in the work area, work activities in that area shall cease until the species has moved from the area on its own volition. Brochures, books, and briefings may be used in the training session, provided that a qualified person (e.g., licensed Pest Control Advisor or qualified biologist) is on hand to answer any questions.
- 13. Where feasible, select existing hardened surfaces or disturbed sites for staging areas. Just prior to treatment, mark points of access, parking, and treatment areas in resource sensitive areas with signs, staking, and flagging to keep project activities confined to designated areas. Advise all project personnel to conduct work activities within the defined work area only in these resource sensitive areas.

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# Appendix F: Project Design Features

### Table F-1 Project Design Features (PDF)

ID	Project Design Feature	PDF Purpose				
	PUBLIC SAFETY/RECREATION RESOURCE					
1	For herbicide treatment within 100 ft. of recreation sites (campgrounds, trailheads, dispersed camping areas, and known blackberry picking sites), cautionary notice signs will be posted at the recreation site prior to herbicide treatments.	To inform and to minimize potential adverse effects on forest users.				
2	Herbicide applications will treat the minimum area necessary to meet site objectives. Removal of native shrubs will be minimized where feasible (corresponds with USFWS Conservation Measure #1).	To minimize potential adverse effects on workers, forest users, and resources.				
3	Within areas of concentrated public use, developed recreation sites and at the trailheads, implementation of this project will be limited to weekdays and non-holidays (Monday to Friday) during daylight hours. Treated vegetation areas would be posted during treatments and for five days following application to inform the public. In the vicinity of the Pacific Crest Trail (PCT), the treatments would not occur from July 15th through August 15th during peak hiker season. The Pacific Crest Trail Association would like to be contacted prior to herbicide treatments or closures of the PCT so users can be notified through their public website. PCTA (with support from the Forest Service) has constructed and maintains a public website to inform PCT users.	To minimize potential adverse effects on forest users.				
4	Temporary public use closures are permitted in areas where the public and workers comingle and public safety is compromised because of hand tools, and/or, the herbicide label requires it. The District Ranger will monitor potential conflicts and act accordingly.	To minimize potential adverse effects on forest users.				
5	All areas as required by the herbicide label treated with herbicide will be posted at likely points for entry and will include the herbicides used including EPA registration numbers, time and date of application, instruction to not enter until dry and a site contact person and phone number. PCTA would like signing to occur at the Highway 70 PG&E rest area/PCT trailhead as well as the PCT equestrian trail head approximately one mile west on Highway 70.	To minimize potential adverse effects on forest users.				
6	Staging areas for equipment and crew congregation will be located in areas where there is minimum conflict with public use and other resources. These areas should not be within 150 feet of a stream channel (unless pre-approved by the District Ranger), and in areas which are not highly visible or heavily used by the public. Each staging area should accommodate vehicle parking to minimize the impacts of work vehicles and equipment in developed recreation sites (corresponds with USFWS Conservation Measure #2).	To minimize potential adverse effects on forest users.				
	BOTANICAL RESOURCE PROTECTION MEASURES					
7	No directed spray or select application will occur within 25 feet of Threatened, Endangered, Candidate, Proposed or Special Interest Plants (Layne's butterweed). A qualified botanist will work alongside herbicide applicators to avoid any known or discovered populations of this species. Buffers may be waived if plants are covered by a protective barrier. Protective barriers can also be described as a spray shield. The barrier or shield will ensure that the directed spray application stays on the intended target species. Herbicide applications will not occur under saturated/wet soil conditions. No buffers are required for hand pulling, cutting, or similar manual treatment. Unsurveyed areas will not be treated with herbicides unless otherwise approved by a PNF staff botanist (corresponds with USFWS Conservation Measure #3).	To ensure that special status plant species are protected.				
8	Special Case, Limited Operating Period (LOP) for Open Habitat TECS and SpecialInterest Species:This option is intended for dry upland areas where large populations of species such asClarkia and/or Clifton's eremogone are present, which are known to make avoidancebuffers infeasible. In non-serpentine areas with open habitat TECS and Special Interestplant species (see list of spans below), herbicide applications can be made after thespecial status plants have set seed and become dormant for the year - withoutestablishing the buffers provided in the "general procedure" (see #8).This LOP will generally be July through November (or start of fall rains).No pre-emergent herbicides will be used in any directed spray/backpack spray treatmentsduring the LOP. The use of herbicides with pre-emergent action is allowed in selectapplications on woody material.If any unanticipated TECS or Special Interest plant species are observed, the buffers fromthe general procedure will be implemented.Bucks Creek-Rock Creesta 230kV - 0/3 (a,b,c) to 1/13, 3/29 to 7/66,Caribou-Table Mountain 230kV - Towers 15/116A to 16/119, 20/141 to 23/158, 23/168	To ensure that special status plant species are protected.				

ID	Project Design Feature	PDF Purpose
	to 26/192, 30/215 to 32/234, 38/279 to 38/281 portions with Mildred's clarkia <b>Rock Creek-Poe 230kV</b> – Towers 0/TERM3 to 0/12, 4/25 to 7/50, 3/29 to 8/59, 9/67 to 10/72, around 14/98 and 12/88, portions with Mildred's clarkia, Mosquin's clarkia, and Clifton's eremogone <b>Cresta-Rio Oso 230kV</b> – around 26/215, 8/67 to 9/79 and 0/TERM 1, around 14/112, 13/105 to 13/106 portions with Mildred's clarkia, Mosquin's clarkia, and Clifton's eremogone <b>Caribou-Palermo 115kV</b> – Towers 13/103 to 16/127, 18/149 to 20/166, 22/186 to 27/223, 21/105 to 12/1057 apartment if Mildred's clarkia and the sect of t	
	31/255 to 31/257 portions with Mildred's clarkia, Mosquin's clarkia, and Clifton's eremogone	
9	Special Case: Serpentine Habitats, Permanent Controlled Areas: In order to avoid impacts to very rare serpentine TECS and Special Interest species (Cantelow's lewisia, Jepson's onion, Constance's rockcress, Ahart's sulfur-flower, Stebbin's monardella, Feather River stonecrop, Caribou coffeeberry, and California lady's-slipper), herbicide use will be avoided on the following spans,: <b>Caribou #2 60kV</b> - Towers 3/24 to 4/0, 4/21 to 4/14, 5/15 to 6/3, 9/16 to 13/1 <b>Caribou-Table Mountain 230kV</b> – Towers 11/82 to 11/83, 11/86 to 11/88, spans either side of 12/91, 12/96 to 13/98. 35/263 to 35/264, 37/274 to 37/275 <b>Rock Creek-Poe 230kV</b> – Towers 10/74 to 10/75, area around tower 12/87, <b>Cresta-Rio Oso 230kV</b> – 10/88 to 11/94, area around 12/104 <b>Caribou-Palermo 115kV</b> – Towers 3/22 to 3/24, spans either side of tower 3/30, spans either side of 4/35, 5/39 to 5/42, 29/236 to 29/241, area around 31/253 If herbicide use is determined necessary by PG&E to achieve vegetation management goals in these spans, PNF staff botanist will be notified prior to herbicide application. The general procedure (#8) will be implemented. In addition, a qualified botanical monitor will accompany the crews during treatment; this botanical monitor may be a PNF botanist, at the discretion of the PNF staff botanist.	To ensure that special status plant species are protected
	WEED PREVENTION MEASURES	
10	<b>Prevention/Cleaning</b> : Require all off-road equipment and vehicles (Forest Service and contracted) used for project implementation to be free of nonnative invasive plant species. Clean all equipment and vehicles of all attached mud, dirt and plant parts. This will be done at a vehicle washing station or steam cleaning facility before the equipment and vehicles enter the Proposed Action area. Cleaning is not required for vehicles that will stay on the roadway. Also, all off-road equipment must be cleaned prior to leaving areas infested with non-native, invasive plant species (corresponds with USFWS Conservation Measure # 5).	To prevent the spread of invasive weeds.
11	<b>Prevention/Road Construction, Reconstruction, and Maintenance</b> : All earth-moving equipment, gravel, fill, or other materials need to be free of non-native, invasive plant species. Use onsite sand, gravel, rock, or organic matter where possible (corresponds with USFWS Conservation Measure # 6).	To prevent the spread of invasive weeds.
12	<b>Prevention/Revegetation</b> : Use only equipment, mulches, and seed sources that are free of non-native, invasive plant species. Avoid seeding in areas where revegetation will occur naturally, unless non-native, invasive plant species are a concern. Save topsoil from disturbance and put it back to use in onsite revegetation, unless contaminated with non-native, invasive plant species. All activities that require seeding or planting will need to use only locally collected native seed sources. Plant and seed material should be collected from as close to the Proposed Action area as possible, from within the same watershed and at a similar elevation whenever possible. Persistent non-native such as timothy, orchard grass, or ryegrass will be avoided. This will implement the USFS Pacific Southwest (PSW) Region 5 policy that directs the use of native plant material for revegetation and restoration for maintaining "the overall national goal of conserving the biodiversity, health, productivity, and sustainable use of forest, rangeland, and aquatic ecosystems."	To prevent the spread of invasive weeds.
13	<b>Prevention/Staging Areas</b> : Do not stage equipment, materials, or crews in non-native, invasive plant species infested areas where there is a risk of spread to areas of low infestation (corresponds with USFWS Conservation Measure #7).	To prevent the spread of invasive weeds.
14	<b>Noxious Weeds Known occurrences/Avoidance and Treatment:</b> Small infestations identified during project implementation will be evaluated and treated, or "flagged and avoided" according to the species present and project constraints. If larger infestations are identified after implementation, they should be isolated and avoided with equipment (and equipment washed as in # 12 above) (corresponds with USFWS Conservation Measure #8).	To prevent the spread of invasive weeds.
	TERRESTRIAL WILDLIFE PROTECTION MEASURES	
15	If an American Marten, Pacific Fisher, Sierra red fox, or Wolverine den site is located, then	To ensure that Special

