Shelter Cove Firewise Community Wildfire Protection Plan 2022



The following plan was created based on continuing assessment information provided by the Shelter Cove Resort Improvement District No. 1 (RID), Shelter Cove Fire Department (SCFD), the Shelter Cove Community Emergency Response Team (CERT) and Cal Fire.

PREFACE

The Resort Improvement District No. 1 updated this Firewise Community Wildfire Protection Plan (CWPP) to maintain recognition as a "Firewise Community/USA." We wish to acknowledge the hard work and support of volunteer groups and agencies that have contributed to making our community safer and residents better educated on the awareness of fire risk and safety.

Resort Improvement District No.1
Shelter Cove Fire Department
Shelter Cove Community Emergency Response Team (CERT)
Southern Humboldt Fire Safe Council
County of Humboldt
Cal Fire

Humboldt Chapter of the Red Cross Humboldt County Office of Emergency Services (OES)

This Plan serves as a living document that will be updated regularly as we strive to promote community education, awareness and safety.

Humboldt County provided the grant funds for the initial Shelter Cove Wildfire Risk assessment, the Shelter Cove CWPP, the creation of a Firewise Fire-safe Demonstration Zone and the Brush Disposal Project. Cal Fire have contributed grant funds for the creation of a series of shaded fuel breaks located within the Shelter Cove community.

Justin R. Robbins

General Manager

Resort Improvement District No. 1

Susan Sack

Firewise coordinator

Shelter Cove Firewise Community

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EXECUTIVE SUMMARY

Technically, wildfire hazard is a function of the forest fuel situation as it affects wildfire ignition and resistance to control; risk is defined as the probability of a wildfire starting. An initial wildland fire hazard and risk assessment was conducted in Shelter Cove in March 2014 by representatives from RID, SCFD, CERT, and Cal Fire an updated assessment was completed in fall of 2021 by Cal Fire and SCFD officials. The assessments took into consideration accessibility, vegetation, topography, building construction and roofing assembly, availability of fire protection resources, placement of gas and electric utilities, and other factors.

The following factors are primary wildfire safety concerns in the Shelter Cove community;

- 1. Minimal defensible space around homes.
- 2. Highly flammable natural vegetation in and around community, especially greenbelt areas.
- 3. Limited egress should evacuation become necessary.
- 4. Steepness of terrain and home proximity to historically high-risk ignition areas.
- 5. Human caused fuel loading including vehicles, boats, construction materials, and woodpiles.
- 6. An increasing number of dead or dying diseased trees and flammable invasive Pampas grass.

The remainder of this plan discusses hazard and risk issues in detail and provides recommended mitigation measures to reduce the threat of wildfire.

COMMUNITY COLLABORATION

Community Representatives

Various homeowners and renters who attend Firewise Events and volunteer their time to Firewise and other fire hazard mitigation projects.

Local Government Representatives

RID: Justin R. Robbins, General Manager

SCFD: Nick Pape, Fire Chief, Fire Fighter Cheryl Antony

CERT: Susan Fox

Firewise Coordinator: Susan Sack

County Government Representatives

County of Humboldt: Cybelle Immitt, Humboldt County OES: Ryan Derby

State Government Representatives

Cal Fire: HUU Unit Chief: Kurt McCray, Planning Battalion Chief: Chris Ramey

OBJECTIVES

In 2014, using Firewise grant funds awarded by the County of Humboldt, RID, SCFD, CERT and Cal Fire committed personnel to initially assess the danger from wildland fire to the Shelter Cove community These organizations have performed subsequent risk assessments to aid the community in reducing fire hazard risks. This report shows the results of those assessments.

The objectives of this plan are to identify current and future wildfire threats and provide recommendations to mitigate those threats. By implementing these recommendations, our community leaders and residents can reduce wildland fuels and decrease structure ignitability, thus better protecting the whole community and its essential infrastructure.

Specifically, the plan includes community-centered actions that will:

- 1. Educate citizens about wildfire, its risks, and ways to protect life and property.
- 2. Focus on collaborative decision-making and citizen participation.
- 3. Develop and implement effective wildfire mitigation strategies.
- 4. Develop effective community guidelines for building fire-safe homes.

In addition to improving wildfire safety, Shelter Cove will maintain recognition as a Firewise Community/USA by performing the following actions:

- 1. Having a wildfire expert conduct a wildfire hazard/risk assessment.
- 2. Updating the Community Wildfire Protection Plan.
- 3. Maintaining a Firewise Advisory Working Group to address wildfire protection concerns.
- 4. Annually investing at least \$2 per capita in wildfire protection work.
- 5. Sponsoring an annual Firewise workday involving community members.
- 6. Submitting an annual report documenting Firewise activities.

The RID is available to assist property owners with mitigation practices recommended in this report. For more information, contact the RID at 707-986-7447.

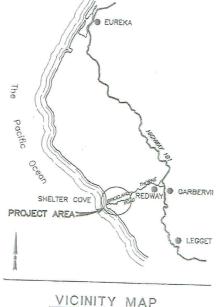
PROTECTION PLAN PART 1 WILDFIRE HAZARD AND RISK

1.1 COMMUNITY DESCRIPTION

Site Description:

Formed in 1965, Shelter Cove (40.0278° N, 124.0733° W) is an isolated small unincorporated residential resort community located in Humboldt County on the Lost Coast. The nearest town of Redway is located approximately 22 miles west over a paved two-lane mountainous road. Shelter Cove is bordered by the Bureau of Land Management's 68,000-acre King Range National Conservation Area to the north and west and the Sinkyone Wilderness State Park to the south. The Shelter Cove sub-division spreads over 2,640 acres from gently sloping, low lying marine terrace up onto steep ridges as high as 2000 feet and is classic wildland urban interface (WUI or I-Zone) territory. According to the 2020 US census Shelter Cove's resident population is 803. The Shelter Cove Volunteer Fire Department serves the community with limited resources and has mutual aid agreements with other volunteer fire departments along with agreements with BLM and Cal Fire. The nearest volunteer fire department is located over 7 miles away over Paradise Ridge mountain.







