



## Sun Mountain Ranch Club

# Community Wildfire Risk Assessment

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Conducted by:

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## Summary

The Sun Mountain Ranch Club (SMRC) is a home owners association located approximately 3 miles from the city of Winthrop. The property borders two lakes, Little Twin Lake and Big Twin Lake. The lakes are visited by recreational visitors that want to fish, camp, and hike. The community has its own website that they maintain that has community information and a firewise page. The firewise page has links to SMRC evacuation plan, general firewise information, burning information, fire district 6 webpage link, weather, and much more. To access the community web page click on the link. <http://www.sunmountainranchclub.org/>

The community is 750 acres and consists of 304 lots. The lots range from 1-4 acres in size. A third of the property owners have recreation structures and some reside year round. The remaining owners use the property for recreational and have temporary campers or trailers. Twin lakes Drive is the main road through the community that runs north and south which empties out on to Twin Lakes Road. There is a few open spaces with in the community that the SMRC owns the residents can hike on.

The community has two different landscape types. The south end has more shrub steppe and native bunch grasses. In the central part of the community, there is a forested rolling hill landscape. The roads within the community are gravel and narrow which can be difficult to drive with heavy equipment coming in both directions.

### **Risk Assessment Process**

The risk assessment was completed using the National Fire Protection Association (NFPA) Residential Wildfire Hazard Assessment Form as a template. The risk assessment form is in Appendix A at the end of this document along with community maps. Digital photographs were taken to assist in the documentation process. The risk assessment form is typically used to assess individual properties; however, an attempt has been made to extrapolate this to the community level. Scores are given for each area along with discussion of specific details related to that scoring area. The reviewers took photos and notes of the area. Photos with captions in the report are used as visuals to help viewers see the areas of concerns or good practice being done by the community currently.

For the purpose of this community, the assessment was broken out into two different distinct landscape types or areas. The first area is central Twin Lakes which includes the lakes to Paint Road. This area has more of a forested landscape. The second area includes the south end of the community and Palomino Road. This area has a more of a shrub steppe landscape.

Central Twin Lakes scored 96 High Hazard. The south end and Palomino Road scored 72 High hazard. Overall all the community has done some forest health/fuels reduction work in 2003-2004 but not all landowners participated. Recommend encouraging residents that did not participate to do some thinning work to break up tree canopy. Increasing the defensible spaces throughout the community, updating house numbers to reflective signs, mowing road shoulders, adding more turnaround areas for fire trucks, and adding metal skirting to flammable siding would improve the community's score.

Higher scores equal higher risk:

Low hazard = less than 39 points

Moderate hazard = 40-69 points

High hazard = 70-112 points

Extreme hazard = greater than 112 points

### Contents

- 1. Observations and Recommendations**
- 2. NFPA assessment form**
- 3. Community Maps**

## Observations & Recommendations

### **A. Means of Access**

#### Ingress and Egress:

*Observations*– The property has one main road through the community called Twin Lakes Drive. The road goes from the North to the South end of the community and comes out to Twin Lakes Road which is paved. The community has only two designated exits. It was noted that the community may have another exit but it is not officially identified or may have a locked gate that prevents residents from being able to exit. There are multiple roads going off of Twin Lakes Drive. The roads within the community are narrow with tight corners. Heavy equipment coming from both directions would have difficulty passing each other. Street signs are labeled with reflective blue signs with directions under the sign on how to exit the community. Dead end streets are labeled with reflective dead end signs. Flammable grass is growing up to the road edge that could spark a fire if passing vehicles have to pull over to road edge to pass.

*Recommendations*– Because of the size of the community, create more official emergency exits within the community if possible and identify the exit with a sign.

*Score:* 0

#### Road Width:

*Observations*– Roads are on average 24

*Recommendations*– There is a significant population of dry grasses along the road which can be highly flammable. Keep vegetation near roads cut back so that there is less risk of a vehicle igniting dry vegetation should it need to pull over to the shoulder. Where needed trim trees and tree limbs over hanging the road. For reference trees and limbs should be treated 30 feet from the center line out to the road shoulder.