ID	Project Design Feature	PDF Purpose
	the following buffers and limited operating periods (LOP) apply: No treatment (including manual) will occur within 1/4 mile of a known forest carnivore den site from: American martenMay 1-July 31 Pacific fisherMarch 1-June 30 WolverineJan 1-June 30 Sierra red foxJan 1-June 3	Status Forest Carnivores are protected.
16	For the amphibians, western pond turtle and hardhead minnow: Limited Operating Period from October 1st, or the first wetting rain (the first frontal system resulting in greater than1/4 inch precipitation as measured from the nearest appropriate weather monitoring station (e.g., National Weather Service), through April 15th. If a dry period greater than 72 hours occur after the onset of the rainy season operations can resume. Apply the limited operating period to all unsurveyed suitable areas and all occupied California red-legged frog and Sierra Nevada yellow-legged frog habitat. Applications within 500 feet of potential habitat for SNYLF will be conducted outside the timeframe when frogs could be migrating (corresponds with USFWS Conservation Measure # 9).	To protect aquatic organisms.
17	Within 500 feet of known occupied sites of California red-legged frog, foothill yellow- legged frog, and Sierra Nevada yellow-legged frog, treatment will be limited to manual treatment or select herbicide application. A qualified biologist will be present to provide work oversight within 500 feet of sites with known occurrences and sightings of California red-legged frog and Sierra Nevada yellow-legged frog (corresponds with USFWS Conservation Measure #11).	To meet Sierra Nevada Forest Plan Amendment (SNFPA) Riparian Conservation Objectives and protect Federally listed Threatened and Endangered Species.
18	<ul> <li>PG&amp;E has agreed to terms and conditions set forth in a 30-year programmatic agreement with USFWS (Biological Opinion 1-1-01-F-0114) for vegetation maintenance work around elderberries. The elderberries at issue must have one or more stems measuring one inch or greater in diameter at ground level and are therefore potential habitat for the listed valley elderberry longhorn beetle. The relevant terms and conditions are as follows:</li> <li>a) When elderberry occurs within the work area (e.g. actual work on an elderberry or other vegetation management work within 20' of an elderberry), a qualified individual (PG&amp;E employee or contractor) shall survey and "flag" at least twenty feet from the drip line of each elderberry plant with pin-flagging, or other appropriate means, prior to commencing vegetation management activities for avoidance (work within 20 feet of an elderberry is allowed for pole clearing).</li> <li>b) Work crews shall be briefed on the location of habitat and shall review the avoidance, protection and minimization measures set forth herein.</li> <li>c) Briefings will be each morning prior to commencing planned work and will be tailored to the specific work area to be covered during the day. No ground disturbance or trimming is expected as a result of this proposed action within 20 feet of elderberry.</li> <li>d) Herbicides applications will be limited to cut stump treatments (no broadcast spray treatments) within approximately 20 feet of elderberry.</li> <li>e) Should a valley elderberry longhorn beetle be observed on-site, the Sacramento USFWS Office will be immediately notified by E.J Koford, Senior Biologist, or other appointed representative of PG&amp;E, via telephone at (916) 414-6600. Any observations of beetles in any life stage will be recorded on CNDDB field sheets and sent to the California Department of Fish and Game (CDFG) by PG&amp;E.</li> <li>f) Work will be performed in compliance with PG&amp;E's programmatic agreement with the USFWS.</li> </ul>	To protect VELB.
	WATER QUALITY	
19	POEA surfactants will not be used within 150 feet of surface waters.	To protect aquatic organisms.
20	Perennial streams used for domestic water supply (e.g., Jackass Gulch) will be protected with a 15-foot buffer for 0.5 mile upstream of the diversion point for herbicide treatment and a 200-foot buffer around the diversion intake. Directed spray can occur within this buffer if a) use near a domestic water source is directed on the product label; AND b) water quality is monitored.	To protect water quality.
21	Fueling of gas-powered equipment with gas tanks larger than 5 gallons would not occur within 150 feet of surface waters, except at existing facilities. Fueling of gas-powered equipment less than 5 gallons would not occur within 25 feet of surface waters, except at existing facilities (corresponds with USFWS Conservation Measure #13).	To protect water quality and aquatic organisms.
22	Herbicide mixing will not occur within 300 feet of surface waters, except at existing facilities; within 500 feet of sites occupied by California red-legged frog or Sierra Nevada yellow-legged frog no mixing will occur (corresponds with USFWS Conservation Measure #14).	To protect water quality and aquatic organisms.
23	Within 50 feet of perennial or seasonal streams, if treatment reduces groundcover to	To protect water quality and

ID	Project Design Feature	PDF Purpose			
	less than 50% (recommended groundcover coverage &om 1988 Plumas National Forest Land and Resource Management Plan) of what it was prior to treatment for a contiguous area of >0.25 acres, then mulching and/or revegetation may be required to minimize erosion and re-establish native vegetation. Only equipment, mulches, and seed sources that are free of non-native, invasive plant species will be used. Seeding will be avoided in areas where revegetation is anticipated to occur naturally, unless non-native, invasive plant species are a concern. Topsoil from disturbance will be saved and re-used in onsite revegetation, unless contaminated with non- native, invasive plant species. All activities that require seeding or planting will use only locally collected native seed sources. Plant and seed material will be collected from as close to the action area as possible, from within the same watershed and at a similar elevation whenever possible. Persistent non-natives such as timothy, orchard grass, or ryegrass will be avoided. PG&E registered professional Foresters and registered Pest Control Advisors will evaluate the need for mulching and/or revegetation (corresponds with USFWS Conservation Measure #15).	riparian habitat for aquatic organisms.			
24	Herbicide use buffers have been established for streams and other water bodies (listed below in table). Buffers vary by herbicide and application method. Additionally, as described in PDF 33 below, within 500 feet of sites occupied by California red-legged frog or Sierra Nevada yellow-legged frog no herbicide application will occur. Tank mixtures would apply the largest buffer as indicated for any of the herbicides in the mixture (corresponds with USFWS Conservation Measure #16).	To minimize risk of surface water contamination in order to protect water quality and aquatic organisms. Also to ensure that TECS and Special Interest plants in the riparian and meadow and seep guilds are protected. To protect water quality and meet SNFPA Riparian Management Objectives.			
25	Roadside ditches will be given the same buffers (listed in Table D-2 below) as the water body type they resemble (corresponds with USFWS Conservation Measure #17)	To protect water quality and meet SNFPA Riparian Management Objectives. Also to ensure that TECS and Special Interest plants in the riparian and meadow and seep guilds are protected.			
26	Butt Valley reservoir receives water throughout the year through a penstock and the Butt Valley Powerhouse in addition to the seasonal flows. Due to this, it does not have the seasonal low water levels of a traditional reservoir. Prior to implementation of herbicide treatments in draw-down periods, treatments would be coordinated with Hydropower operations. These periods would be in very short terms/durations, and would be determined by the needs and requirements of the hydroelectric operations.	To protect water quality and meet SNFPA Riparian Management Objectives.			
	VISUAL QUALITY MANAGEMENT				
27	Visual quality objectives (VQOs) will be maintained, where feasible, along the Pacific Crest Trail (PCT). Please note, in areas where the terrain is naturally too rocky to reasonably support low growing grasses and forbs, planting would not be required to meet VQOs. To the extent feasible, a VQO of partial retention will be maintained near the PCT — "Noticeable deviations must remain visually subordinate to the landscape character being viewed."	To minimize potential adverse effects on forest users.			
28	Visual quality objectives will be maintained, where feasible, along the Pacific Crest Trail. Please note, in areas where the terrain is naturally too rocky to reasonably support low growing grasses and forbs, planting would not be required to meet VQOs.	To protect scenery along the PCT.			
29	The disposal of post-treatment residue (e.g., dead and dry vegetation/burn piles) would be discussed annually with the Forest Service Fuels Officer.	To protect scenery along the PCT.			
	STANDARD CULTURAL RESOURCES PROTECTION MEASURES				
30	If cultural resources are discovered during project implementation where none are known, the Heritage Resources Staff on the correct PNF District will be contacted immediately, and the discovery will be dealt with as appropriate.	To minimize potential adverse effects on cultural resources.			
	USFWS CONSERVATION MEASURES				
31	A total of four (4) occurrences of Layne's butterweed are known within Plumas National Forest. All of these are located on the Feather River Ranger District, on serpentine soils east of Pike County Peak, in the Clipper Mills and Challenge USGS quadrangles. These areas have been surveyed in 2008 and a pre-treatment survey will	To protect Federally listed Threatened and Endangered Species.			

