



WPSAPS Software Guide

Wildfire Prevention Spatial Assessment and
Planning Strategies

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Introduction

The information in this guide describes the process of developing effective wildfire risk assessments that are used in a Wildfire Prevention Plan (WFPP). A good risk assessment will help steer the organization’s Prevention Program to address its highest risks and protect its most important values. The purpose of this guide is to provide step-by-step training for developing a solid risk assessment for the WFPP.

Wildfire Prevention Plans

After logging into the application, you will see the Wildfire Prevention Plan dashboard. This dashboard (shown below) lists any prevention plans that you have created or been invited to collaborate on. The plans are listed in two sections. The top panel lists the plans you have created. The bottom panel lists plans that you are a collaborator on.

The screenshot shows a web application interface for managing Wildfire Prevention Plans (WFPP). It is divided into two main sections, each with a header and a table of plans.

Section 1: My Wildfire Prevention Plans

Name	Owner				
Spokane Test		Dashboard	PROPERTIES	CLONE	DELETE
Test		Dashboard	PROPERTIES	CLONE	DELETE
Test 2		Dashboard	PROPERTIES	CLONE	DELETE
Spokane Test 2	nilsadmin@ocio.usda.gov	Dashboard	PROPERTIES	CLONE	DELETE
Spokane Clone		Dashboard	PROPERTIES	CLONE	DELETE
NewWFPPDeleteMe		Dashboard	PROPERTIES	CLONE	DELETE

Section 2: Wildfire Prevention Plans I am assisting with

Name	Owner				
test		Dashboard	PROPERTIES	CLONE	DELETE
test		Dashboard	PROPERTIES	CLONE	DELETE
test		Dashboard	PROPERTIES	CLONE	DELETE

Figure 1: Wildfire Prevention Plan Dashboard

1. Click on the **CREATE NEW WFPP** button to create a new wildfire prevention plan. The Create New WFPP window will appear.

Figure 2: Create New WFPP Window

2. In the window shown above, enter your Agency.
3. Enter a name for the plan (for example, Spokane or another location).
4. Click the **CREATE NEW WFPP** button.

You should see notifications on the screen that the plan was created. The new plan should be in the list of plans on the WFPP dashboard.

- To add collaborators to the plan, click the **PROPERTIES** button for the plan. Choose a collaborator in the collaborators dropdown and click update.
- To delete the plan entirely, click the **DELETE** Button on the row with the plan. This will also delete all associated data with the plan.
- Clone the plan by clicking the **CLONE** button. You may choose to clone the plan if you want to edit your prevention units and communities but want to keep the original plan as is.

Starting a Wildfire Prevention Plan

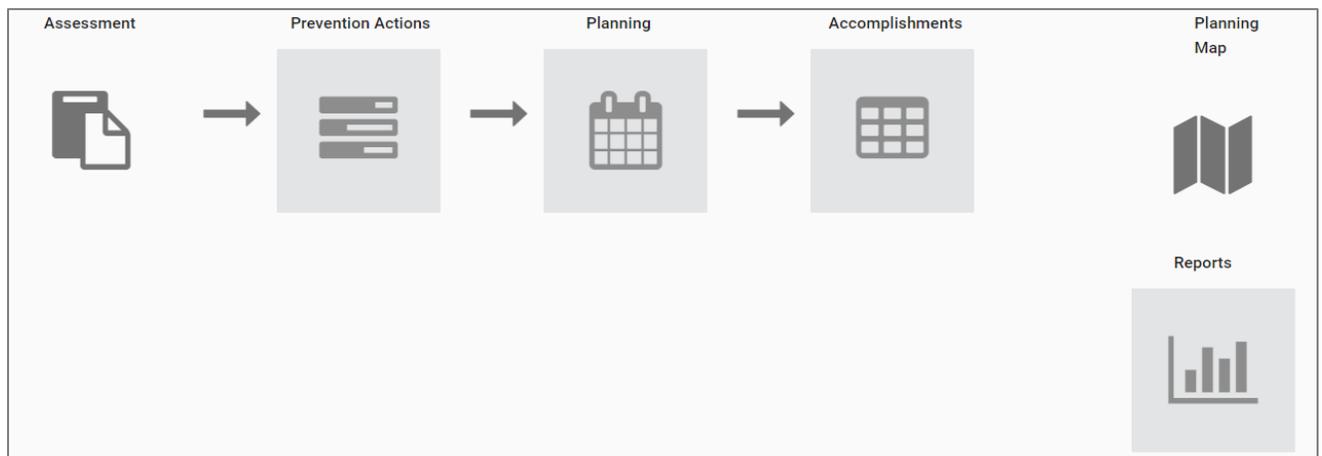


Figure 3: Plan Development Workflow Dashboard

To develop or edit a plan, click the **Dashboard** link to the right of the plan name you want to edit. This will open the Plan Development Workflow Dashboard.

This dashboard is organized into sections and designed to be completed in a workflow. The user first creates the assessment. Second, the prevention actions are defined. The user then enters the planning

section to schedule the prevention actions throughout the year. Finally, the accomplishments section allows the user to document when and which prevention actions were performed.

There are two other sections of the dashboard that are not tied to the workflow: the planning map and reports. The planning map becomes active when the assessment is complete. It can be used as reference for defining prevention actions and planning. It also allows you to print maps in PDF format. The reports section lets you print reports of the prevention plan.

Completing the Assessment

The first part of developing the plan involves creating the assessment. Click the **Assessment** icon on the Plan Development Dashboard. This will open the Assessment screen.

Assessment

Setup Map Lock Map

ENTER MAP

Aspect Risk Category

- North Aspects = Low; East and West Aspects = Medium; South Aspects = High
- NW, N, and NE Aspects = Low; E and W Aspects = Medium; SE, S, and SW Aspects = High
- North and East Aspects = Low; West aspects = Medium; South Aspects = High

Elevation Risk Category

- 5001'+ = Low; 3501' - 5000' = Medium; 0 - 3500' = High
- 8501'+ = Low; 6000' - 8500' = Medium; 0 - 6000' = High
- 9001'+ = Low; 7501' - 9000' = Medium; 0 - 7500' = High

Initial Attack Response Time Risk Category

- 0 - 20 minutes = Low; 21 - 45 minutes = Medium; 45+ minutes = High
- 0 - 30 minutes = Low; 31 - 60 minutes = Medium; 61+ minutes = High
- 0 - 45 minutes = Low; 46 - 90 minutes = Medium; 91+ minutes = High

GENERATE COMMUNITY ASSESSMENT MAP

Figure 4: Assessment Screen

Creating the assessment includes setting up the Communities and Prevention Units, entering the community assessment items, entering the prevention unit items, and reviewing the assessment results.

The first step is to create your communities and prevention units. Click on the **Enter Map** button under the Setup Map heading. This will open the Setup Map in a new browser tab.

The map contains three major sections: the map area, editor template, and legend. The map area is an interactive map.

- Pan the map by clicking and dragging the map.
- Zoom in on the map with either the mousewheel or the '+' '-' buttons on the map.
- The map background can be switched to aerial imagery by clicking the Aerial Imagery Map Toggle Button.
- The editor template and toolbar are used to create new prevention units and communities.
- The layer switcher is used to change specific map layers on the map.
- The different map layers can be used to help assist in creating the prevention unit boundaries.

Use the map tools to zoom to the Spokane Reservation. The Spokane Reservation is just northwest of Spokane Washington.

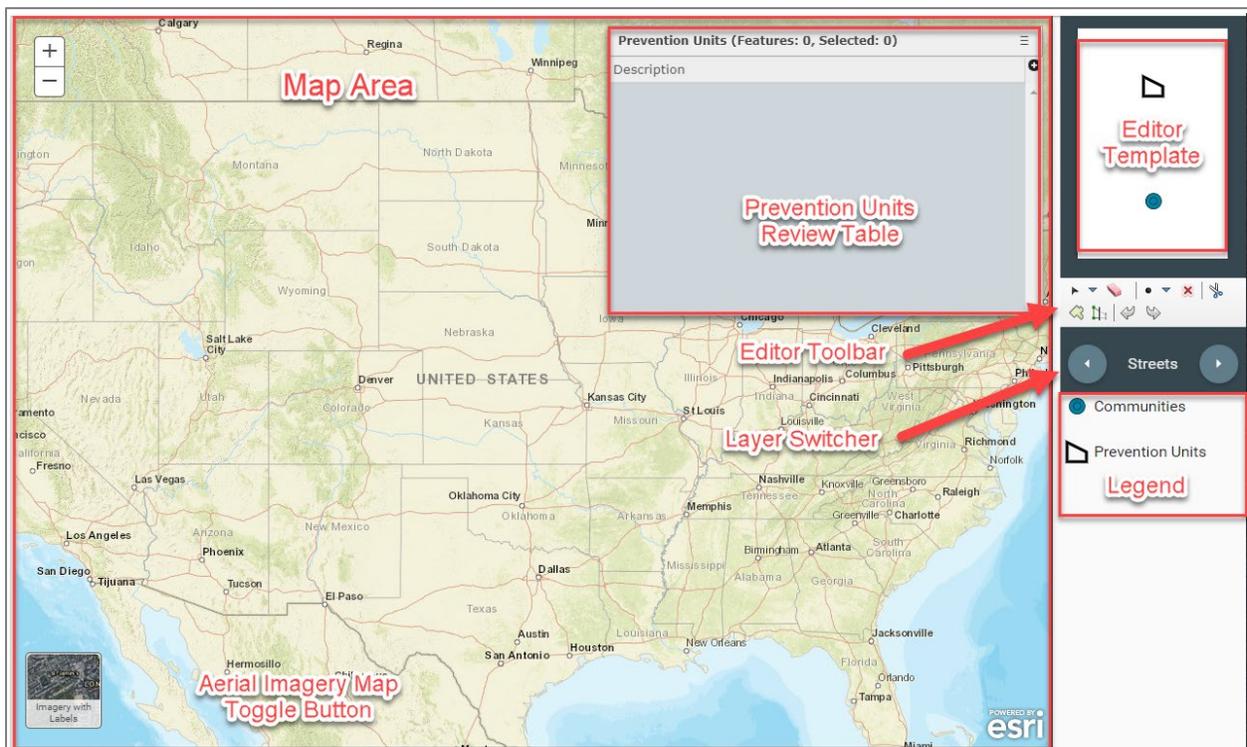


Figure 5: Setup map showing the map area, prevention units review table, editor template, editor legend, layer switcher, and legend

On the layer switcher control, use the next button (right arrow) to explore the different layers in the map. These different layers can be used to assist you in deciding on prevention units and digitizing prevention unit boundaries. The layers are defined in Appendix A.

Creating Prevention Unit Polygons

1. Zoom in to the northwest corner of the reservation.
2. In the editor template, click the polygon icon (Prevention Units).
3. Move the cursor back over to the map. The mouse icon will now be in digitizing mode.
4. Locate a starting point for the first prevention unit.

5. Single click on the map.
6. Follow along the reservation boundary, and click the map to create points of the polygon.
7. Click and hold the map to pan it as you are digitizing.

Take care to actually enter polygon points. Moving the mouse and clicking too quickly can result in simply panning the map and not entering in a point.

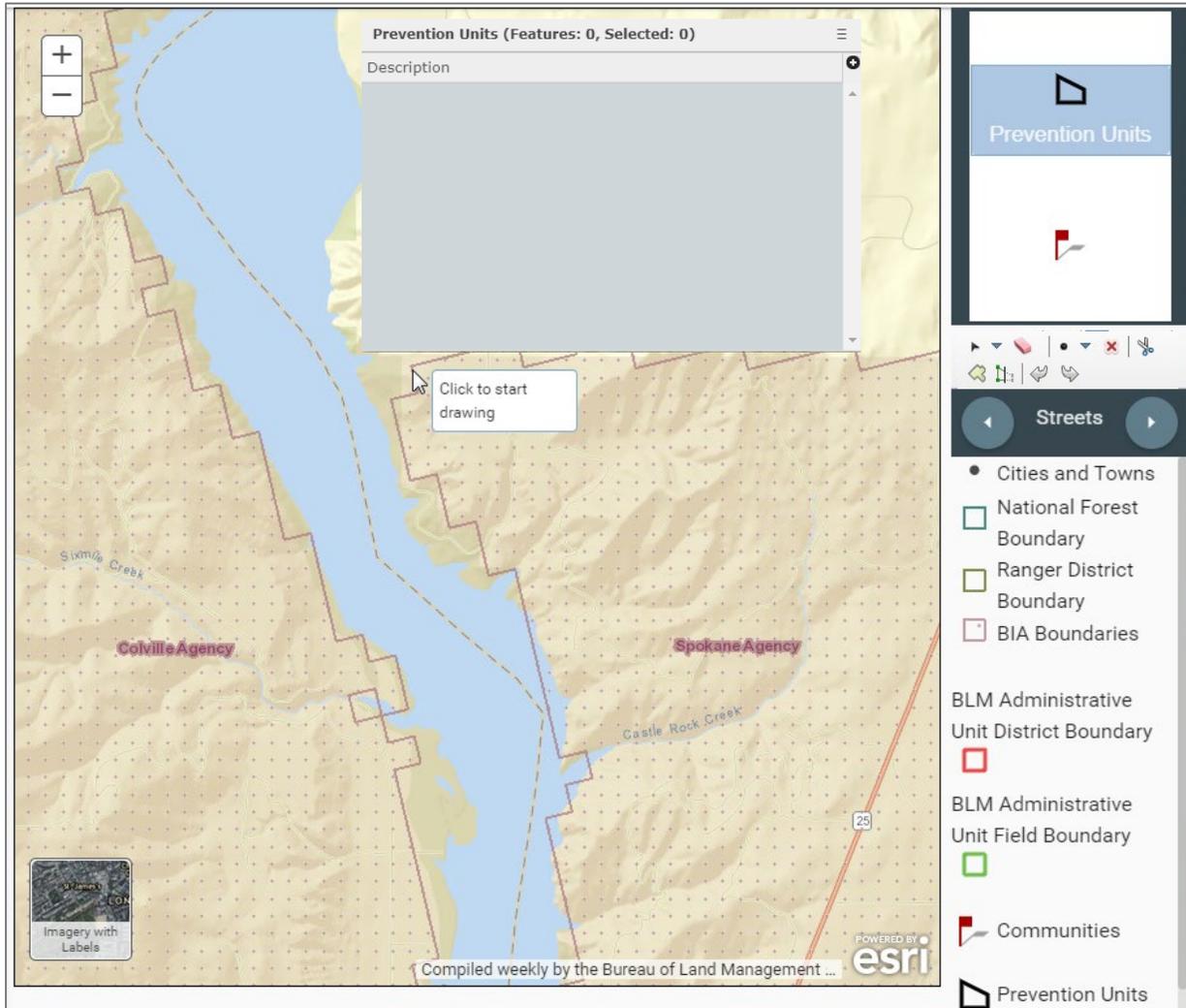


Figure 6: Setup map depicting the starting point for creating a new prevention unit

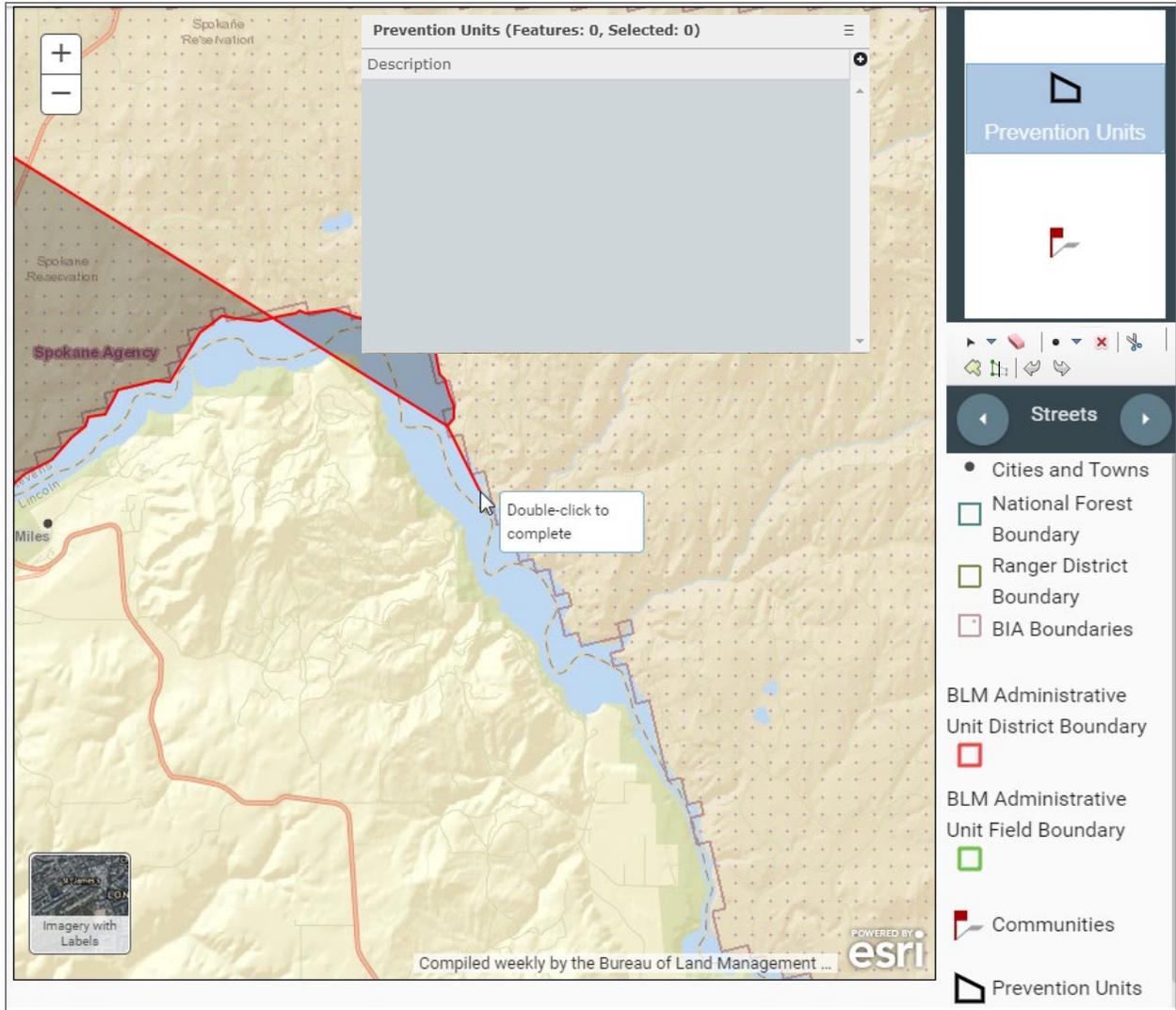


Figure 7: Setup map depicting where to digitize boundaries of the first prevention unit

8. When you have completed a polygon that looks approximately like the shape below (does not need to be exact), double click your last point of the polygon. This will finalize and create the prevention unit.
9. Enter a name or description for the prevention unit in the dialog provided.
10. Click in an open area of the map to unselect the polygon.

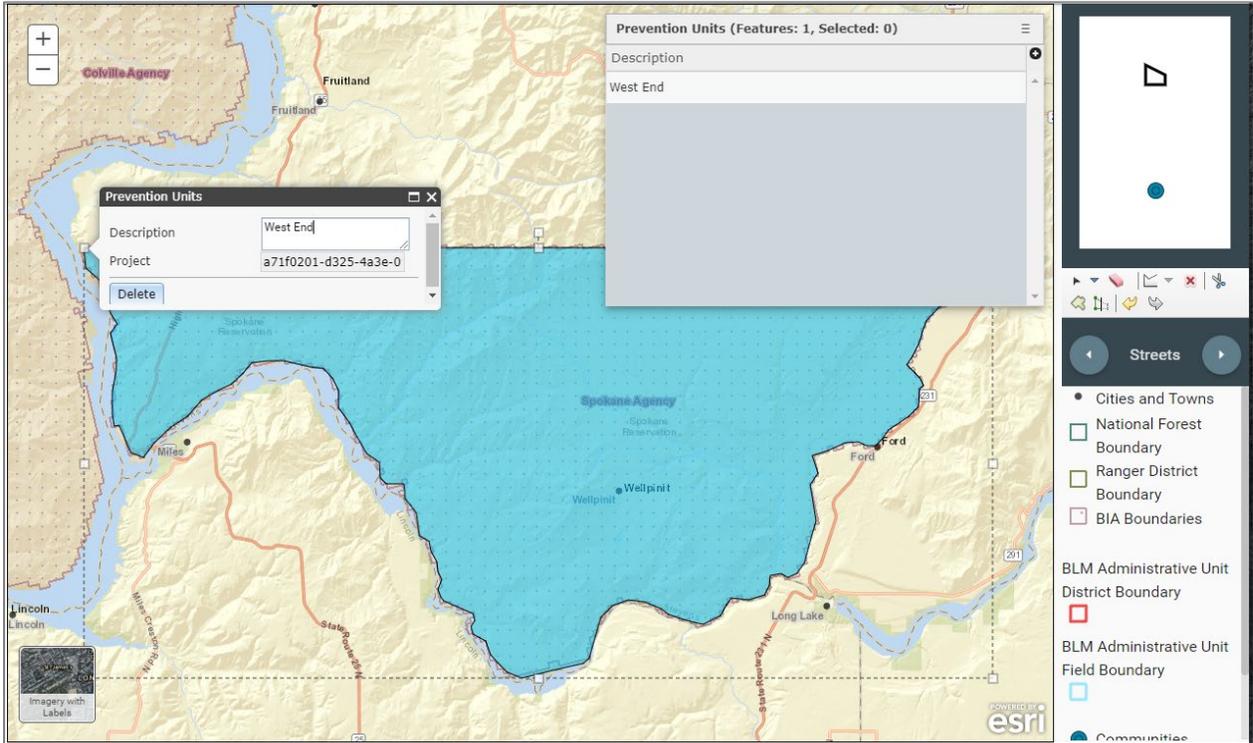


Figure 8: Setup map depicting the completed prevention unit and info window

To create the remaining polygons, use the Cut tool. This will allow you to split the existing prevention unit boundary into the final prevention units.

