



*Pacific Gas and  
Electric Company*

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# Sonoma County Vegetation Management

May 2013



PG&E is performing VM maintenance work on 39 miles of critical 230kV transmission line in Sonoma County from the Geysers to Novato.

VM work is required to ensure **public safety, prevent fires** and maintain **system reliability**.

*NERC Critical Lines:* an outage could disrupt electric to Sonoma, Marin & Mendocino counties & trigger a cascading western grid event.

PG&E's overall VM program manages about 50m trees that could interfere with its 134,000 miles of overhead line. PG&E will spend \$191m in 2013 to perform this work critical to public safety and system reliability.



Work is being done to comply with standards created by the North American Electric Reliability Corporation (NERC) after the 2003, tree-caused, NE U.S. blackout.

NERC VM standards are performance-based & zero tolerance because the risk of a cascading outage.

Sonoma work is part of PG&E's Transmission Vegetation Management Program (TVMP) required by the NERC Standard.

The work uses the "Wire Zone – Border Zone" concept in ANSI A300 Part 7 designed to remove incompatible vegetation to prevent conflicts and encourage sustainable vegetation types.



## **Overview**

Work Area: Fulton-Ignacio / Fulton-Lakeville Critical Transmission Corridor  
Length: 39 miles  
Total Acreage: 709 Acres  
Acres Requiring Work: 191 Acres (27% of corridor)  
Estimated Trees: 21,559  
Estimated Brush: 1,135

## **Work Completed to date (May 6, 2013)**

**(This work has been completed thru ongoing communication with individual landowners)**

Trees Removed: 16,227 (81% less than 12" diameter; 17% between 12' and 24" diameter)  
Trees Pruned: 2,403  
Brush Removed: 854  
Work Remaining: Approximately 3200 Units

(Includes trees and brush, pruning and removal in roughly the same proportions as the prior work)



## Sonoma Mountain Background Information

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**Trees:** According to the US Forest Service, Sonoma County has about 513,000 forested acres with between 51,000,000 and 102,000,000 trees.

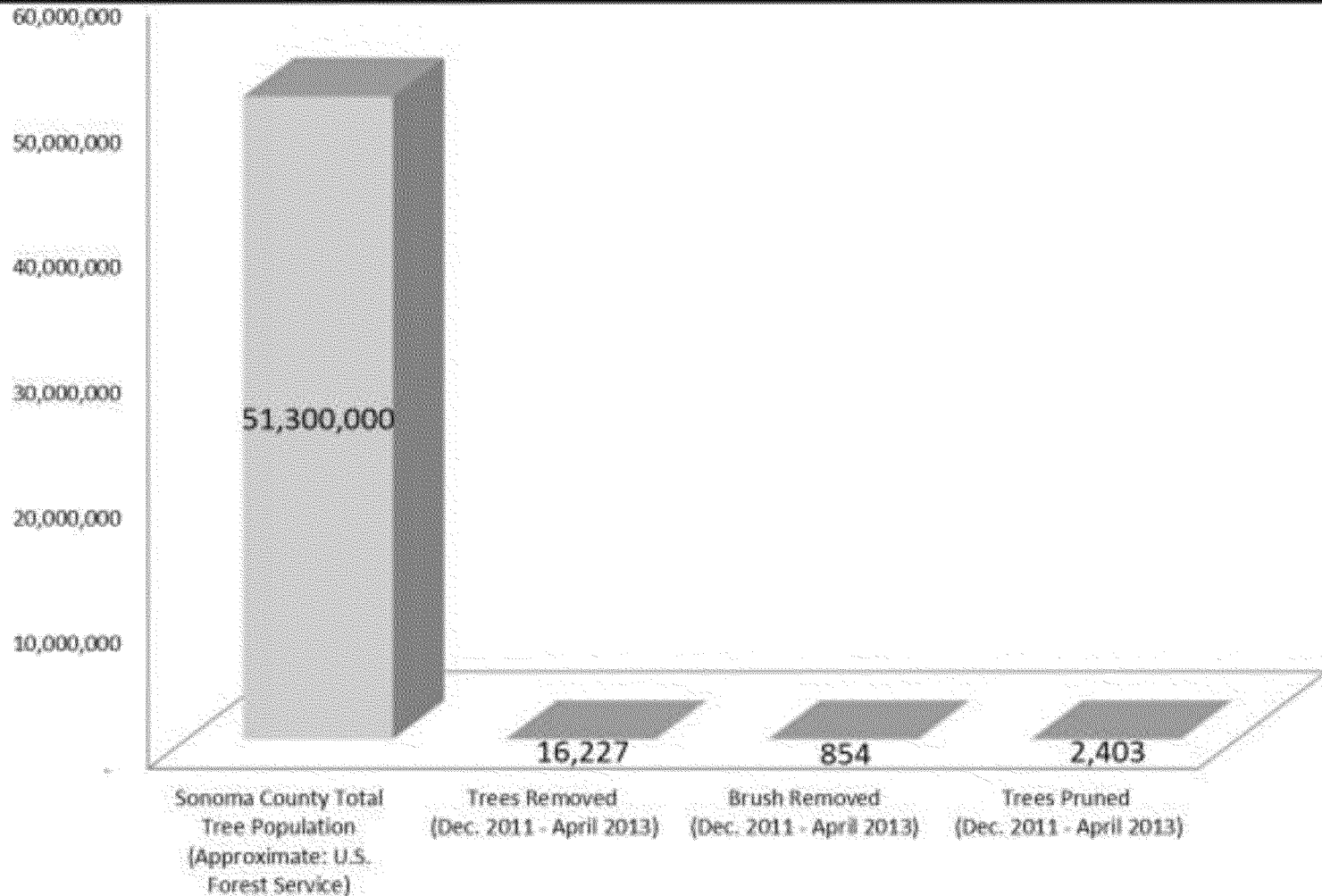
- PG&E's work is affecting .037% of Sonoma County's forested acres.
- PG&E's work is affecting between .02% and .04% of Sonoma County's trees.
- 98% of removals are immature trees <24" diameter
- 81% are < 12" in diameter.