ID	Project Design Feature	PDF Purpose
	be conducted in those areas prior to application of herbicides. The pre-treatment survey will be conducted each year that treatment is scheduled to occur in those areas (corresponds with USFWS Conservation Measure #4).	
32	Within the unsurveyed areas of suitable habitat, California red-legged frog and Sierra Nevada yellow-legged frog habitat occupancy will be assessed annually by the Forest Service within proposed herbicide treatments submitted in the annual pesticide use proposal to evaluate whether amphibian surveys are necessary to determine occupancy prior to treatment (PDF 16). Occupancy will be determined through surveys by the Forest Service or qualified biologists. The qualified biologist will have documented training in the biology and field identification of frogs in addition to demonstrable experience surveying for and positively identifying California red-legged frogs and Sierra Nevada yellow-legged frogs. The survey will cover all suitable habitat areas and should any life stages of the species be found (i.e. the site is occupied), work activities for that area will occur during the limited operating period described above and will be limited to manual treatment as described in PDF 33 below (corresponds with USFWS Conservation Measure #10).	To protect Federally listed Threatened and Endangered Species.
33	Within 500 feet of known occupied sites of California red-legged frog, foothill yellow- legged frog, and Sierra Nevada yellow-legged frog, treatment will be limited to manual treatment only. A qualified biologist will be present to provide work oversight within 500 feet of sites with known occurrences and sightings of California red-legged frog and Sierra Nevada yellow-legged frog (corresponds with USFWS Conservation Measure #12).	To protect Federally listed Threatened and Endangered Species.
34	All food-related garbage will be placed in tightly sealed containers at the end of each workday to avoid attracting predators. Containers will be emptied and garbage removed from the project site at the end of each work week. If sealed containers are not available, garbage will be removed &om the project site upon completion of daily activities. Additionally, any garbage present in the right-of-way will be removed after annual treatment of the site is complete. All garbage removed from the project site will be disposed of at an appropriate off-site refuse location (corresponds with USFWS Conservation Measure #18).	To protect Federally listed Threatened and Endangered Species.
35	Water quality monitoring will occur as described in the PG&E Herbicide Vegetation Management Program Environmental Assessment June 2014 Water Quality Monitoring Plan. The Water Quality Monitoring Plan will be submitted to the Service for review and approval prior to project implementation (corresponds with USFWS Conservation Measure #19).	To protect water quality and Federally listed Threatened and Endangered Species.
36	Roads and/or trails in the right of ways used to access the treatment sites will be maintained as outlined in Forest Service National BMPs for Water Quality Management (FS-990a, April 2012), standard PG&E road maintenance guidelines included in applicable contracts see PG&E 2005 example contract wording for reference) and PG&E vegetation management BMPs (Version 3, April 2014). Implementation of BMPs is expected to prevent and/or minimize erosion. Efficacy of BMPs and locations needing treatment will be discussed during annual meetings when PG&E submits the pesticide use proposal (corresponds with USFWS Conservation Measure #20).	To protect water quality and Federally listed Threatened and Endangered Species.
37	Erosion control materials that use plastic or synthetic mono-filament netting shall not be used within the action area. This includes products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine or other similar fibers (corresponds with USFWS Conservation Measure #21).	To protect water quality and Federally listed Threatened and Endangered Species.

# Table F-2 Stream and Aquatic Features Buffer Widths for Herbicide Application, as Identified in USFWS Consultation<sup>1</sup>

Stream Class					
	LIVE WATER (Perennial streams, intermittent channels that support a continual strip of riparian vegetation, lakes, ponds, springs, seeps, fens, bogs)		NO LIVE WATER (Seasonal wetlands when dry;)		Ephemeral (Dry washes without riparian vegetation)
Herbicide Applic	cation Method		•		
	Directed spray	Select	Directed spray	Select	
Aminopyralid	25 ft	10 ft	10 ft	No buffer required	
Clopyralid	75 ft	25 ft	50 ft	25 ft	No buffer required, unless otherwise specified by project design features.
Glyphosate	25 (60*) ft	10 (60*) ft	10 ft	No buffer required	
Imazapyr	25 (60*) ft	10 (60*) ft	25 ft	No buffer required	
Triclopyr-TEA	35 (60*) ft	25 (60*) ft	25ft	25 ft	
Triclopyr-BEE	100 ft	25 (60*) ft	50 ft	10 ft	

\* The 60 foot buffers inside parentheses apply to certain segments along the Colgate-Challenge ROW in designated habitat areas.

Buffer distances are measured from the water's edge. "Select" refers to cut stump and hack and squirt. Roadside ditches will be treated the same as the water body type they resemble.

Toxicity, soil mobility, and runoff potential were considered in selecting buffer distances and application methods allowed. In some instances, buffer distances are greater than those provided in the product label, in order to comply with USFS Best Management Practices for Water Quality.

This table is originally from Appendix D (page 213) of the Herbicide Environmental Assessment.
# **Recommended Weed Response Design Criteria**

Factors	Assessment Summary	Risk							
NON-PROPOSED ACTION DEPENDENT FACTORS									
1. Inventory	Complete	High management priority species present.							
2. Known Non-native, invasive plant species	High management priority species are present within the Proposed Action area and adjacent analysis area.	High priority to prevent spread within and from Proposed Action area; prevention of new introductions into Proposed Action area is also a high priority.							
3. Habitat vulnerability	Habitat is already open with little canopy. Some areas are low elevation, are near large roads (e.g., SR 70), and/or have had recent stand replacing fire. Higher elevation areas, particularly those farther from main roads have less risk.	High current vulnerability in low elevations (below 4,000 feet), areas near large roads (e.g., SR 70), and areas with recent intense wildfire (mostly areas north and west). Moderate current vulnerability in higher elevations (mostly areas east of Caribou Road away from SR 70).							
4. Non-project dependent vectors	Infestations along existing ROWs and the adjacent analysis area. Moderate level of current vectors.	Moderate current vulnerability							
PROPOSED ACTION DEPENDENT	FACTORS								
5. Habitat alteration expected as a result of Proposed Action.	No ground disturbance. Incrementally more open, drier, and warmer habitat due to reduction of woody material. Reduced levels of noxious weed species.	Minimally increased habitat from current condition.							
6. Increased vectors as a result of project implementation	Over time, reduced entrances from vegetation management, and less fuel for wildfire.	Reduced risk from vectors. Lowered risk of future weed spreading events.							
	No SOP measures implemented	Current level of risk.							
7. Mitigation measures	Some SOP measures implemented	Moderately reduced risk.							
	All SOP measures implemented	Greatly reduced risk.							
8. Anticipated non-native, invasive plant species response to Proposed Action	Current condition is existence of high management priority species in and adjacent to the Proposed Action area, with moderate to high level of habitat vulnerability, and moderate vector levels. Proposed Action may minimally increase habitat vulnerability, but lowers the risk from vectors and future weed spreading events; adding SOPs reduces risk further.	The currently condition is moderate to high risk of introduction and spread. This risk is reduced with the implementation of the Proposed Action.							

# Table F-3 Summary of Non-native, Invasive Plant Species Responses to Risk Factors for the Proposed Action

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# Appendix G: Water Quality Monitoring Plan<sup>2</sup>

# Introduction

On February 26, 1981, the State Water Resources Control Board (State Water Board) Executive Director signed a Management Agency Agreement with the United States Department of Agriculture-Forest Service (USDA-FS). The Management Agency Agreement provides the basis for waiver of discharge requirements for certain non-point source discharges, provided that the USDA-FS implements State Water Board-approved best management practices (BMPs) (see Appendix D, above) and procedures and the provisions of the agreement. The Management Agency Agreement covers all National Forest System lands in California.

The PG&E Herbicide Vegetation Management Program (VMP) is located along 14 transmission line right-of-ways (ROWs) on lands administered by the Plumas National Forest. The Management Agency Agreement requires that the proposed use of herbicides to control incompatible vegetation include a water quality monitoring plan and BMPs.

The USDA-FS's Region Five amendment to the Forest Service Handbook (2509.22-2011-1) and the National Best Management Practices for Water Quality Management for National Forest System Lands" (USDA FS-990a 2012) include BMPs designed to prevent degradation of water quality from management activities, including herbicide use. These BMPs were certified by the State Water Board and approved by the United States Environmental Protection Agency (US EPA). Analysis of chemical characteristics regarding water contamination, appropriate chemical for target species, buffering of channels, particulars of methods and equipment use and maintenance address relevant National BMPs (standards— Chem.1 and 3). PG&E's Herbicide VMP is also designed in compliance with USDA-FS BMPs to protect water quality during implementation of vegetation and integrated pest management activities. Implementation of BMPs along with project specific standard operating procedures, and design features (Appendix D) ensures compliance with the Clean Water Act.