Vegetation Cover:

Fir forests and oak woodlands are the predominant vegetation types in the immediate area, with 46 percent presently fir forests and 20 percent of the area oak woodlands. Ceanothus and Manzanita brush cover large areas of steep terrain to the north and east within Shelter Cove where previous fire action has cleared the tree canopy. Natural prairie grassland is being reduced every year and is now concentrated to the north-east of Shelter Cove, mainly on private property around Ettersburg, Honeydew and Petrolia, but prairie soils occur throughout, mostly on ridge tops. The relatively dry climate to the north-east of Shelter Cove is due to the orographic blocking of summer fog moisture from moving inland by the King Range.



Development:

Development in Shelter Cove began in 1965. The neighborhood consists of approximately 615 homes situated on lots ranging in size from a third of an-acre to more than one acre. There are over 3,000 vacant lots remaining most of which are not maintained.

Structure Density:

Structure density is medium in the lower, flat portion of the Cove with almost a quarter, (491) of the 2000 sewered lots being developed. Here the lots average size is 50ft wide and 100ft long. In the upper septic portion of Shelter Cove structure density is light with less than 100 lots being developed of the approximately 2000 lots. In this area lot sizes average 75ft wide by 200ft long.

Fire History:

Wildfire is a common occurrence in the immediate vicinity of Shelter Cove. The SCFD generally responds to approximately 30 wildfires each year within two miles of the community. Most of these are usually small but over the past twenty years there have been individual fires which have burned many thousands of acres. Historically, careless debris burning, vehicle fires, campfires, structure fires, and the use of illegal fireworks have been the primary fire cause, but we have occasionally experienced wildfires produced by dry lightning strikes.

Shelter Cove Fire Danger Assessment:

The latest Shelter Cove Firewise Assessment is attached as Appendix A.

Studying Shelter Cove's fire history, it is anticipated the most devastating fires would emanate from the north-east driven by strong winds fueled by large expanses of very dense brush vegetation, however a fire starting within the community can spread quickly, potentially destroying many structures before mutual aid resources can respond. The steep narrow slopes of the community make fires very unpredictable, fast moving and hard to fight. The inhabited north section of Shelter Cove would be most vulnerable to a fast-moving fire is identified by Cal Fire as an area where structures could be lost given the fuels build-up and isolation of the area.

Local conditions that contribute to the high wildfire risk are Shelter Cove's remoteness, its rugged topography, being located adjacent to and surrounded by heavy fueled public lands and being susceptible to strong onshore and offshore winds. The ignition risk is high due to large seasonal influxes of visiting tourists and dry lightning strikes which can be common in the summertime. The combination of these high hazard conditions has resulted in the community experiencing some of the most severe wildfires that have occurred within Humboldt County. The Humboldt County Hazard Mitigation Plan documents wildfire as the top-ranking hazard facing the community of Shelter Cove. The probability of occurrence is high with a major wildfire event likely to occur within 20 years.

Fires emanating from Shelter Cove beaches caused by fireworks and campfires can, and have, ignited adjacent vegetation and can be driven by strong breezes, quickly spreading up steep brush covered hillsides toward densely inhabited lands. Vegetation overgrowth alongside and over roads in Shelter Cove serve as a conduit for a wildfire to spread. Roads could act as a fuel break and fire crew's staging areas if they are cleared of vegetation. Steep brush filled canyons will also enable fast moving fires to spread quickly throughout the Shelter Cove sub-division.

In 2014 the north section of the Cove was chosen to be a "Demonstration Clearing Zone" to reduce the fuel build-up in that area and to give the community an example of how to create a

defensible space around their homes. Clearing was performed in the Beach Road area and many residents were energized to clear their properties.

The assessment performed in spring of 2015 identified many piles of old vegetation debris left over from residents' previous year's vegetation clearing efforts that became a fire hazard. To aid property owners in the clean-up of these areas a Title III \$3,000 mini grant was awarded in 2015 through Humboldt County for initializing a Brush Removal Project utilizing Cal Fire Crews. Cal Fire crews are far more cost effective than hiring private contractors. The cleanup was a great success.

In 2017 the RID obtained a \$99,000 SRA Cal Fire grant which was used to create a series of linked shaded fuel breaks in the NE section of the community covering 99.5 acres of forest. This area is identified in the assessments as being the most vulnerable to a fast-moving wildland fire. The project was finished in 2018 and will be maintained with tax assessment funds.

Two newly identified hazards, which have not been included in previous assessments, are the many missing street signs located throughout Shelter Cove and the condition of the Humboldt County culverts and roads. Shelter Cove has 40 miles of Humboldt County maintained roads and potholes and failing culverts have caused some roads to be dangerous, especially in an evacuation situation. Some roads are down to single-lanes due to culvert failures and are a challenge to emergency crews and will be an issue for timely emergency evacuations. Missing street signs will cause confusion for emergency crews who are not very familiar with the Shelter Cove layout and for people and tourists who need to evacuate quickly in an emergency.

Disaster funding, grants and other sources of funds are being actively pursued to fund these important needs.

Firefighting Resources:

Proudly serving the community of Shelter Cove and the Lost Coast, our mission at SCFD is to offer modern, professional, and reliable 911 services to the community of Shelter Cove and Humboldt County's Lost Coast. SCFD is an all-risk volunteer fire department operated under the Resort Improvement District #1's umbrella. The Shelter Cove Fire Department covers a 49 square mile area with around 700 homes and buildings including 9 hotel/motels, 2 public beaches, and a public airport. SCFD staff include 1 full-time fire chief, 4 part-time duty officers and 20 volunteer firefighters, all fully trained and certified to suppress wildland and structure fires. SCFD responds to around 200 calls for service every year including fires, medical emergencies, rescues, and hazmat incidents. The fire department maintains Southern Humboldt's only fully hydranted community with 235 fire hydrants, gravity fed by 2 million gallons of stored water. The SCFD has one fire station, located at 9126 Shelter Cove Road, and thanks to annual fire tax funds and a 5-year fleet modernization plan, it maintains one of the most modern, reliable, and capable fire rescue fleets in Humboldt County. The phone number for the SCFD station is 707-986-7507.

