

Assessment of PG&E High Fire Risk Area Map

(Update 07/11/2021)

To date, the GIRS-RT has reviewed 23 candidate Add/Remove polygons for the 2021-22 Addendum to the PG&E High Fire Risk Area (HFRA) Map. This Update provides an overview of information contained in the shared UCLA/PG&E HFRA Project SharePoint Folder. Information for the 2021-22 Addendum to the initial review is contained in the folder **2021-22 HFRA Polygon Review**. This is a folder within the parent Fire Zone Project Review which also contains results of the 2020 GIRS-RT HFRA Review. A copy of this update is also contained in the **Summary Reports** subfolder of **2021-22 HFRA Polygon Review**.

Summary Tables:

The Excel spreadsheet titled **Second review documentation and rationale HFRA v4.2 Candidates ForGIRSRTAssess** (obtained from PG&E) provides a shared working list of polygons under consideration in the 2021-22 review and the status of the GIRS-RT assessments. It is contained in the subfolder **HFRA Spreadsheet** within the project folder **2021-22 HFRA Polygon Review**. Column J is the GIRS-RT recommendation, and Column K is a brief summary of the rationale. Column L of the spreadsheet is for PG&E feedback with suggested entries Add/Remove/Modify/Discuss.

The results fall into the categories listed in Table 1 below. This first review consists of 23 polygons, all of which were candidates for removal from the HFRA map. The current table is dated 7.11.21 to reflect the most recent updates. The results of the review of the 23 polygons are also given in Table 2 at the end of this report. Table is taken from the complete set of maps and review documentation for the 23 polygons.

In the spreadsheet recommendations listed as Remove indicate full agreement with the PG&E assessment. Recommendations listed as Remove (modify criteria) suggest a modification of the criteria for removal that supports, but does not recommend any change in, the PG&E assessment. Recommendations listed as Remove with Modification include a modified boundary suggestion which either increases or decreases the area of the remove polygon. Recommendations listed Disagree with Removal indicate disagreement between the GIRS-RT recommendation and the PG&E assessment in the subfolder **All Polygon Review Slides**.

Table 1: Review Status Update (07_11_2021)

RECOMMENDATION	FREQUENCY	DESCRIPTION
Remove	0	Fully agree with PG&E assessment
Remove (modify criteria)	15	Agree, but add or question criteria (question criteria marked as Q)
Remove (modify criteria) with Modification	4	Increase or decrease polygon boundary, Add or Question (Q) criteria
Disagree with Removal	4	Disagree with PG&E Assessment
TOTAL	23	

Key to GIRS-RT Comments:

Modify Criteria comments include Additions (marked “Add” followed by the criteria number), for cases where GIRS-RT suggests additional removal criteria are applicable for the polygon, and Questions (marked “Q” followed by the PG&E criteria number), for cases where GIRS-RT disagrees with removal criteria cited by PG&E.

Modifications are listed as “increase” or “reduce” to reflect the increase or reduction of the polygon boundary defined by PG&E. All suggested modifications to polygon boundaries are shown explicitly in the accompanying slide set 7_11_21_23polygons.pptx in the folder **All Polygon Review Slides** which includes the detailed analysis for all individual polygons.

Disagree with removal polygons are accompanied in the table with the list of criteria for which there is disagreement (marked as “Q” followed by the PG&E criteria number).

No Rationale for removal was included for four of the polygons under consideration in this review (i.e. the PG&E criteria columns were blank). For three of these cases, the GIRS-RT agreed with removal, and added our criteria (as modified criteria). In one case, the GIRS-RT disagreed with removal, and indicated no rationale was given.

Complete Documentation:

The GIRS-RT created a folder **All Polygon Review Slides** containing slides and summary tables for all polygons under consideration in the 2021-22 review. The files contained in that folder and corresponding counties represented (with the number of polygons in parenthesis) include the following:

1. 7_11_2021_23Polygons.pptx
Alameda (1), Calaveras (1), Contra Costa (5), El Dorado (5), Marin (1), Placer (1), San Luis Obispo (2), San Mateo (1), Santa Clara (1), Santa Cruz (2), Shasta (1), Sonoma (2)

These files supplement the brief rationale included in Table 1 (above) and SharePoint Spreadsheet, and provide additional information (maps and notes) for all polygons. Any suggested modifications in the polygons are included in these slides, along with the information described below. Table 2 below is the summary for the polygons reviewed in this report.