PG&E's original assessment of undesirable vegetation identified 31,171 trees & brush needing work; PG&E reduced that by 8477 trees/brush (27%) through collaboration with our customers.

**Water:** The two major watersheds in Sonoma County affected by PG&E transmission Corridors are the Russian River watershed and the San Pablo watershed. The total acreage on these two watersheds is 1,532,138 acres.

- The total PG&E transmission corridor footprint on these watersheds is .11%
- About .03% of the watersheds actually require reclamation work (this includes the work already completed in Sonoma County).

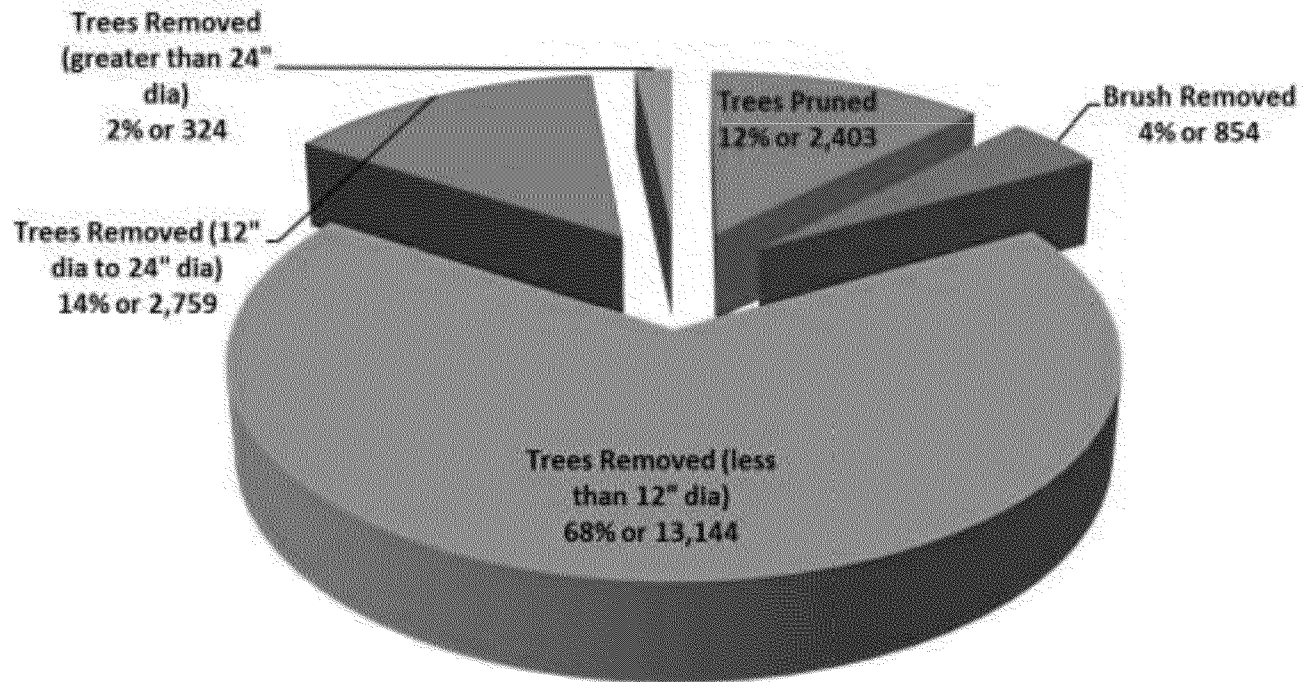
**Fire Safety:** Because PG&E obtains greater clearances & removes more trees along its critical, high-voltage transmission lines, the corridors are inherently more fire-safe than lines that have lesser clearances. On May 8, 2013, five (5) separate wildfires ignited in Sonoma and Napa Counties burning over 200 acres in one day, exceeding the entire 191 acre work area for the Fulton-Ignacio / Fulton-Lakeville Critical Transmission corridor.