1. If your prevention unit is still selected, click in a blank section of the map to unselect it.
2. In the editor toolbar, click the cut tool (scissors icon).

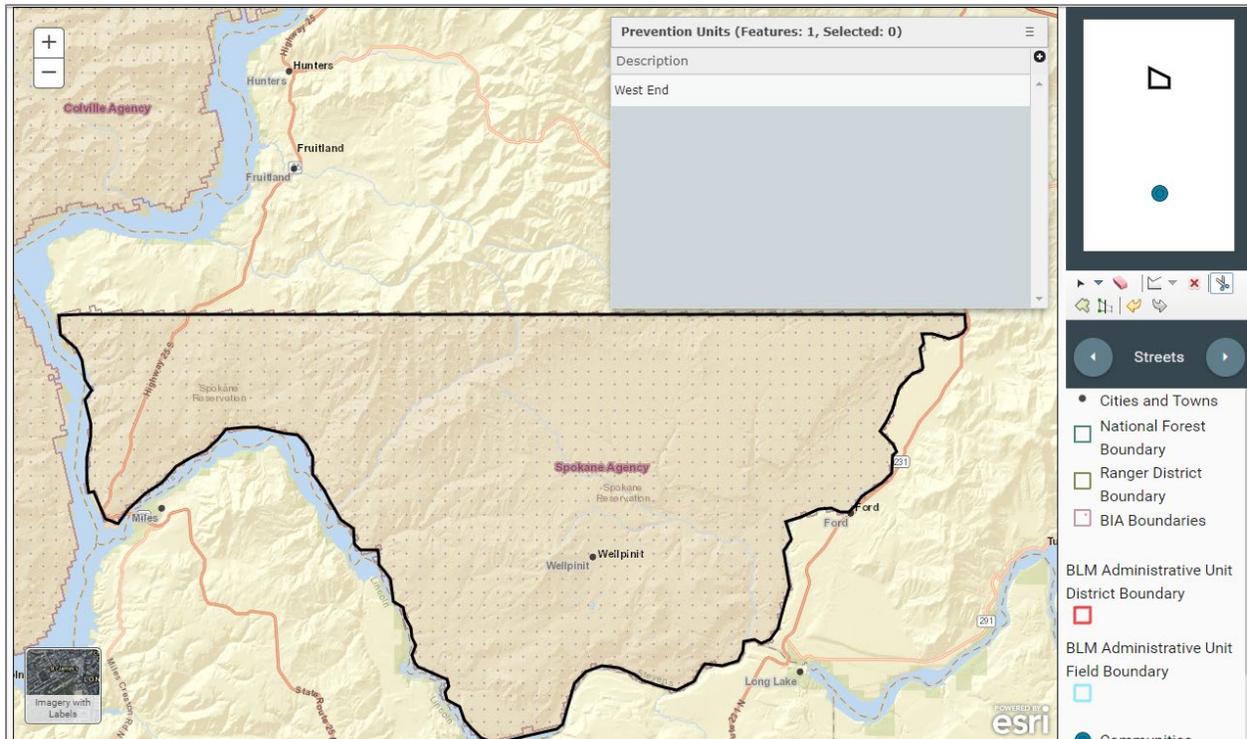


Figure 9: Setup map depicting completed prevention unit with cut tool selected

3. Move your mouse onto the map.

4. Click a point outside the prevention unit where you want to begin to split the polygon.

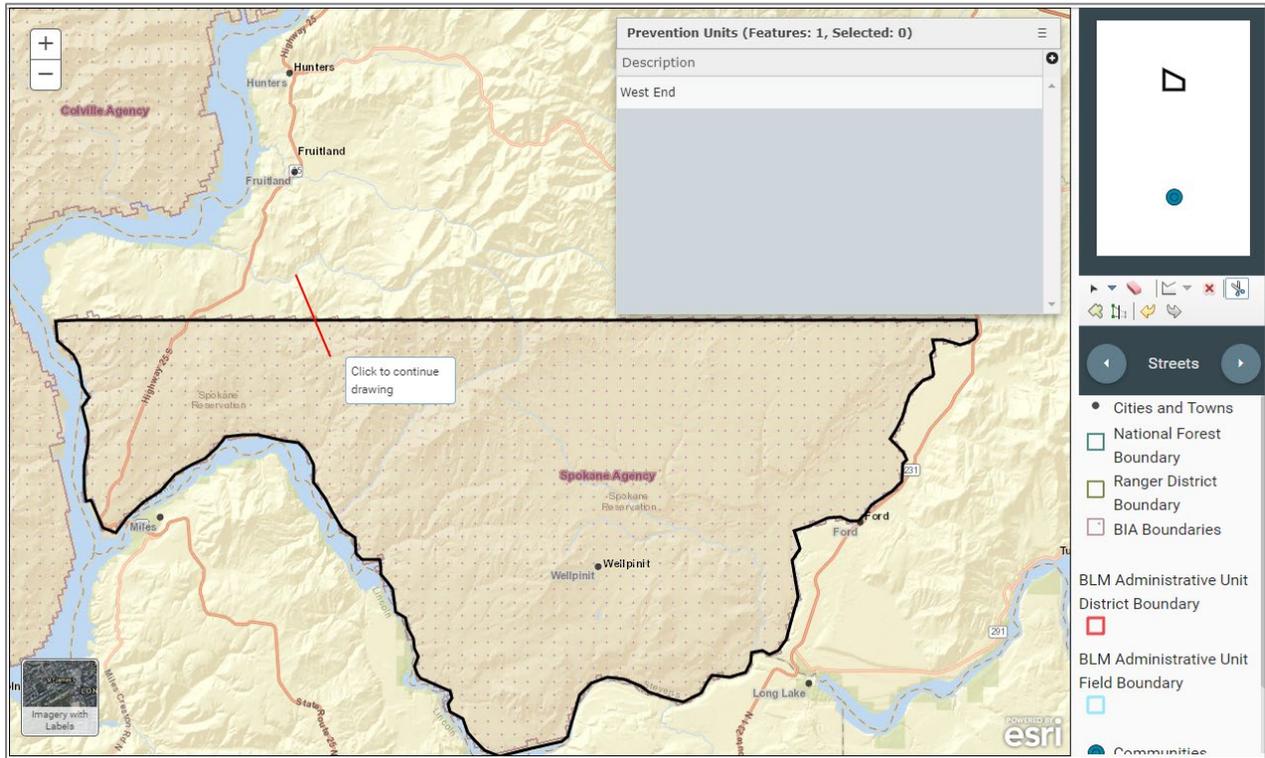


Figure 10: Setup map depicting where to begin cutting the prevention unit

5. Continue digitizing points to form the shape of the boundary for the second prevention unit.
6. Continue the line outside of the existing prevention unit and double-click the mouse.

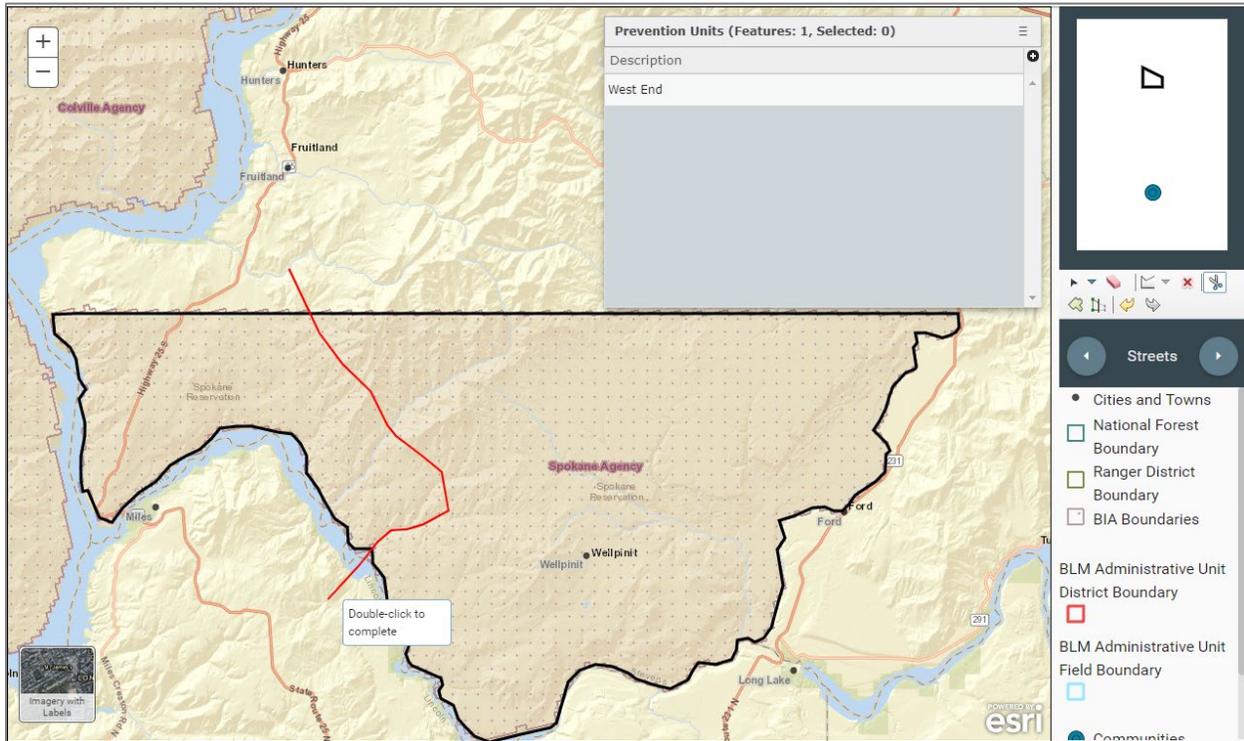


Figure 11: Setup map depicting where to finish cutting the prevention unit

You will now have two polygons as shown in the image below. You can name your new polygon or wait until you are finished cutting polygons to name them.

Click an area outside your prevention units to unselect the prevention units.

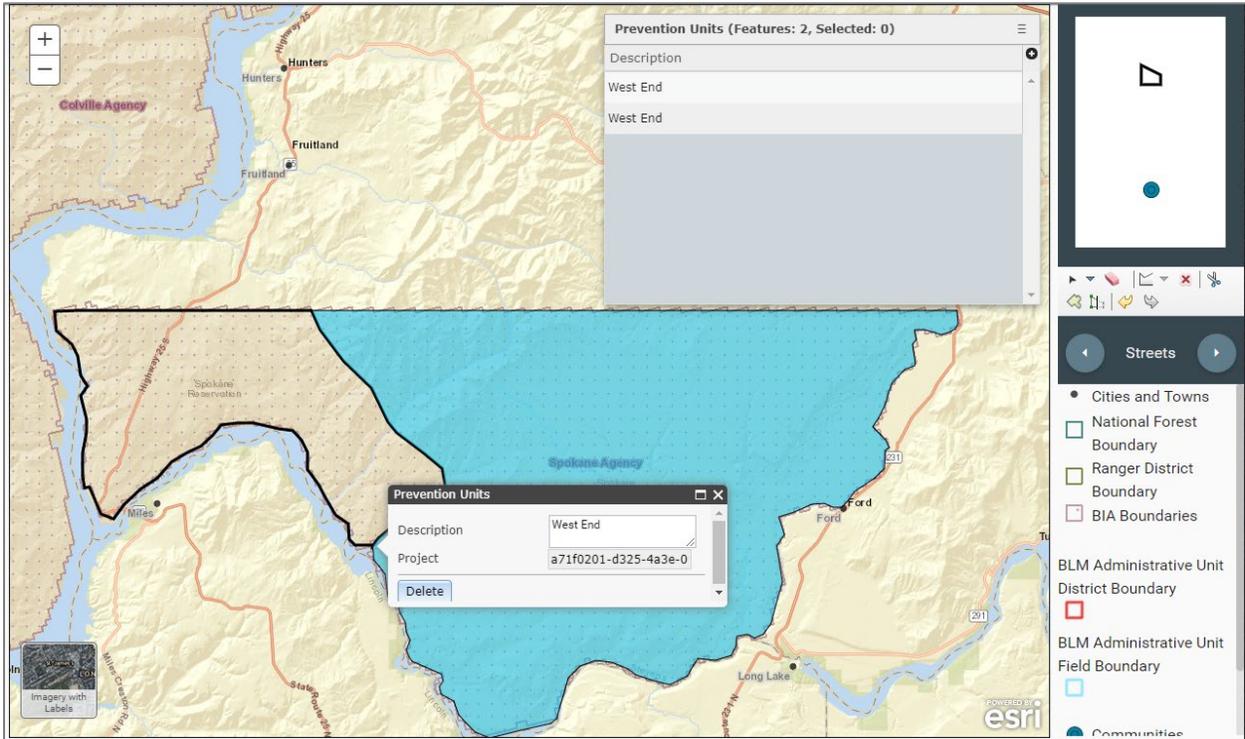


Figure 12: Setup map depicting completed cut resulting in two prevention units

Next, we will split the larger polygon into an upper and lower half.

1. Click the cut tool again.
2. Using the cut tool, digitize a line like the line below.
3. With both end points of the line outside of the larger polygon we are cutting, double click the mouse to complete the cut. You should now have three polygons.

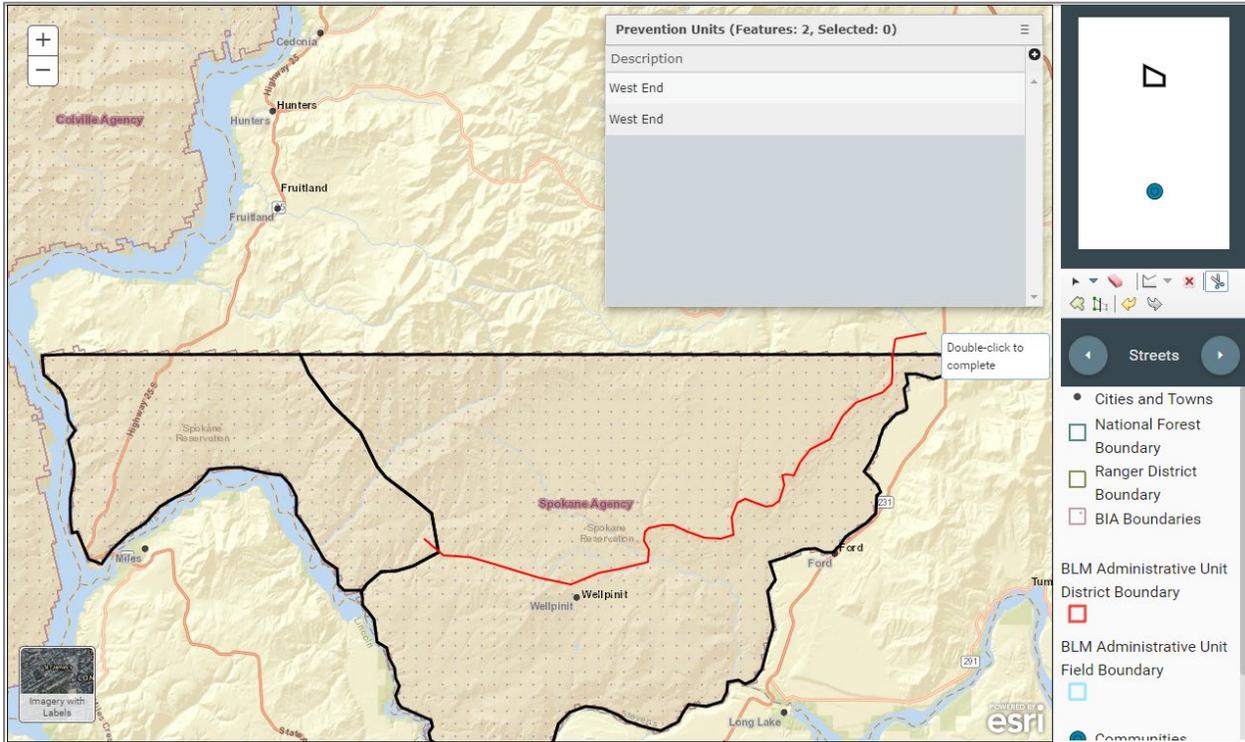


Figure 13: Setup map depicting the cutline for the third prevention unit

4. Draw one more cut line to create the final polygons.

Your final prevention units should look like the image below. Now we have four polygons; however, they are all named West End. To rename them, click on each polygon and rename them.

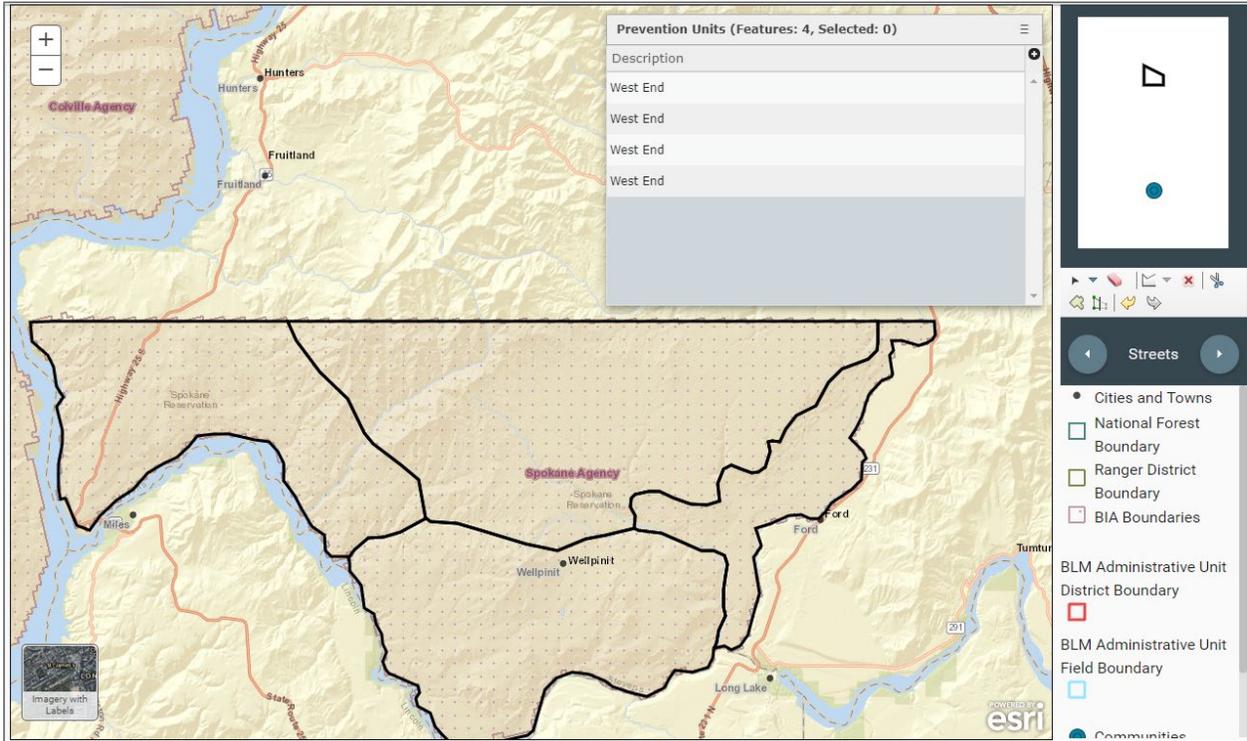


Figure 14: Setup map depicting four prevention units with the same name in the prevention units review table

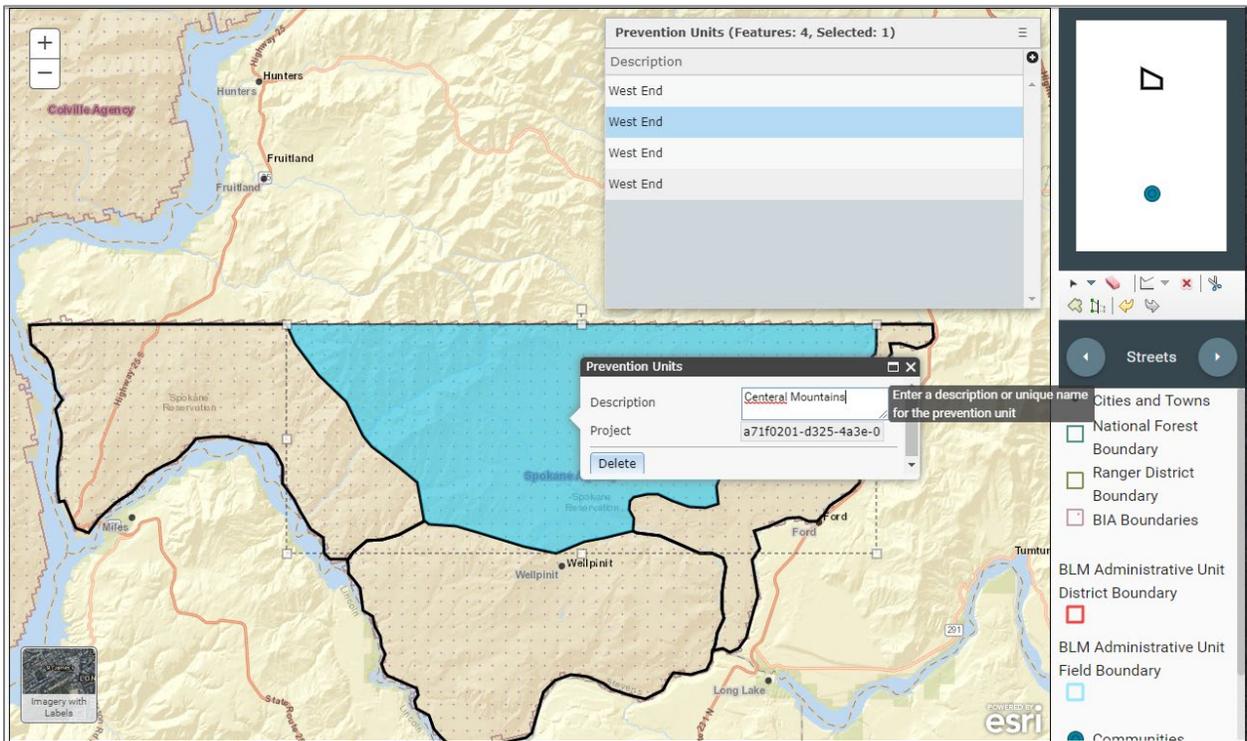


Figure 15: Setup map depicting the info window to rename the selected prevention unit

With all the prevention units renamed, your Prevention Units review table should show the new names. You can click on each row in the table to select the prevention unit in the map and verify that you have created them correctly.