*Score:* 0

#### All-Season Road Condition:

*Observations*– Roads are surfaced with gravel and appear to be well maintained.

*Recommendation*– none

*Score:* 0

### **Fire Service Access:**

*Observations*- Fire service access evaluates driveway length and turnaround ability. Individual driveways were not assessed, but in general, the driveways are of variable length. Some may have turnarounds suitable for full size fire trucks; others likely do not.

*Recommendation*- For the lots with the longest (300'+) driveways, ensure there are turnarounds at each residence as needed. Prune trees along roads to 14' high for fire truck access. Fire trucks are the size of large motor home and will need a big enough space to turn around. Identify turn around spaces with a sign and keep grass mowed low so it does not spark a fire if a vehicle turns around.



Trees too close to the road that could pose a hazard during a wildfire event



Dry grass on road shoulder.

Score: 4

### Street Signs:

*Observations-* The community has reflective street signs in place for all the named roads. Street signs are uniform and well placed. All have extra directions under the street name tell visitors how to exit the community.

Homes have a wide range of house number styles that are hard to read and would be nearly impossible to read during dark smoky conditions.

*Recommendations-* The wooden house signs are difficult to read. These should be replaced with standard reflective signs. Ideal addressing is 4" in size and reflective. Reflective address signs should be used and placed so that they can be easily seen from a vehicle at night driving on the road. This will ensure the emergency responders can find locations quickly. Additionally, addresses should represent the county-approved E-911 address, not the lot number within the development. For homes with long driveways, it often makes sense to have two signs, one at the intersection with the road and driveway, and one on the home itself.

Score: 3

### Vegetation (Fuel Models):

#### Predominate Vegetation:

*Observations-* The South end and Palomino Rd have more shrub steppe land scape. Some of the plants identified were bitterbrush, yarrow, blue bunch wheat grass and Sandburg bluegrass, some cheat grass along the roads, and lupine. The dry grasses are a more flashy fuel and fire can move quickly, especially up slopes. The central part of the community has ponderosa pine and understory grasses. It was noted that in 2003-2004 some of the community participated in a forest thinning program. It was distinctly notable which roads were treated. In the areas that were not treated the trees are spaced close together where a crown fire could easily hop from one tree to the next.

*Recommendations:* Encourage all property owners to have an individual risk assessment completed so that specific recommendations can be made for their particular circumstances. In general reducing the brush and vegetation around the structures will help reduce fire intensity. Keep grasses, especially near homes and roadways, low during fire season. Grasses that are mowed once dormant will not regrow until moisture returns in the fall. Irrigated grasses which are kept green will be less likely to ignite. Ideally, these management actions will keep fire on the ground. Encourage home owners living on top of slopes to cut brush down slope at least 100 feet down. If they have a deck, recommend adding metal skirting under deck to block embers and debris from entering. Encourage home homeowners with forested property to do thinning work such as pruning and spacing out tree canopies 20 feet apart. In the shrub steppe area create islands to break up flashy fuels. You can do this by picking 5-10 shrubs as part of an island and mow a 5 feet path around that island. This can be a lot of work and maintenance so encourage landowners to start near the home and work out over time.

Score:

Central 20

South end 15



House number that is difficult to see and not reflective



Reflective street sign and dead end sign that are easy to see by emergency personal.



Dense forest area within the community.



Shrub steppe. Very flashy fuels

## Defensible Space

*Observations-* The term defensible space refers to the area between a house and an oncoming wildfire where the vegetation has been heavily modified to reduce the wildfire threat and allow fire fighters to safely operate. This area typically has a low chance of burning and includes the yard, garden, and driveway. Wildfire threatens homes in three ways: from direct flame contact, from radiant heat, and from embers which fall on and around the home during a wildfire event (even when the main fire is as much as a mile away). Individual homes were not assessed in this evaluation. A general overview is that some homes have zero to over 30 feet of defensible space around their homes. Defensible space is diminished when fuel sources such as firewood piles and pine needle accumulations are found within the 30' minimum defensible space zone.