Quick, effective initial attack is the key to managing wildland fires. Rapid firefighter response depends on early detection and accurate reporting. Residents are instructed to immediately report suspicious smoke or fire to 911. The following response times are estimates based on ideal response conditions:

Response time for Shelter Cove Fire Department: 7 minutes

Response time for Cal Fire Whitethorn: 20 minutes

Shelter Cove's Current Firefighting Fleet:

- 5100: 2018 Ram 2500 4x4 Command Truck
- 5147:2018 QTAC Ram 5500 Type 6 Engine/Rescue
- 5146:2003 Ford Type 6 Brush Truck
- 5116: 2009/2020 Rosenbauer International Timberwolf Type 1 WUI Engine
- 5166: 2021 Rosenbauer International Tactical Water Tender
- Honda SXS: 2022 Honda Pioneer 1000 85 Gallon Fire/Rescue Skid

The SCFD holds training sessions that are open to surrounding Fire Protection Districts and open to the public for observation. They also maintain mutual aid agreements with many local volunteer fire departments, Cal Fire and BLM. Cal Fire operates a full-time staffed station in Garberville with 2 wildland engines, and seasonal fire stations in the Honeydew, and Whitethorn with 1 engine each. BLM operates a seasonal station out of Whitethorn with a single wildland engine crew as well. Even with these stations, Cal Fire and BLM fire crews experience long initial response times and are frequently out of the area suppressing large fires.

Shelter Cove has an Insurance Services Office (ISO) Public Protection Classification (PPC) rating of 4 for areas that are within 1,000 feet of a hydrant. This rating was upgraded in 2018 from a 5 to a 4-rating due to improvements in operations, training, and equipment. The following two paragraphs explain the relevance of this rating.

The ISO establishes fire insurance ratings for communities throughout the United States. One of ISO's more well-known services is to evaluate the fire suppression delivery systems of fire departments and districts. The result of those reviews is an individual PPC rating number assigned to the community that the respective fire department protects. The ratings are presented in a rating class structure that ranges from 1 to 10. Class 1 is the highest rating, representing excellent fire protection and Class 10 is the lowest, meaning the community's fire department did not meet the minimum requirements of the Fire Suppression Rating Schedule and is not recognized by ISO. The PPC is commonly used by insurance providers to establish home and business fire insurance rates.

The Fire Suppression Rating Schedule is used by ISO to rate the response capabilities within a community. Fifty percent of the grade is based on the fire department (equipment, staffing, training, and geographic distribution of fire companies), 40 percent is based on the water supply

(condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires), and 10 percent is based on fire alarm and communications systems (telephone systems, telephone lines, staffing, and dispatching system).

Other Fire Suppression Resources Include the following:

Water Supply:

Water for firefighting is available through:

- 2 million gallons of stored water feeding pressurized hydrants on the RID water system; flow is estimated to be around 250 to 500 gallons per minute. There are reflective hydrant locators embedded in the streets.
- 35,000 gallons of rain fill tanks on the outskirts of the district.
- A small irrigation pond located on the RID Golf Course adjacent Lower Pacific Drive.
- As a last resort, the Pacific Ocean offers a potential helicopter bucket dip site.

Utility Services:

Water service is through the RID water system. Shelter Cove has a network of 235 fire hydrants spread throughout the community that it uses on a regular basis to extinguish fires. When there is a wildfire on adjacent public lands, agencies which battle these fires come into Shelter Cove to fill their tanker trucks, hooking up to the closest fire hydrant to obtain treated drinking water that is of limited supply. The RID's water utility personnel respond to fire department emergencies that require use of the hydrants and the multiple water storage tanks to coordinate the movement of water supplies within the system during a fire event.

The RID's electrical service is underground in the flat, lower portion of Shelter Cove and overhead in the steeper outlying areas of the Cove. There is no street lighting. Sewage disposal is by the RID's wastewater treatment plant for the lower Cove and private septic tanks for the elevated portion of the Cove. Heating gas is propane stored in tanks above ground. Garbage pick-up is available from private contractors on a fee basis. Less than ten per cent of homes have in-ground irrigation. Street signs are easily readable and non-flammable. While there appears to be no standard system, a majority of house numbers are posted on mailboxes or on the house itself.

Roadways:

There are roughly 40 miles of paved county roads in Shelter Cove. Road width is generally adequate for most firefighting apparatus, but the turning radius on cul-de-sacs is tight for large equipment when boats and vehicles are parked in the way. In 2019 the RID and SCFD committed to an evacuation route and fuel break program that would fund evacuation route signage, roadside mowing, tree trimming creating fuel breaks, safer evacuation routes, and access for

first responders to quickly extinguish fires before they become large disasters. There are still ongoing issues with the condition of the roadways such as large potholes that can damage vehicles.

Construction:

Shelter Cove is a community of custom built homes. Exterior faces include stucco, hardiplank, redwood and vinyl, roofing includes asphalt shingles, metal and tile. Most homes have open gutters. Most eaves and soffits are enclosed; some chimneys have spark arrestors, and some do not. All homes are built on cement foundations and most homes have wooden or Trex decks attached. Garden hoses are attached to some outdoor faucets.

Landscaping:

Landscapes in the neighborhood are simple to moderately complex. Use of volatile landscape plant materials is not a significant problem but educating the community about fire safe plants and trees will be part of the action plan to reduce the fire risk to Shelter Cove. Except for a few properties, the distance between homes and adjacent woodland is less than 30 feet. A lot of homes have wooden fences running to within a few feet of the wood line. Developed properties overall are well maintained but most vacant lots are overgrown with brush and dense fir trees.

1.2 WILDFIRE HAZARD

Wildfire hazard:

The type, condition, amount, and arrangement of forest fuels that contribute to wildfire ignition and resistance to control.

Fine fuels are usually the first to ignite and contribute to the early spread of a wildfire. The primary fine fuel in Shelter Cove are fir needles and dead branches (smaller). In addition to heavy concentrations of fir needles, fir chippings are the primary mulch material used in planting beds throughout the neighborhood. Chaparral grass is present in some of the low areas and this behaves like a fine fuel during very dry periods.