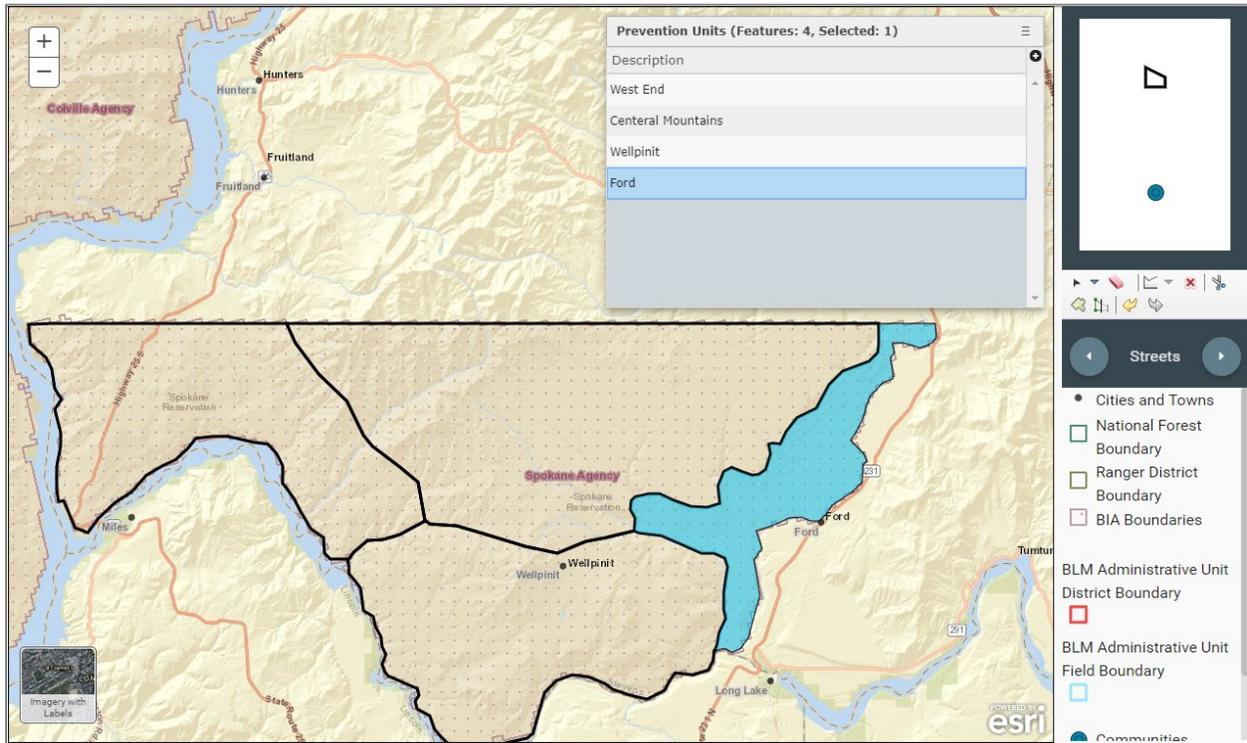


Figure 16: Setup map depicting the completed prevention units with new names

If there are any empty rows or duplicate names in the rows, select the row to inspect the prevention unit in the map.

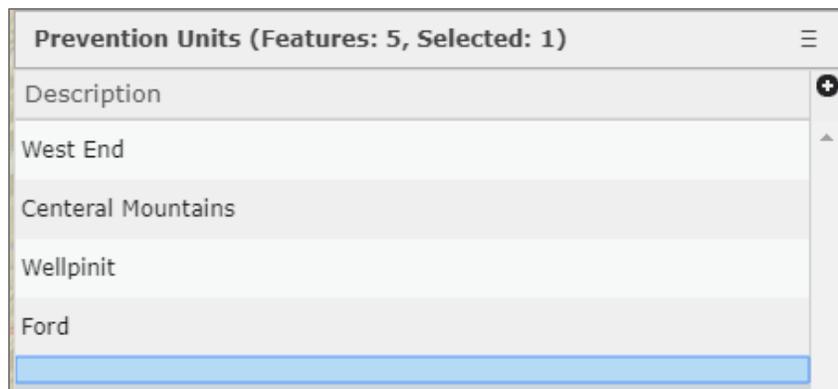


Figure 17: Prevention units review table showing an empty row with no name

You can fix errors in your prevention units using different tools in the toolbar.

- If you’ve just made a mistake, click the undo  button to undo the last action.
- You can also click the redo  button to redo the last action.

- If you want to combine two adjacent prevention units after you have split them, use the Union  tool.
- To combine two or more polygons, first click the select  tool. Draw a box that intersects the polygons you would like to combine. Click the Union tool to combine them.

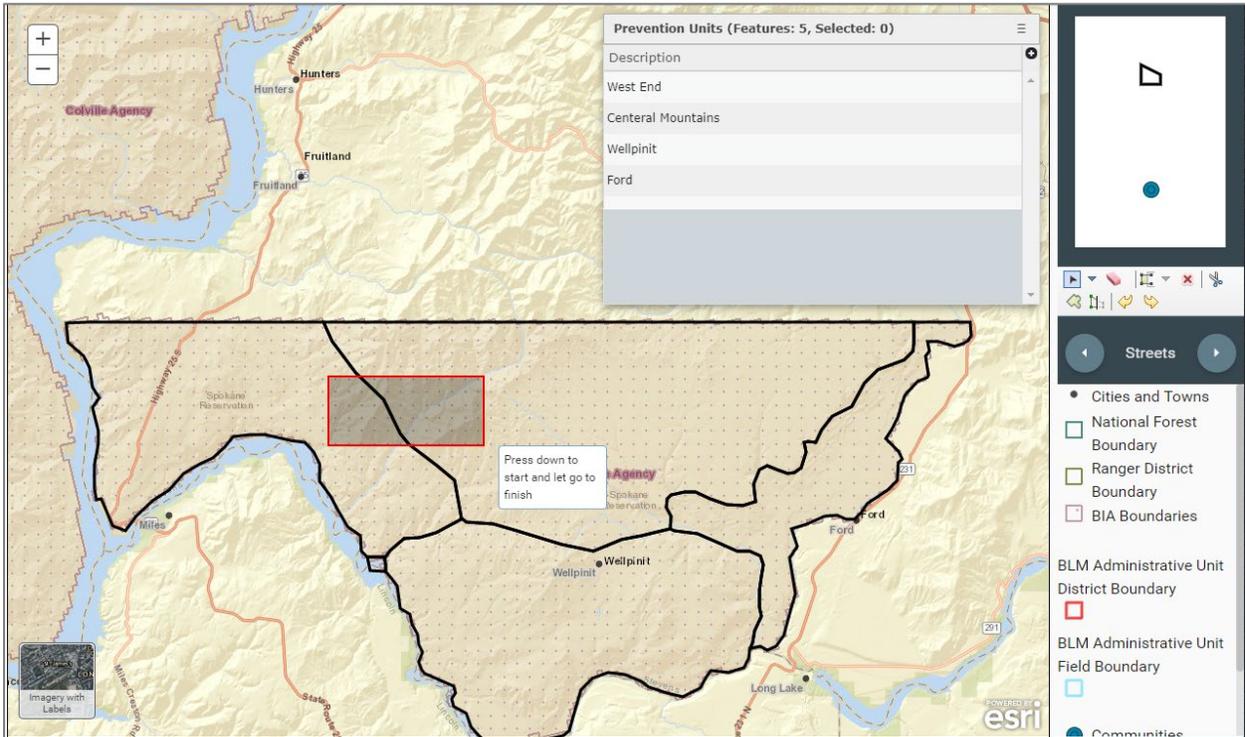
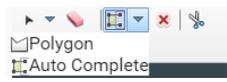


Figure 18: Setup map depicting the select tool

After creating your polygons, if you need to add or 'attach' additional polygons to your existing management unit, use the Auto complete tool.

1. On the editor toolbar click the drop-down arrow next to the third tool.



2. Select Auto Complete
3. Move your mouse onto the map.
4. Click a point well inside the existing prevention unit.
5. Now continue digitizing points to form the shape of the second prevention unit.

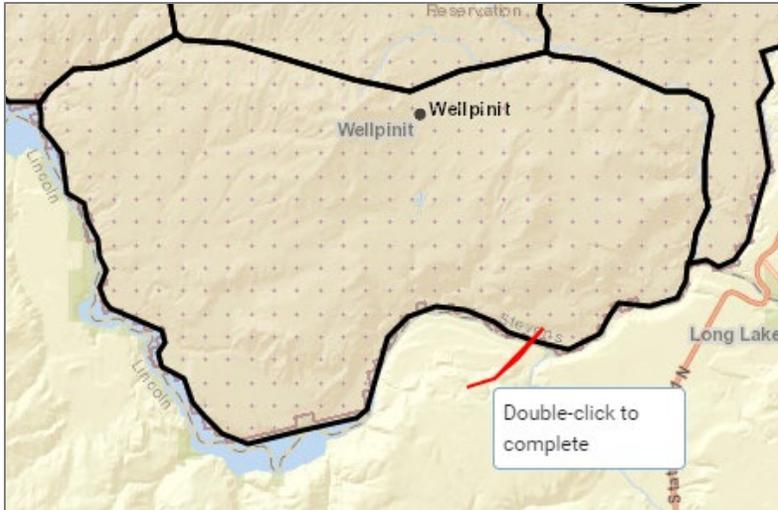


Figure 19: Zoomed in setup map depicting the auto-complete tool

6. When you get to the other end of the second prevention unit that should join the first, move the cursor well inside the first prevention unit. Ensure that the shaded polygon entirely covers the boundary that should be shared with the first prevention unit.
7. Double click to create the prevention unit. The second prevention unit should share a common boundary with the first.
8. Enter a name or description for the second prevention unit.
9. Click on a clear area of the map or click the eraser icon on the toolbar to unselect the polygon.

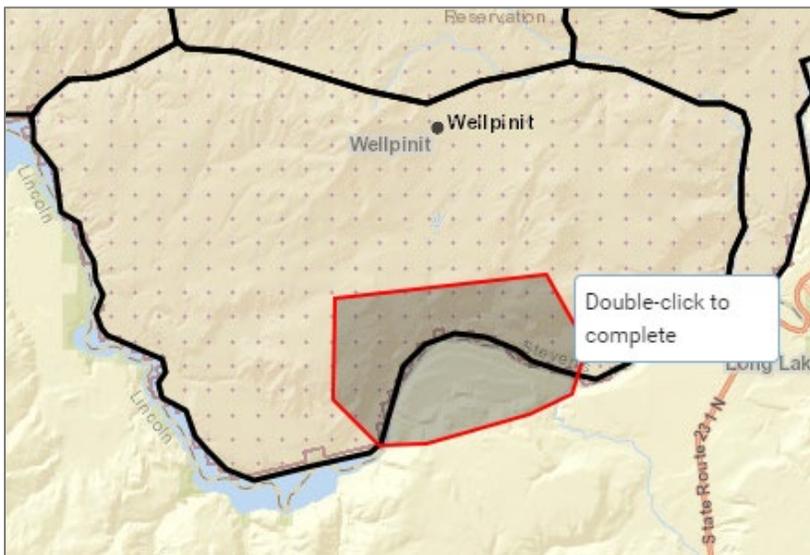


Figure 20: Zoomed in setup map depicting completed auto complete tool

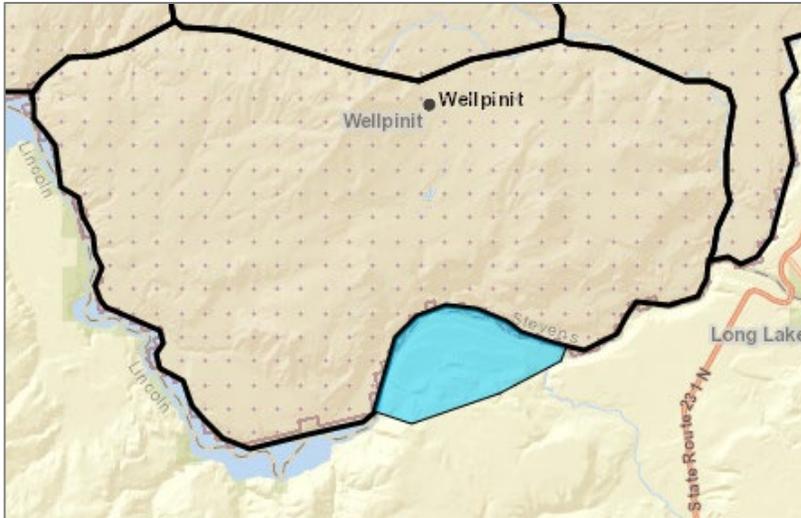


Figure 21: Zoomed in setup map depicting new prevention unit from auto-complete tool

If the polygon was not created adequately, it can be deleted.

1. Click in the polygon to select it.
2. Now click the x icon on the toolbar. This will delete the entire prevention unit. The two arrows on the right end of the toolbar are undo and redo buttons. They can also be used to undo mistakes.

Creating Communities

In the next few steps, we are going to create the communities.

The selection of communities is a complicated process. It is recommended that users apply some screening standards when selecting communities, to ensure the community is a viable community and of interest to the prevention planning process. The basic screening process is, Evaluate Jurisdiction, Determine Viability, and include Communities at Risk. See Appendix B for more information.

Unless the user is intimately familiar with all the communities in the prevention planning unit, it will be necessary to conduct field surveys of the communities to complete the Community Risk Assessment. There is a sample Community Risk Assessment included as [Appendix C](#). It can be printed out and used for documentation and conducting any field surveys.

It is also strongly recommended that users document their decision-making process to avoid confusion and be better able to respond to questions. A Community Risk Assessment like the one in [Appendix C](#) is also useful for documentation.

1. In the layer switcher, click the next button until the wildland urban interface (WUI) and Human Caused Fire layer is displayed. Use this layer to help in identifying communities you would like to include in the prevention plan.

- In the editor template, click the **Communities** icon.
- Now, locate a point on the map, and click it. The new community is created.

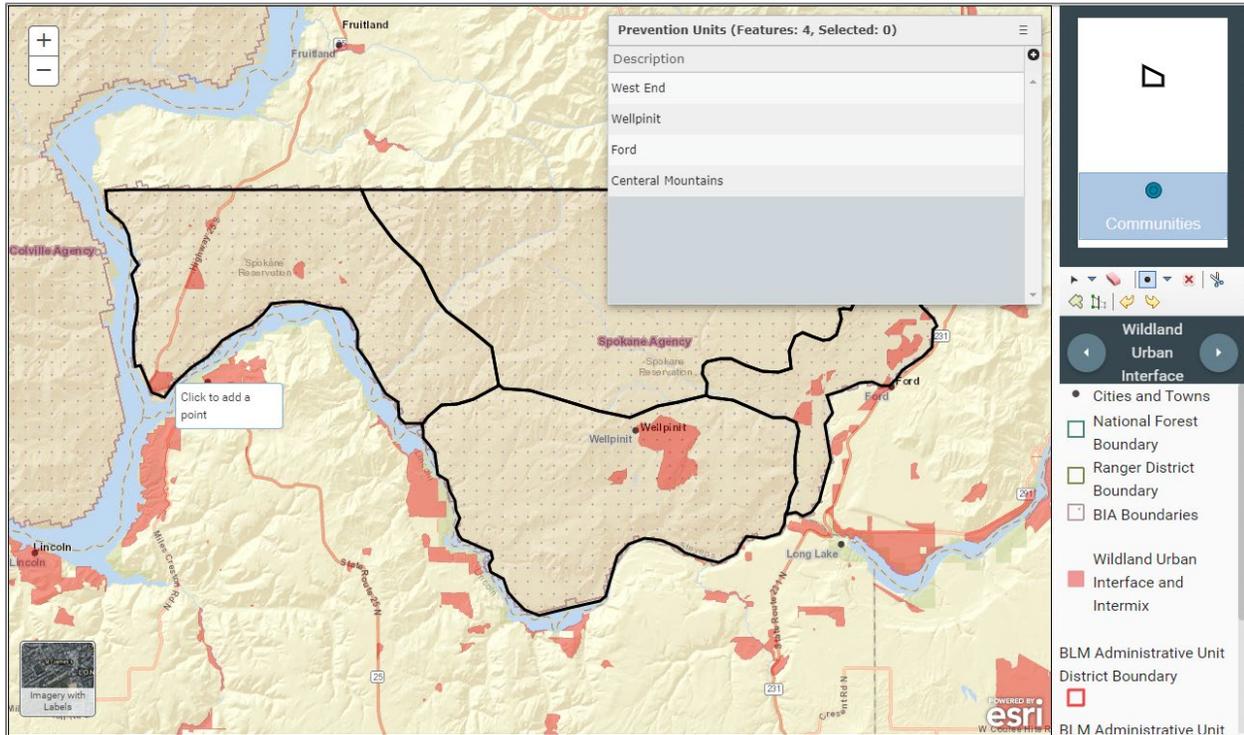


Figure 22: Setup map depicting the communities tool selected

- Give the community a name or description.
- Scroll through the dialog window and answer the structural vulnerability questions.

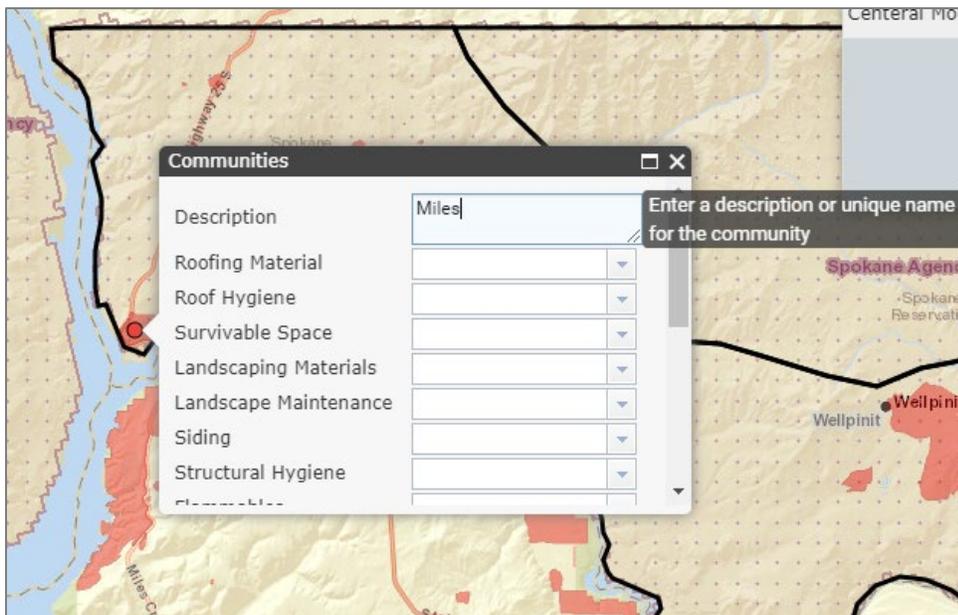


Figure 23: Setup map depicting a new community and the info window

- Enter two more communities for Wellpint and Ford.

When choosing a location for a community, select a location on or near a WUI (if applicable) and near human-caused fire locations. When the program summarizes the communities with GIS data, it will first buffer the community by 3 km. If there is a WUI boundary within that 3 km, it will use that boundary to select human caused fire data and other GIS data for the assessment. If no WUI is found, then the 3-km buffer is used for the summary. WUI boundaries also must be at least 4 km² in size or the 3-km buffer will be used instead.

Both the arrangement and shape of the prevention units are important. They will determine how the underlying GIS data is summarized and given an assessment score. The shape and location of the prevention units will also determine the primary causes in each prevention unit. When selecting the prevention units, in most cases, the goal is to create homogenous prevention units that contain similar characteristics. In this example (below), the boundaries were determined by using the topography, fuel type, wildfire hazard, and human caused fire layers. You can browse through the layers to see how they compare to the prevention unit boundaries.