The slides in the **All Polygon Review Slides** folder contain maps and summary notes for every polygon that has been reviewed. Each slide includes the original PG&E criteria, maps for vegetation, slope, land use, power lines, Diablo outages, and in some cases fire history. These are broken into:

(1) Vegetation maps based on the CalVeg dataset sorted into four fire risk categories: Category (A) Archetypical frequent fire vegetation type: A.1) Trees and shrubs; A.2) Grasses; Category (B) Fire associated vegetation type: B.1) Trees and Shrubs; B.2) Grasses; Category (C) Mesic/shade tolerant/arid, low fire frequency; and Category (D) Rarely burns in CA.

Polygons with tree and shrub vegetation types in the archetypical fire type (A.1) or fire associated (B.1) categories are considered as high fire risk areas. Polygons with grass vegetation types in the archetypical fire type (A.2) and fire associated (B.2) categories are consistent with high fire risk areas but we further evaluate these areas using Google Earth to evaluate the grass flammability conditions (such as dense vs. sparse; high grasses vs. low), which factors into fire risk. In our fire risk maps (see attached slide set), A.1, B.1, A.2, B.2, C, and D are assigned as red, orange, yellow-green, yellow, green, and blue color, respectively.

(2) Slope maps from the USGS Digital Elevation Models (DEMs) that have a resolution of 10 meters. Slope is calculated using ArcGIS software. In our fire risk maps (see attached slide set) slopes are assigned colors ranging from red (steepest slope), to orange, to yellow, to green (lowest slope).

(3) Google Earth Images used to identify firebreaks and land use and to support fuel risk assessments. Superimposed on the Google Earth maps are the polygon shape, power lines, Diablo power outages, and suggested modification of the polygons.

Table 2: Summary Table for 07_11_2021 Review:

HFRA_ID	Remove/Add from PG&E	GIRS_RT Summary Comments
Alameda_408	Remove 1,3,5	Agree 1,3,5; Add 2
Calaveras_402	Remove 2,3,5	Agree 2,5; Q3; Add 1
Contra_Costa_402	Remove 1,5	Disagree; Q1 Q5
Contra_Costa_403	Remove 1,5,6	Agree 1,5,6; Add 2
Contra_Costa_407	Remove 1,5	Agree 1,5; Add 2,3
Contra_Costa_408	Remove 1,5	Agree 1,5; Add 2
Contra_Costa_411	Remove 1,5,6	Agree 1,5,6; Add 2; Modify (Increase)
El_Dorado_402	Remove (no rationale)	Remove 1,2,3,5; Modify (Increase)
El_Dorado_403	Remove (no rationale)	Remove 1,2,3
El_Dorado_404	Remove (no rationale)	Remove 1,2,3,5; Modify (Decrease)
El_Dorado_405	Remove (no rationale)	Disagree; No rationale to remove
El_Dorado_406	Remove (no rationale)	Remove 1,2,3,5
Marin_405	Remove 1,5,6	Agree 1,5,6; Add 2
Placer_402	Remove 1,3	Agree 1; Q3; Add 2
San_Luis_Obispo_401	Remove 1,5	Agree 1,5; Add 2,3
San_Luis_Obispo_402	Remove 1,5	Agree 1,5; Add 2
San_Mateo_403	Remove 1,5	Agree 1,5; Add 2

Santa_Clara_401	Remove 1,5	Agree 1,5; Add 2
Santa_Cruz_401	Remove 1,5	Agree 1,5; Add 2; Modify (Increase)
Santa_Cruz_402	Remove 1,5	Disagree; Q1, Q5
Shasta_402	Remove 1,5	Agree 1,5; Add 2
Sonoma_402	Remove 1,5	Agree 1,5; Add 2
Sonoma_403	Remove 1,5,6	Disagree; Q1, Q5, Q6

Summary of PG&E Removal Criteria Codes (1-6) Used in Table 2:

1. Is the area consistent with surrounding areas outside of the HFTD?
2. Does the area have low slopes / limited potential for an uphill fire propagated by an Offshore wind event?
3. Does the area have low fuel loads?
4. Is the area isolated and have limited fire risk?
5. Is the area highly developed or comprised of low risk land use?
6. Are there natural or manmade firebreaks downwind of a potential fire driven offshore wind event? The existence of natural and man-made firebreaks enabling increased access for suppression.

Comments: These add/remove criteria explicitly emphasize consistency with nearby HFTD zones, topography (slope), fuel load in the region, proximity to wildland fuels (vs. isolation), land use, and proximity to natural and man-made firebreaks. In our review we also used GIS, Google Earth, and fuel maps with fuels rated for their contribution to fire hazard. To qualify for removal, a candidate polygon must satisfy at least two of the six removal criteria.

Future Updates:

The GIRS-RT will continue to update the shared spreadsheet and provide update summaries and details for all polygons reviewed. These will be available on the SharePoint site as polygons are received from the PG&E HFRA Team and reviewed by the GIRS-RT.