*Recommendations-* Increasing defensible space will lead to the most significant reduction in wildfire risk, especially for homes that increase their defensible space from less than 30 feet to 100 feet. To increase defensible space, residents need to reduce the overall amount of fuel around home including; wood piles, slash piles, pine needles and cones, non-fire resistant trees, shrubs and landscape materials. Wood homes are at risk from radiant heat within 30' of walls, hence the minimum 30' defensible space number and the recommendation to remove large sources of heat from this zone. A non-flammable perimeter (eg., stone, pavers, concrete) of 1-5' can reduce ember ignition potential if maintained. Residents need to keep remaining vegetation lean, clean and green with regular maintenance. Residents should also be aware that loss of irrigation water can quickly turn moist, green plantings into dry, combustible fuel, especially if a homeowner is a part-time resident who may not be immediately aware of loss of irrigation water for their plantings. If water is limited, xeriscape landscape techniques are recommended. Future plant material used in landscaping should be fire resistant. Individual home assessments will be necessary to evaluate defensible space at each home.

*Score:*

*Central Twin Lakes 25*

*South Twin Lakes 10*

## **Topography**

*Observations-* The development has rolling hills. Some of the homes are built on top of slopes overlooking parts of the community.

*Recommendations* – Owners whose property backs up to the steepest slopes should be aware that burning material often rolls downhill during wildfire events. Efforts should be made to reduce the likelihood that any of this rolling material make contact to the home or the fuels that lead to the home. Fire can also travel up hill at high rates and special attention needs to be made to that side of the homes that are at the top of the slopes. Homes will require individual risk assessments to properly advise actions to mitigate this specific concern.

*Score:*

*Central Twin Lakes 7*

*South Twin Lakes 5*



Home on top of steep slope



Outbuilding close to home.

## Additional Rating Factors

### Topography That Aversely Affects Wildland Fire Behavior

*Observations*– Fire moves quickly uphill and pre-heats fuels in front of it. The fact that the development has multiple slopes can increase the likelihood that the topography will adversely affect fire behavior.

*Recommendations* – Vegetation at the bottom and top of slopes should be well maintained especially within 30ft of homes and structures.

*Score:*

*Central Twin Lakes 4*

*Twin Lakes South 3*

### Area With History of High Fire Occurrence

*Observations* - In Okanogan County humans are the leading cause of wildfires. Lightning represents about 30% of fire starts. With human caused wildfires, debris burning is the leading cause of wildfire.

*Recommendations* - Residents within the community can help prevent fire starts by being extra careful during fire season. Community members should follow forest protection rules and burn regulations. Washington State Department of Natural Resources regulates burning on private lands and can be contacted for information regarding pile size, required equipment, etc. Okanogan Fire District 6 can also provide guidance on appropriate, safe burning practices.

*Score:* 3

### Area of Unusually Severe Fire Weather and Wind

*Observations* – Winds can spread fire more quickly, and can also spread embers from nearby large fires up to two miles from the fire itself.

*Recommendation* - The weather cannot be controlled. Unfortunately, major catastrophic fires quickly overwhelm local fire resources. Increasing home defensible space can increase property survivability. It is especially important to remove potential sources of ignition from exposure to embers, which is the most common pathway to home ignitions during wildfires.

*Score:* 2

### Separation of Adjacent Structures

*Observations* - Individual homes and structures were not assessed for separation from adjacent structures. The overall impression is that lots are large enough so that residences are fairly well separated from others,. However, a number of homes have outbuildings close to the homes themselves. A lack of separation increases risk because additional structures provide additional sources of fuel. These structures, should they ignite, will threaten additional homes and forested areas. Each homeowner needs to be aware of their garages, shops and other buildings on their property and maintain defensible space around each. Sheds and other similar structures can act as ladder fuel if positioned underneath trees. If a shed is under a tree, move the



Home with defensible space and fire resistant roof and siding.