Intermediate fuels consist of dead branch wood, vines, and living brush. Significant are the heavy concentrations of Coyote, Whitethorn Manzanita, and Ceanothus brush and other volatile shrubs in the forest understory. These green plants provide a fuel ladder whereby flames can travel from the ground into the crowns of the trees. There is also a significant loading of dead branches and whole trees in Fir, Tan Oak and Madrone stands throughout Shelter Cove because of disease. Human caused fuels in the WUI have become a nuisance in the community, including abandoned cars, boats, trash and construction materials that can ignite easy and spread fire to heavier fuels including homes.

Heavy fuels like dead logs, snags and stumps do not ignite readily, but once ablaze they will burn for a long time. These fuels contribute significantly to fire intensity, fire duration, and

smoke production. Smoke production is a special concern as it can create significant health and safety problems. There is a moderate component of heavy fuel in the woodlands around Shelter Cove.

1.3 HAZARD MITIGATION RECOMMENDATIONS

Clear away fine fuels that are immediately adjacent to homes.

Residents should clear fine fuels immediately adjacent to their own homes. These fuels, including fir needles, can ignite from wind-borne embers originating in wildfires burning up to a mile away.

Establish and maintain defensible space.

Defensible space is an area around the home that is maintained in such a way as to retard fire spread and allow firefighting access. Residents should maintain a minimum of 30 feet of defensible space between the home and adjacent woodlands. The average defensible space in Shelter Cove is less than 15 feet due to the small size of lots. (See Appendix C.)

Clear brush and dead logs from within 30 feet of any structure.

Brush should be removed within 30 feet of any structure. Residents are encouraged to use suitable deadwood for fireplace or wood stove fuel. Wood fuel should be stacked at least 30 feet from any structure. Unusable deadwood should be hauled away or scattered naturally rather than piled or bunched. (See Appendix D.)

Keep roofs clear of vegetative debris.

Fir needles and dead leaves accumulate quickly on rooftops, especially in roof valleys, behind chimneys, and in gutters. Special care should be taken to keep roofs clear of vegetative debris during the wildfire season.

Avoid highly flammable landscape material.

Landscaping with highly flammable material is discouraged. Fir or Pine bark mulch should not be used within 3 feet of any flammable structural component; juniper ground cover should be no closer than 6 feet. Pampas grass should not be planted; it should be cut back in February or March to prevent accumulations of dead material. (See Appendix E.)

1.4 WILDFIRE RISK

Wildfire Risk:

The chance of a wildfire starting, as influenced by forces of nature and the activities of people.

In California, over 95% of all wildfires are caused by people and their activities. Wildfire risk is related to weather conditions, and risk increases when outdoor activities coincide with periods of low humidity, high wind, or drought. Risk factors affecting Shelter Cove include both internal and external influences. External risks include wildfires encroaching from woodlands, grasslands,

or rights-of-way adjacent to the community. Such fires could be accidental or incendiary in origin. Specific external risk areas include:

- 1. Fires originating in BLM's King Range National Conservation Area.
- 2. Vehicle-related ignitions along Shelter Cove Road. These include careless smoking, hot exhaust systems and brakes, and sparks from dragging metal.
- 3. Large Lightning Fire Complexes from beyond the Kings Range on both private, state and federal lands.
- 4. Risk of wildfire originating from within the community is becoming a more frequent risk as more tourism and vacation rentals become established within the community. The most significant sources of ignition withing the community maybe related to:
 - Structure fires spreading to adjacent vegetative fuels or other structures.
 - Careless disposal of coals and ashes from fireplaces and barbeque grills.
 - Equipment malfunction, including sparks from yard maintenance equipment.
 - Fires escaping from debris burning in the neighborhood.
 - Illegal Fireworks and campfires.

1.5 RISK MITIGATION RECOMMENDATIONS

Wildfire occurrence in and around Shelter Cove is historically high, so risk minimization should be a high priority. Risk minimization recommendations are as follows:

1. Encourage residents to plan and prepare for wildfire emergencies.

Residents should keep garden hoses attached to outside faucets at all times. Essential documents and photos should be stored in a fireproof safe or kept in a container that can be easily transported in event of evacuation. When evacuating, residents should close all windows, doors, crawl space entrances, and garage doors.

2. Continued Participation in Cal Fire's Fire Risk Notice Board Alert Program.

Upon verification from Cal Fire, the SCFD will update a Fire Risk Notice Board located outside the Fire Station. The sign will serve as a warning to residents and visitors that wildfire danger is increasing.

3. Use of the RID Newsletter to disseminate fire protection information.

Incorporate wildfire safety messages into the RID monthly newsletter. Distribute printed material (available from the RID) at community events.

4. Closely monitor outdoor burning in Shelter Cove.

If open burning is to be allowed, in addition to possessing a valid burn permit, residents should be advised to carefully follow both the federal and state's guidelines for burning or use the Firewise Brush Disposal Program.

5. Continue Supporting Community Fuels Reduction on Private Property.

Continued funding and support for the community chipper days, burn pile safety assistance.

COMMUNITY WILDFIRE

PROTECTION PLAN PART 2 ACTION PLAN

2.1 ACTIVITY PLAN

1. Assign wildfire planning to SCFD, RID, and the CERT.

For maximum effectiveness, members of SCFD, RID, and CERT should be designated Council members to oversee wildfire protection efforts. Supporting members should include Shelter Cove residents, Cal Fire officials, and SCFD representatives. The Council should meet periodically to review progress toward mitigation goals; appoint special committees; delegate tasks; and work with state, federal, and local officials to develop goals and action plans. There may be a special community group convened for aiding in large annual events. The Council may need to assign committees or persons to fill specific roles in the Firewise process:

- 1. Liaison to work with the Cal Fire and Fire Department experts
- 2. Funding specialist to write grants and explore funding sources
- 3. Publicity specialist to generate news media interest in Firewise efforts
- 4. Coordinators/managers for special events and workdays

2. Continue hosting Annual Firewise Events for community residents.

The Firewise committee, CERT, SCFD and volunteers organize annual Firewise Events. These events provide specific information on how to reduce your home's vulnerability to wildfire. The community will be responsible for helping make the events a success. The cost of the events will be borne by the RID.