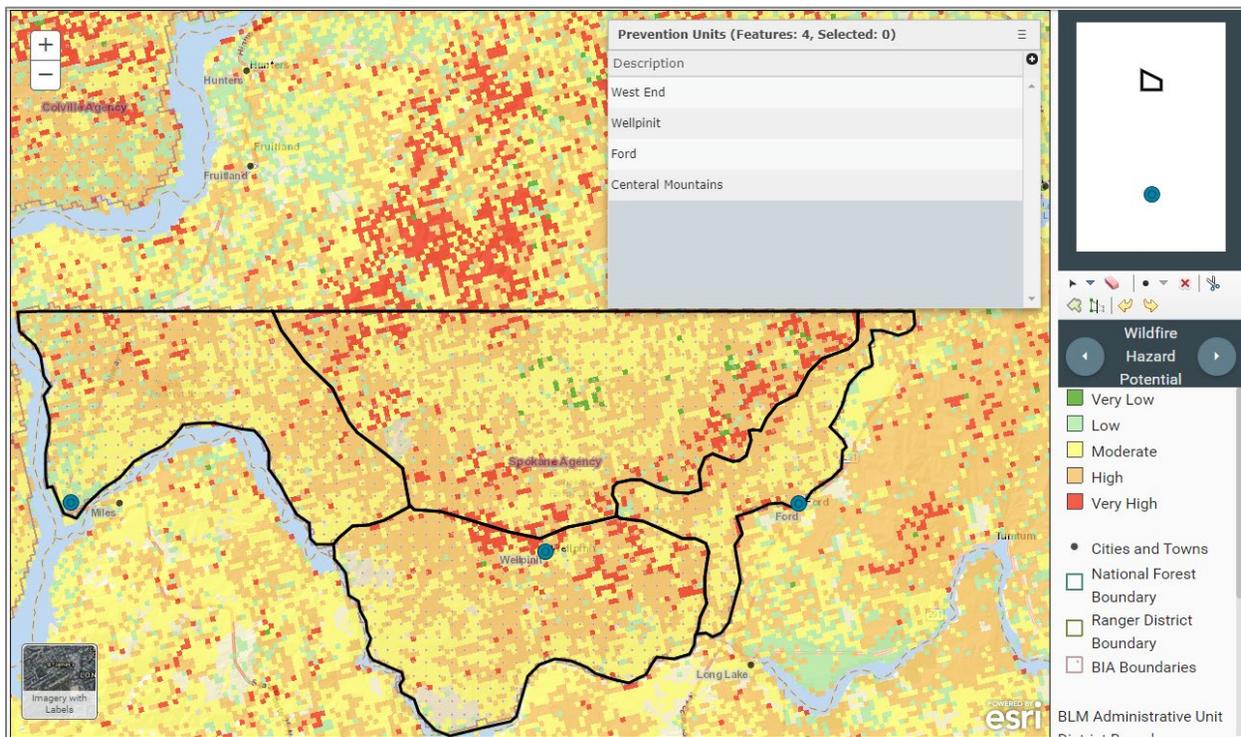


Figure 24: Setup map depicting the wildfire hazard potential layer

When you are comfortable with all the information that has been entered for the communities, go back to the assessment by clicking **Assessment** in the breadcrumbs list on the top of the page. This will bring you back to the WFPP Dashboard.

If you are satisfied with the setup map and information entered, then you can move on to the next section of the assessment. Click the **Lock Map** checkbox, in the upper right corner of the section. As the owner of the plan, you have control over the progress of the assessment by locking each section of the map. With the setup map locked, it can no longer be edited.

Generating the Community Assessment Map

Your selections on the Assessment screen will tell the program how to rank the aspect and elevation values of the prevention units and communities when they are overlaid with a digital elevation model. If your project area is in a mountainous region in the Western US, then you most likely would choose the first option for the Aspect Category. This would classify all North facing aspects with a low risk rating, east and west aspects with a medium rating, and south aspects with a high rating. Choose another category if it is more appropriate. The elevation categories describe the risk at different elevation ranges. Generally, lower elevations will have a higher risk rating. Choose a category that best covers the range of elevations in your project area. The initial attack response time category are ranges that you set to best define the initial attack ratings that you will give the prevention units in the next sections. The higher ratings will create a higher assessment score, causing those prevention units and communities to have a higher priority.

1. On the Assessment screen, select values for aspect ranges, elevation ranges, and initial attack time ranges.
2. For this exercise, choose the first option in each category for Aspect, Elevation, and Initial Attack.

Assessment

Setup Map ✔ Lock Map

ENTER MAP

Aspect Risk Category

North Aspects = Low; East and West Aspects = Medium; South Aspects = High

NW, N, and NE Aspects = Low; E and W Aspects = Medium; SE, S, and SW Aspects = High

North and East Aspects = Low; West aspects = Medium; South Aspects = High

Elevation Risk Category

5001'+ = Low; 3501' - 5000' = Medium; 0 - 3500' = High

8501'+ = Low; 6000' - 8500' = Medium; 0 - 6000' = High

9001'+ = Low; 7501' - 9000' = Medium; 0 - 7500' = High

Initial Attack Response Time Risk Category

0 - 20 minutes = Low; 21 - 45 minutes = Medium; 45+ minutes = High

0 - 30 minutes = Low; 31 - 60 minutes = Medium; 61+ minutes = High

0 - 45 minutes = Low; 46 - 90 minutes = Medium; 91+ minutes = High

↓ **GENERATE COMMUNITY ASSESSMENT MAP**

Figure 25: Assessment Screen with the setup map section completed

3. Click the **Generate Community Assessment Map** button. This will pre-calculate assessment items into the communities and prevention units for which we have GIS data that can identify the assessment items.

Processing can take several minutes.

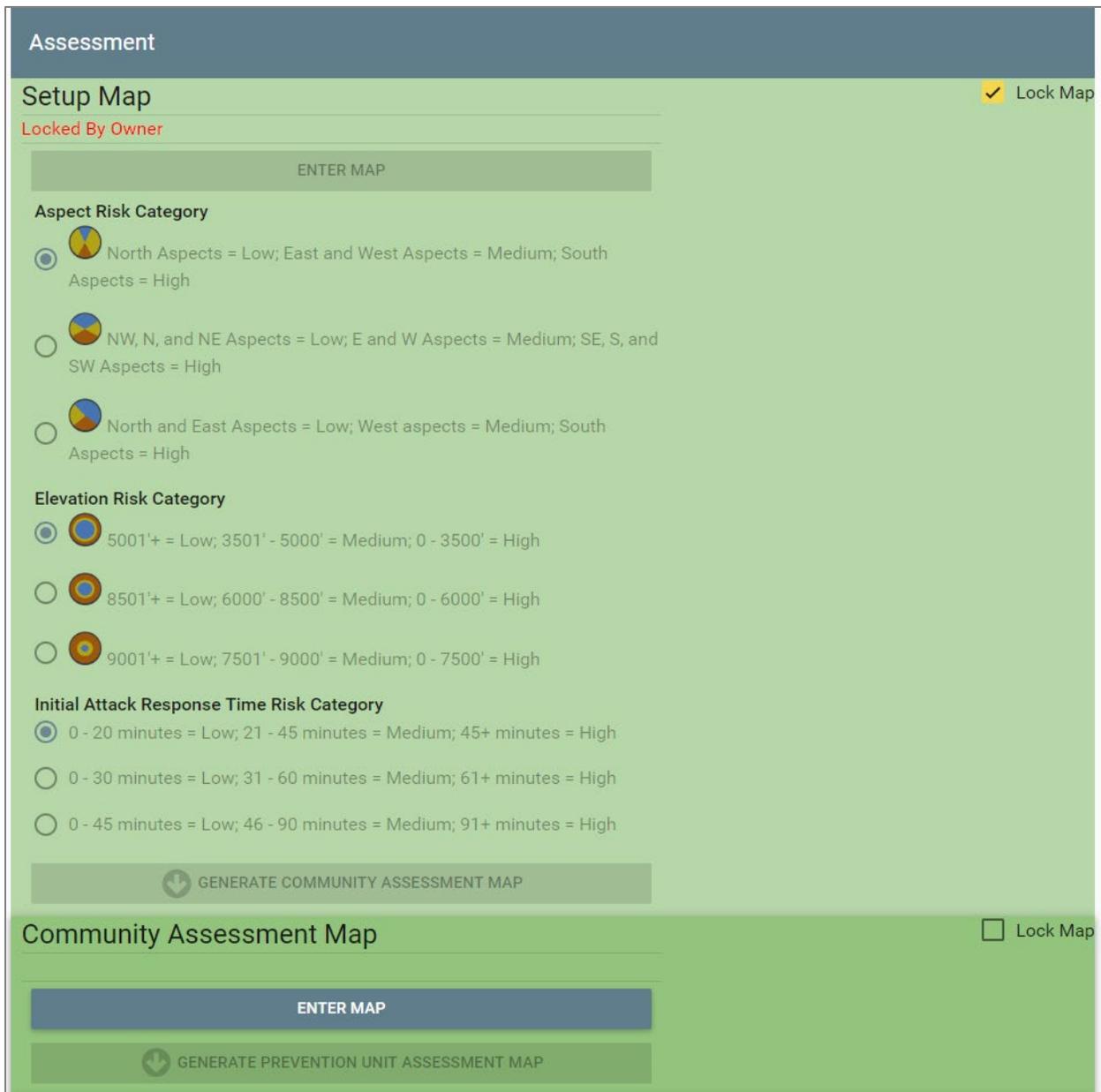


Figure 26: Assessment Screen with the community assessment map section active

When the processing completes, the Enter Map button in the Community Map section will become active.

Adding Additional Map Values

1. Click the **Enter Map** button. This will open the community assessment map.

This map (below) is similar to the setup map; however, it does not have the editor template or the editor toolbar. It also has four options along the bottom for fuels hazard, ignition risk, catastrophic fire potential (CFP), and values at risk. Clicking on the buttons along the bottom of the map will change the map type to one of these other themes.

Throughout all of the map themes an ‘Incomplete Communities’ layer has been added to aid you in completing the information. Any community that does not have all its information filled in will have a turquoise X on top of the community location in the map to indicate that it is not complete.

2. With the **Fuels Hazard** Map selected, select a community by clicking on it. A dialog window will open along with a separate table.

In the community’s dialog, you will see that some values, such as Slope, Aspect, and Elevation, have already been filled in.

3. Select values for **Fuels**, **Crowning Potential**, and **Initial Attack Arrival Time** from the drop-down menus.

The grey table displayed shows information on the fuels and vegetation. This can be used to assist in choosing a Fuels and Crowning Potential value. Use the layer switcher as well to help you in choosing the correct values.

4. Select all of the communities and enter the Fuels Hazard values. [Appendix A](#) displays all of the attribute values and a brief definition of the attribute.

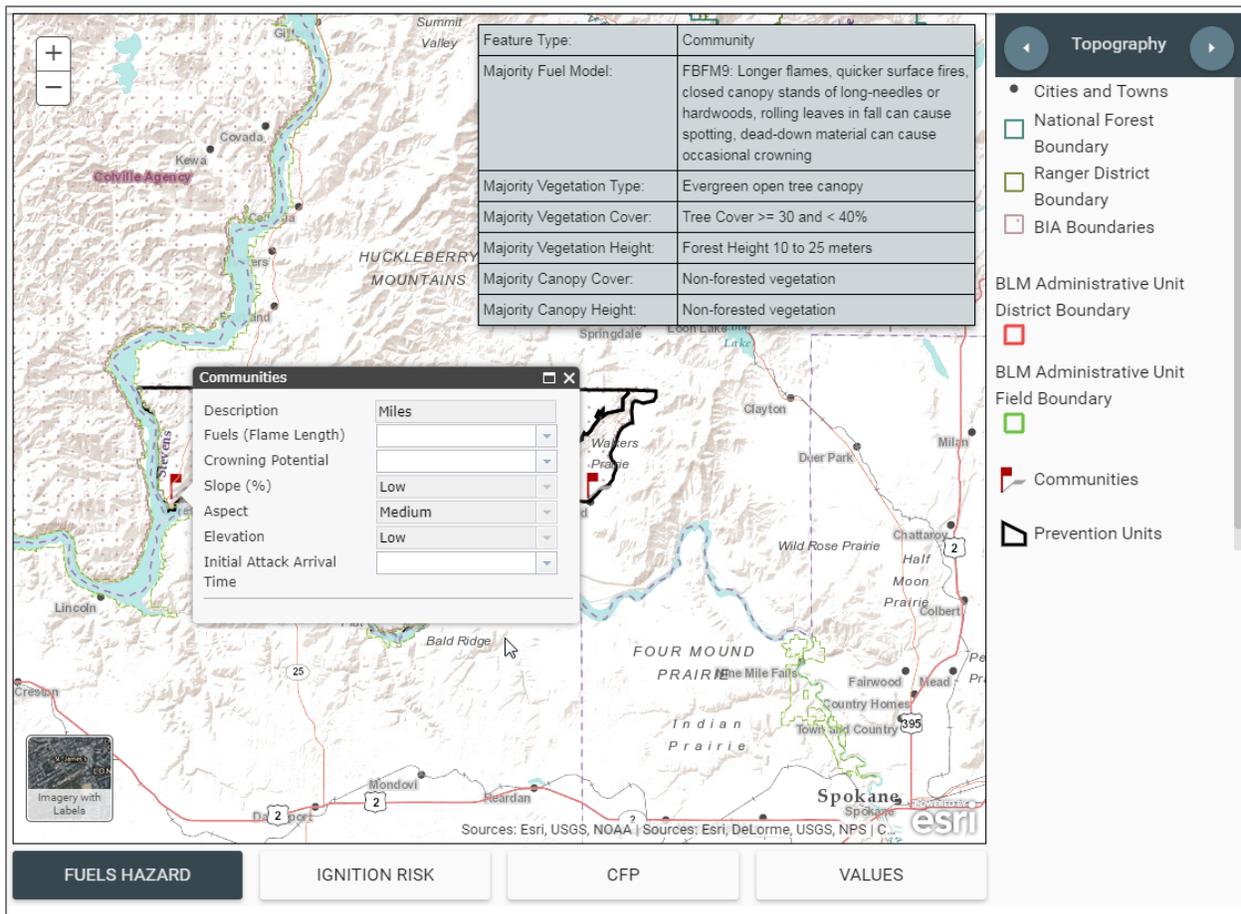


Figure 27: Community assessment map depicting the fuels hazard map and community fuels info window

5. When you have completed entering the Fuels Hazard values, click on the **Ignition Risk** button. The map will change to display the ignition risk theme. This includes a different base map,

different layers in the layer switcher, and the list of ignition risk attributes in the info window when a community is selected.

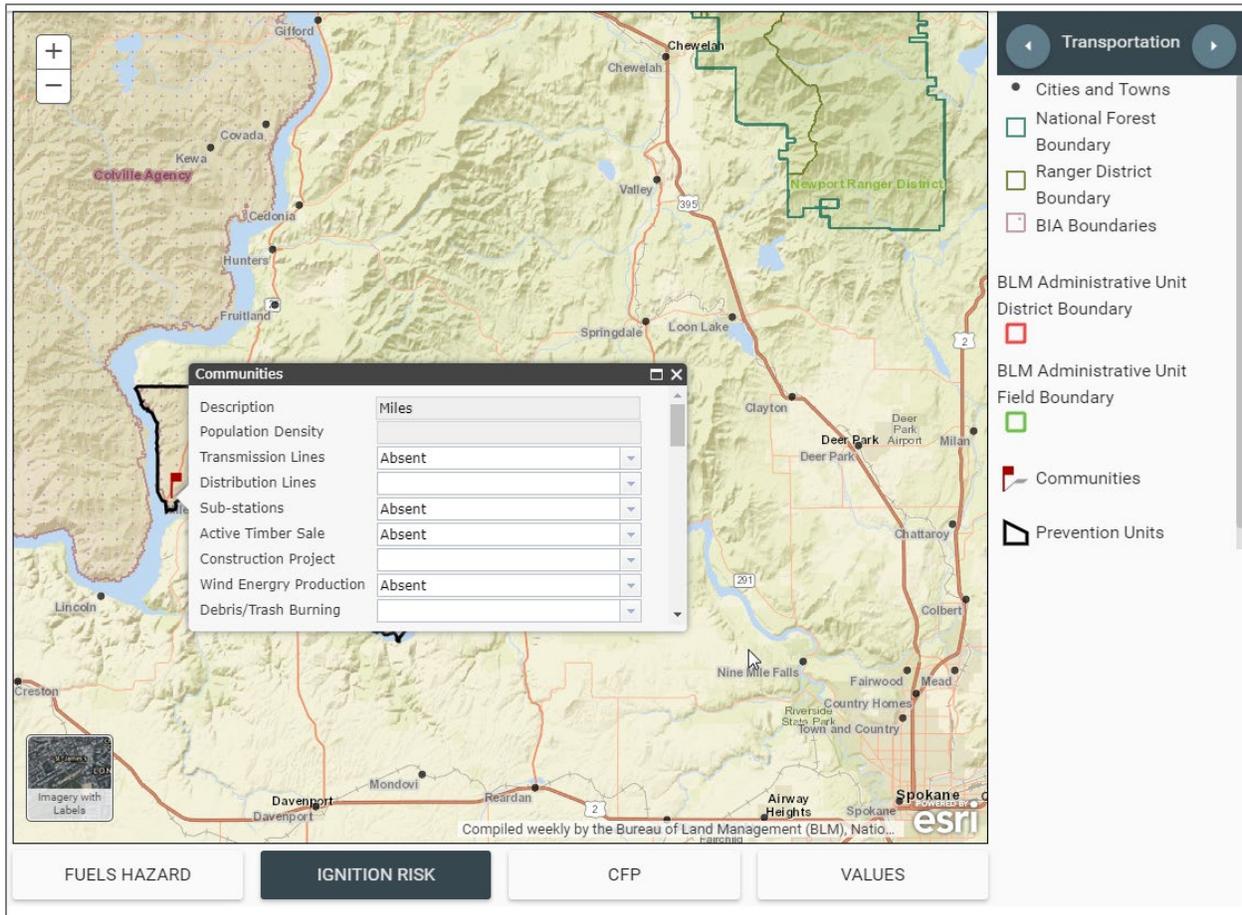


Figure 28: Community assessment map depicting the ignition risk map and the community ignition risk info window

6. Again, click on a community to select it.

You will notice that some values have been already entered from GIS data. However, these values are still editable. If you feel they should be changed, you can do so.

7. Scroll down the list of ignition risk attributes and select the correct value. Use the layer switcher to view different map layers, which may help you decide on the values.

8. Select each community and enter the ignition risk values. You can click the maximize button in the popup, next to the 'X', to see more fields at a time.

9. When completed click on the **CFP** button to switch to the Catastrophic Fire Potential map theme.

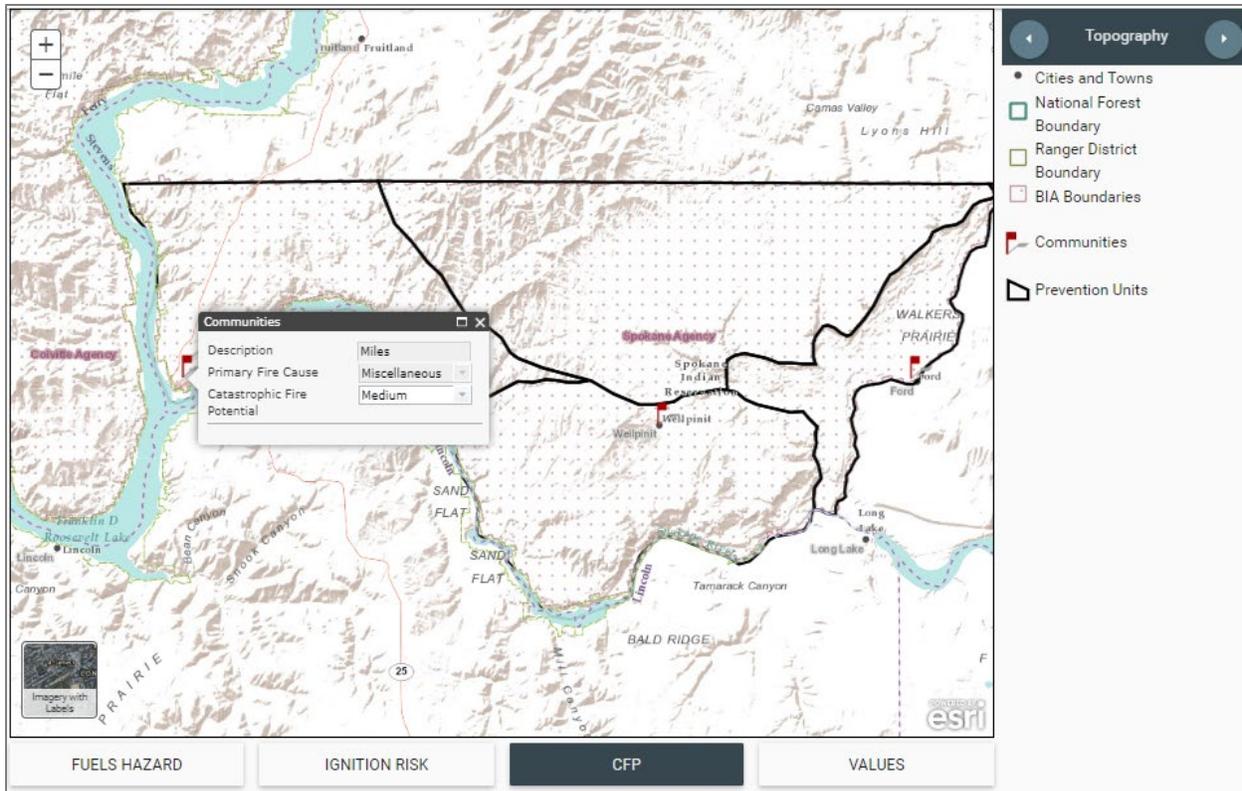


Figure 29: Community assessment map depicting the catastrophic fires map and the community catastrophic fires info window

In the CFP map, each community contains only one value to edit, the catastrophic fire potential. This has been populated from the Forest Service Wildfire Hazard Potential (WHP). The value remains editable in the case that the area of concern may have burned since the WHP was created, changing its potential value. If you know the CFP value should be different, you may change it; otherwise, there should be no need to change its value. You can review the Wildfire Hazard Potential map by using the layer switcher.

