Beaver Brook – Plan Unit 15

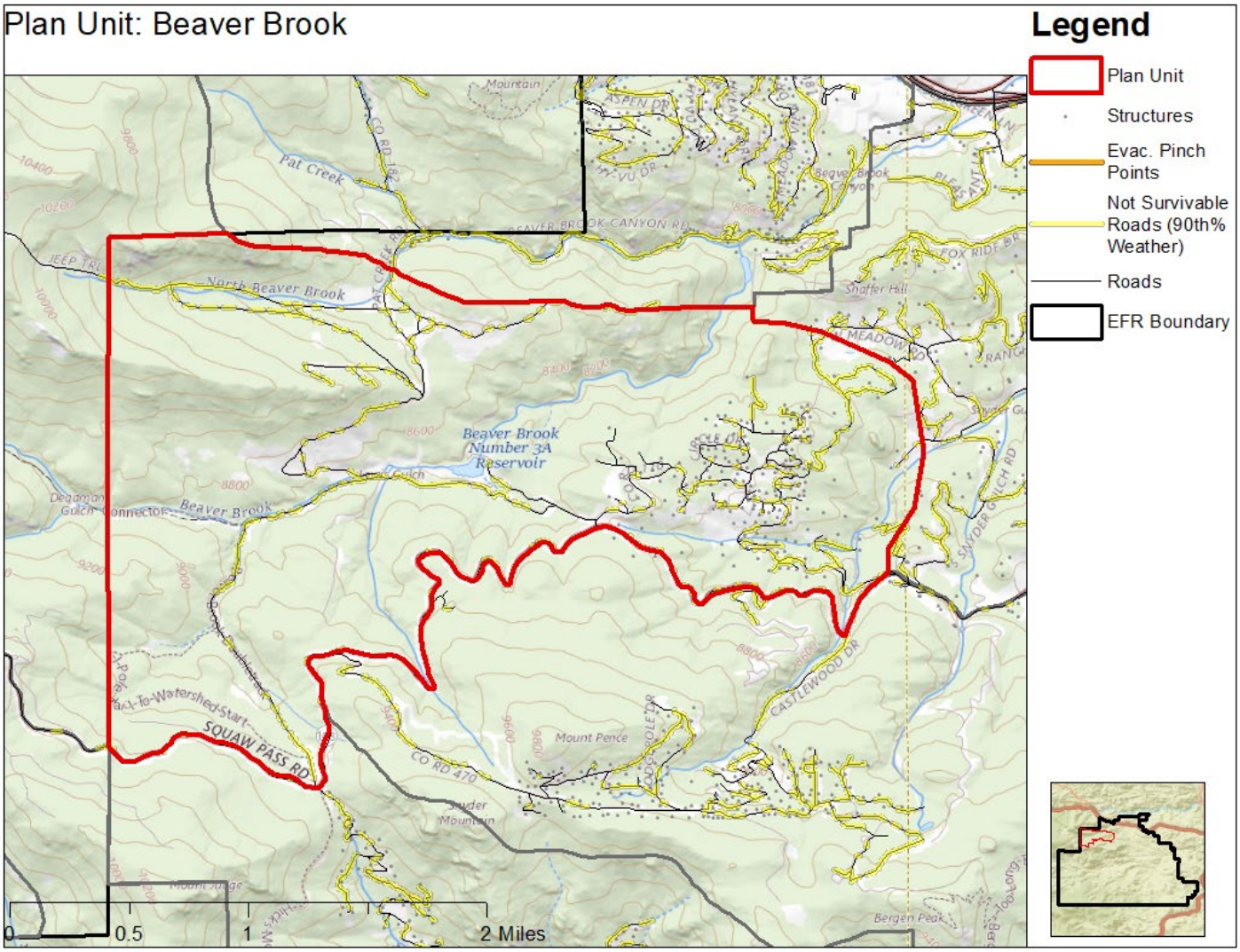
Rating: Extreme

Evacuation Data Summary					
Number of Structures	Number of Cars	Average Time to Evacuate (min)	Median Time to Evacuate (min)	Minimum Time to Evacuate (min)	Maximum Time to Evacuate (min)
179	358	50	51	41	54