3. Organize community-wide wildfire hazard reduction workdays.

Designate a schedule for community wildfire hazard reduction events. Events can begin with a morning briefing, then residents spend the morning on hazard reduction projects at their homes. The RID and CERT can provide an educational exhibit, refreshments, and wildfire experts will conduct individual home hazard/risk assessments. SCFD encourages property owners to allow them to perform an inspection of their home at no cost.

The Fire Department is spearheading a new brush clearing program that is being funded by revenue from an increase in the fire protection assessment tax that was passed by voters in 2017. The program will involve the creation of work parties made up of a mixture of Fire Department staff, Cal Fire crews, contractors and community volunteers. Chipper days, lot clearing and evacuation route clearing days will be organized throughout the year.

4. Continue to acquire new grant funding.

Continue to work with our local CWPP implementation partners including the Southern Humboldt Fire Safe Council, The Humboldt County Fire Safe Council, Cal Fire, The International Fire Chiefs Association, and California Coastal Conservancy, for fuels reduction and hazard mitigation in and around RID greenbelt, critical infrastructure, evacuation routes and, private property adjacent to homes.

2.1.1 OTHER FUEL MITIGATION PROJECTS AND ACCOMPLISHMENTS FROM 2014-2022

- ✓ As a neighbor to Shelter Cove, BLM recognizes that wildfires burning across the King Range Conservation Area could possibly endanger Shelter Cove. The RID and BLM have worked together to develop a series of fuel breaks along Shelter Cove's most vulnerable northern section on the King Range National Conservation Area's southern border. While the fuel break is not designed to stop a wildfire, it will reduce fire intensity and radiant heat if fire approaches Shelter Cove. This will make it easier for firefighters to defend homes in the community and give fire officials more time to plan a strategy for reducing the threat of homes being damaged by a wildfire. The fuel break does not adversely affect wildlife, environmental quality, or aesthetics.
- ✓ The RID power utility crew has collaborated with the Shelter Cove Fire Chief in order to reduce vegetation in the powerline right of ways to a level that allows firefighting resources to regard them as fuel breaks. The RID utilizes inmate firefighters from Eel River Camp in Redway to reduce hazardous fuel loads under powerlines to standards that far exceed the public resource code for powerline clearance.
- ✓ In 2018 the RID and SCFD committed to an all-encompassing evacuation, defensible space, fuel break, and fire suppression plan that would identify, fund, and implement fire engine replacement, evacuation sirens, evacuation route signage, roadside mowing, tree trimming, strategic fuel breaks, a full-time fire chief and private property fuels reduction. As of October 2022, the evacuation sirens, evacuation route signage, and roads mowing/high limbing/trimming portion is fully funded through a mix of RID/SCFD, County of Humboldt, Cal Fire, California Coastal Conservancy, and the International Association of Fire Chief's Ready Set Go Program. Work should be completed summer of 2023
- ✓ In 2021 the SCFD with help from BLM installed seven 5,000-gal rain fill tanks on the outer edge of the community in order to save the municipal water supply if a fire occurs outside the community, mainly in the BLM Kings Range Conservation Area.

- ✓ During the last 4 years Shelter Cove Fire Department and the RID spent over \$700,000 modernizing its firefighting fleet. These upgrades give the community one of the most modern and capable fleets in the county. The fire department now has the best tools possible to extinguish fires early, preventing them from becoming large damaging wildfires.
- ✓ The Community Chipper day program has completed its fourth season and continues to be a successful fuels reduction program that allows community members to provide fuels reduction during the burn ban. 4 years later we have one of the most effective WUI chipper programs in the county. To date the program has chipped over 800 5x5 piles for a total of 309 cubic yards of hazardous fuels reduced, mostly from around homes in the community. In 2022 in partnership with the Humboldt County Fire Safe Council we received funding to grow are chipper day program model to other communities in our region for spring 2023.
- ✓ The RID ordered a large chipper to do more fuels reduction a year ago, we are still waiting on delivery. The RID also received a grant to purchase a mini excavator as well as a trailer to haul it for more fuel's reduction projects within the green belt and other RID properties.
- ✓ The RID added its own internal type 6 Non-Emergency Engine. E-7:2022 Ford F550 Type 6 Brush/Utility Truck. As well as its own internal wildland fire crew, District Infrastructure Protection Team (ITP), for protecting the RID's facilities in a wildfire event.

Shelter Cove Community Wildfire Mitigation Funding 2018-2022

- North-East Shaded Fuel Break Project- \$99,000 Funded by Cal Fire SRA Grant.
 Evacuation Siren System & Annual Maintenance- \$140,000 Funded by RID/SCFD.
- Evacuation Route Signage -\$2,800 Funded by GSG Grant.
- Community Wildfire Education and Evacuation Program _ Reflective Address Numbers -\$3,917 Funded by California Fire Foundation Grant.
- Fire Engine Modernization & Replacement- \$732,000 Funded by RID/SCFD.
- Chipper Days 2019-\$10,000 Funded by RID/SCFD.
- Chipper Days 2020-\$10,000 Funded by RID SCFD.
- Chipper Days 2021-\$25,000 funded by RSG Grant.
- Chipper Days 2022-\$6,800 Funded by RID/SCFD.
- High limb/mowing phase 1- \$189,000 Funded by Measure Z Grant.
- High limb/mowing phase 2-\$365,000 Funded by Measure Z Grant, Cal Fire.
 High limb/mowing phase 3-\$135,000 Funded by California Coastal Conservancy Grant
- RID Power Utility PSPS and Wildfire Mitigation-\$495,000 Funded by Cal OES Grant/RID.