10. When you have completed reviewing the CFP map theme, click on the **Values** button.

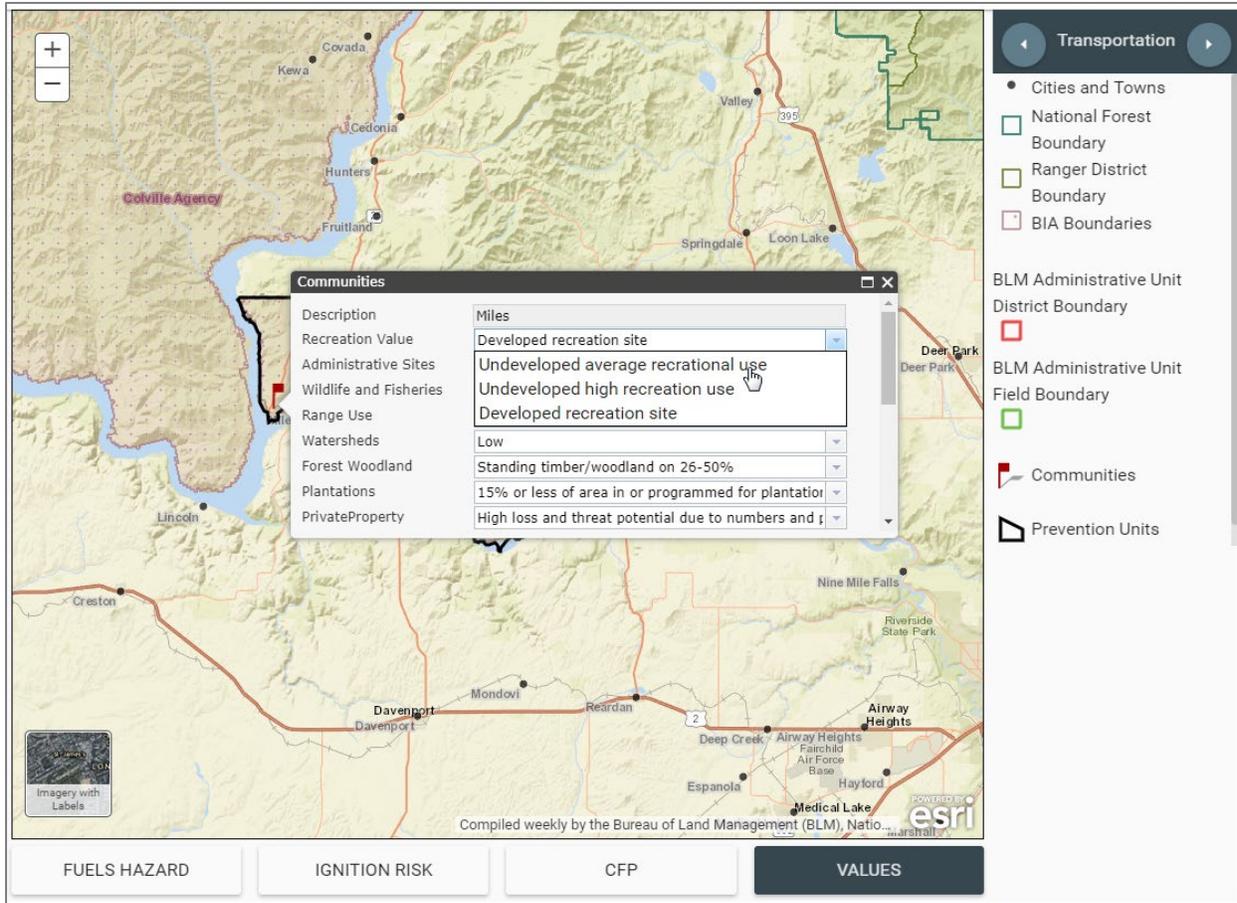


Figure 30: Community assessment map depicting the values map and the community values info window

11. In the Values at Risk map theme, click on a community to evaluate and fill in the values at risk attributes.

Again, some attributes are already filled in from GIS data. These can be changed if needed. Use the different layers in the layer switcher to assist in filling in the values.

12. When all of the communities have been reviewed, return to the Assessment screen. This will return you to the WFPP dashboard.

13. If you are satisfied with the community assessment values, click on the **Lock Map** box in the Community Assessment Map Section.

Generating and Finishing the Prevention Unit Assessment Map

The screenshot displays a web interface for generating assessment maps. It is divided into two main sections: "Setup Map" and "Community Assessment Map".

Setup Map Section:

- Header: "Assessment" (dark blue bar)
- Section Title: "Setup Map" (green bar) with a "Lock Map" checkbox (checked) on the right.
- Status: "Locked By Owner" (red text)
- Input: "ENTER MAP" (grey button)
- Aspect Risk Category:**
 - North Aspects = Low; East and West Aspects = Medium; South Aspects = High
 - NW, N, and NE Aspects = Low; E and W Aspects = Medium; SE, S, and SW Aspects = High
 - North and East Aspects = Low; West aspects = Medium; South Aspects = High
- Elevation Risk Category:**
 - 5001'+ = Low; 3501' - 5000' = Medium; 0 - 3500' = High
 - 8501'+ = Low; 6000' - 8500' = Medium; 0 - 6000' = High
 - 9001'+ = Low; 7501' - 9000' = Medium; 0 - 7500' = High
- Initial Attack Response Time Risk Category:**
 - 0 - 20 minutes = Low; 21 - 45 minutes = Medium; 45+ minutes = High
 - 0 - 30 minutes = Low; 31 - 60 minutes = Medium; 61+ minutes = High
 - 0 - 45 minutes = Low; 46 - 90 minutes = Medium; 91+ minutes = High
- Button: "GENERATE COMMUNITY ASSESSMENT MAP" (grey button with a downward arrow icon)

Community Assessment Map Section:

- Section Title: "Community Assessment Map" (green bar) with a "Lock Map" checkbox (checked) on the right.
- Input: "ENTER MAP" (grey button)
- Button: "GENERATE PREVENTION UNIT ASSESSMENT MAP" (dark blue button with a downward arrow icon)

Figure 31: Assessment screen with the community assessment map section complete

1. Click on the **Generate Prevention Unit Assessment Map** button. This will run a process to transfer any relevant assessment information from the communities to the prevention units and activate the Prevention Unit Assessment Map.
2. When the calculations have completed, click on **Enter Map** in the Prevention Unit Assessment Map section.

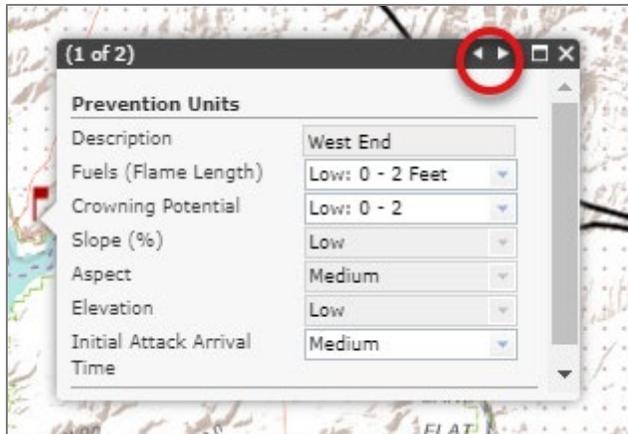


Figure 32: Map info window highlighting the selector arrows

The Prevention Unit Assessment Map is essentially the same as the Community Assessment Map.

3. To enter the assessment items, click on each prevention unit and select the appropriate values in the Fuels Hazard, Ignition Risk, CFP, and Values at Risk map sections. Use the different layers in the layer switcher to assist with entering the values.

An 'Incomplete Prevention Units' layer has been added to all of the maps to assist you in determining which prevention units are incomplete. You can select a community to review its values. However, the values will not be editable. When you select a community, it may occur that the prevention unit and community are both selected. The name of the feature selected is listed at the top of the popup. The arrows at the top of the popup allow you to switch between prevention unit and community.

4. When all the values have been completed, return to the Assessment screen.

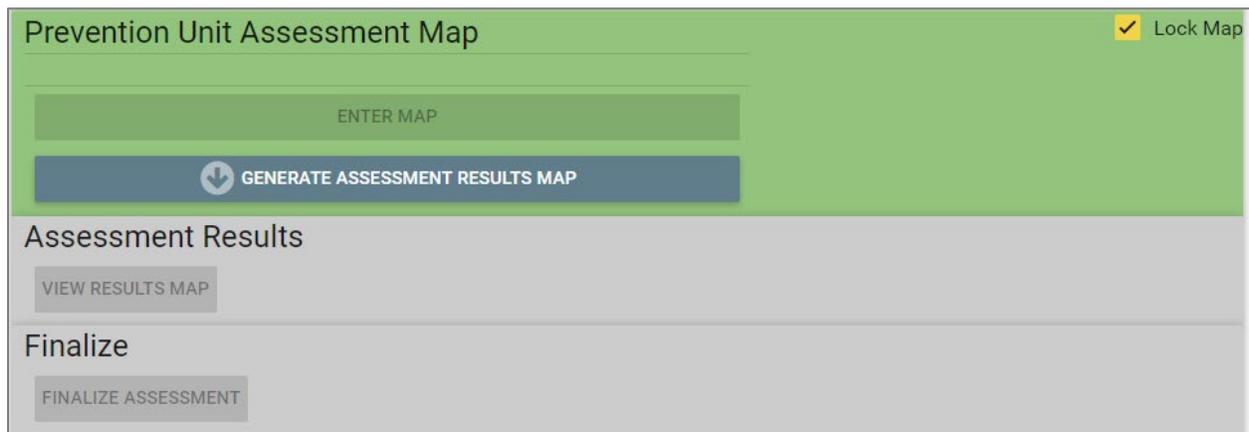


Figure 33: Assessment screen depicting completed prevention units assessment map section

5. Click the **Lock Map** box in the Prevention Unit Assessment Map section.
6. Then, click the **Generate Assessment Results Map**. This will use the information entered into the assessment sections to generate an overall assessment rating and priority ranking.

Viewing Assessment Results

After generating the assessment results map, the Assessment Results section will become active.

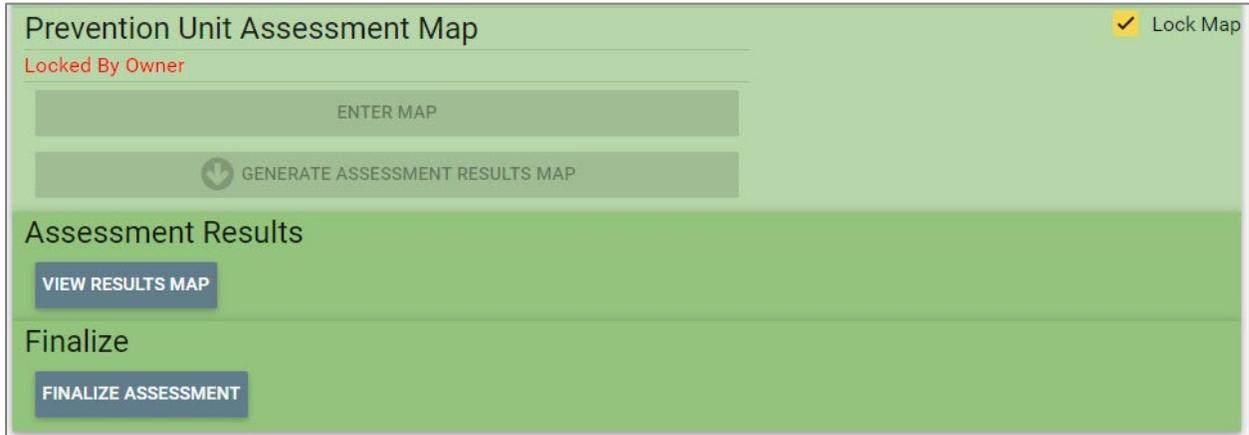


Figure 34: Assessment screen depicting the active assessment results and finalize sections

Click on the **View Results Map** to open the map.

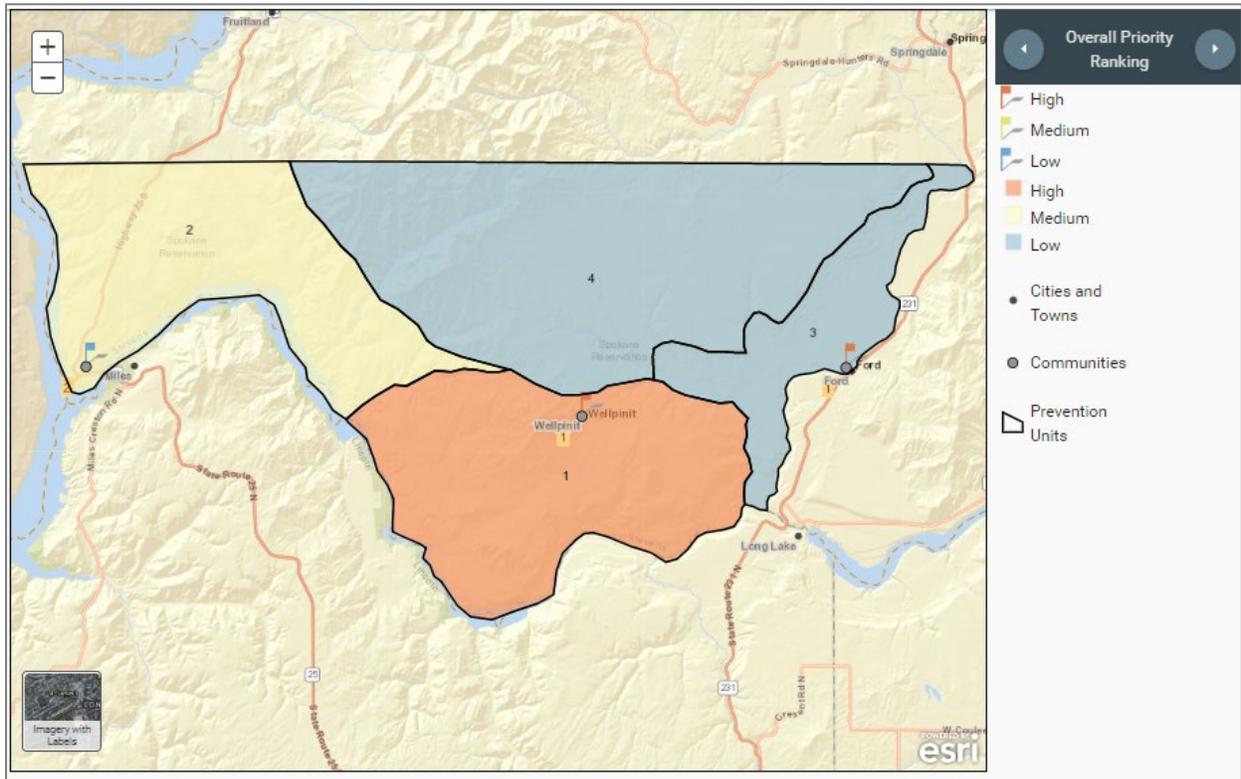


Figure 35: Completed results map

The results map will display the results of the assessment. The first layer in the map shows the overall priority ranking. The assessment results score in each prevention unit and community is compared and ranked. The scores of the prevention units and communities are divided into High, Medium, and Low.

They are also labelled with their actual priority. Prevention units and communities with the same priority label have the same assessment results score, so they have the same priority.

Clicking the next button on the layer switcher will turn on the assessment result rating. In our example case in the figures, the actual assessment result ratings for all the prevention units and communities are medium. The other layers in the map show the results of each individual section of the assessment: Fuels, Ignition Risk, History, and Values at Risk. These layers are used to create the assessment results score and rating. Other layers in the map include the wildfire hazard potential map, and the fire occurrence data.

Clicking on each individual prevention unit or community will display all the assessment attributes as well as the score.

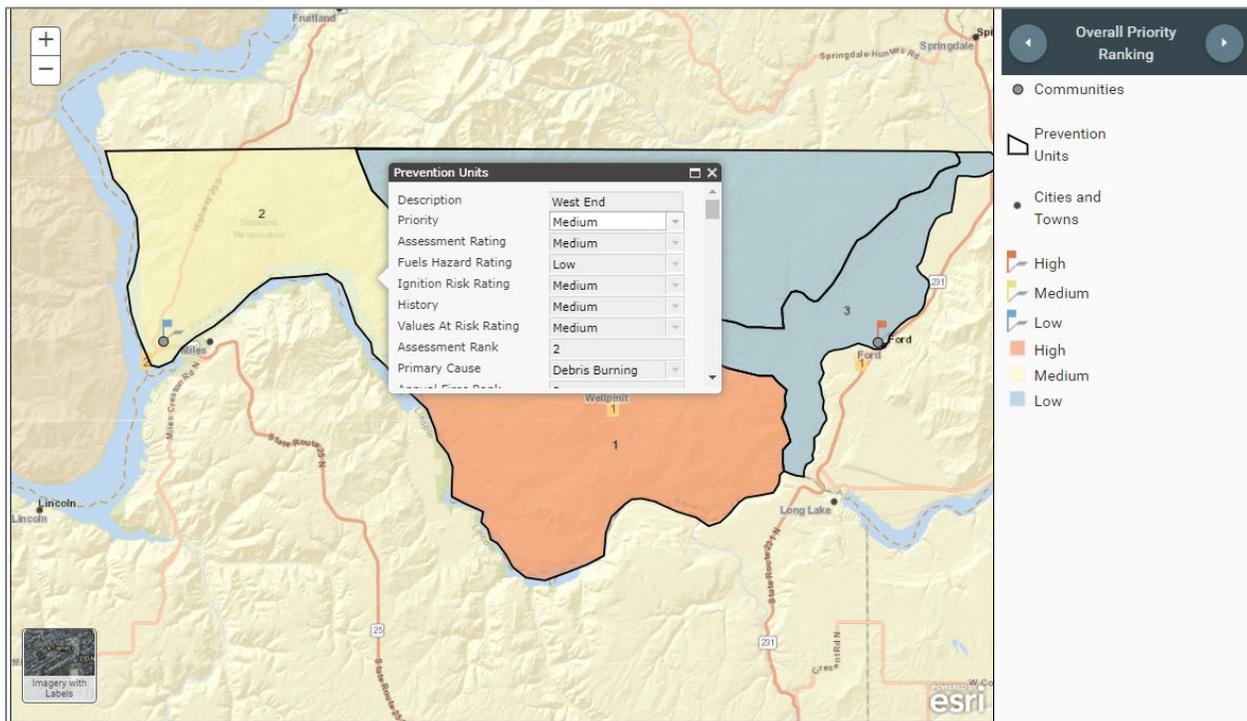


Figure 36: Completed results map with info window displayed

Review the Results Map to see if any changes need to be made. Clicking on any of the prevention units or communities will open the attribute table, which can be scrolled to review all the assessment inputs. Only one attribute is available for editing, the priority attribute. This can be changed if you believe a different priority is more important. The priority will be used for budgeting when making the assessment plan.

Also included in the attribute display is the most frequent primary cause for that prevention unit or community. If you expected a different primary cause, you may be able to adjust your prevention unit boundaries and rerun your assessment results. If you feel changes are warranted, close the map tab and uncheck the desired sections to update that section. The sections must be unchecked in reverse order starting with the Prevention Unit Assessment Map. Make any desired edits, and then, work through the workflow again, locking each section as it is complete.

When you are satisfied with the assessment results, click the **Finalize Assessment** button. This will finalize the assessment and bring you back to the prevention plan dashboard. Should you need to change the assessment, you can clone the prevention plan and continue with the cloned plan.

Prevention Actions

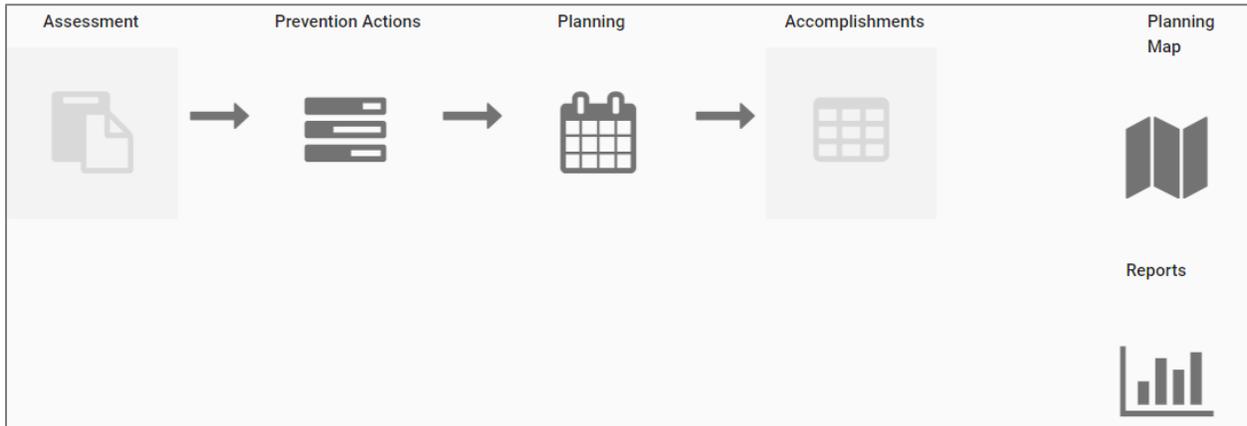


Figure 37: Wildfire prevention plan dashboard with the assessment section complete

The prevention action (PA) workflow allows the user to quickly generate a prevention action plan using the data that the user has been entered thus far. You can select which fire causes you would like your plan to prioritize, and then, generate an action plan using the amount of worker hours available. The action plan is generated using an algorithm that distributes hours to the prevention actions that have the highest statistical correlation in reduction of that specific fire cause.

Click on the **Planning Map** icon. This will open a map like the results map. It contains layers that may be helpful as a reference when completing the prevention plan. The map opens in a separate browser tab that can be kept open while completing the prevention plan.

Click back on the tab with the dashboard.

Click on the **Prevention Actions** section of the dashboard. The prevention actions are saved in scenarios. Each scenario is based on a combination of primary causes and the best prevention actions to combat those causes.

Creating a New Scenario

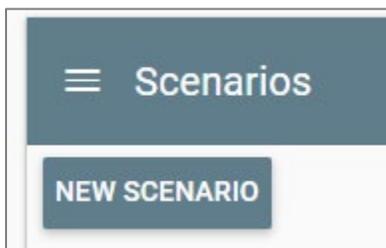


Figure 38: New scenarios button

1. To create a new scenario, click the **New Scenario** button.
2. In the New Scenario window, enter a name for the scenario and click Next.