- Sonoma County has approximately 513,000 forested acres containing between 51,000,000 and 102,000,000 trees.
- Based on tree count, PG&E's work is affecting between .02% and .04% of Sonoma County's trees.  
Source: US Forest Service , [http://www.fs.fed.us/psw/publications/documents/psw\\_gtr238/psw\\_gtr238\\_603.pdf](http://www.fs.fed.us/psw/publications/documents/psw_gtr238/psw_gtr238_603.pdf)



### Total Vegetation Work Performed to Date



- 98% of removals are immature trees less than 24 inches in diameter,
- 82% are less than 12 inches in diameter.



Started in fall 2011 with 5 neighborhood associations;

PG&E sent letters to over 300 property owners;

Began and continued field visits with many customers, state park biologist, state agencies, home owners associations & over 200 individual property owners;



Meeting with Starry Knoll HOA in Oakmont. (from left: Eric Brown, PG&E; Joe Hiss, High Country Forestry; Skip Van Lobensels, Starry Knoll)





Multiple meetings to foster dialog, share information and enhance mutual understanding  
Hosted field meeting to review examples of completed tree work sites  
Mailed letters to affected property owners to provide information and invite dialogue  
Engaged in ~500 one-on-one conversations with property owners about work to be performed on their property  
Met with Santa Rosa Press Democrat editorial board  
Provided updates to local media  
Participated in interviews with KQED and KSRO radio, and Windsor Times  
Provided updates to Assemblyman Allen's and Congressman Thompson's staffs  
Held meetings with HOAs (Oakmont HOA, Bennett Valley HOA, Oakmont Golf Association, Singing Woods HOA, Wild Oaks HOA and Starry Knoll HOA)  
Met with SOS-Trees leadership, Supervisor Rabbitt, Santa Rosa Mayor and City Manager, Assemblyman Allen, Congressman Thompson, and Supervisor McGuire  
Held community meeting with over 100 attendees  
Hosted in-field meeting with Supervisor McGuire  
Participated in meetings with CPUC representatives  
Held multiple conference calls with, California Department of Fish and Game, and US Fish and Wildlife Service  
Hosted multiple field and office reviews with Regional Water Quality Control Boards  
Responded to multiple written requests by SOS-Trees  
Created and provided documents to SOS-Trees



Phase I: A total of 17 trees located on six properties that posed an immediate threat to public safety were removed.

Phase II: May 2012 through August 2012. LiDAR modeling at full operating range focused work on trees projected to grow within 10 feet.

Phase III: Since August 2012, is about 87% complete (May 6, 2013). Focus on ROW reclamation addressing incompatible vegetation within & hazard trees out of the ROW by applying ANSI Standard A300 Part 7 - Wire Zone-Border Zone.

Working with owners to complete Phase II and III simultaneously on their properties.