2018 – 2022 Funding Total \$2, 203,517

2.2 EDUCATION AND OUTREACH

Distribution of Informational Resources:

Using community notification resources already in place (newsletters, e-mail, notice boards etc.) provide wildfire protection information to residents and visitors of Shelter Cove. This may include:

- Printed material such as "Living With Fire" handouts, a flammable plants list, and a homeowner's checklist.
- Internet resources such as www.firewise.org and www.flash.org
- Update and continue to distribute the Shelter Cove Wildfire Evacuation Information Handout, CERT "evacuated" placard, and reflective address signs.
- Promote Zone Haven and Humboldt ALERT notification systems.
- Continue to fund and facilitate the annual Shelter Cove CERT Wildfire Evacuation Drill, Open House, and Siren Test.

2.3 SUSTAINABILITY

To accurately assess progress and effectiveness of the Action Plan, the RID should implement the following:

- Annually review the wildfire risk assessment to determine if hazard and risk have changed.
- 2. Update the Action Plan based on an updated the wildfire risk assessment.
- 3. Plan at least one community Firewise workday or activity each year.
- 4. Invest a minimum of \$2.00 annually per capita in its Firewise Communities/USA program.
- 5. Publish an annual report detailing hazard mitigation work and other projects which have been initiated and/or completed. Include a financial statement of funds received, funds expended, and in-kind services utilized. The report should include an evaluation of Firewise progress and needs.
- 6. Produce maps that document progress of fuels treatment and document areas of special safety concern.

APPENDICES

APPENDIX A: Community Assessment: Shelter Cove, County of Humboldt

A. Means of Access 1. Ingress and egress	
a. Two or more roads in/out	
b. One road in/out 7	7
2. Road width	
a. Greater than or equal to 24 feet	
b. Greater than or equal to 20 feet and less than 24 feet 2	2
c. Less than 20 feet 4	
3. All-season road condition	
Surfaced road, grade is less than or equal to 5%	
b. Surfaced road, grade is greater than 5%	
c. Non-surfaced road, grade is less than or equal to 5%	2
d. Non-surfaced road, grade is greater than 5% 5	
e. Other than all-season 7	
4. Fire service access (road length)	
Majority of dead-end roads are less than or equal to 300 feet long	
b. Majority of dead-end roads are greater than 300 feet 5	5
5. Fire service turnaround capability	
a. Turnarounds or cul-de-sacs have a radius of at least 50 feet 0	
b. Turnarounds or cul-de-sacs have a radius less than 50 feet 2	2
c. Dead ends have no cul-de-sacs or turnarounds 5	
6. Street signs	
a. Present, lettering 4 inches high, non-flammable and reflective 0	
b. Present but wooden, non-reflective, or lettering less than 4" 3	0
c. Not present 5	
B. Vegetation	
1. Characteristics of predominate vegetation within 300 feet	
a. Light: short grasses and shrubs less than 2 feet high 5	
b. Medium: tall grasses and shrubs 2-6 feet high (palmetto-gallberry understory) 10	20
c. Heavy: dense brush, bay vegetation, shrubs over 6 feet high	20
d. Slash: harvesting residue; insect/disease/fire-killed timber 25	
2. Defensible space	
a. More than 100 feet defensible space between structure and wildland	
b. 71 - 100 feet defensible space between structure and wildland 3	25
c. 30 - 70 feet defensible space between structure and wildland	23
d. Less than 30 feet defensible space between structure and wildland 25	
C. Topography within 300 feet of structures	
1. Slope	
a. Slope is less than or equal to 9%	
b. Slope 10% to 20%	
c. Slope 21% to 30%	7
d. Slope > 30%	

D. Additional Rating Factors (rate all that apply)

4	Mid	200	:IIa	ma	0	IS

a. Topographical features that adversely affect wildland fire behavior and/or firefighting	0-5	
b. Areas with a history of high fire occurrence.	0-5	15
c. Areas that are periodically exposed to severe fire weather and strong dry winds	0-5	
d. Structure-to-structure fire spread likely due to close spacing	0-5	

E. Roofing Assembly

1. Roof composition of the majority of homes

a. Metal, ceramic tile, slate, or other non-flammable material	0
b. Asphalt/fiberglass shingles	5
c Wood shakes/shingles	25

5

F. Building Construction

1. Building construction of homes, siding, eaves, and deck

a.	. 75% of homes with noncombustible siding, eaves, and deck	0	l i
b.	. 75% of homes with noncombustible siding and eaves, but combustible deck or fence	5	
C.	75% of homes with combustible siding, eaves and deck, or 75% mobile homes	10	Ι,

5

2. Building setback relative to slopes of 30% or more

a. Not applicable	0	
b. Greater than or equal to 30 feet from slope	1.1	5
c. Less than 30 feet from slope	5	

G. Available Fire Protection

1 Water source availablility

a. Pressurized water availability - >1000 gpm; hydrants <1000' apart	0
b. Pressurized water availability - >500 gpm; hydrants <1000' apart	1
c. Pressurized water availability- <500 gpm	3
d. No pressurized water, but draft water point on-site	5
e. No pressurized water, but draft water point off-site within 1 mile	7
f. Available water more than 1 mile distant	10

1

2. Organized response resources

Ī	Nearest station is within 5 miles of structures	1	1 1
ı	h. Nearest station is more than 5 miles from structures	5	1

3. Fixed fire protection

TI THE ME PROTECTION		
a. Outdoor sprinkler system	1	_
b. None	5	5

H. Placement of Gas and Electric Utilities

1 Placement of utilities

a. Both underground	0
b. One underground, one aboveground	3
c. Both aboveground	5

3

I. Totals for Home or Subdivision (total of all points)

110

Total
< 40
40 - 69
70 - 112
> 112

APPENDIX B

STRUCTURE IGNITABILITY

A structure's ability to survive a wildfire is directly related to material and design. This is especially significant where fire hazard is high and fire suppression is difficult.

Researchers at the US Forest Service have studied structure survival on large wildfires around the country. Some of their findings are as follows:

1. Roof materials are the single most important factor in construction.

- a) Ceramic or metal roofing materials are probably the safest. Some ceramics are made to look like wood shakes.
- b) Fiberglass-asphalt shingles do not ignite readily. In some cases, they melt rather than ignite.
- c) Wood shingles pressure treated with fire retardant may provide some protection for up to five years. Observations indicate that the effective life of the treatment may be as little as eighteen months. Re-treatment by spraying on retardant may be effective for about a year.