Figure 39: New scenario name text box

3. In the next window, select which prevention “path” you would like to go down. This lets the prevention action algorithm know how many hours the user has at their disposal.

The “Worker Hours” option lets the user manually enter the number of available hours for their scenario.

Annual Worker Salary *	Administrative Hours Per FTE
80000	0

Worker hours
1000

Budget Total:
 $1000 / 2080 = 0.48 \text{ FTE(s)}$
 1 FTE = 2080 hours
 Prevention Hour Total = 1000

Figure 40: New scenario prevention path

Using the “Budget” path, you can enter how many dollars you have to spend. This then calculates how many hours are usable given the “Current Average Salary for Annual Worker” input. The budget gets converted into hours for the scenario.

Please choose a prevention path

- Worker Hours - Used if one has workers available but no budget
- Budget - Used if one has a known budget

Annual Worker Salary*	Administrative Hours Per FTE
80000	0

Labor Total
0

Support Budget
0

Budget Total:0

$\$0 / \$80,000 = 0 \text{ FTE(s)}$

1 FTE = 2080 hours

Prevention Hour Total = 0

BACK NEXT

Figure 41: Budget prevention path

4. In the final window, select the hour % distribution between general and specific actions. The default values are shown below.

New Scenario

Hour Distribution for Action Categories - 1000 Hours

General Actions
30

300

Specific Actions
70

700

Current % Total:100.00

BACK
CREATE NEW SCENARIO

Figure 42: Scenario hours distribution with default values

5. Click **Create New Scenario** to create the new scenario.

The new scenario will be in the list of scenarios.

Generating an Action Plan

1. Click the **Load** button to open the scenario and generate a new action plan. When the scenario loads, the first view will be of the General Actions Primary Cause table.
General actions are actions that will apply for the entire planning unit. The primary causes are listed in order of fire frequency. Miscellaneous is a combination of several categories.
2. Choose the top three causes you would like to address.
3. Click the **Generate General Action Plan** button.

Primary Cause Priority Table for All Prevention Units(25 year date range)				
Primary Cause	Frequency	Yearly Frequency Avg.	Yearly Avg. Acres Burned	Use
Lightning (Unselectable: No data found.)	365	14.6	3571.32	<input type="checkbox"/>
Campfire	145	5.8	447.08	<input type="checkbox"/>
Miscellaneous	72	2.88	319.96	<input type="checkbox"/>
-Miscellaneous	53	2.12	317.64	
-Missing/Undefined	18	0.72	2.32	
-Powerline	1	0.04	0	
Arson	15	0.6	6.04	<input type="checkbox"/>
Smoking	13	0.52	21.52	<input type="checkbox"/>
Equipment Use	11	0.44	177.24	<input type="checkbox"/>
Debris Burning	6	0.24	118.6	<input checked="" type="checkbox"/>
Children	2	0.08	1.16	<input type="checkbox"/>

GENERATE GENERAL ACTION PLAN

Figure 43: Primary cause table for all prevention units (25-year date range)

Access the specific prevention action category you are interested in from the three tabs at the top of the screen.

GENERAL PREVENTION ACTIONS	SPECIFIC PREVENTION ACTIONS	COMMUNITY PREVENTION ACTIONS
----------------------------	-----------------------------	------------------------------

Figure 44: Three-tab navigation for choosing the specific prevention action category: General prevention actions, specific prevention actions, and community prevention actions

General Prevention Actions

Under the General Prevention Actions tab, the user can view the primary fire causes in the geographic areas they set up on the map. The table below shows that “Arson” is causing the most acres burned, and “Miscellaneous” fire causes occur with the most frequency. Clicking on the Frequency, Yearly Frequency Avg., or Yearly Avg. Acres Burned will sort the categories differently.

Check the top three primary causes the program should focus on when distributing hours to counteract—Miscellaneous, Debris Burning, and Arson in this case.

Primary Cause	Frequency	Yearly Frequency Avg.	Yearly Avg. Acres Burned	Use
Miscellaneous	316	12.64	145.4	<input checked="" type="checkbox"/>
-Fireworks	103	4.12	64.88	
-Miscellaneous	186	7.44	72.48	
-Missing/Undefined	9	0.36	4.12	
-Powerline	17	0.68	3.92	
-Structure	1	0.04	0	
Debris Burning	243	9.72	246.52	<input checked="" type="checkbox"/>
Arson	148	5.92	2651.84	<input checked="" type="checkbox"/>
Lightning (Unselectable: No data found.)	108	4.32	19.08	<input type="checkbox"/>
Campfire	49	1.96	25.04	<input type="checkbox"/>
Equipment Use	48	1.92	7.4	<input type="checkbox"/>
Children	31	1.24	1.16	<input type="checkbox"/>
Smoking	17	0.68	1.72	<input type="checkbox"/>

GENERATE NEW GENERAL ACTION PLAN

Figure 45: Primary cause priority table for all prevention units (25-year date range) with top three causes selected

After checking the three primary causes, the user will be able to generate an action plan by selecting the following button:



Figure 46: Generate new general action plan button

After generating the plan, the user will see the prevention action categories below for General Prevention Actions.

New General Action Plan

Education ▼

Engineering ▼

Enforcement ▼

Administration ▼

Figure 47: New general action plan window depicting the education, engineering, enforcement, and administration categories

The following sticky footer will also appear at the bottom of the screen:



Figure 48: Sticky Footer

This panel allows us to quickly see how many hours we have left, how many fires we are preventing, etc. It will get updates as you change how your hours are distributed.

If we drop down the **Education** panel by clicking the arrow, we can see our actions with the following columns:

Action: The name of the action for easy reference

Effectiveness (0-100): This number indicates which actions are the most effective at combating **all** primary causes you selected in the previous step. The higher the number the better.

Description: A short description of the action

Units: The kind of unit this action represents (a plan, contract, event, etc.)

Workload Factor: How many hours 1 unit of this action is equivalent to. $Workload\ Factor \times Unit\ \# =$ Hours to execute this action (Example: To execute the GA-1 action 1 time will take 24 hours, since it has a workload factor of 24.)

Activity Shortname: The category this action falls under.

Unit #: The number of units assigned to this action

New General Action Plan									
	Category	Action	Effectiveness	Description	Workload Factor	Activity Shortn...	Units		U
Category: Administration									
▶	Administration	GA-41	51	Prepare/revise Wildfire Prevention Plan	24	Prevention	1		
▶	Administration	GA-42	51	Maintain/Update Fire Prevention Plan	8	Prevention	1		
▶	Administration	GA-43	51	Participate in Prevention Committee Meetings	8	Prevention	0		
▶	Administration	GA-44	51	Develop Preparedness Plans	16	Prevention	0		

Figure 49: New general action plan depicting the education actions

A **high** effectiveness number(91 in this case) means that the action statistically has the most impact on your previously selected primary causes.

Category: Enforcement									
	Category	Action	Effectiveness	Description	Workload Factor	Activity Shortn...	Units		U
▶	Enforcement	GA-31	91	Permitting	1	Law	16		

Figure 50: A statistically relevant action

A **red** column means it is **required** in order to create a plan. Hours are automatically distributed to it.

Administration	GA-41	51	Prepare/revise Wildfire Prevention Plan	24	Prevention	1
----------------	-------	----	---	----	------------	---

Figure 51: A required action

When you click an action row, the sticky panel at the bottom of the screen will load that action into it. For example, if GA-10 is selected, the user would see the following:

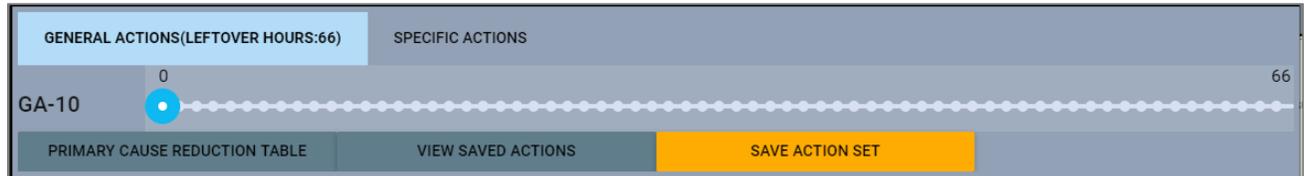


Figure 52: General action hours

GA-10 has 0 units currently distributed to it. Each dot on the slider represents 1 unit, so clicking 1 dot down means I am **subtracting** 1 unit from GA-10. The workload factor for GA-10 is 1, which means each unit in the slider represents 1 hour. We have 66 leftover hours, so we can potentially add up to 66 units to GA-10. Let's add 20 units:



Figure 53: General actions leftover hours

GA-10 now has 20 units, and our Leftover Hours is now 46.

Specific Prevention Actions

The user can see their plan effectiveness. After clicking "Use", the user will now see a checkmark for their current scenario:

Scenarios									
NEW SCENARIO									
Scenario Name	Worker Hours	Budget \$	GA %	SA %	CA %	GA-AS	SA-AS	CA-AS	
Test	1000	10000	50	50	0	✓	✓	Excluded All Communities	LOAD DELETE Scenario Completed
Other Scenario	1000	10000	20	70	10	✓	0/4	0/3	LOAD DELETE

Figure 54: Scenarios dashboard depicting the scenarios that are completed

For general actions, only one action set is required. Specific and community actions require one action set for each prevention unit and community. As you can see, we have 0/4 SA-AS (Specific Action-Action Sets) created and 0/3 CA-AS created in the image above. For this scenario to be considered "completed", we must create the rest of our action sets.

If you look at the scenario named "Test" above, you can see that this scenario doesn't require communities, since we checked the "Exclude Communities" box when creating the scenario.

Clicking the Specific Actions, the user can generate their specific prevention actions that target a specific prevention unit (the geographic areas created when setting up the map). The user can then distribute hours as they see fit to each prevention unit, and that prevention unit will have that many hours to generate a plan with. The hours are automatically distributed to the plans based on their priority, calculated during the assessment phase. The prevention plans are shown in the drop-down list shown below. The list displays the assessment priority along with the hours allocated. The prevention unit rated High has the most hours allocated to it. The prevention plan rated Medium has a moderate number of hours allocated to it. The Low prevention units have the least number of hours allocated to them.

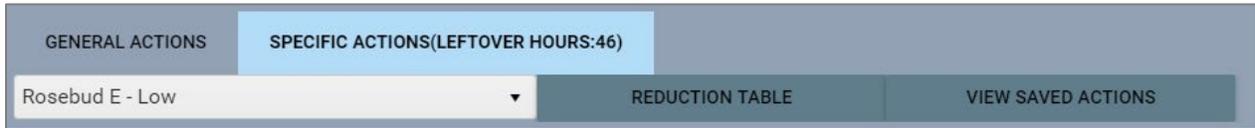


Figure 55: Specific actions

Each prevention unit has hours distributed to it. This hour amount represents the number of hours that will be used when generating the prevention plan for that **specific** prevention unit. You can use the sliders to re-distribute these hours as you see fit. Clicking the **Load** button will load the primary causes for that **specific** prevention unit.

Primary Cause Priority Table for: Central (25 year date range)				
Primary Cause	Frequency	Yearly Frequency Avg.	Yearly Avg. Acres Burned	Use
Debris Burning	87	3.48	45.48	<input type="checkbox"/>
Miscellaneous	84	3.36	63.6	<input type="checkbox"/>
-Fireworks	21	0.84	0.56	
-Miscellaneous	54	2.16	57.28	
-Missing/Undefined	5	0.2	2.28	
-Powerline	4	0.16	3.48	
-Structure	0	0	0	
Arson	51	2.04	42.16	<input type="checkbox"/>

Figure 56: Primary cause priority table for the 'central' prevention unit

The workflow is the same as it was for General Actions. Select three primary causes, click “Generate New Specific Action Plan”, modify the plan as needed, save the plan, and click “Use”. This will associate the newly generated action set with this specific prevention unit. We must do this for **all our prevention units** to complete the scenario.

Community Prevention Actions

Every prevention action can be associated with a community by clicking the “Use Community” checkbox.

New General Action Plan							
Category	Action	Description	Workload Factor	Activity Shortna...	Units	Use Community	
Category: Administration	Administration	GA-40	Prepare/revise Wildfire Prevention Plan	1	Prevention	0	<input checked="" type="checkbox"/>

Figure 57: Action with use community checked

After this is checked, you can expand the row by clicking the leftmost arrow. You will then see a community action grid.

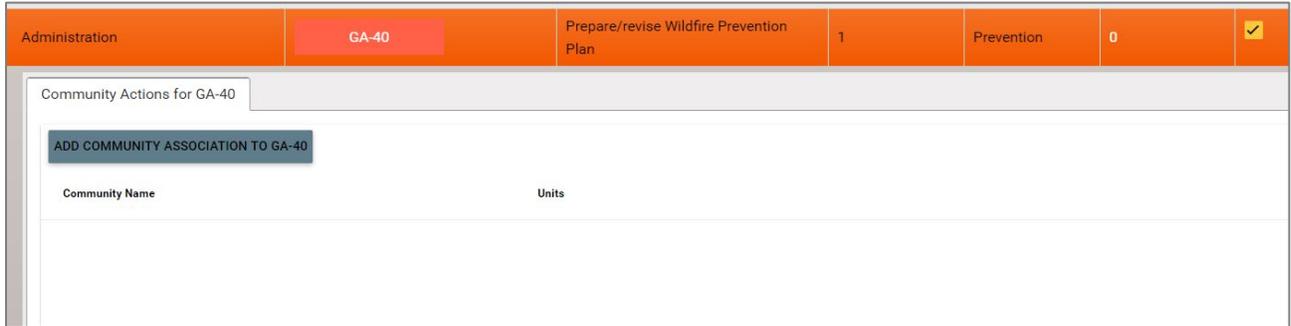


Figure 58: Action with community expanded

This grid represents every community that is executing a “GA-40” action. To add a new community association, click the “Add Community Association To X” button. Select a community and click the **Add Community** button.



Figure 59: Select community association window

You will then see your community in the community grid. You can add units with the same workflow as before by simply clicking the action row and adding units using the slider. You will also see the community name next to the slider indicating which community you are editing.

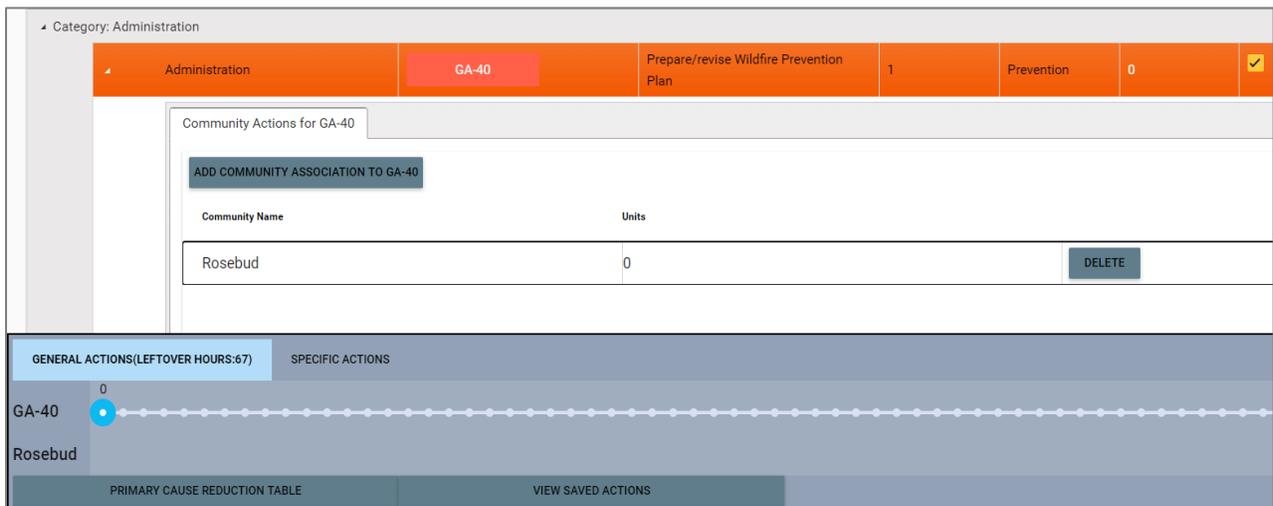


Figure 60: Community hours

Important: Once the “Use Community” box is checked, you can no longer edit that row directly. If we attempted to edit “GA-40” directly by selecting it (not a community **within** GA-40), we would see the following message:

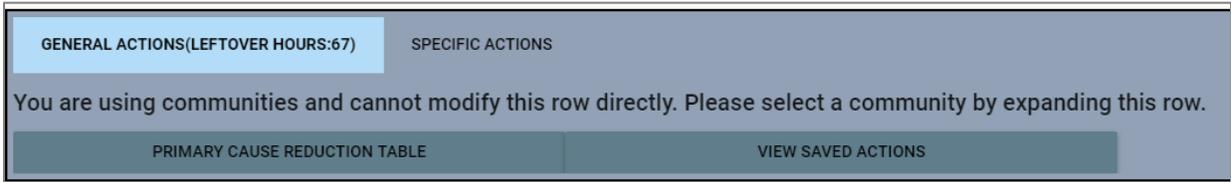


Figure 61: Communities message

This is because there would be overlap between the units of the parent row “GA-40” and all its communities.

Primary Cause Reduction Table

If you want to see your fire prevention impact, merely click the Primary Cause Reduction Table button located in the bottom sticky panel:

Primary Cause	Fires Prevented	Fire Reduction %
Miscellaneous	14	25.16%
Children	13	25.98%
Arson	4	23.58%
Debris Burning	4	24.81%
Equipment Use	4	26.25%
Campfire	1	73.53%
Smoking	1	100.00%

Figure 62: Primary cause reduction table

Yearly Action Plan

Planning

1. On the Prevention Plan dashboard, click the planning icon:

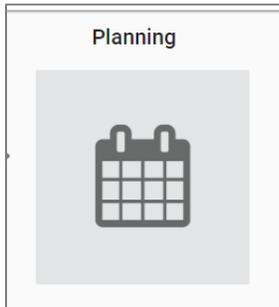


Figure 63: Planning button on the wildfire prevention plan dashboard

We will be taken to the following page:

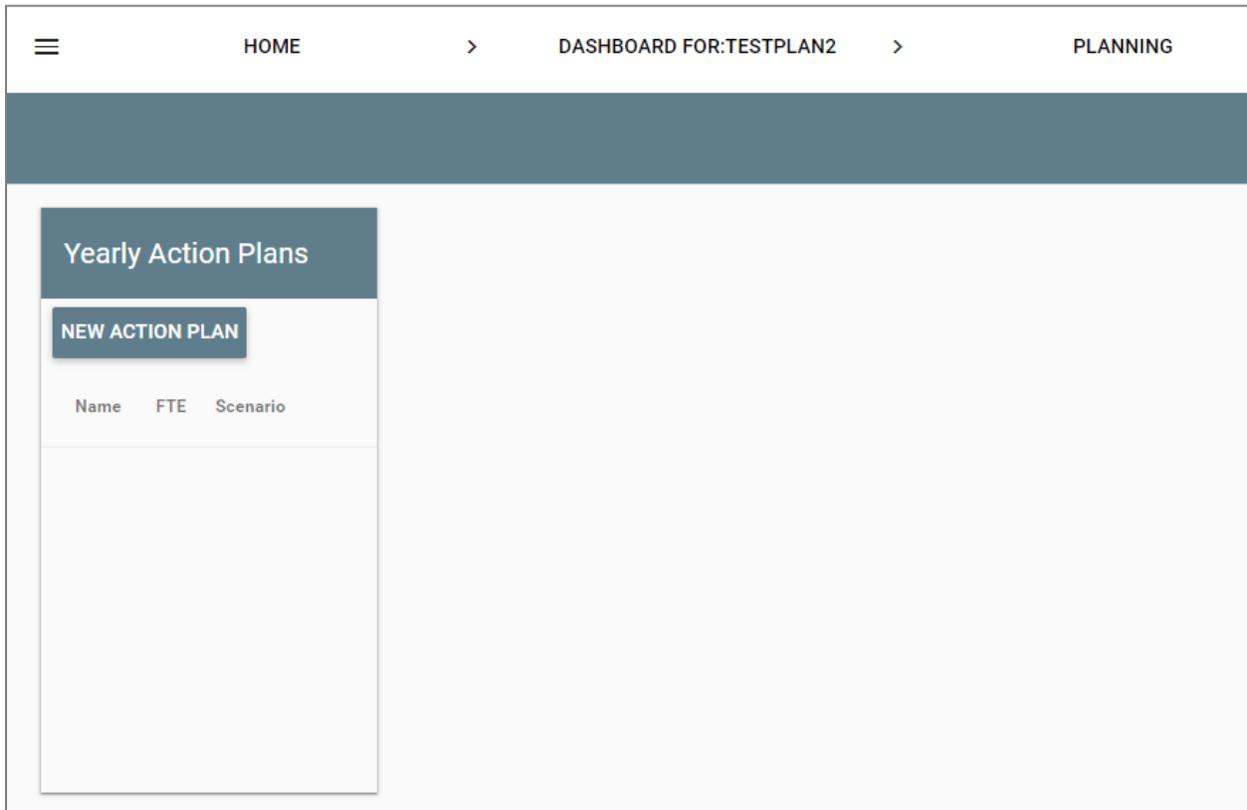


Figure 64: Yearly action plans list in the planning section of the wildfire prevention dashboard

2. Click the “**New Action Plan**” button, which will bring up the New Action Plan window.

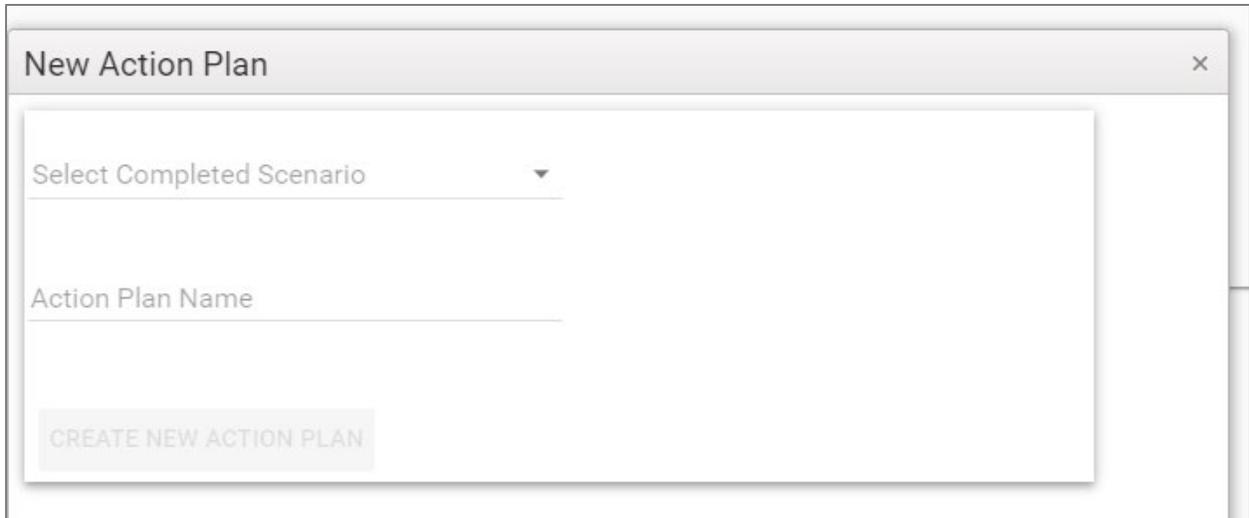


Figure 65: New action plan window

3. Select a completed scenario and enter a name.

The “Select Completed Scenario” drop-down will show us any scenario that is “complete”, as defined previously in the prevention workflow. We have a previously defined scenario named “Test”. We can now create the action plan.