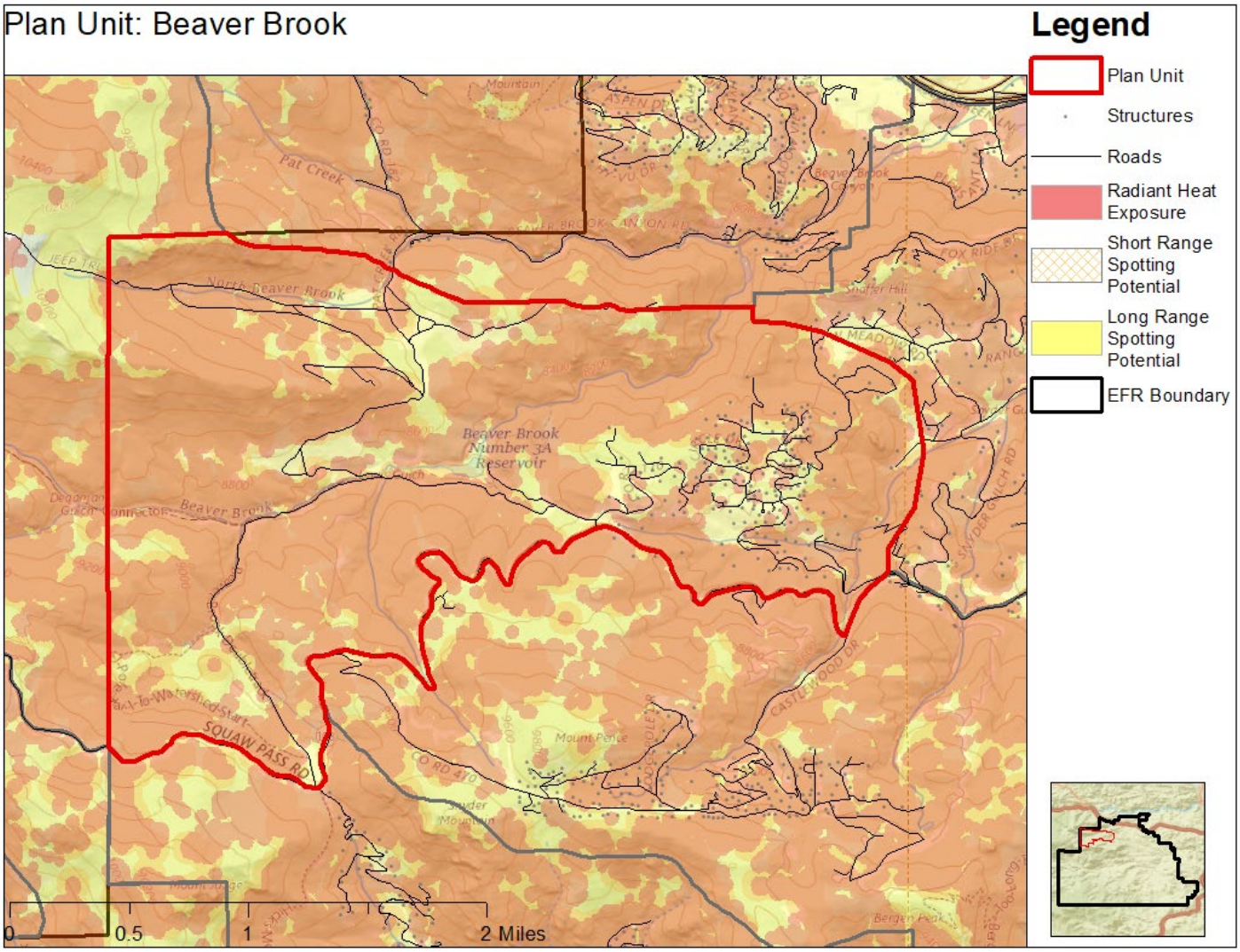
Wildland fuels here are low density Ponderosa Pine forest stands and Aspen with some pockets of mixed conifer forest structure. Many private properties show evidence of mitigation work, but surrounding or adjacent fuels are dense and problematic for effective firefighter response. Evidence of thinning appears to be older and should revisited and extended further away from homes. Many residences appear to have part-time occupancy, possibly on a monthly or weekend basis, particularly further north. Road access is limited in some portions of neighborhood towards Beaver Lane.

Smaller cabins are on the north end in higher densities. This area should work to improve defensible space and improve roadway condition for fire equipment and evacuation.