Completed 87% of all work (based on estimated trees)

Work is complete on 246 of 336 properties with 80 remaining

Six property owners refused to allow work, 3 have been resolved and 3 remain

Total corridor acreage is about 709

About 191 acres (27%) required work



## Generally, The Work:

**Does not** involve ground disturbing activity:

**No** significant amounts of bare mineral soil;

**No** scarified soil;

**No** grading, road construction or re-construction;

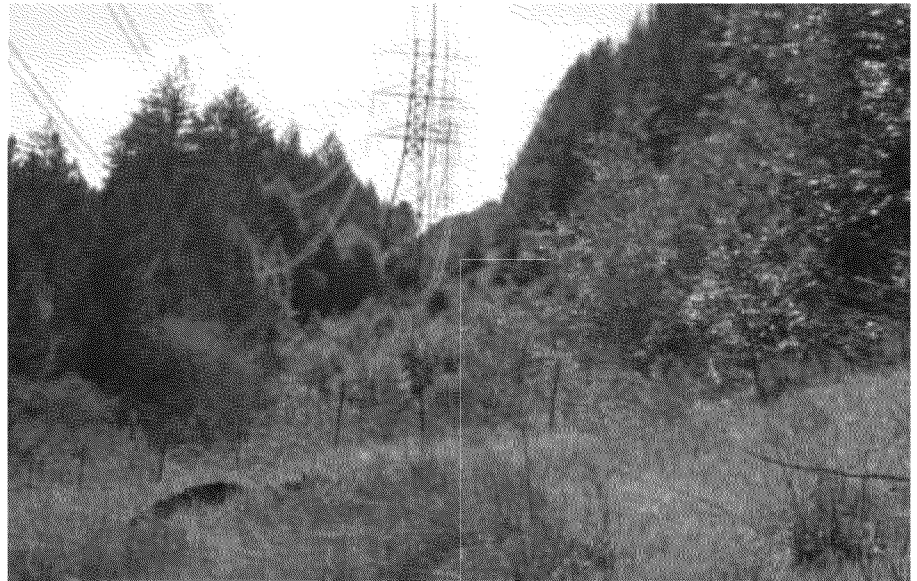
**No** tracked, heavy equipment;

**Does** leave significant ground cover made up of native, naturally low-growing vegetation;

**Does** leave significant canopy cover over waters;

**Is** conducted **by hand**;

# ROW Conditions





# Before & After Photos

**Before Veg Work**



**After Veg Work**





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## Before & After Photos

**Before Veg Work**



**After Veg Work**





Environmental review conducted by:

- Contractors (Transcon Environmental and Garcia & Associates)
- PG&E biologist, land planner, avian protection program manager
- PG&E Vegetation Management-natural resource management professionals

Documents prepared:

- Habitat Suitability Assessment- Transcon
- Environmental Constraints Analysis- Ganda
- Avian Management Plan, Avian Protection Manager
- Environmental recommendations, Veg Management

Documents provided to:

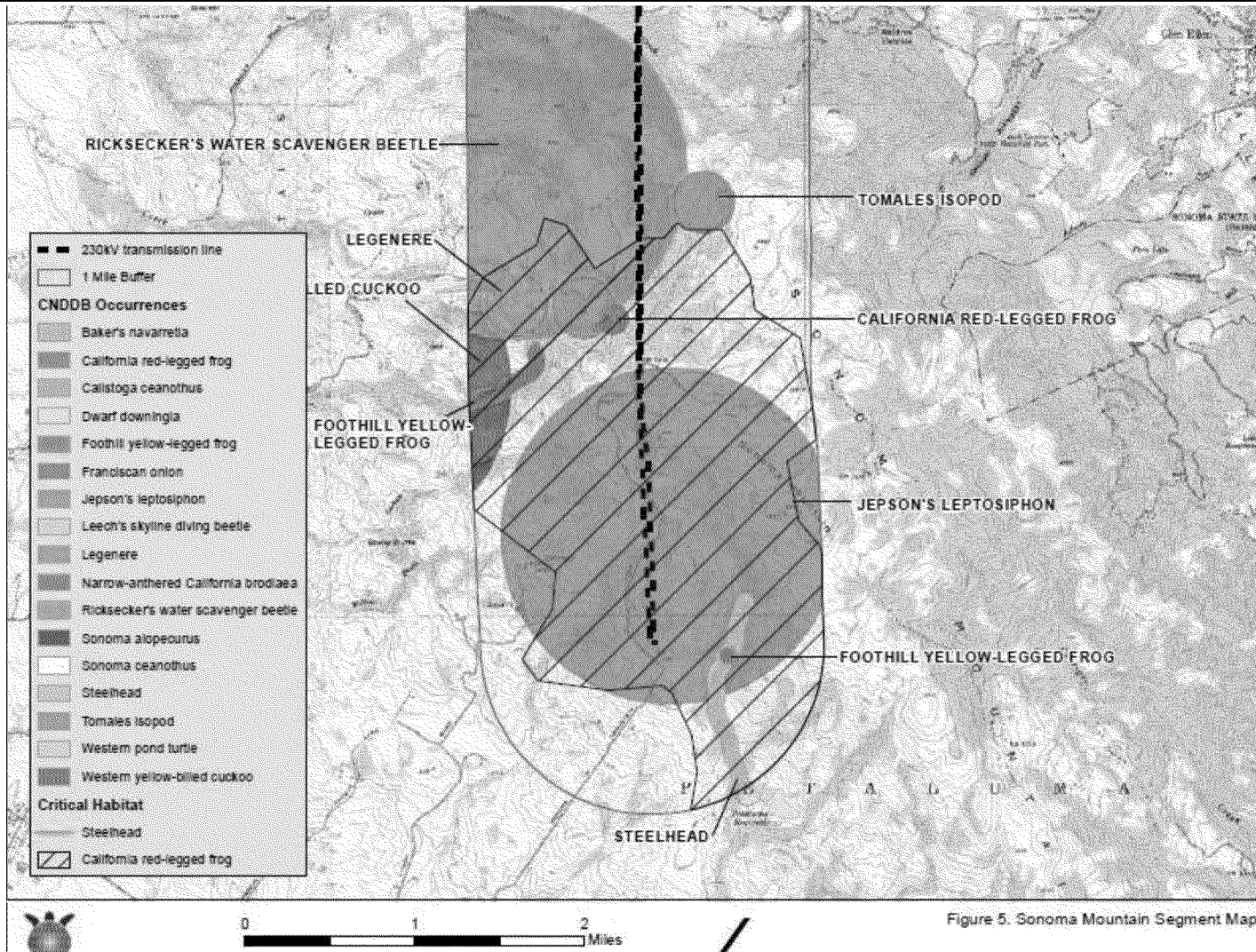
- CDFG
- USFWS





The environmental protection process:

- Environmental contractors prepared environmental assessments
- LiDAR locations identified and field reviewed to confirm extent of work
- Work locations matched with environmental report data and maps to identify sensitive species and watercourse issues
- Environmental protections developed considering potential species and natural resources near work areas
- Biological & bird surveys performed prior to work. Site specific recommendations
- Agencies notified of work and protections
- Environmental training with tree crews
- Avoidance measures implemented in the field- monitoring, active nest buffers, Limited Operating Periods (LOP)



CNDDDB species map- Sonoma Mtn.



## Biologist field survey results sample

Fulton- Ignacio TROW Pre-activity Environmental Survey Tracking							
Species Surveyed	Survey Results	Active Nests	Flagged Areas	Monitor Required	Protections (LOPs, buffers, etc.)	Date Surveyed	Surveyor Comments
Nesting birds, CRLF, CTS, NSO, American peregrine falcon, rare plants	No suitable special status species habitat or rare plants observed.	No	No	No	Phase II Environmental Recommendations and F-I Avian Mgt Plan.	1-Jun	Located in a hillside rural residential area within a hilly area with multiple Class 3 drainages present.
Nesting birds, CRLF, CTS, NSO, American peregrine falcon, rare plants	Active crow nest observed in tower 30/131. No suitable special status species habitat or rare plants observed.	Yes, in tower 30/131	Tower 30/131 flagged with orange and black tape. Orange tape on an inactive nest that was flagged during previous surveys.	No	Phase II Environmental Recommendations and F-I Avian Mgt Plan. 75' buffer around active non-raptor nests.	1-Jun	Located in a hillside rural residential area within a hilly area with multiple Class 3 drainages present.
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## Soil & Erosion effects

Geology Report by Certified Engineering Geologist:

- Clear cutting does not occur. Vegetation Management activities variably retain an average of 60% of all trees within the work area.
- Remaining ground cover is expected to be 95% with a mix of flora made up of on-site species in varying size classes.
- Because the site remains vegetated, significant reduction of root strength or evapotranspiration is not expected.
- A significant increase in instability or stream-bank erosion is not expected.
- A significant increase in peak flows is not expected because redwoods and/or hardwoods removed retain viable root structures.
- VM activities are limited to less than 5% of the watershed.
- Over 75% of the watercourses in the Matanzas creek watershed are not affected by PG&E work.
- PG&E VM work will not have significant impacts on road related erosion and instability because the majority of the work will be completed by hand crews using existing roads for access.
- Any impact resulting from VM work would be small in comparison to the potential for erosion and instability that could result if a fire were to result from not managing the vegetation & preventing it from coming into contact with the wires.