Home on steep hill side with wood deck.



Trailer home with flammable siding .

structure to an open space or cut the tree down if possible. If that is not an option, trimming over hanging tree branches will help.

*Recommendation* - Each resident should be evaluated on the separation of structures. All structures on a parcel should have defensible space around them to prevent them from catching on fire and threatening homes. This includes garages, wood sheds and shops.

*Score:* 0

### **Roofing Material**

### **Construction Material**

*Observations* - Individual homes were not assessed and not all homes could be seen from the main road. The ones seen had metal or composite shingles. Those roofs are considered more fire resistant if they are properly maintained. Observed that several homes had accumulation of pine needles on the roof. Needles are highly flammable and could ignite if an ember lands on them.

*Recommendations* - Remove pine needle accumulation off roofs of homes and out buildings. Make sure there are no gaps visible on the roof or missing shingles. Recreational vehicles like campers tend to have plastic and thin aluminum construction; probably not very resistant to radiant heat. Because of that keep big heat sources away from them is best. You can do this by adding a gravel pad to park the camper on, remove brush and over hanging trees. Make sure there is no plant litter on top of the roofs. If there is a built shelter that the trailer is parked under make sure the wood posts don't touch the ground, but either elevated on concrete piers or have metal flashing added to the base. Use metal or composite for the roofing on the shelter as well.

*Score:* 0

### **Existing Building Construction**

*Observations*— Structures are built with a wide range of material within the community. Siding observed was wood, meatal, fiber cement board. The camp trailers are usually built with plastic or aluminum construction. Observed a few homes with metal skirting around the bottom of the home. Deck material looked to be wood.

*Recommendations*— Encourage homeowners to add 1/8th inch metal mesh screening or metal skirting under decks. The resulting embers from a wildfire can blow under decks and ignite vegetation underneath. Encourage new home construction and decks to be built with fire resistant material. Adding metal skirting around bottom of structures especial on ones with wood siding will help prevent a ground fire making contact to the wood siding. To protect campers remove vegetation near and over hanging the camper. Check vents on homes, outbuildings, and camper trailers. It is recommended that vents be 1/8 inch in size and made of metal mesh. It has been studied that the 1/8 inch size keeps most embers out of a structure but still allow ventilation.

*Score:* 7

### **Setbacks from Slopes**

*Observations* - Some structures are on top of slopes over looking parts of the community or lake. The rest of the community was built on flat ground or rolling hills.

*Recommendations*— The homes on slopes keep grass mowed down slope and trim back sage brush. Depending on property line and the steepness of the slope, mow 10-100 feet down slope. Homes will need to be individually evaluated to get more specific recommendations.

*Score:* 5



Home built with fire resistant composite roofing, metal skirting to keep ground fire from touching siding, 30 ft defensible space around home.

## Available Fire Protection

### Water Source Availability (On Site)

*Observations* -The community does not have fire hydrants. It was noted that a lot of residents do not have back up power to run wells if the community loses power. Fire trucks could pump water out of Twin Lakes if needed.

*Recommendations*– If able encourage residents to get generators and a system in place to be able to run water and electricity if the power shuts down during a wildfire event.

*Score: 10*

### **Organized Response Resources**

*Observations*– Sun Mount Ranch Club HOA is located within the Okanogan Fire District 6 protection boundary. The closest station is in town of Winthrop, approximately 8 miles from the fire station. Fire District 6 has some paid staff and a number of volunteers.

*Recommendation* - Support the local fire district. Encourage community members to volunteer.

*Score: 3*

### Fixed Fire Protection

*Observations* – Fixed fire protection that meets NFPA 13, 13R and 13D refers to interior fire sprinklers systems for structural protection from wildfire. Individual homes were not checked to see if they have interior sprinkler systems. In general, most homes do not have interior sprinkler systems.