This water quality monitoring plan satisfies the Management Agency Agreement requirements regarding implementation of measures to ensure that aquatic and riparian species are adequately protected. It also satisfies the USDA-FS Riparian Conservation Objective (RCO) # 1 (USDA-FS 2004) and USDA-FS BMP 5.9 which identifies the need for a monitoring plan during the herbicide use planning process as part of the project environmental evaluation and documentation.

<sup>&</sup>lt;sup>2</sup> This Appendix is taken from the Environmental Assessment and was Appendix F to that document.

The aquatic and riparian buffers within the VMP were established as part of the project design features and are based on site-specific human health and environmental risk assessments prepared for this project. Similar buffer widths have been used effectively for several NEPA projects including the Crane Valley Hydroelectric Project, the Rock Creek-Cresta Hydroelectric Project, the Mokelumne Hydroelectric Project, The Pit 3, 4, 5 Hydroelectric Project for PG&E and the Upper American River Project transmission integrated vegetation management program for the Sacramento Municipal Utility District. Water Quality Monitoring was conducted for all of these programs and in all but one instance there were no detected residues of herbicide in protected waters using similar stream buffers. The one instance where herbicide was detected was a result of sampling error.

PG&E has conducted extensive water quality monitoring as part of invasive plant treatment programs in compliance with the Federal Energy Regulatory Commission licenses for both the Rock Creek Cresta and Bucks Creek Hydroelectric Projects. These programs are currently implemented in the proposed project vicinity. No herbicides have been detected downstream of any of PG&E's invasive weed treatment programs and these programs implement similar stream buffers proposed as part of this EA. For reference see Annual Noxious Weed Monitoring Reports for Rock Creek-Cresta and Bucks, Garcia and Associates, 2009, 2011, and 2012. (USDA, 2012a as cited in Storrie Fire BE/BA.

Below is a summary of monitoring studies conducted in region 5, which support the stream buffers identified in the proposed action for glyphosate and triclopyr. The studies summarized below support stream buffers of 0-25 feet for glyphosate and 25 to 100 feet for triclopyr. The following paragraphs are based on the document entitled, "A Review and Assessment of the Results of Water Monitoring for Herbicide Residues For the Years 1991 to 1999", USFS Region Five, written by David Bakke, Regional Pesticide-Use Specialist.

# Monitoring Studies (emphasis added):

The study compiles and summarizes the results from fifteen separate water monitoring reports written by hydrologists and geologists on the Angeles, Eldorado, Lassen, Sierra, and Stanislaus National Forests. These reports documented results from over 800 surface and ground water samples, as a result of reforestation and noxious weed eradication projects utilizing three herbicides (glyphosate, hexazinone, and triclopyr).

The author makes recommendations to reduce future water monitoring, primarily for groundbased applications of glyphosate and triclopyr on the westside of the Sierra Nevada and he comes to conclusions regarding stream buffers as well as follows:

**Triclopyr:** The author states - "It would appear from these monitoring data that untreated streamside buffers of greater than 15 feet in width reduce risk of water contamination to near zero, although it should be noted that the 82 ppb transient level does not represent a substantial risk of harm to humans or the environment.

**Glyphosate: Mr. Bakke states -** "Based on monitoring to date, glyphosate applications, as generally practiced in reforestation projects, will not result in stream sediment or water contamination."

With buffers as small as 10 feet, Glyphosate was found to be non-detectable in collected samples with levels of detection between 9 and 24 parts per billion (ppb).

# Organization

The Water Quality Monitoring Plan is organized into the following sections:

**Plan Goals and Objectives:** This section defines the purpose of the Water Quality Monitoring Plan.

**Monitoring Approach:** This section provides the practices and prescriptions, general locations, schedule for monitoring, and it describes general monitoring procedures, as well as reporting and agency consultation requirements.

**Literature Cited:** This section provides a list of documents or other resources that are referenced in this document.

# **Plan Goals and Objectives**

The objectives of the water quality monitoring plan are to:

- Assess the effectiveness of meeting the Best Management Practices along with project standard operating procedures and project design features (Appendix D) in accordance with the Clean Water Act. The focus will be on impacts to downstream beneficial uses. These include aquatic habitat, hydroelectric power generation, and domestic water supplies.
- Monitor and evaluate the presence/absence of herbicides on non-target areas. Use the monitoring results, in consultation with the USDA-FS to determine the efficacy of protective measures such as stream buffers and whether herbicides have been applied to intended target areas, and have not resulted in unexpected non- target effects; and,
- Document results of the water quality monitoring plan (reporting and evaluation).

# **Monitoring Approach**

The following paragraphs describe the general water quality monitoring practices and prescriptions, locations, scheduling, and procedures, as well as reporting and agency consultation requirements. The need for specific practices shall be determined by PG&E in consultation with the United States Forest Service based on herbicide detections identified during monitoring. All necessary data layers for field analysis and evaluation will be provided by the Plumas National Forest as needed.

# **Monitoring Locations**

Each year the sampling locations will be determined by PG&E and the Plumas National Forest. PG&E will be responsible for conducting the monitoring once the sampling locations are

finalized. Sampling will be conducted only in years when treatment occurs. The number of sample locations in a given year would reflect relative sensitivity to water contamination of the sites to be treated. Locations will take into consideration accessibility and proximity to treatment sites as well as "holding time" (e.g., time needed to deliver samples to a laboratory). Locations should target areas considered high potential for detection and/or of special interest, such as

- Treatment sites adjacent to perennial channels, or identifiable floodplains prone to high soil moisture.
- Treatment sites adjacent to perennial channels with very steep slopes and/or soil characteristics that may facilitate chemical transport in solution.
- Treatment sites adjacent or upstream of known habitat for aquatic species of interest.

These sites may include seasonal flow channels, as much of the project area does not have perennial surface flow. In the case of seasonally flowing channels it should be considered whether anticipated flow volume will provide an adequate water column for sampling.

Laboratory testing would be conducted only for chemical(s) being applied. The ratio of sampling locations and timeframes to project acreage will be in line with similar proposed actions on PNF such as implementation of noxious weed monitoring programs.

# Monitoring Procedures and Schedule

Third party contractors would do the sampling and cannot be affiliated with the applicators and would most likely be a contracted company to PG&E. Submission of sampling results would follow standards set by the Central Valley Water Board. Third party contractors will collect surface water quality samples (grab samples) at each monitoring location and submit the samples to a California state-certified laboratory to conduct appropriate analytical techniques. Pre-treatment samples should be considered in case of sites adjacent or tributary to channels with critical aquatic habitat, or if private landholdings are upstream that may also have chemical applications.

Pre-treatment samples would be taken prior to application of any herbicide treatments. If those herbicides subject to monitoring and proposed for use by PG&E are detected prior to treatment and are above the state water quality limits, PG&E and the Forest Service will re-evaluate treatment in that area. PG&E will not be held responsible in the event that herbicides are present and the source is not related to PG&E activities.

Samples will not be taken during herbicide application. Post-treatment samples will not occur until completion of scheduled applications for the year. The sampling procedures would be triggered by an event of 0.5" of rain within a 24 hour period of time. Monitoring would then occur within 48 hours of sampling following applications. Sampling will occur at 90 days if there is no rain before 90 days.

If after 3 years, monitoring does not detect presence of any herbicides proposed for use by PG&E, no further monitoring will occur unless new herbicides are identified and authorized for

use in the ROWs, or there are changes in application method, rate, and/or location. If the initial water quality monitoring results detect presence of herbicides, PG&E and the USDA-FS will review and determine if it is necessary to modify components of the Herbicide VMP regarding herbicide application (e.g., protective buffers, avoidance protection measures and/or authorized chemicals). In that event, the monitoring plan will resume the three-year monitoring cycle.

### **Data Collection**

All samples will be grab samples of a volume required by the laboratory. At each location, the sampler will characterize conditions at the time of sampling in a water quality monitoring field log, including, but not limited to, the following information:

List of Required Field Observations

- herbicide treatment date, chemical, concentration and method of application;
- date and time of sample collection;
- monitoring location identification number;
- name of watercourse
- sample jar number and type of container;
- other local influences (stream clarity, weather, other pertinent notes or unusual conditions observed at the time of sample collection);
- any deviations related to the location or depth of sample collection; and
- name of individual(s) collecting the sample.

Each sample jar will also be labeled with the following information in waterproof ink:

- date and time of sample collection;
- monitoring location identification number;
- name of watercourse;
- sample jar number;
- preservatives added, if any;
- name of individual(s) collecting the sample;
- type of sample; and
- chemical(s) to be analyzed.

A chain-of-custody form will be completed to trace the possession and handling of the samples from the point of collection through delivery to the laboratory. Individual(s) collecting, handling, or transporting the samples will sign and record the date and time of their possession of the samples.