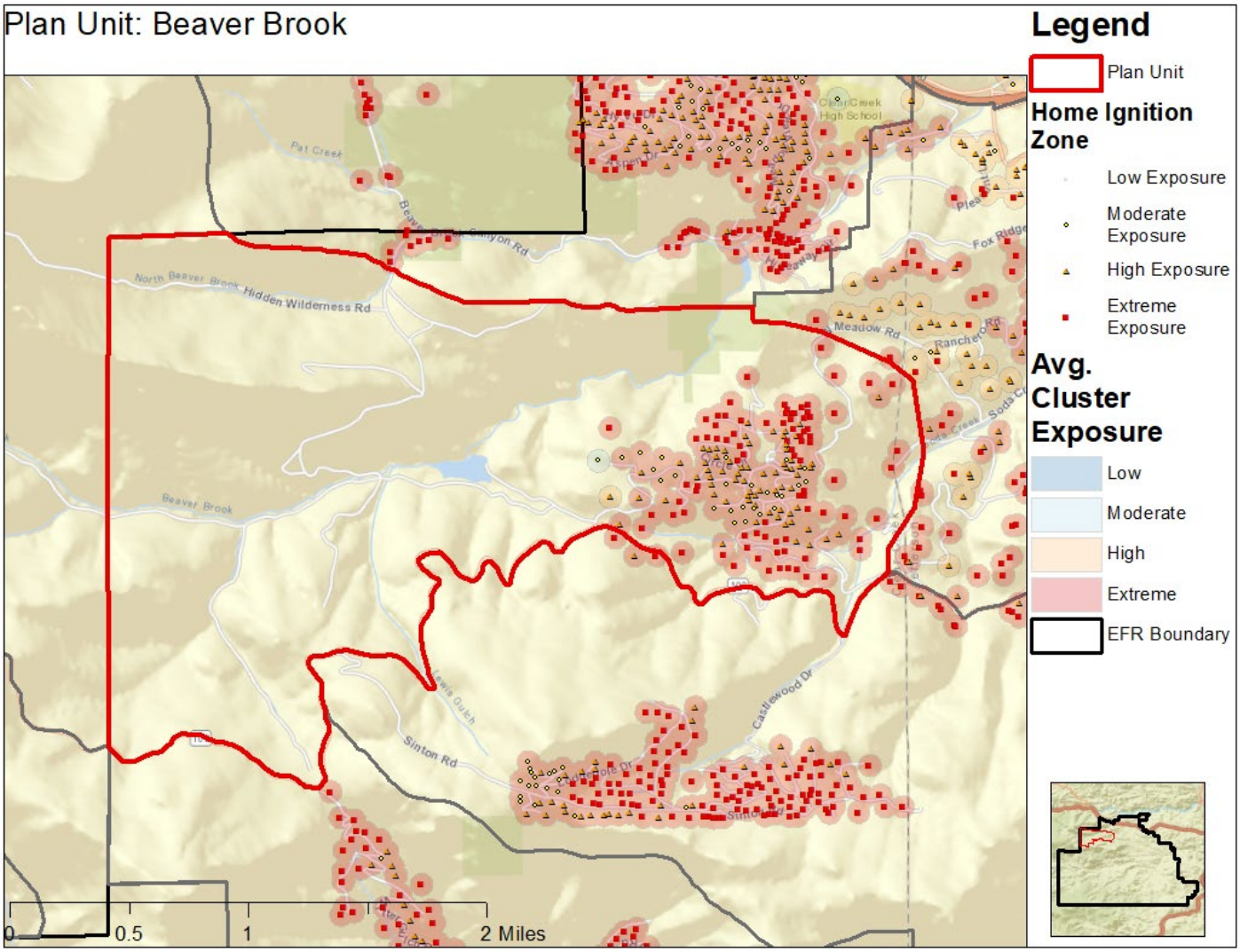
This photo along CO 170 is a good representation of fuels and average home construction. Home ignition zone improvement and maintenance will dramatically change the outcome in Beaver Brook.



Beaver Brook has no modeled Evacuation Pinch Points. CO Road 170 is a major evacuation corridor with multiple locations that are not survivable. This is also a prominent exit from Beaver Brook residences and needs to be mitigated to improve survivability.