*Recommendation* - No recommendation are given.

*Score: 5*

### **Utilities (Gas and Electric)**

*Observations*- Electrical and gas lines are underground within the community. Observed some propane tanks.

*Recommendations*— If residents have a propane tank, keep brush and over hanging branches away from tank. Adding a 5 foot gravel perimeter around tank to keep brush back will help. If tank is placed up against a home, recommend moving tank 30 feet away from structures if possible or bury the tank.

*Score: 0*

### **Overall recommendations:**

- Encourage homeowners to have individual home risk assessments conducted. These are done by the Okanogan Conservation District, Fire District 6, and Washington State Department of Natural Resources at no cost.
- Encourage homeowners to create defensible space around their property. Where forest work has not been done, thinning is needed to reduce fuel loads and to have a healthier forest.
- Enclose spaces under decks with metal skirting or 1/8-inch metal mesh.
- Create more turnarounds for fire engines and identify the location with a sign.
- Change house numbers to 911 reflective signs.



Tank is located away from home but placed under trees. If trees were to ignite it could cause tank to ignite as well.



Residential Wildfire Hazard Assessment Form

Landowner / Community Name: Sun Mt Ranch Club  
 Is this a reassessment? (circle) YES NO  
 Address: Central Twin Lakes (Lakes to painted)  
 Qtr-Qtr / Sec / Town / Range: \_\_\_\_\_  
 Lat / Long: \_\_\_\_\_  
 Waypoint ID: \_\_\_\_\_  
 Prevention Officer: MU + RM  
 Date: 7/14/2020  
 Resident Contact Made (circle) (Yes) | No  
 Cheney  Chewelah  Colville BIA  Curlew LK  Cusick  Huckleberry  Kettle  Lincoln  
 Methow  Mica  Mt. Spokane  Nimble  Northport Omak  Oroville  Springdale  
 Spokane BIA  Tonsasket  Other: \_\_\_\_\_

A. Means of Access		2. Defensible space		2. Setback from slopes >30%		2. Organized response resources	
1. Ingress and egress		More than 100 ft.		More than 30 ft. to slope		Station within 5 miles of structure	
Two or more roads in/out	0	More than 71 - 100 ft.	1	Less than 30 ft. to slope	1	Station greater than 5 miles	3
One road in/out	7	30 - 70 ft.	3	Not applicable	3	3. Fixed fire protection	3
2. Road width	0	Less than 30 ft.	10	G. Available Fire Protection	5	Sprinkler system (NFPA 13, 13R, 13D)	0
Greater than 24 feet	0		25	1. Water source availability (on site)	0	None	5
Between 20 and 24 feet	0			500 gpm pressurized hydrants < 1000 ft apart	0		
Less than 20 feet	4			250 gpm pressurized hydrants < 1000 ft apart	1		
3. All-season road condition				More than 250 gpm non-pressurized, 2 hrs	3		
Surfaced, grade <5%	0	Between 10 - 20%	1	Less than 250 gpm non-pressurized, 2 hrs	5		
Surfaced, grade >5%	0	Between 21 - 30%	4	No hydrants available	10		
Non-surfaced, grade <5%	2	Between 31 - 40%	7				
Non-surfaced, grade > 5%	2	Greater than 41%	8				
Other than all-season	5		10				
4. Fire service access	7						
<= 300 ft. with turnaround	0						
>= 300 ft. with turnaround	2						
<= 300 ft. no turnaround	2						
>= 300 ft. no turnaround	4						
5. Street signs	5						
Present (4 in. in size and reflective)	0						
Not present	5						
B. Vegetation (Fuel Models)							
1. Predominant vegetation							
Light	5						
Medium	10						
Heavy	20						
Slash	25						
Column 1 Total:							
Column 2 Total:							
Column 3 Total:							
Total Score							96
Risk Rating							High

Low Hazard: <39 Points; Moderate Hazard: 40 - 69 Points; High Hazard: 70 - 112 Points; Extreme Hazard ≥113 Points