# Sample Handling

Extreme care will be taken to prevent sample contamination. Personnel involved in collecting samples will not participate in herbicide application. The collector will not have any herbicide or other contaminant on his/her clothing, hands, or boots. The sample containers will be obtained from a state-certified laboratory and kept away from all herbicides and related equipment. Sample containers will not be transported or stored with herbicide application equipment.

Collected samples will be stored and transported in a light-proof cooler. The samples will be sent to a state-certified laboratory for analysis consistent with holding time requirements for the chemicals to be analyzed. PG&E and the laboratory will initiate special procedures to ensure that concentration or other information is not lost due to expiration of the holding times. The laboratory will be directed either to analyze for the specific chemicals immediately upon arrival.

# Laboratory Analyses

Laboratory analyses will be conducted to determine whether chemical residue from herbicide applications is found in downstream water bodies. The state-certified laboratory selected to perform the analyses for PG&E will provide methodology (specific analysis techniques and EPA Standard Method) for each chemical to be tested. The laboratory results will include a description of the analysis method, the current method detection limits, reporting limits, and practical quantification limits, as appropriate.

Samples will be stored in accordance with laboratory standard operating procedures. Compliance with laboratory-approved storage procedures, and with maximum holding periods allowed by laboratory methods, will be documented, and, as described above, a chain-ofcustody record will be maintained for each sample jar. For informational purposes, the following table provides the thresholds of concern for various herbicides based on EPA standards.

Herbicide Active Ingredient	Toxicity to Aquatic Organisms	USEPA Maximum Contaminant Level Goals(MCLG's)/Advisories for Drinking Water (µg/L) <sup>1,2</sup>
aminopyralid	Low	3,500
clopyralid	Low	1,000
glyphosate	Moderate	700 <sup>3</sup>
imazapyr	Low	17,500
triclopyr (TEA)	Low	350
triclopyr (BEE)	High	350

## Table G-1 Relative Risk to Aquatic Organisms and USEPA Drinking Water Standards

\*Formula = RfD x 70kg x 1day/2 liters x RSC (RSC is a value used when there is not reliable air or food information regarding contamination and exposure) for all calculations the RSC is .2. MCLG's are based on the Established Reference Dose (RfD) established by the EPA.

Citations:

Extension Toxicology Network (EXTOXNET). The EXTOXNET is an effort of University of California, Davis, Oregon State University, Michigan State University, Cornell University, and the University of Idaho.

US EPA, Region 8, Benson, Robert, Toxicologist, Water Program, Letter to Rod McNeil, Water Quality Standards Section, Montana Department of Environmental Quality, Helena Montana, Response to request for assistance from EPA in establishing water quality standards, March 4<sup>th</sup> 2009.

# **Reporting and Consultation**

PNF or PG&E would also notify Central Valley Water Board within 48 hour time period in the unlikely event that an exceedence level occurs. For each year in which water quality monitoring is conducted, the results of monitoring will be submitted in a narrative report to PG&E & USDA-FS and USFWS via USFS/third party contractors for review and comment within 120 days after completion of the post-treatment sampling. The report will include all sampling locations, required list of field observations, and methods, EPA Standard Method used, laboratory results, analyses, and a discussion regarding the effectiveness of avoidance and protection measures and BMPs implemented to protect water quality. Each subsequent report will include the detections or no detections results of all previous years' monitoring.

The absence of herbicide detection will suffice to demonstrate the efficacy of the BMPs, Standard Operation Procedures, Project Design Features and stream buffers. No further monitoring will occur unless new herbicides are identified and authorized for use in the ROWs or in the highly unlikely event that circumstances arise that trigger the need for additional monitoring (e.g., visual observation, accidental spill, etc.). Each identified monitoring area will need to follow the above procedures and timeframes.

<sup>3</sup> USEPA established drinking water MCL

Based on the monitoring results, PG&E will consult with USDA-FS to determine if modifications to avoidance and protection measures or BMPs, application methods, or authorized herbicides are required.

# LITERATURE CITED

- Bakke, D. 2001. A review and assessment of the results of the water monitoring for pesticide residues from the years 1991 to 1999. USFS Region 5.
- California Regional Water Quality Control Board, Central Valley Region. 2009. The Water Quality Control Plan (Basin Plan) For the California Regional Water Quality Control Board Central Valley Region. The Sacramento River Basin and the San Joaquin River Basin. Fourth Edition. Revised September 2009 with Approved Amendments.
- USDA Forest Service. 2011. Region 5 Forest Service Handbook 2509.22, Soil and Water Conservation Handbook, Chapter 10, Water Quality Management Handbook. USDA Forest Service, Southwest Region, Vallejo, CA.
- USDA Forest Service. 2012. National Best Management Practices for Water Quality Management on National Forest Service Lands. Volume 1 National Core BMP Technical Guide. F2-990a.

# Appendix H: Spill Management Plan

# PG&E Herbicide Vegetation Management Program -

## **Transmission Line Right of Ways Plumas National Forest**

July 2013

## PREPARED BY: Garcia and Associates

### **APPROVED BY: Plumas National Forest**

Herbicide spill prevention and clean-up, as well as storage, transport, and disposal procedures are covered in detail in Forest Service Handbook (FSH) 2109.12 Pesticide Storage, Transportation, Spills, and Disposal. Any herbicide projects would follow the direction given in this handbook. It is available for review at the Plumas National Forest Service offices.

### **Required Equipment**

The following equipment should be available with vehicles used to transport pesticides and in the immediate vicinity of all spray operations. The list will be adjusted annually to reflect technology and needs identified during the development of the annual operating plans for noxious weed control.

- A shovel
- Repair/Patch Kit
- Eyewash
- Liquid detergent
- absorbent material
- A broom (except backcountry operations)
- Large plastic garbage bags
- Rubber gloves
- Safety goggles
- Protective overalls
- Rubber boots
- Re-sealable over-pack to contain all materials used to clean up

• Material Safety Data Sheets will be reviewed with all personnel involved in handling Pesticides.

## Introduction

This Spill Management Plan establishes response procedures for accidental release of herbicide occurring as a result of implementing the use of herbicides along 15 transmission line ROWs. It is meant to minimize exposure and damage to human health and the environment that may be caused by the accidental release of herbicides. This plan should be used for incident preparedness, during a spill incident, and as a guideline for clean-up. Herbicide spills will be treated in accordance with the Plumas National Forest Hazardous Materials Emergency Response Plan, 2009.

### Objectives

Provide for safety and health of the public and Forest Service employees and contractors involved in a hazardous material incident response.

Provide a system for notification and response to accidental discharges of herbicides on National Forest System lands.

Provide procedures for cleanup of any accidental discharges of herbicides on National Forest System lands.

Emphasize Spill Prevention on National Forest System lands.

### Authority

Authority for herbicide spill management planning is contained in the following documents:

Forest Service Handbook (FSH) 2109.12 Pesticide Storage, Transportation, Spills, and Disposal

Beckwourth Ranger District Hazardous Materials Emergency Response Plan, 2009

Water Quality Management for Forest System Lands in California, Best Management Practices, USDA Forest Service, Pacific Southwest Region, September 2000.

USFS PNF 1988. Plumas National Forest Land and Resource Management Plan. USDA Forest Service Plumas National Forest, Quincy, CA.

#### **Reportable Quantities**

Any accidental herbicide release, outside of approved plan applications must be reported. The plan for application is included in the PG&E Vegetation Management Program Transmission Line Right of Ways Environmental Assessment.

## **Notification Procedures**

If a spill of any quantity occurs, contact Plumas National Forest Dispatch (ECC). Notification should be immediate or as soon as is practical via radio or cell phone. Notification to essential agencies is a function of Plumas ECC. Notification Numbers:

**Plumas National Forest Dispatcher (ECC)** – (530) 283-7838 or (530) 283-7837; if no answer call 911. If the incident is on Federal land within PNF Direct Protection Area (DPA), Plumas ECC will contact:

Hazardous Materials Spill Response Coordinator – Karen Juska (530) 283-7761

Plumas County Hazmat Team (if requested by the incident commander) – (530) 283-6268

### Responsibilities

Forest Supervisor - In addition to the responsibilities delegated in FSM 7443, R-5

Supplement, the Forest Supervisor shall:

Designate an Emergency Response Coordinator per FSM 2160.43, also known as the Forest Spill Coordinator

Provide dispatch capabilities through the Plumas National Forest Dispatch (ECC).

Provide line officer input as needed in the event of a large incident.

**Public Affairs Officer (PAO)** – Due to the sensitive nature of hazardous spills, the PAO will provide official news releases and public announcements as deemed necessary by the Forest Supervisor.

**Forest Spill Coordinator (EMERGENCY RESPONSE COORDINATOR)** – The Sierra Cascade Province Safety and Health Officer

May be assigned as an Alternate Forest Spill Coordinator (Emergency Response Coordinator), or contact any spill coordinators from Neighboring forests.

Be assigned as Incident Commander or as resource specialist to the Incident commander.

Determine if a release is a reportable quantity and contact OES and Forest Service personnel where required.

Provide for emergency procurement through Sierra Cascade Province Acquisitions section.

Have a working knowledge of Regional Contracts for the cleanup of Hazardous Materials.