4. Click the **Create New Action Plan** button.

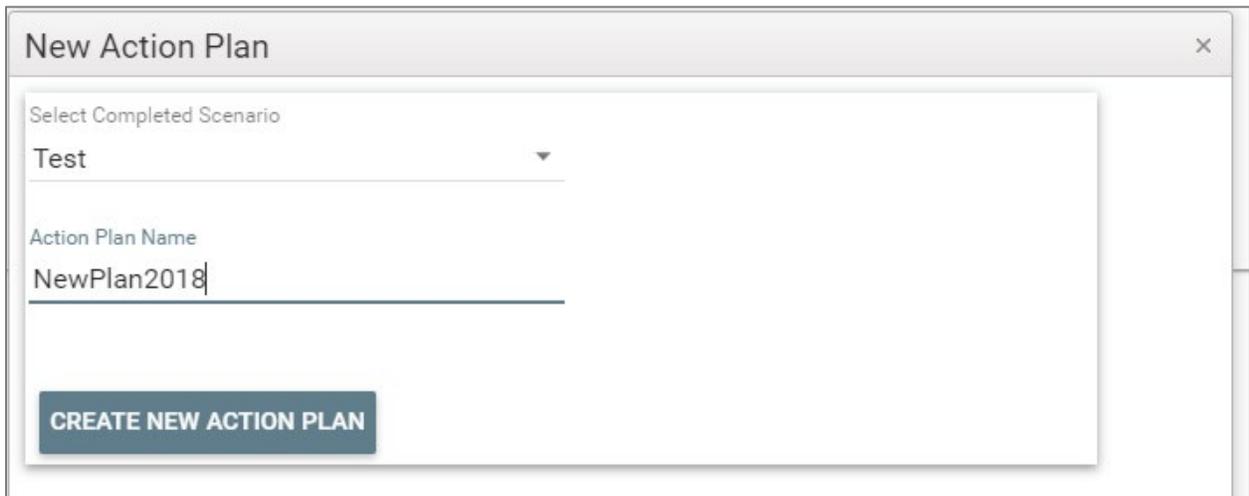


Figure 66: Completed new action plan window

This will now add the new action plan to our list of action plans.

Yearly Action Plans				
NEW ACTION PLAN				
Name	FTE	Scenario		
NewPlan2018	0.13	Test	LOAD	DELETE

Figure 67: Yearly action plans list depicting a named plan

FTE: The number of fulltime employees required to execute the plan.

Scenario: The completed scenario this Yearly Action Plan (or YAP) is associated with.

5. Click the “Load” button to load the YAP. The general action categories display.

General Actions	▼
Education	▼
Engineering	▼
Enforcement	▼
Administration	▼

Figure 68: General actions categories

This should seem familiar. We are viewing our action sets from the scenario we previously created. We can select “General Actions”, “Specific Actions”, or “Community Actions” to see the action sets associated with those categories.

If we look at General Actions and drop down Education, we can see that we have units distributed to the various months of the year. These are distributed in a round-robin fashion currently, and the total is based on the Unit # for this action when we created this action set. Rows that don’t have any unit numbers added to them are disabled. You are free to move the units around to different months as you see fit.

General Actions												
SAVE												
Action	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Category: Administration												
GA-40	Prepare/revise Wildfire Prevention Plan	1	0	0	0	0	0	0	0	0	0	
GA-41	Maintain/Update Fire Prevention Plan	1	0	0	0	0	0	0	0	0	0	
GA-42	Participate in Prevention Committee Meetings	1	0	0	0	0	0	0	0	0	0	

Figure 69: General actions administration category depicting the months of the year and hours planned for each action

6. Click the **Save** button above the grid to save changes to the plan.

Clicking this will save any changes we have made to our YAP. The workflow is the same for Specific and Community, except that we must select each individual prevention unit or community.

Specific Action												
Foothills North												
SAVE												
Action	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
Category: Hazards												
SA-13	Annual WUI/Non WUI Fuels Management Coordination	0	0	0	0	0	0	0	0	0		
SA-14	Fuel reduction site evaluation	0	0	0	0	0	0	0	0	0		
Category: Inspections												
SA-17	Electronic sites	0	0	0	0	0	0	0	0	0		

Figure 70: Specific actions for the Foothills North prevention unit hazards and inspections categories depicting the months of the year and hours planned for each action

Accomplishments

If we navigate to the accomplishment icon from the dashboard, the Accomplishments screen shows the list of yearly action plans:

Yearly Action Plans						
Name	% Accomplished	FTE	% Of Full Completion	Scenario		
2022	40.45	0.77	5.57	Test	LOAD	DELETE

Figure 71: Yearly action plans list in the accomplishments section of the wildfire prevention dashboard

We see the “NewPlan2018” that was created in the planning section. This is our yearly action plan (YAP).

% Accomplished: This is the % of the plan we have accomplished. It changes as we fill out the accomplishment section.

% Of Full Completion: This is the number of planned actions fully accomplished divided by the number of planned actions and expressed as a percent. It does not count units put into unplanned actions or doing more than planned.

Click the **Load** button to review the actions.

General Actions										
SAVE										
Action	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Category: Administration										
GA-40	Accomplished: Prepare/revise Wildfire Prevention Plan	0	0	0	0	0	0	0	0	0
	Planned: Prepare/revise Wildfire Prevention Plan	1	0	0	0	0	0	0	0	0
GA-41	Accomplished: Maintain/Update Fire Prevention Plan	0	0	0	0	0	0	0	0	0
	Planned: Maintain/Update Fire Prevention Plan	1	0	0	0	0	0	0	0	0
GA-42	Accomplished: Participate in Prevention Committee Meetings	0	0	0	0	0	0	0	0	0
	Planned: Participate in Prevention Committee Meetings	1	0	0	0	0	0	0	0	0

Figure 72: General actions administration category depicting the months of the year and hours planned and accomplished for each action

On the top, we have three units distributed for each month. This top locked part is what was defined in the previous planning stage. The area we can fill out now is what we have accomplished for the month. If we completed all the rows and save, our % accomplished will be updated.

Yearly Action Plans						
Name	% Accomplished	FTE	% Of Full Completion	Scenario		
2022	40.45	0.77	5.57	Test	LOAD	DELETE

Figure 73: Yearly action plans list showing percent accomplished for a test plan

Communities

If you did specific work in a community that you did not plan, you can report that by checking the “Community” checkbox, adding a new community using the “Add Community Association To X” button, selecting your community, then report your accomplishments in that community.

Action	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Community
Administration														
GA-40	Accomp. Planned	Prepare/revise Wildfire Prevention Plan												<input checked="" type="checkbox"/>
Community Actions for GA-40														
ADD COMMUNITY ASSOCIATION TO GA-40														
Community Name		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Rosebud	Accomplished:	1	1	0	0	0	0	0	0	0	0	0	0	EDIT
	Planned:	1	1	0	0	0	0	0	0	0	0	0	0	
White Horse	Accomplished:	1	1	1	1	0	0	0	0	0	0	0	0	EDIT
	Planned:	1	1	1	1	0	0	0	0	0	0	0	0	
Parmalee	Accomplished:	1	1	1	1	0	0	0	0	0	0	0	0	EDIT
	Planned:	1	0	0	0	0	0	0	0	0	0	0	0	

Figure 74: Community Association

Reports

In the Report section of WPSAPS, simply click the report type name to see a display of whatever report you are interested in. Some may require you to select something to display the report.

Reports

GENERAL AND SPECIFIC PLANNED ACTION REPORTS

PLANNED COMMUNITY ACTIONS REPORTS

ACCOMPLISHED COMMUNITY ACTIONS REPORTS

GENERAL AND SPECIFIC ACCOMPLISHMENT REPORTS

MANAGEMENT UNIT WITH PREVENTION UNIT RANKING

STRUCTURAL IGNITABILITY

ANNUAL PREVENTION EFFECTIVENESS SUMMARY

FIRE DANGER REPORT

Figure 75: Available reports screen

Appendix A – Map Sets Available for Risk Assessment Planning

Streets

This map is a base layer that shows streets, roads, and highways. It also shows features such as communities, railroads, rivers, streams and lakes. It also shows federal ownerships, terrain, and other PUs.

Landownership

This map is basically the Streets layer with the federal ownerships colorized for easier identification.

Fire Regime

This map displays the Fire Regimes layer over the Streets layer. It uses LANDFIRE data to display the five nationally recognized fire regimes. Water features stand out very clearly on this map. The Fire Regimes are described below.

Fire Regime I: Historically, fires returned at a 35 year or less interval, with low to mixed severity (non-stand replacing).

Fire Regime II: Historically, fires returned at a 35 year or less interval, with high severity (stand replacing).

Fire Regime III: Historically, fires returned at a 35 to 200-year interval, with low to mixed severity (non-stand replacing).

Fire Regime IV: Historically, fires returned at a 35 to 200-year interval, with high severity (stand replacing).

Fire Regime V: Historically, fires returned at greater than a 200-year interval, with any severity (non-stand and stand replacing).

Fuel Type

This map shows the Fuel Types layer over the Streets layer. It uses LANDFIRE data to show the fuels in the 13 Anderson Fire Behavior Fuel Models. The 13 fuel models shown are:

FBFM1: Commonly referred to as “Short Grass”. Surface fires that burn fine herbaceous fuels, cured and curing fuels, little shrub or timber present, primarily grasslands and savanna.

FBFM2: Commonly referred to as “Timber (grass and understory)” or “Grass With Timber/Brush Overstory”. Burns fine, herbaceous fuels, stand is curing or dead, may produce fire brands on oak or pine stands.

FBFM3: Commonly referred to as “Tall Grass”. Most intense fire of grass group, spreads quickly with wind, one third of stand dead or cured, stands average 3 ft. tall.

FBFM4: Commonly referred to as “Chaparral (6 feet)” or “Mature Brush”. Fast spreading fire, continuous overstory, flammable foliage and dead woody material; deep litter layer can inhibit suppression.

FBFM5: Commonly referred to as “Brush (2 feet)” or “Young Brush”. Low intensity fires, young, green shrubs with little dead material, fuels consist of litter from understory.

FBFM6: Commonly referred to as “Dormant Brush, Hardwood Slash” or “Intermediate Brush”. Broad range of shrubs; fire requires moderate winds to maintain flame at shrub height or will drop to the ground with low winds.

FBFM7: Commonly referred to as “Southern Rough”. Foliage highly flammable, allowing fire to reach shrub strata levels, shrubs generally 2 to 6 feet high.

FBFM8: Commonly referred to as “Closed Timber Litter”. Slow burning surface fires, closed canopy stands with short needle conifers or hardwoods, litter consists mainly of needles and leaves, with little undergrowth, occasional flares with concentrated fuels.

FBFM9: Commonly referred to as “Hardwood Litter” or “Hardwood or Long Needle Pine Timber Litter”. Longer flames, quicker surface fires, closed canopy stands of long-needles or hardwoods; rolling leaves in fall can cause spotting, and dead-down material can cause occasional crowning.

FBFM10: Commonly referred to as Timber (litter and understory)” or “Mature/Overmature Timber and Understory”. Surface and ground fire more intense, dead-down fuels more abundant, frequent crowning and spotting causing fire control to be more difficult.

FBFM11: Commonly referred to as “Light Logging Slash” or “Light Slash”. Fairly active fire, fuels consist of slash and herbaceous materials, slash originates from light partial cuts or thinning projects; fire is limited by spacing of fuel load and shade from overstory.

FBFM12: Commonly referred to as “Medium Logging Slash” or “Medium Slash”. Rapid spreading and high intensity fires, dominated by slash resulting from heavy thinning projects and clearcuts, slash is mostly 3 inches or less.

FBFM13: Commonly referred to as “Heavy Logging Slash” or “Heavy Slash”. Fire spreads quickly through smaller material and intensity builds slowly as large material ignites, continuous layer of slash larger than 3 inches in diameter predominates, resulting from clearcuts and heavy partial cuts, active flames sustained for long periods of time; fire is susceptible to spotting and weather conditions.

Wildfire Hazard Potential

The Wildfire Hazard Potential (WHP) map depicts the relative potential for wildfire that would be difficult for suppression resources to contain. Areas mapped with higher WHP values represent fuels with a higher probability of experiencing torching, crowning, and other forms of extreme fire behavior under conducive weather conditions, based primarily on landscape conditions at the end of 2012. It was produced by the USDA Forest Service, Fire Modeling Institute to help inform evaluations of wildfire risk or prioritization of fuels management needs across very large landscapes (millions of acres). WHP is also not a forecast or wildfire outlook for any particular season, as it does not include any information on current or forecasted weather or fuel moisture conditions.

Fire Occurrence

The Fire Occurrence map provides a generalized depiction of number of wildfires over time using the Karen Short dataset. USDA Forest Service Research Ecologist Karen Short acquired, standardized, error-checked, compiled, and evaluated the completeness of wildfire records for the period 1992-2011 from federal, state, and local wildfire reporting systems for this dataset. It is updated annually but is always two years behind the current year to allow for data checking and management. **Note:** This dataset is heavily reliant on federal, tribal, and state sources. It does not contain much data on areas where rural fire departments are the primary wildfire suppression forces. Areas noticeably underrepresented are in the Great Plains and Midwest.

Fire Density

This map is a WPSAPS-derived product that shows the number of acres burned per unit area. It shows the relative frequency of wildfire in an area. It is based on the Karen Short dataset and is subject to the same limitations described above.

Human Caused Fires

This map, based on the Karen Short dataset, is an actual depiction of the human caused fires, by cause. The map is customizable by year and by cause. To change the year or the cause, use the drop-down selectors at the right of the map, beneath the map layer switcher. **Note:** The causes go beyond the standard eight human fire causes. It is also subject to the same data limitations as the Fire Occurrence map.

Human Caused Fire Size

This map, based on the Karen Short dataset, is a depiction of the size class of human caused fires. It uses the standard fire size classes recommended by the National Wildfire Coordinating Group (NWCG). The map is customizable by year and by cause. To change the year or the cause, use the drop-down selectors at the right of the map, beneath the Map Layer Switcher. The Cause selection allows the user to view the size class of fires for a particular cause category. **Note:** The causes go beyond the standard eight human fire causes. It is also subject to the same data limitations as the Fire Occurrence map.

NWCG Size Classes:

- Class A - one-fourth acre or less;
- Class B - more than one-fourth acre, but less than 10 acres;
- Class C - 10 acres or more, but less than 100 acres;
- Class D - 100 acres or more, but less than 300 acres;
- Class E - 300 acres or more, but less than 1,000 acres;
- Class F - 1,000 acres or more, but less than 5,000 acres;
- Class G - 5,000 acres or more.

Lightning Caused Fires

This map, based on the Karen Short dataset, is an actual depiction of the lightning caused wildfire occurrence. It is not customizable. It is also subject to the same data limitations as the Fire Occurrence map.

Wildland Urban Interface

The Wildland Urban Interface (WUI) map shows both wildland urban interface and intermix as a single WUI layer. It is based on the University of Wisconsin's SILVIS dataset. The SILVIS dataset shows the WUI and Intermix WUI separately. Intermix WUI are areas where housing and vegetation intermingle; interface WUI are areas with housing in the vicinity of contiguous wildland vegetation. The [SILVIS](http://silvis.forest.wisc.edu/data/wui-change/) data set can be viewed online at: <http://silvis.forest.wisc.edu/data/wui-change/>.

WUI and Human Caused Fire

This map combines the Human Caused Fires layer with the Wildland Urban Interface Layer. The Human Caused Fires layer is based on the Karen Short dataset. It is an actual depiction of the human caused fires, by cause. The map is customizable by year and by cause. To change the year or the cause, use the drop-down selectors at the right of the map, beneath the map layer switcher. Note, the causes go beyond the standard 8 human fire causes. It is also subject to the same data limitations as the Fire Occurrence map.

WUI and Wildfire Hazard Potential

This map combines the Wildland Urban Interface layer with the Wildfire Hazard Potential layer. It shows the potential for wildfires beyond the capability of local suppression forces in relationship to where people live.

WHP and Human Caused Fire

This map combines the Wildfire Hazard Potential layer with the Human Caused Fire layer. It shows fire history in relationship to an areas potential to have a wildfire that is beyond the suppression capability of local resources. The Human Caused Fires layer is based on the Karen Short dataset. It is an actual depiction of the human caused fires, by cause. The map is customizable by year and by cause. To change the year or the cause, use the drop-down selectors at the right of the map, beneath the map layer switcher. **Note:** The causes go beyond the standard eight human fire causes. It is also subject to the same data limitations as the Fire Occurrence map.

Appendix B – Community Viability Guidelines

The question of what constitutes a community is debatable. The National Association of State Foresters defines it loosely as a “place where people live”. Their screening process leaves the question of criteria up to local discretion. When screening communities, it is important to consider how the user would work with the community to lower their risk. In most cases, this requires the community to have some sort of infrastructure or coordinating entity. The following standards are recommended but are not absolute.

If the community has any of the following in or within the selected buffer, include it in the assessment:

Government

If the community has any formal government, it should be included in the assessment. Governments can include municipal governments with elected officials, community councils, housing authorities, Tribal government offices, or community services such as a local water district.

Schools

If a community has a school, including Head Starts, include it in the assessment.

Fire Department

If the community has a municipal, rural, or volunteer fire department or association, it should be included.

Business

If the community has any public business, such as a gas station, convenience store, visitor center, restaurant, or casino, it should be included in the assessment.

Industry

If the community has an industry, such as a sawmill, processing plant, or factory, it should be included in the assessment.

Community Center/Tribal Facility

If the community has a community building or tribal center, it should be included.

If none of the above are present, reconsider the viability of the community. It may not be useful to include it in this risk assessment.

Communities at Risk

All communities listed on the Communities at Risk List, published in the Federal Register on August 17, 2001 (Volume 66 Number 160), with BIA jurisdiction lands within 3 kilometers of their boundaries, should be included in the risk assessment. This should be done whether they meet a “viability” standard or not. The [Communities at Risk List](https://www.federalregister.gov/documents/2001/01/04/01-52/urban-wildland-interface-communities-within-the-vicinity-of-federal-lands-that-are-at-high-risk-from) can be found at the following link: <https://www.federalregister.gov/documents/2001/01/04/01-52/urban-wildland-interface-communities-within-the-vicinity-of-federal-lands-that-are-at-high-risk-from>.

Fuels treatment Priority: Low Medium High

Machine Mechanical Prescribed Fire Treatment Needed Hand Mechanical Treatment Needed
 Chemical Treatment Needed

Fuels Hazard

Fuels (Flame Length): Low: 0 – 2 feet Medium: 4 – 6 feet High: 8 feet or greater

Crowning Potential: Low Medium High

Initial Attack Arrival Time: Low: Less than 20 minutes Medium: 20 to 30 minutes High: Greater than 30 minutes

Population Risk: Low Medium High

Ignition Risks

Place an “X” in the cell to the left of any that are present.

	Transmission Lines		Developed Camping Areas		Military Operations
	Distribution Lines		Off highway vehicle use		Festivals, Special Events
	Sub-stations		Oil & Gas Transmission		Incendiary
	Active Timber Sale		Gas Pumps or Storage		Cultural Activities
	Construction Project		Alternative Fuel Cells		Welding/Cutting/Grinding
	Wind Energy Production		Powder Magazines		Railroads
	Debris and Trash Burning		Dump		State or Federal Highways
	Agriculture Burning		Fireworks		County Roads
	Forest Range Burning		Children with matches		Public Access Roads
	Mining		Electronic Installations:		Non-Motorized Trails & OHV Trails
	Oil and Gas Production		Woodcutting area, power equipment		Camps, Resorts, Stables
	Maintenance/Service Contracts		Shooting, Exploding Targets, etc.		Businesses:
	Dispersed camping areas, party areas, hunters, water-based [recreation], hiking		Government Operations		Agriculture/Ranching, Schools

Catastrophic Fire Potential: High Medium Low

Notes and Map Sketch:

Values to be Protected

Place an "X" in the cell to the left of the best fitting description.