Column 1	25
Column 2	48
Column 3	23
Total	96

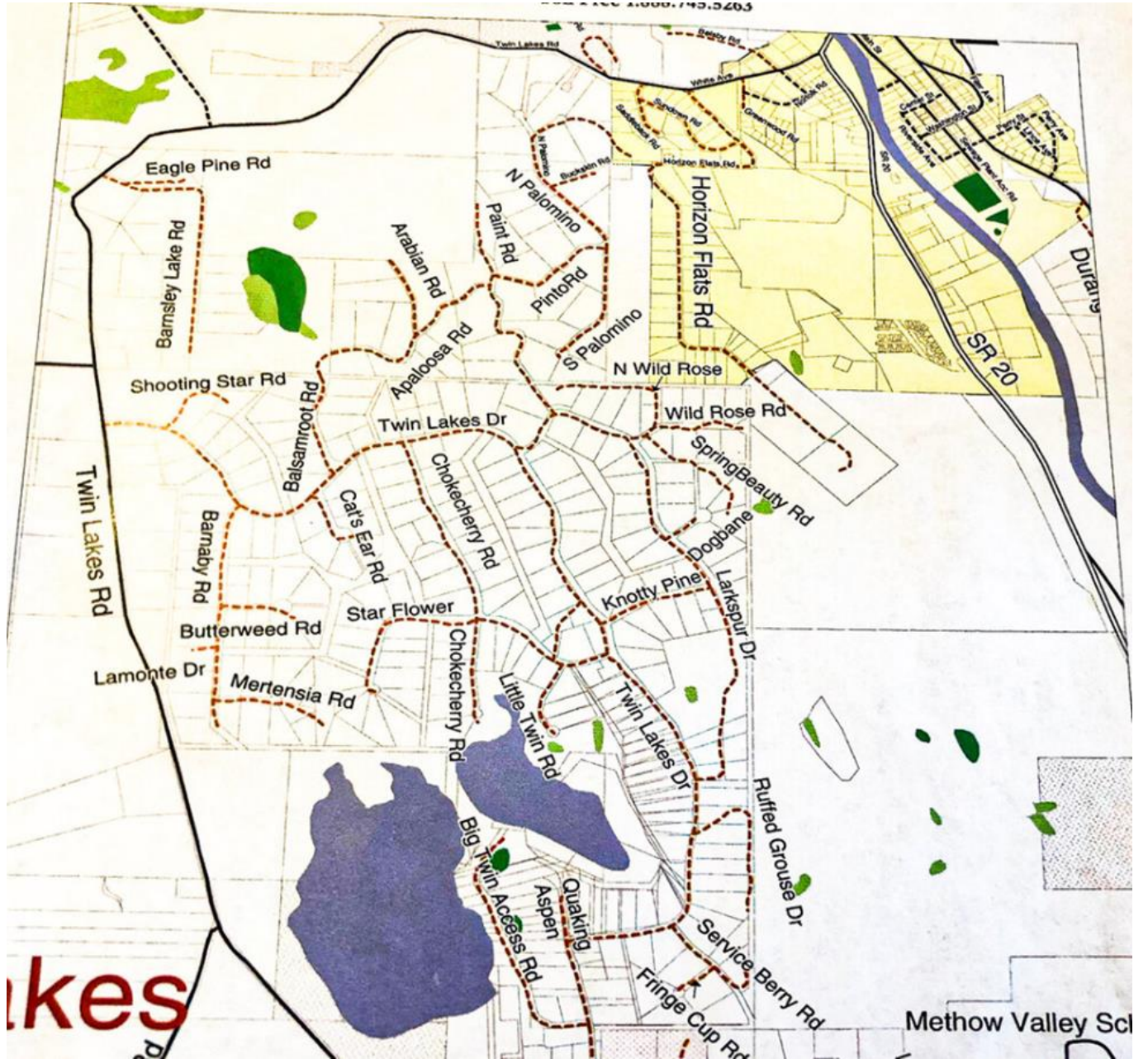
**Residential Wildfire Hazard Assessment Form**