Notify Law enforcement if a release is possibly intentionally dumped, from a drug lab or other illegal activity. Cost recovery may depend on criminal investigation and prosecution.

Have a working knowledge of the EPA Region IX Contingency Plan, the National Contingency Plan, and related 40 CFR's for pollution prevention.

Insure that Forest First Responders receive proper training.

Maintain a cache of spill response materials.

Sign Hazardous Waste Manifests when disposing spilled hazardous material.

#### **District Ranger**

Works directly or through local law enforcement agencies to warn the public of a possible hazard, when notified of such by the Forest Dispatcher or the Spill Coordinator.

Furnish district resources to assist in emergency response and subsequent clean up and remediation.

Coordinate with the Forest PAO for public announcements and news releases. Due to the sensitive nature of this subject, only the PAO will make official news releases and public announcements.

### Hazardous Material Incident First Responders (Hazmat First Responders)

Provide for the safety of the public and personnel on scene of a hazardous material incident.

Deny entry to untrained or unprepared persons.

Initiate action based on size and complexity of release. When possible and safe to do so, reduce the potential risk to human health and the environment by containing the release.

Initiate the Report of Hazardous Material Release form and relay to the Forest Spill Coordinator.

Direct on scene resources providing for safety first.

Perform as Incident Commander as assigned or until relieved by the IC of the agency of jurisdiction.

Maintain certification in OSHA Hazardous Waste Operations (HAZWOPER) First Responder.

CLEAN UP AND REMEDIATION OF HAZARDOUS MATERIALS WILL NOT BE PERFORMED BY FOREST SERVICE PERSONNEL. Containment by placement of dikes, absorbent material or impervious materials may be attempted where risk to personnel is low.

### Other Forest Personnel

The first employee to encounter an accidental release of herbicide and is aware of the significance, has the responsibility to report the release to Plumas National Forest Dispatch (ECC). The primary objective of the first on scene is the protection of personnel and the public.

### **Response Procedures**

When the release is from a Forest Service Force Account operation, the project leader has the responsibility to take action. All activities in the affected area should be suspended and the Forest Dispatcher notified of the spill. The project leader has the role of Hazmat First Responder if so qualified. If not, the Forest Dispatcher will assign a First Responder. When the release is from a Forest Service contractor or permittee, they have the responsibility to take appropriate action. However, failure to take appropriate action gives the Forest Service project leader (Timber Sale Administrator, COR, inspector, Permit Administrator, etc.) authority to take over response actions. Usually, a level of cooperation is achieved with the contractor taking responsibility for clean up, and Forest Service Emergency crews responding to secure access to the incident. In all cases, the Forest Dispatcher and the Forest Spill Coordinator are to be notified to make appropriate determinations and upward reporting.

When the release is from a third party operation, the Forest Service will respond if the third party fails to take appropriate action. The Forest Dispatcher and the Forest Spill Coordinator need to be notified to determine if appropriate action is being taken and required reporting is made.

When the release is from a transportation related incident, the Forest Service will respond if the driver is unable or fails to take appropriate action. The Forest Dispatcher and the Forest Spill Coordinator need to be notified to assist the appropriate jurisdiction determine if appropriate action is being taken and required reporting is made.

When hazardous substances are abandoned or dumped on Forest Service land, whether in sound containers or releasing directly to the environment, notify the Forest Dispatcher immediately. The Forest Dispatcher will assign an Incident Commander, the Forest Spill Coordinator and Law Enforcement.

### **Required Training for Forest Spill Coordinator**

Emergency Response Coordinator (Spill Coordinator) – OSHA 40 hr classroom training: 8 hr. annual refresher.

First Responder, Hazardous Material Incident– OSHA Hazardous Waste Operations (Hazwoper) First Responder 24 hr classroom training; 8 hr. annual refresher.

All Employees – Hazmat awareness.

#### **Available Resources**

Contractors for emergency spill response and hazardous waste cleanup:

A/C Industrial Services, Chico, CA (530) 343-5488 Reference contract # AG-91S8-C-06-0025/0002

Tetra Tech, San Francisco, CA (415) 543-4880

Reference contract # AG-91S8-C-06-0024/0003 PARC Environmental Services, Fresno, CA (559) 233-7156 Reference contract # AG-91S8-C-06-0026/0002 NRC Environmental Services, Alameda, CA (510) 749-1390 Reference contract # AG-91S8-C-06-0027/0002

The use of these Region 5 contracts are not mandatory, but are set up as a quick and convenient option for Forest Service use. The Forest Spill Coordinator, Sierra Cascade Province Acquisitions and the Regional Environmental Engineer can all assist in using these contractors.

# Material Safety Data Sheets (MSDS)

MSDS's contain important information regarding the safe handling of a product and should be referenced whenever possible when responding to an incident. All Forest Service and related projects should have MSDS's available. MSDS for the three herbicides used in this project are in the project file and are available from the Beckwourth Ranger Station (contact: David Drake (530) 836-7122).

# Contacts

# Office of Emergency Services (County offices are reached by calling the Sheriff's Office)

California State Office of Emergency Services at (800) 852-7550 or (916) 845-8911

Plumas County Office of Emergency Services at (530) 283-6273

Butte County Office of Emergency Services at (530) 538-7373

# **Forest Contacts**

Hazardous Materials Spill Response Coordinator – Karen Juska (530) 283-7761

Beckwourth District Ranger – (530) 836-2575

Feather River District Ranger – (530) 534-6500

Public Affairs Officer - (530) 283-2050

Forest Supervisor - (530) 283-2050

# **US Forest Service Region 5 Office Contacts**

Environmental Engineer - Dennis Geiser at (707) 562-8729

Pesticide Use Coordinator - Dave Bakke at (707) 562-8916

## State of California

California Department of Fish and Game - (530) 832-4068

California Department of Transportation – (530) 283-2612

California Highway Patrol

Quincy: (530) 283-1100

Oroville (530) 538-2700

## **County Road Departments**

Plumas County - (530) 283-6268

Butte - (530) 538-7681

## Chemical Transportation Emergency Center (CHEMTREC)

Chemical Transportation Emergency Center, a public service of the Manufacturing Chemicals Association. They provide valuable information 24/7 when chemicals are involved in fire, explosions or spills – (800) 262-8200

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# Invasive Weeds Management Plan

# Attachment **B**

# FS-2100 Forms, Pesticide-Use Proposal

Woodleaf-Kanaka Junction Transmission Line FERC Project No. 2281

and

Sly Creek Transmission Line FERC Project No. 4851

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PESTICIDE-USE PROPOSAL (Reference FSM 2150)									
To complete this form, see Instructions for Form FS-2100-2, Pesticide-Use Proposal									
AGENCY/ COOPERATOR	CONTACT NAME, PHONE NUMBER, and E-MAIL	REGION	FOREST/ DISTRICT	DATE SUBMITTED					
How would you like to be info	ormed of the decision on	Please choose of	ne:						
your proposal?		Telephone	Email	Both					
1) OBJECTIVE									
a) Project name and/or ident	ifier								
<ul><li>b) Specific target pest(s)</li><li>c) Purpose</li></ul>									
2) PESTICIDE PRODUCT(S	5)								
a) Trade name									
b) Formulation as purchased									
c) Restricted-use pesticide (	yes/no)								
e) Common name of chemic	cal(s)								
f) AI, AE, IU, or PIB expres	sed as % or								
concentration									
3) TYPE OF APPLICATION	[								
a) Method b) Equipment									
4) FIELD APPLICATION IN	JEORMATION								
a) Formulation of material to	be applied								
b) Planned application rate	· · · · · · · · · · · · · · · · · · ·								
c) Dilution rate									
d) Diluent									
e) Pounds of AI or AE per a	cre (or other								
f) Other pesticides being app	olied to proposed								
treatment site(s)									
5) TREATMENT AREA DE	SCRIPTION								
a) Targeted treatment area									
b) State and county									
d) Estimate of acres (or othe	er unit) to be treated								
e) Number of applications	,								
f) Month(s) and year(s) of a	pplication								
6) SENSITIVE AREAS	<b>c 1</b> ' <b>1 1 \</b>								
a) Special designated area (1 b) Areas to be avoided	f applicable)								
c) Areas to be treated with c	aution								
7) PROJECT IMPLEMENTA	ATION								
a) Trained/certified personn	el to be used								
b) Personal safety									
c) State and local coordination d) Bost management practices									
e) Monitoring									
f) Additional project inform	ation								
	For O	official Use Only							
8) REVIEWER(S) SIGNATU	JRE(S)								
a) Pesticide use coordinator			Date:						
b) Other reviewer(s) (as nec	essary)		Date:						

9) APPROVAL (signature of approving official)

Date:

#### Burden Statement

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0241. The time required to complete this information collection is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

# Instructions for Form FS-2100-2, Pesticide-Use Proposal

#### **AGENCY INFORMATION (Header)**

Provide requested information.

How would you like to be informed of the decision on your proposal? Please check one option.