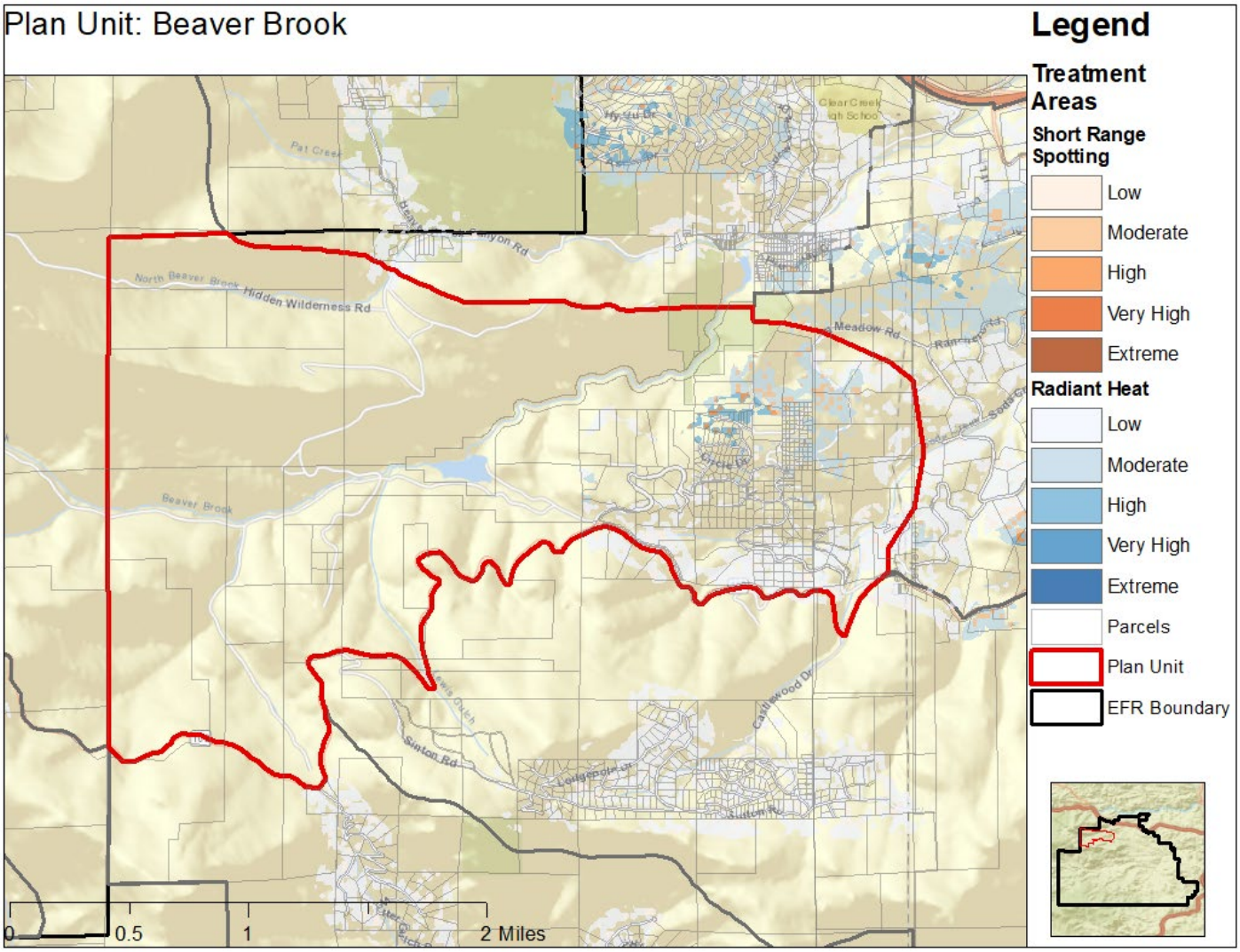
Radiant Heat exposure is designed to show neighborhoods where vegetation will create fire behavior extreme enough to ignite home materials. Short- and long- range spotting is when embers travel a distance from the fire and continue its spread away from the main fire –this can be a deluge of embers that is difficult to combat. These ignition risks are present to extreme degrees in Evergreen Fire Protection District. Different visualizations of this data are mapped on the following pages and will give residents a clearer path forward to mitigation.



Ember exposure outputs (radiant heat, short range spotting, and long-range spotting, as seen above) were overlaid with structure points buffered as the Home Ignition Zone (100 ft). Structures in which greater than 50% of the home ignition zone was covered by radiant heat, short range spotting, or long-range spotting were defined as being at risk from that hazard. Extreme exposure means all three factors are present, as the model indicates.

These values were then aggregated at the structure cluster level which are dissolved 100 m buffers of structures. If a structure's 100m buffer intersects a different structure's buffer, they are part of the same cluster. Average exposure to all the structures in the cluster is displayed behind the structure point on the above map. This means that even though some structures may be a lower risk due to the wildland fuels adjacent to their home, they will be still at extreme risk as home to home ignition is extremely likely.

Beaver Brook has one primary cluster of homes with average exposure as extreme and many individual structures with that rating. This extreme cluster exposure means homes that are at lower risk from radiant heat & short- and long-range spotting are put at higher risk by their connection to other, higher risk structures. Developing robust defensible space work and implementing home hardening practices will reduce the rating of this cluster.



Radiant heat and short-range ember exposure are displayed and filtered by accessible treatment areas (by slope and distance to a roadway). High to Extreme risk areas displayed in those maps are highest priority to protect from radiant heat and short-range spotting, however, this does not negate the need for defensible space treatment across the landscape.

In Beaver Brook locations of high risk are not easily treatable due to slope. One option for this Plan Unit would be to treat all treatable areas, shown above on this map, and reduce the risk of wildfire transmission while improving tactical firefighting options. The other option would be to work with a hand crew and do fuel treatment in the areas of highest risk on steeper slopes, surrounding homes and structures with extreme risk. The first and most important location would be in the area surrounding Evergreen Drive.

Shelter-in-place

There are currently no locations to recommend for shelter-in-place in Beaver Brook. There are some areas that are better, like surrounding Beaver Brook Reservoir, but non have suitable adjacent vegetation to easily become a shelter location.