Landowner / Community Name: <b>Sun Mt Ranch Club</b>		Qtr-Qtr / Sec / Town / Range		Prevention Officer MU + RM	
Is this a reassessment? (circle) YES <input type="radio"/> NO <input checked="" type="radio"/>		Lat / Long.		Date 7/14/2020	
Address Twin Lakes South end + Palmino Rd		Waypoint ID		Resident Contact Made (circle) Yes <input checked="" type="radio"/> No <input type="radio"/>	
Cheney <input checked="" type="checkbox"/> Chewelah Methow <input type="checkbox"/> Mica Spokane BIA <input type="checkbox"/>		Colville BIA Mt. Spokane Tonasket		Rams Compartment (circle) Curlew LK <input type="checkbox"/> Cusick <input type="checkbox"/> Huckleberry <input type="checkbox"/> Kettle <input type="checkbox"/> Oroville <input type="checkbox"/> Lincoln <input type="checkbox"/> Springdale <input type="checkbox"/>	

A. Means of Access		2. Defensible space		3. Setback from slopes >30%		G. Available Fire Protection	
1. Ingress and egress	More than 100 ft.	1	1	More than 30 ft. to slope	1	1. Water source availability (on site)	0
Two or more roads in/out	More than 71 - 100 ft.	3	3	Less than 30 ft. to slope	5	500 gpm pressurized hydrants < 1000 ft. apart.	1
One road in/out	30 - 70 ft.	10	10	Not applicable	0	250 gpm pressurized hydrants < 1000 ft. apart	1
2. Road width	Less than 30 ft.	25	10		0	More than 250 gpm non-pressurized, 2 hrs	3
Greater than 24 feet						Less than 250 gpm non-pressurized, 2 hrs	5
Between 20 and 24 feet						No hydrants available	10
Less than 20 feet						2. Organized response resources	
3. All-season road condition	Less than 9%	1	1			Station within 5 miles of structure	1
Surfaced, grade <5%	Between 10 - 20%	4	4			Station greater than 5 miles	3
Surfaced, grade >5%	Between 21 - 30%	7	7			3. Fixed fire protection	
Non-surfaced, grade < 5%	Between 31 - 40%	8	8			Sprinkler system (NRP 13, 13R, 13D)	0
Non-surfaced, grade > 5%	Greater than 41%	10	10			None	5
Other than all-season						H. Utilities (Gas and Electric)	
4. Fire service access	1. Topography that adversely affects wildland fire behavior	0-5	3			All underground utilities	0
	2. Area with history of higher fire occurrence	0-5	3			One underground, one aboveground	3
	3. Areas of unusually severe fire weather and wind	0-5	2			All aboveground	5
	4. Separation of adjacent structures	0-5	2			Column 3 Total:	0
	5. Street signs						
	Class A roof	0	0				
	Class B roof	3	3				
	Class C roof	15	15				
	Non-rated	25	25				
	F. Existing Building Construction						
	1. Materials						
	Noncombustible siding/deck	0	0				
	Noncombustible siding/wood deck	5	5				
	Combustible siding and deck	10	10				
	Column 1 Total:	25	15				
	Column 2 Total:						
	Risk Rating						H: gh
	Total Score						72

Low Hazard: <39 Points; Moderate Hazard: 40 - 69 Points; High Hazard: 70 - 112 Points; Extreme Hazard ≥113 Points

Column 1	19
Column 2	30
Column 3	23
<b>Total</b>	<b>72</b>



# SUN MOUNTAIN RANCH CLUB



SUN MOUNTAIN RANCH  
NORTH ENTRANCE

TO SUN MOUNTAIN LODGE  
PATTERSON LAKE RD

TO WINTHROP  
& HWY 20

SUN MOUNTAIN RANCH  
SOUTH ENTRANCE

TO HIGHWAY 20

June 2009