#### **OBJECTIVE** (Block 1)

a) Project name and/or identifier – Include the local project name and/or identifying name such as the name of the relevant NEPA compliance document and date of decision. [Note–Environmental analyses (EA's and/or EIS's) may be cited within the Pesticide-Use Proposal for additional information.]

b) Specific target pest(s) – Identify target pest(s) by the common and scientific name. Also identify the life cycle stage for animals (adult, larva, etc.) or stage of growth for plants (pre-emergent, seedling, sapling, etc.) at the time of application. A table may be attached to list information for multiple targets.

c) Purpose – State exact purpose of pesticide use.

#### PESTICIDE PRODUCT(S) (Block 2)

a) Trade name – State the trade name(s) exactly as shown on container (e.g., Roundup Ultra, Tordon 22k, Sevin SL).

b) Formulation as purchased – State the formulation (liquid, dust, granule, pellet, emulsion, bait, solution (ready-to-use without dilution), gas, flakes, packets, etc.) of each pesticide product as purchased.

c) Restricted-use pesticide (yes/no) – Specify whether the pesticide is a restricted-use pesticide or not.

d) EPA registration number – State the EPA registration number from the pesticide label.

e) Common name of chemical(s) – State the common name (glyphosate, picloram, carbaryl, etc.) of active ingredient(s) as given on the pesticide label. When more than one pesticide active ingredient will be used during treatment of a single pest, list active ingredients separately by placing the word "and" between them to indicate the different pesticide names (e.g., aminopyralid and 2, 4-D). When alternative materials are proposed for the application, use the word "or" in listing the names.

f) AI, AE, IU, or PIB expressed as % or concentration – State the percentage (%) or concentration (lb/gal, oz/oz, etc.) of any active ingredient (AI), acid equivalent (AE), international units (IU), or polyhedral inclusion bodies (PIB) as shown on the pesticide label. For herbicides, report as acid equivalent rather than active ingredient when available. IU may be expressed as billion international units/gal for bacteria, and PIB may be expressed as billion polyhedral inclusion bodies/oz for viruses, as appropriate.

#### **TYPE OF APPLICATION** (Block 3)

a) Method – Indicate the specific method of application to be used (aerial, ground, aquatic, etc.).

b) Equipment – Indicate the specific type of equipment to be used such as backpack sprayer, helicopter, fixed-wing aircraft, mist blower, hydraulic sprayer, injector, packets, etc.

#### FIELD APPLICATION INFORMATION (Block 4)

a) Formulation of material to be applied – Indicate the pesticide material to be applied in the field (spray liquid, pellets, granules, dust, bait, gas, flakes, packets, etc.).

b) Planned application rate – Indicate the amount of liquid or dry material to be applied on a per unit area basis (gal/acre, lbs/acre, oz/1,000 ft<sup>2</sup>, etc.). In general, calibration of liquid sprayers requires determination of the application rate in gallons per acre (GPA).

c) Dilution rate – Indicate the pesticide concentration to be applied in the field as the amount of concentrate to be mixed with a specified amount of diluent (e.g., 1 qt. Tordon 22K/25 gallons of total mix).

d) Diluent – Identify the material (water, oil, talc, etc.) that will be used to reduce the concentration of a pesticide formulation at the time of application.

e) Pounds of AI or AE per acre (or other applicable rate) – State the pounds of active ingredient (AI) or acid equivalent (AE) (specify which) to be applied on a per acre basis, unless some other unit is indicated on the label. If reporting acreage is not appropriate, indicate units used. If a pesticide for trees or brush is to be applied by aircraft or mist blower, express as pounds of AI or AE per acre. For outdoor spot applications, the rate of application should also be expressed in pounds of AI or AE per acre. For pesticide treatment of individual trees, the application rate for AI or AE is described as number of trees and rate per tree (or an equivalent measure).

Indoor applications of residual sprays may be expressed as gallons per 1,000 square feet (at whatever percent AI in the prepared spray) or simply as pounds AI per 1,000 square feet. For spraying pesticide on most indoor surfaces to the point of runoff, assume the rate to be 1 gallon of formulation per 1,000 square feet. If a dust is being used, express as ounces or pounds of AI in prepared dust per M (1,000) square feet. The AI rate of application for fumigants or indoor aerosols is expressed as pounds AI per M (1,000) cubic feet. Rodent baits should be given as ounces or pounds of AI in the prepared bait per bait station.

The rate of application of AI for pesticide treatments in water may be expressed in parts per million (ppm) or parts per billion (ppb). Specify whether ppm or ppb is by weight or volume.

f) Other pesticides being applied to proposed treatment site(s) – Indicate other pesticides currently being applied or will be applied to the same site(s) proposed for treatment within the same year (e.g., ongoing carbaryl treatment of trees in the same campground where invasive plants will be treated; pesticides applied under other Pesticide-Use Proposals within the same treatment area).

#### **TREATMENT AREA DESCRIPTION (Block 5)**

a) Targeted treatment area – Specify area(s) to be treated (wilderness area, stretch of river, grazing allotment, etc.).

b) State and county – Indicate State(s), county(ies), and any other geographic jurisdictions involved with the area(s) to be treated.

c) Site description – Provide information on the type of area (rangeland, tree nursery, etc.) to be treated and any specific parts or portions of the area that will be treated such as ditch banks, rights-of-way, etc. When applicable, specify whether the pesticide will be applied directly to water or near the water's edge (e.g., riparian area). State the distance to nearest surface water (lakes, streams, etc.) or wetland. Where applicable, indicate the general slope of the treated area(s). For aquatic applications, indicate water quality (hardness and pH) of treated water body if available or applicable.

d) Estimate of acres (or other unit) to be treated – Provide an estimate for acres to be treated, unless other units are otherwise applicable. When projects require repeat applications, estimate only those acres to be treated in the first application.

e) Number of applications – For projects that will require repeat applications within the same area, provide an estimate of the number of treatments that will be used per season.

f) Month(s) and year(s) of application – Indicate the month(s) and year(s) that applications are planned. If necessary, provide general season of treatment (e.g., spring, summer, or fall) or an estimate of the range of years for treatment (e.g., 2011 through 2019).

#### SENSITIVE AREAS (Block 6)

a) Special designated area (if applicable) – Identify any wilderness area, Research Natural Area (RNA), botanical area, or other similar designated area that is in proximity to areas to be treated. Describe specific precautionary measures that will be taken to protect identified special designated area (e.g., no pesticide application with mechanical ground equipment inside wilderness area).

b) Areas to be avoided – Identify specific areas to be protected from direct application, drift, or runoff (waterbodies, private property, T&E species habitat, etc.). Describe specific precautionary measures that will be taken to avoid presence of pesticide in identified area (e.g., no application within 100 feet of stream).

c) Areas to be treated with caution – Identify sensitive areas (riparian areas, areas with a shallow water table, T&E species habitat, etc.) that require special precautions during treatment to avoid undue impacts or contamination. Describe specific precautionary measures that will be taken to protect identified area (e.g., use of pesticides with an aquatic label in riparian areas).

#### **PROJECT IMPLEMENTATION** (Block 7)

a) Trained/certified personnel to be used – Provide information regarding personnel who will be performing the actual pesticide work. Applicators and personnel serving as supervisors must be trained in the proper application of pesticides. Personnel handling or applying a restricted-use pesticide must be state or Federally certified for restricted-use pesticide operations.

b) Personal safety – State any restricted entry interval (REI) required by the pesticide label following application. If additional personal protection equipment other than what is on the label is proposed, please describe.

c) State and local coordination – Indicate any coordination at the State or local level that will be made for the project.

d) Best management practices – Describe or reference the best management practices that will be followed for pesticide application such as lowest effective application rate, equipment calibration, field scouting/monitoring before pesticide application, buffer zones, and weather restrictions (wind speed limit, inversion avoidance, etc.).

e) Monitoring – Describe monitoring required for treatment effectiveness and any other monitoring that will be conducted.

f) Additional project information – Describe other information pertinent to the project that is not addressed in sections above (e.g., information as to whether the project will be conducted by force account or through a contract).

#### SUBMISSION

Please contact the U.S. Forest Service Region/Area Pesticide Use Coordinator in advance to inform him/her of the method in which the form will be submitted (in person or by courier, via e-mail, or via U.S. Postal Service).

The following website has the List of Pesticide Use Coordinators by Region/Area:

http://www.fs.fed.us/foresthealth/pesticide/contactus.shtml

#### REVIEWER(S) (Block 8)

a) Pesticide use coordinator – A pesticide use coordinator's signature at the district, forest, or regional level (as appropriate) is required before final approval.

b) Other reviewers (as necessary) – Include any necessary signature(s) of specialists in pertinent programs such as biologists, entomologists, agronomists, wilderness program managers, or Research Natural Area (RNA) program managers that are required before final approval.