		Low		Medium		High
Recreational Value	<input type="checkbox"/>	Undeveloped average recreation use	<input type="checkbox"/>	Undeveloped high recreation use	<input type="checkbox"/>	Developed recreation site
Administrative Sites	<input type="checkbox"/>	Few or no administrative sites	<input type="checkbox"/>	Administrative sites are present	<input type="checkbox"/>	Special use or high values sites
Wildlife and Fisheries	<input type="checkbox"/>	Relatively insignificant habitat	<input type="checkbox"/>	Moderately significant habitat	<input type="checkbox"/>	Highly significant habitat
Range Use	<input type="checkbox"/>	Little or no range use	<input type="checkbox"/>	Range allotment within area, normal/average use	<input type="checkbox"/>	Range allotment within area, significant use
Watersheds	<input type="checkbox"/>	Low Drinking Water Importance	<input type="checkbox"/>	Medium Drinking Water Importance	<input type="checkbox"/>	High Drinking Water Importance
Forest and Woodland	<input type="checkbox"/>	Standing timber/woodland on 25% or less of area	<input type="checkbox"/>	Standing timber/woodland on 26-50% of area	<input type="checkbox"/>	Standing timber/woodland on 51%+ of area
Plantations	<input type="checkbox"/>	15% or less of area in or programmed for plantations	<input type="checkbox"/>	16 - 30% of area in or programmed for plantations	<input type="checkbox"/>	31%+ of area in or programmed for plantations
Private Property	<input type="checkbox"/>	Little or no threat or loss potential.	<input type="checkbox"/>	Threat to structures and property	<input type="checkbox"/>	High loss and threat potential due to numbers and placement
Cultural Resources	<input type="checkbox"/>	No findings, little potential for Native American Use	<input type="checkbox"/>	Minimal findings, potential for Native American use	<input type="checkbox"/>	Archaeological/historical findings of high significance
Special Interest	<input type="checkbox"/>	No special interest area within or adjacent to the area	<input type="checkbox"/>	Area is adjacent to a special interest area.	<input type="checkbox"/>	A majority of the area is classified as special interest area.
Visual Resources	<input type="checkbox"/>	Little Impact on Viewshed	<input type="checkbox"/>	Short Term Impacts to Viewshed (1-3 yrs)	<input type="checkbox"/>	Long Term Impacts to the Viewshed (4 yrs +)
T & E Species	<input type="checkbox"/>	Absent	<input type="checkbox"/>	Present Sensitive	<input type="checkbox"/>	Present Threatened/Endangered
Soils (Erosion)	<input type="checkbox"/>	Low Significance (EHR < 4)	<input type="checkbox"/>	Moderately erodible (EHR 4-12)	<input type="checkbox"/>	Highly Erodible (EHR 13+)
Soils (Organic)	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>	Moderate susceptibility	<input type="checkbox"/>	High susceptibility
Airshed	<input type="checkbox"/>	Attainment.	<input type="checkbox"/>	Non-Attainment.	<input type="checkbox"/>	Class 1 Airshed
T & E Vegetation	<input type="checkbox"/>	Absent	<input type="checkbox"/>	Present Sensitive	<input type="checkbox"/>	Present Threatened/Endangered

Appendix D – Risk Assessment Standard Attributes

Assessment Category: Fuels Hazards

Data Attribute	Value	Comments
Flame Length	Low (0 - 2 feet)	Estimated average flame length
Flame Length	Medium (4 - 6 feet)	Estimated average flame length
Flame Length	High (8+ feet)	Estimated average flame length
Crowning Potential	Low (0 - 2)	Crown fire potential index
Crowning Potential	Medium (3 - 5)	Crown fire potential index
Crowning Potential	High (6+)	Crown fire potential index
Slope Percent	Low (0 - 20%)	
Slope Percent	Medium (21 - 35%)	
Slope Percent	High (36%+)	
Aspect	Low (North)	
Aspect	Medium (East, West)	
Aspect	High (South)	
Elevation	Low (5001 feet +)	
Elevation	Medium (3501 - 5000 feet)	
Elevation	High (0 - 3500 feet)	
Initial attack arrival time	Low (0 - 20 minutes)	Select a category for Initial Attack Arrival Time. The Categories can be customized on the assessment page.
Initial attack arrival time	Medium (21 - 30 minutes)	Select a category for Initial Attack Arrival Time. The Categories can be customized on the assessment page.
Initial attack arrival time	High (31 minutes +)	Select a category for Initial Attack Arrival Time. The Categories can be customized on the assessment page.

Assessment Category: Ignition Risk

Data Attribute	Value	Comments
Population Risk	Low	Calculated based on the number of Households.
Population Risk	Medium	Calculated based on the number of Households.

Data Attribute	Value	Comments
Population Risk	High	Calculated based on the number of Households.
Transmission Lines	Presence/Absence	Presence of electrical transmission lines. Transmission lines are the high voltage power lines, usually on tall steel towers. They are also occasionally on very tall wood or steel poles or on dual wood pole towers. They carry electricity from the source to a sub-station.
Distribution Lines	Presence/Absence	Presence of electrical distribution lines. Distribution lines carry electricity from the substation to the users.
Substations	Presence/Absence	Presence of electrical sub-stations. Sub-stations take the high voltage carried by transmission lines and step it down to lower voltages carried by distribution lines to transformers. They are not present in every community.
Active Timber Sale	Presence/Absence	Presence of active timber sales
Construction Project	Presence/Absence	Presence of construction projects. Construction projects, like timber sales, are usually temporary, lasting no more than one to three years. If the community is experiencing significant growth and expansion, select "Present" for this risk factor. Otherwise, select "Absent".
Wind Energy Production	Presence/Absence	Presence of wind energy production sites
Debris and/or Trash burning	Presence/Absence	Presence of Debris or trash burning sites
Agriculture burning	Presence/Absence	Presence of agricultural burning. Agriculture burning consists of pasture and range burning as well as crop residue disposal.
Forest/Range Burning	Presence/Absence	Presence of forest or range burning. Forest range burning occurs when forestlands are burned for silvicultural or range improvement purposes.
Mining	Presence/Absence	Presence of active mining sites. The type of mining associated with wildfire activity is surface and pit mining. Underground mining is not often associated with surface wildfires, except around coal mines. Mining would include operations such as gravel/cinder pits, quarries, and "rock plants" as well as traditional heavy metal mines.
Oil & Gas Production	Presence/Absence	Presence of active oil and gas production activity. Oil and gas production is any of the myriad activities associated with drilling, pumping and processing crude oil or natural gas. While drilling is a temporary activity, the drilling normally results in a gas well head or pump jack to recover the gas or crude oil. Other facilities such as collection batteries, storage, tanks and refineries are also included.

Data Attribute	Value	Comments
Maintenance/Service Contracts	Presence/Absence	Presence of maintenance or service contracts that could pose an ignition risk. These are contracted activities including road right of way maintenance, powerline clearance and similar contracted activities. They are present for most communities. However, their presence is not always visible. The user may need to ask someone knowledgeable in the community to decide.
Dispersed camping, party areas, water-based, hunting, fishing	Presence/Absence	Presence of dispersed camping areas, party areas, hunting areas, water-based recreation, and hiking areas
Developed Camping Areas	Presence/Absence	Presence of developed camping areas. These are campsites, with facilities such as toilets, showers, picnic tables and fire rings or grates. They may be staffed or unstaffed.
Off Road Vehicles	Presence/Absence	Presence of off-road vehicle use. This is more than casual use of a road or open area by off highway vehicles. This is for moto-cross tracks, obstacle courses, and recreation areas specifically designated for off highway vehicle use. Off highway vehicles include motorcycles, all-terrain vehicles, utility task vehicles, 4-wheelers, dune buggies, and off road 4-wheel drive trucks and SUVs.
Oil & Gas Wells/ transmission	Presence/Absence	Presence of oil or gas transmission lines. Oil and gas transmission is more than just the pipelines carrying oil and gas. It includes the injection or supply stations, regulation stations, valves, and outlet stations. It can also include the supply stations for trucking and railroad distribution.
Gas Pumps or Storage	Presence/Absence	Presence of oil or gas pumps or storage facilities. Gas pumps or storage refers to retail filling stations, above ground storage tanks, and liquefied propane gas storage and delivery stations.
Alternative Fuel Cells	Presence/Absence	Presence of alternative fuel cells. Alternative fuel cells includes the delivery, storage and use of any alternative fuel such as hydrogen, propane, methane, or any other "alternative" fuel that is stored and sold in reusable, replaceable containers.
Powder Magazines	Presence/Absence	Presence of powder magazines or caches. Powder magazines include military and civilian storage facilities. Examples are military bases, explosive storage for use in mining or construction, and ammunition or fireworks manufacturing plants.
Dump	Presence/Absence	Presence of landfills or a dumping facility. Dumps include formal, legal dumps as well as the informal, illegal roadside dumps. Both types have associated ignition risks.
Fireworks	Presence/Absence	Presence of fireworks activity

Data Attribute	Value	Comments
Matches	Presence/Absence	Presence of children playing with matches. Nearly all communities have children. Whether the children have matches is difficult to define. If there is a history of children caused wildfires select "Present" for this risk factor. Otherwise, select "Absent".
Electronic Installations	Presence/Absence	Presence of electronic installations. Electronic installations do not include sub-stations, since they were previously accounted for. Electronic installations include cell towers, microwave towers, large transformer banks, and power generation facilities.
Woodcutting area, power equipment	Presence/Absence	Presence of woodcutting activity or power equipment use. Nearly all communities have lawnmowers, weed trimmers, and tree pruning. This risk factor does not automatically include those. If there is a wood yard, or a history of equipment caused fires select "Present" for this risk factor. Otherwise, select "Absent".
Shooting, Exploding Targets etc..	Presence/Absence	Presence of target shooting and/or exploding targets. This risk factor refers to both formal and informal gun ranges as well as frequently used shooting areas. It does not include hunting areas.
Government Operations	Presence/Absence	Presence of government operations. Government Operations includes parks, forests, range lands, public use areas and "superfund" sites operated by federal, tribal, state, county or local governments. It does not include roads or office buildings but may include a county barn or work center.
Military Operations	Presence/Absence	Presence of Military operations. Military operations are sites such as military bases and forts operated by any branch of the US Armed Forces or National Guard. They can also include areas used by these organizations for training. They do not include para-military operations.
Festivals, Special Events	Presence/Absence	Presence of festivals or other special events that could pose an ignition risk
Incendiary	Presence/Absence	Presence of incendiary material
Cultural Activities	Presence/Absence	Presence of cultural activities that could pose an ignition risk
Welding/Cutting/Grinding	Presence/Absence	Presence of welding, cutting, or grinding activity. There will be occasional welding, metal cutting, and grinding in almost every community. These occasional activities are not included in this risk factor. This risk factor refers to locations where these activities are common, such as salvage yards, off-site construction and fabrication facilities, and metal recycling centers.
Railroads are present	Presence/Absence	Presence of railroads

Data Attribute	Value	Comments
State, Federal Highways	Presence/Absence	Presence of state or federal highways
County Roads	Presence/Absence	Presence of county roads
Public Access Roads	Presence/Absence	Presence of secondary public access roads
Non Motorized Trails & OHV Trails	Presence/Absence	Presence of non-motorized trails and OHV trails. These are trails such as equestrian, and mountain bike trails. They also include trails specifically for off-highway vehicles such as 4-wheelers and all-terrain vehicles.
Camps, resorts, Stables	Presence/Absence	Presence of camps, resorts, or stables. These are commercial facilities operated by either a non-profit organization such as Boy Scouts of America, or a for profit owner.
Business, Agriculture/ranching	Presence/Absence	Presence of businesses, agriculture, or ranching that could pose an ignition risk. Businesses include convenience stores, restaurants, smoke shops, taverns, casinos, or any other commercial entity open to public commercial transactions.
Schools	Presence/Absence	Presence of school campuses

Assessment Category: Catastrophic Fire Potential

Data Attribute	Value	Comments
Primary Cause	Fire Cause	The most frequent fire cause determined spatially with Spatial Wildfire Occurrence Data for the United States
Catastrophic Fire Potential	Low	The catastrophic fire potential determined from the most frequent wildfire hazard potential category
Catastrophic Fire Potential	Medium	The catastrophic fire potential determined from the most frequent wildfire hazard potential category
Catastrophic Fire Potential	High	The catastrophic fire potential determined from the most frequent wildfire hazard potential category

Assessment Category: Values

Data Attribute	Value	Comments
Recreation	Undeveloped average recreation use	The potential risk to recreation resources
Recreation	Undeveloped high recreation use	The potential risk to recreation resources
Recreation	Developed recreation site	The potential risk to recreation resources

Data Attribute	Value	Comments
Admin Sites	Few or no administrative sites	The potential risk to administrative sites
Admin Sites	Administrative sites are present	The potential risk to administrative sites
Admin Sites	Special use, high value, or numerous administrative sites	This is equivalent to “High” value. The area in and around the community is primarily government/tribal facilities or has irreplaceable and critically important government/tribal facilities.
Wildlife Fisheries	Relatively insignificant habitat	The potential risk to wildlife and fisheries resources
Wildlife Fisheries	Moderately significant habitat	The potential risk to wildlife and fisheries resources
Wildlife Fisheries	Highly significant habitat	The potential risk to wildlife and fisheries resources
Range Use	Little or no range use	The potential risk to range resources
Range Use	Range allotment within area, normal/average use	The potential risk to range resources
Range Use	Range allotment within area, significant use	The potential risk to range resources
Watershed	Forests to faucet index	The potential risk to watersheds
Forest Woodland	Standing timber/woodland on 25% or less of area	The potential risk to forest and woodlands
Forest Woodland	Standing timber/woodland on 26-50% of area	The potential risk to forest and woodlands
Forest Woodland	Standing timber/woodland on 51+% of area	The potential risk to forest and woodlands
Plantations	15% or less of area in or programmed for plantations	The potential risk to plantations
Plantations	16 - 30 % of area in or programmed for plantations	The potential risk to plantations
Plantations	31+% of area in or programmed for plantations	The potential risk to plantations
Private Property	Little or no threat or loss potential	The potential risk to private property. Private property refers to the threat to homes and businesses.
Private Property	Threat to structures and property	The potential risk to private property. Private property refers to the threat to homes and businesses.
Private Property	High loss and threat potential due to numbers and placement	The potential risk to private property. Private property refers to the threat to homes and businesses.

Data Attribute	Value	Comments
Cultural Resources	No archaeological/historical findings, little potential for Native American use	The potential risk to cultural/Native American resources. When assessing risk to the site as a value to be protected, it is important to remember the threat is from a wildfire. If the site is one that would not be damaged by a wildfire, such as a cave or cliff dwelling; it shouldn't be included.
Cultural Resources	Minimal archaeological/historical findings, potential for Native American use	The potential risk to cultural/Native American resources. When assessing risk to the site as a value to be protected, it is important to remember the threat is from a wildfire. If the site is one that would not be damaged by a wildfire, such as a cave or cliff dwelling; it shouldn't be included.
Cultural Resources	Archaeological/historical findings of high significance	The potential risk to cultural/Native American resources. When assessing risk to the site as a value to be protected, it is important to remember the threat is from a wildfire. If the site is one that would not be damaged by a wildfire, such as a cave or cliff dwelling; it shouldn't be included.
Special Interest Areas	No special interest area within or adjacent to the area	The potential risk to special interest areas. Special interest areas are any area within unit that is significantly important to the Tribe, public or for employment. Examples include casinos, tribal hunting or fishing areas, culturally important plant gathering areas, orchards, or significant employers.
Special Interest Areas	Area is adjacent to a special interest area	The potential risk to special interest areas. Special interest areas are any area within unit that is significantly important to the Tribe, public or for employment. Examples include casinos, tribal hunting or fishing areas, culturally important plant gathering areas, orchards, or significant employers.
Special Interest Areas	A majority of the area is classified as special interest area	The potential risk to special interest areas. Special interest areas are any area within unit that is significantly important to the Tribe, public or for employment. Examples include casinos, tribal hunting or fishing areas, culturally important plant gathering areas, orchards, or significant employers.
Visual Resources	Maximum modification dominates	The potential risk to visual resources. The user needs to consider what the view would look like following a damaging wildfire.
Visual Resources	Partially retain existing character	The potential risk to visual resources. The user needs to consider what the view would look like following a damaging wildfire.
Visual Resources	Preserve and retain existing character	The potential risk to visual resources. The user needs to consider what the view would look like following a damaging wildfire.

Data Attribute	Value	Comments
T&E	Absent	<p>The potential risk to threatened and endangered species. For the purposes of this risk assessment, it is not necessary to consult with the US Fish and Wildlife Service (the official source of Threatened and Endangered Species information).</p> <p>The Threatened and Endangered Species List can be found online at: https://www.fws.gov/endangered/species/us-species.html.</p>
T&E	Present Sensitive	<p>The potential risk to threatened and endangered species. For the purposes of this risk assessment, it is not necessary to consult with the US Fish and Wildlife Service (the official source of Threatened and Endangered Species information).</p> <p>The Threatened and Endangered Species List can be found online at: https://www.fws.gov/endangered/species/us-species.html.</p>
T&E	Present Threatened/Endangered	<p>The potential risk to threatened and endangered species. For the purposes of this risk assessment, it is not necessary to consult with the US Fish and Wildlife Service (the official source of Threatened and Endangered Species information).</p> <p>The Threatened and Endangered Species List can be found online at: https://www.fws.gov/endangered/species/us-species.html.</p>
Soils (Erosion)	Low significance (EHR < 4)	The potential risk of soil erosion
Soils (Erosion)	Moderately erodable (EHR 4-12)	The potential risk of soil erosion
Soils (Erosion)	Highly erodable (HER 13+)	The potential risk of soil erosion
Soils Organic	Not applicable - no organic soils exist	<p>The potential risk to organic soils. Most soils originally included an organic layer; however, an organic soil is a soil composed of organic layers throughout its horizon. Organic soils are important to consider as a value, since they have the potential to ignite, burn and loss their ability to support the ecosystem. They form from decaying animal and plant material, normally in the presence of water. Organic soils can be found in every state but are more common along the East Coast and around the Great Lakes. These soils include peat bogs, and mucks.</p>
Soils Organic	Moderate susceptibility to fire damage	<p>The potential risk to organic soils. Most soils originally included an organic layer; however, an organic soil is a soil composed of organic layers throughout its horizon. Organic soils are important to consider as a value, since they have the potential to ignite, burn and loss their ability to support the ecosystem. They form from decaying animal and plant material, normally in the presence of water. Organic soils can be found in every state but are more common along the East Coast and around the Great Lakes. These soils include peat bogs, and mucks.</p>

Data Attribute	Value	Comments
Soils Organic	High susceptibility to fire damage	The potential risk to organic soils. Most soils originally included an organic layer; however, an organic soil is a soil composed of organic layers throughout its horizon. Organic soils are important to consider as a value, since they have the potential to ignite, burn and lose their ability to support the ecosystem. They form from decaying animal and plant material, normally in the presence of water. Organic soils can be found in every state but are more common along the East Coast and around the Great Lakes. These soils include peat bogs, and mucks.
Airshed	Non attainment	The air quality classification for airsheds. The airshed is determined by the shape of the land and the prevailing winds. However, nearly all airsheds in the US have been assessed for air pollution compliance using the National Ambient Air Quality Standards (NAAQS). These standards are found online at: https://www.epa.gov/naaqs . For the purposes of this risk assessment, the air quality in the airshed is the value being protected in this selection. It is primarily being protected from particulate matter in smoke from a wildfire.
Airshed	Attainment	The air quality classification for Airsheds. The airshed is determined by the shape of the land and the prevailing winds. However, nearly all airsheds in the US have been assessed for air pollution compliance using the National Ambient Air Quality Standards (NAAQS). These standards are found online at: https://www.epa.gov/naaqs . For the purposes of this risk assessment, the air quality in the airshed is the value being protected in this selection. It is primarily being protected from particulate matter in smoke from a wildfire.
Airshed	Class 1	The air quality classification for Airsheds. The airshed is determined by the shape of the land and the prevailing winds. However, nearly all airsheds in the US have been assessed for air pollution compliance using the National Ambient Air Quality Standards (NAAQS). These standards are found online at: https://www.epa.gov/naaqs . For the purposes of this risk assessment, the air quality in the airshed is the value being protected in this selection. It is primarily being protected from particulate matter in smoke from a wildfire.
Vegetation	Absent	The potential risk to threatened and endangered species (flora). This value selection refers to plants (flora). For the purposes of this risk assessment, it is not necessary to consult with the US Fish and Wildlife Service (the official source of T & E Species information). However, it is recommended that someone knowledgeable in the tribe be consulted. The Threatened and Endangered Species List can be found online at: https://www.fws.gov/endangered/species/us-species.html .

Data Attribute	Value	Comments
Vegetation	Present Sensitive	<p>The potential risk to threatened and endangered species (flora). This value selection refers to plants (flora). For the purposes of this risk assessment, it is not necessary to consult with the US Fish and Wildlife Service (the official source of T & E Species information). However, it is recommended that someone knowledgeable in the tribe be consulted.</p> <p>The Threatened and Endangered Species List can be found online at: https://www.fws.gov/endangered/species/us-species.html.</p>
Vegetation	Present Threatened/Endangered	<p>The potential risk to threatened and endangered species (flora). This value selection refers to plants (flora). For the purposes of this risk assessment, it is not necessary to consult with the US Fish and Wildlife Service (the official source of T & E Species information). However, it is recommended that someone knowledgeable in the tribe be consulted.</p> <p>The Threatened and Endangered Species List can be found online at: https://www.fws.gov/endangered/species/us-species.html.</p>