#### APPROVAL (signature of approving official) (Block 9)

Signature of approving line officer with delegated signing authority

#### Burden Statement

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0241. The time required to complete this information collection is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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# Invasive Weeds Management Plan

# Attachment C

# **Consultation Table**

Woodleaf-Kanaka Junction Transmission Line FERC Project No. 2281

and

Sly Creek Transmission Line FERC Project No. 4851

Commenter	Sub-Section	Comment	Page	Date of	Comment	PG&E Posponso
Commenter	Number and Title	Number	Number	Comment	Comment	PGae Response
Lawrence Janeway District Botanist Plumas National Forest Feather River District	Invasive Weeds Management Plan 5.0 Herbicide Application	1, 2, 3	Pg. 7	5/1/15	See my note in References that perhaps this should be "Forest Service 2014" Should this perhaps be a separate reference "Forest Service 2014b. Decision Notice and Finding of No Significant Impact for PG&E Herbicide Vegetation Management Program Transmission Line Right-of-Ways. Signed by Earl Ford, Forest Supervisor, Oct. 15, 2014. Plumas National Forest, Quincy, CA." add something like "Although the Environmental Assessment fully analyzed the proposed use of herbicides along the Woodleaf-Kanaka Junction and Sly-Creek Transmission Lines, the Decision Notice did not include them because FERC is the lead agency for these two lines, not the Forest Service. The current proposal details extending the use of herbicides approved by the Decision Notice for other PG&E transmission lines on the PNF to these two projects."	PG&E changed Reference to Forest Service 2014a PG&E added reference to Forest Service 2014b PG&E added suggested text in quotes at the end of the paragraph.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 6.0 Reporting	4, 5	Pg. 8	5/1/15	Ve would like to agree on the reporting timeline now rather than punt to the Annual Meeting. Other PG&E nox.weeds plans require a report to the FS by Nov. 1. Still need to confirm if this date works for FS FY reporting.	Added the sentence "In addition, PG&E will provide the PNF botanist with a draft reporting of the acres treated for each invasive weed species by September 1" and removed the sentence "and PG&E will inform the Forest Service of that at the Annual Consultation Meeting." No action completed – need to confirm

## Table C-1. Invasive Weeds Report Consultation Table.

## Table C-1. (continued)

Commenter	Sub-Section Number and Title	Comment Number	Page Number	Date of Comment	Comment	PG&E Response
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 7.0 Plan Revisions	6	Pg. 9	5/1/15	This language was used in the Drum- Spaulding Vegetation Management Plan. We would like to see it here for consistency.	PG&E inserted "If PG&E does not adopt a particular recommendation by the Forest Service, the filing will include the reasons for not doing so, based on Project-specific information. PG&E will implement the Plan as approved by FERC."
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Herbicide Use Management	7	Cover Page	5/1/15	Inserted "Attachment A"	Done
Lawrence Janeway District Botanist Plumas National Forest Feather River District	Herbicide Use Management 1.0 Background	8	Pg. 1	5/1/15	See my comments on Appendix E # item 2.	See Comment #11 below
Lawrence Janeway District Botanist Plumas National Forest Feather River District	Herbicide Use Management 4.2 Proposed Herbicide Treatments	9	Pg. 8	5/1/15	This repeats what is in the Herbicide EA. Trucks are only use to transport workers and water tanks (if feasible). "Crews of 5 to 12 workers per day" do the spraying, according to Chapter 7, only using backpack sprayers.	No change made
Lawrence Janeway District Botanist Plumas National Forest Feather River District	Herbicide Use Management 7.0 Ongoing Activities and Resource Protection Measures	10	Pg. 12	5/1/15	This repeats what is in the Herbicide EA, describing only backpack herbicide application, not trucks or ATVs.	No change made

Commenter	Sub-Section Number and Title	Comment Number	Page Number	Date of Comment	Comment	PG&E Response
Lawrence Janeway District Botanist Plumas National Forest Feather River District	Herbicide Use Management Appendix E	11	Pg. E-1	5/1/15	The Herbicide EA only mentions the use of motorized vehicles as a way to bring workers and water tanks to a work area (repeated in Section 4.1 above). The only mention that I could find about the application of herbicides refers only to "backpack foliar herbicide application" (Chapter 2 of the EA and the 2nd paragraph of Section 7 above). This proposal here in Appendix E, to use trucks and ATVs for spraying, thus seems to conflict with the last two sentences on page 1, above, that say that the Herbicide EA is the basis for this current document (and with statements in Section 4 and Section 7 of this document, which repeat statements in the Herbicide EA).	PG&E removed "truck, or ATV mounted units with" from sentence use of backpack sprayer truck, or ATV mounted units with hand held nozzle to aim application at specific target species)
Allison Willy Senior Fish and Wildlife Biologist United States Fish and Wildlife Service	Invasive Weeds Management Plan			2/15/16	No response to December 15, 2015 request from PG&E for consultation on amendment to Invasive Weed and Fuels Treatment Management Plans.	None.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 7.0 Plan Revisions Attachment B	12	Attachment B	2/25/16	We have updated our PUP forms – I believe these are attachments to the plans – see attached documents	PG&E used the updated forms in Attachment B, replacing the older forms.
Anna Milloy FERC Program Coordinator California Department of Fish and Wildlife	Invasive Weeds Management Plan	13	All	3/15/16	CDFW has no comments.	None.

## Table C-1. (continued)

Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan	14	All	7/9/15	In the process of sending out the Fuels Management Plan to our specialists for review, it has become clear that additional consultation is needed with Tribes before we can approve the Fuels Management and Invasive Weed Plans for the Sly Creek and Woodleaf-Kanaka FERC projects.	PG&E sent a letter to potentially interested tribes on the amendment of the Invasive Weed Management Plan on February 29, 2016 with a request for comments or concerns for the plan within 30 days. No comments were received from the tribes during the 30 day period, which ended on March 30, 2016.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 1.0 Introduction	15	Pg. 1	5/23/16	Corrected Nation Forest Service to Nation Forest System.	PG&E accepted the correction.

Commenter	Sub-Section	Comment	Page	Date of	Comment	PG&F Response
Commenter	Number and Title	Number	Number	Comment	Comment	
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 4.3 Control Strategies	16	Pg. 6	5/23/16	Added: Restoration/revegetation efforts shall target desired conditions for vegetation as described in Section 2.1 of Attachment A. Description of Herbicide Use for Facilities Management and Invasive Weed Management. PG&E shall discuss the need to restore/revegetation areas during the Annual Consultation meeting with the Forest Service and develop a revegetation plan to be approved by the Forest Service (PNF) as appropriate.	PG&E accepted the comments.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 5.0 Herbicide Application	17	Pg. 8	5/23/16	Deleted: On NFS lands, PG&E will submit a Pesticide Use Proposal form (FS 2100-2) before use, to document the planned application on NFS lands (Attachment B). The annual Pesticide Use Permits submitted to the PNF for approval would identify the specific chemicals recommended for a specific locale, application rate, timing and method for each location.	PG&E deleted the two sentences.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 5.1 Use of New Pesticides and Annual Pesticide Use Proposals	18	Pg. 8-9	5/23/16	Added new section 5.1 Use of New Pesticides and Annual Pesticide Use Proposals.	PG&E made minimal corrections and accepted the new section.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 6.0 Reporting	19	Pg. 9	5/23/16	Changed heading 6.0 to Monitoring and Reporting.	PG&E accepted the comment.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan 6.0 Monitoring and Reporting	20	Pg. 10	5/23/16	Added: (see PG&E 2915m Appendix G of Attachment A) to sentence regarding when PG&E used herbicides for invasive weed treatments.	PG&E corrected PG&E 2915m to PG&E 2015 and accepted the comment.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan Attachment A	21	Cover	5/23/16	FS only edited this Attachment, but would like the Attachment for the Fuels Plan to have the same edits.	PG&E made edits to both attachments.

# Table C-1. (continued)

## Table C-1. (continued)

Commenter	Sub-Section Number and Title	Comment Number	Page Number	Date of Comment	Comment	PG&E Response
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan Attachment A 1.0 Background	22	Pg. 1	5/23/16	Changed sentence to read "This document describes the proposed use of herbicides in ROW's where mechanical and manual vegetation removal methods are currently being used."	PG&E accepted change.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan Attachment A 2.1.2 Desired Conditions	23	Pg. 4	5/23/16	Added "native" to grass.	PG&E added "native".
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan Attachment A 2.1.2 Desired Conditions	24	Pg. 5	5/23/16	Please show 10ft distance associated with wire zone and include labels for ROW. For context it may help to show where the HTZ starts even if herbicides are not allowed in the HTZ. It also might help to include a glossary or a table defining each of these zones for clarity.	PG&E made changes to figure.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan Attachment A Appendix A Other References Cited	25	Pg. A-2	5/23/16	Deleted reference for USDA Forest Service 2003.	PG&E deleted reference.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan Attachment A Appendix H Spill Management Plan	26	Pg. H-3	5/23/16	Changed Hazardous Materials Spill Response Coordinator to Karen Juska (530) 283-7761.	PG&E updated contact.
Amy Lind Hydroelectric Coordinator Plumas and Tahoe National Forests	Invasive Weeds Management Plan Attachment A Appendix H Spill Management Plan	27	Pg. H-6	5/23/16	Updated Forest Contacts.	PG&E accepted all updates to contacts.