2. Wood siding does not ignite readily unless exposed to direct flame.

- a) Siding (T-111 or board) is more likely to ignite when direct flame is applied to the edges.
- b) No flammable materials should be allowed within 3' of wood siding.
- c) Firewise alternatives to wood siding include brick, stucco, and hardiplank.

3. Expanses of glass, especially on down-slope side of homes, can increase vulnerability.

- a) Double-paned glass reduces the amount of heat energy transmitted into the home. If the outside pane breaks from the heat, the second pane still affords some protection.
- b) Double-paned tempered glass is best; double-paned non-tempered is adequate.
- c) Pane size is significant. Large windows are more likely to break under heat; several smaller panes are preferable to one large sheet of glass.

4. A clean, simple exterior design minimizes surface exposed to heat and flame.

- a) Avoid designs that include many angles and set-backs in exterior walls. Limit valleys and dormers in roof construction.
- b) If the house or deck overhangs a slope, the underside should be sealed or screened, and kept immaculately clean of any flammables. Fire under the structure may be pulled into the underbelly as air chimneys around support posts.

- c) Support posts under decks should be non-flammable.
- d) Vents should be non-flammable and screened with one-eighth inch non-flammable mesh.
- 5. Gutters should be installed on an as-needed basis.
- a) Use gutters only to deflect water from entrances and move water away from the structure.
- b) Covered gutters are preferable.
- b) Open gutters must be kept clear of vegetative debris, especially during fire season.
- 6. Structure density can be significant.
- a) For single story homes with 18' roof peaks, there should be a minimum horizontal separation of 25-30' between homes.
- b) Two-story homes should be separated by 50-60' of horizontal distance.

APPENDIX C

DEFENSIBLE SPACE

Defensible space is the managed area between the home and the wildland. It involves both fuel management and spatial management. The most critical area is within a 30-foot radius of the home.

Fuel management reduces fire intensity and slows its spread.

Avoid highly flammable landscape plants near house.

Use less-flammable mulch within three feet of flammable structural components.

Water landscape plants and keep mulch moist during dry periods.

Keep roof and gutters free of fir needles and dead leaves.

Prune tree branches that touch or hang over the house.

Remove tree branches within 10 feet of the ground.

Thin trees to prevent branch contact between trees.

Clear dead plant material from your yard.

Store firewood at least 30 feet from your home.

Clear natural underbrush within 30 feet of your home.

Do not attach flammable fences to the house.

Spatial management provides adequate room for firefighting access.

Insure garden fences and walls have openings or functioning gates.

Don't allow structural landscape elements to impede access.

Make sure vehicles and recreational equipment won't block firefighters.

APPENDIX D

FUEL MITIGATION ZONES

A fuel mitigation zone is a specified area of wildland where the natural fuel has been physically modified or reduced. Fuel mitigation is designed to reduce the intensity of an oncoming wildfire as it approaches a high value area. Lower fire intensity provides two benefits: firefighting efforts are more effective, and vulnerable structures are subjected to less radiant heat. Fuel mitigation may be accomplished by prescribed burning, mowing, mastication, or thinning. Selecting a mitigation method should consider environmental and aesthetic values, cost, contractor availability, and the physical fuel situation. In some cases, 8 to10 foot wide cleared firebreaks are integrated into the fuel mitigation zone for added protection. Such firebreaks can be valuable as walking trails or wildlife observation corridors.

Large scale fuel mitigation projects must consider the following:

- Cost. The cost may range from \$25 per acre (prescribed burning) to more than \$500 per acre. (mastication) Firewise grants may be available for some projects.
- Environmental Impact. Some mitigation may be limited by air and water quality considerations.

 Low impact methods like mowing, mastication, and chipping are especially useful in sensitive environmental situations.
- Maintenance. If fuels include living brush or accumulations of fir needles and dead leaves, the area will need to be re-treated every two to five years. While cost will generally decrease after the initial treatment, communities must still budget for regular maintenance of fuel mitigation zones.
- Lack of consensus. For various reasons, some property owners may resist modifying the wildland. Handling such situations may require negotiation and diplomacy, depending on ownership of property in the mitigation zone and the community's legal structure. Fuel mitigation is most critical within 30 feet of structures. If feasible, less intense fuel mitigation should be employed from 30-100 feet from structures.

APPENDIX E:

PLANT FLAMMABILITY

GOOD FIRE-RESISTANT FLOWERS WITHIN 30 FEET OF HOME

BOTANICAL NAME COMMON NAME

Achillea species Yarrow

Agastache cana Bubblegum Mint

Alcea rosea Hollyhock

Antirrhinum majus Snapdragon

Armeria maritima Sea Pinks

Aster species Aster

Aurinia saxatilis Basket-of-Gold

Coreopsis species Tickseed

Crocus species Spring Crocus

Dianthus species Pinks

Echinacea purpurea Coneflower

Eriogonum umbellatum Sulfur Flowered Buckwheat

Eschscholzia californica California Poppy

Gaillardia grandiflora Blanket Flower

Geranium species Hardy Geranium

Hemerocallis hybrids Daylily

Heuchera sanguinea Coral Bells

Iberis sempervirens Candytuft

Iris germanica Bearded Iris

Kniphofia uvaria Red Hot Poker

Lavandula angustifolia Lavender

Lilium species Lily

Linum species Flax

Narcissus species Daffodil or Narcissus

Nepeta racemosa Catmint

Oenothera species Evening Primrose

Papaver species Poppy

Penstemon species Beard Tongue

Platycodon grandiflorus Balloon Flower

Rudbeckia fulgida Black-Eyed Susan

Salvia species Sage or Salvia

Saponaria species Soapwort

Sedum species Stonecrop

Senecio cineraria Dusty Miller

Tanacetum species Painted or Michaelmas Daisy

Thermopsis montana False Lupine

Tulbaghia violacea Society Garlic

Tulipa species Tulip

Veronica spicata Spike Speedwell

Viola species Violet or Pansy

GOOD FIRE-RESISTANT GROUND COVERS AND GRASSES

BOTANICAL NAME COMMON NAME

Agropyron cristatum Crested Wheatgrass

Campsis radicans Red Trumpet Creeper

Cerastium tomentosum Snow in Summer

Clematis species Clematis

Delosperma cooperi Hardy Purple Ice Plant

Euphorbia species Spurge

Festuca glauca Blue Fescue

Helianthemum nummularium Sunrose

Lathyrus latifolius Perennial Sweet Pea

Lonicera species Honeysuckle

Mahonia repens Creeping Mahonia

Opuntia polyacantha Prickly Pear Cactus

Phlox subulata Moss Pink

Polygonum species Polygonum

Potentilla neumanniana Cinquefoil

Sedum species Stonecrop

Thymus species Thyme

Vinca minor Dwarf Periwinkle

Zauschneria californica California Fuchsia

GOOD FIRE-RESISTANT SHRUBS WITHIN 30 - 100 FEET OF HOME

Select deciduous shrubs less than 2 feet.

BOTANICAL NAME COMMON NAME

Amelanchier species Serviceberry or Juneberry

Aronia species Chokeberry

Atriplex canescens Fourwing Saltbush

Berberis species Barberry

Buddleia species Butterfly Bush

Caragana species Peashrub

Caryopteris x clandonensis Blue Mist Spiraea

Chaenomeles speciosa Flowering Quince

Cotoneaster species Cotoneaster

Elaeagnus commutata Silverberry

Euonymus species Euonymus

Forestiera neomexicana New Mexico Privet

Forsythia species Forsythia

Hamamelis intermedia Witch Hazel

Hibiscus syriacus Rose of Sharon

Kerria japonica Kerria

Ligustrum species Privet

Lonicera tatarica Tatarian Honeysuckle

Mahonia aquifolium Oregon Grape

Philadelphus virginalis Mock Orange

Potentilla fruticosa Shrubby Potentilla

Prunus species

Pyracantha coccinea Firethorn or Pyracantha

Bush Cherry

Rhus species Sumac

Ribes aureum Golden Currant

Rosa species Hardy Shrub Roses

Shepherdia argentea Silver Buffaloberry

Spiraea species Spiraea

Symphoricarpos albus Snowberry

Syringa vulgaris Common Lilac

Viburnum species Viburnum

Yucca species Yucca

GOOD DECIDUOUS TREES 30 FEET OR MORE FROM HOME

BOTANICAL NAME COMMON NAME

Acer ginnala Amur Maple

Aesculus hippocastanum Common Horsechestnut

Carpinus betulus Hornbeam

Catalpa species Catalpa

Celtis occidentalis Hackberry

Cotinus coggygria Smoke Tree

Crataegus species Hawthorn

Fraxinus species Ash

Ginkgo biloba Maidenhair Tree

Gleditsia triacanthos Inermis Honeylocust

Koelreuteria paniculata Golden Rain Tree

Laburnum watereri Golden Chain Tree

Liquidambar styraciflua Sweetgum

Liriodendron tulipifera Tulip Tree

Maackia amurensis Maackia

Maclura pomifera Osage Orange

Malus domestica Fruiting Apple Tree

Malus hybrids Crabapple

Morus alba Mulberry

Phellodendron amurense Amur Cork Tree

Platanus acerifolia London Plane Tree

Prunus species Plum or Cherry

Pyrus species Pear

Quercus species Oak

Robinia species Locust

Sophora japonica Japanese Pagoda Tree

Sorbus species Mountain Ash

Tilia species Linden

PLANTS TO AVOID

Remove flammable native plants and avoid placing evergreen shrubs and trees within 100 feet of the house.

High Flammability

BOTANICAL NAME COMMON NAME

Artemisia species Sage or Wormwood

Calamagrostis acutiflora Feather Reed Grass

Calocedrus decurrens Incense Cedar

Cedrus atlantica Blue Atlas Cedar

'Glauca' Chrysothamnus Rubber Rabbitbrush

nauseosus Cupressus glabra Arizona Cypress

Cytisus species Broom

Genista species Dwarf Broom

Juniperus species Juniper

Picea glauca 'Conica' Dwarf Alberta Spruce

Picea pungens Spruce

Pinus species Pine

Sequoiadendron giganteum Giant Redwood

Thuja occidentalis Arborvitae

Tsuga spp Arborvitae

Juniperus virginianus Cedar, eastern red

Eucalyptus spp Eucalyptus

llex glabra Gallberry

Juniperus chinensis Juniper, Chinese

Kalmia latifolia Mountain laurel

Cortaderia selloana Pampas grass

Pinus spp Pine

Pseudotsuga menziesii Douglas Fir

Arundinaria gigantea Switchcane

Myrica cerifera Waxmyrtle

Ilex vomitoria Yaupon, dwarf

Taxus spp Yew

Moderate Flammability

Abelia x grandiflora Abelia, glossy

Rhododendron spp Azalea

Buxus microphylla Boxwood

Juniperus ashei Juniper, Ashe

Prunus caroliniana Laurelcherry

Cupressocyparis leylandii Leyland cypress

Rhododendron macrophyllum Pacific Rhododendron

APPENDIX F:

Table of On-going Actions and Responsible Parties:

ACTION	RESPONSIBLE PARTY	TIME-LINE
Making Firewise information available to our community and informing them about up-coming Firewise events.	Resort Improvement District (RID) and Shelter Cove Fire Department (SCFD)	On-going updates and information in RID newsletter. Free publications from Firewise Communities/USA to be distributed at annual Firewise events.
Creation of a new Brush Disposal Program	CAL Fire crews, SCFD, RID, contractors and property owners	Starting spring 2019 and on an ongoing basis.
Host at least one Firewise event per year.	RID, SCFD, Shelter Cove CERT	Hosted successful Annual Firewise Events usually in conjunction with Fire Department public outreach events.
Promotion of Firewise practices and information about available grant funds will be published in the District's monthly newsletter.	RID, SCFD, CERT	On-going task.
Reduce vegetative fuel loads along roadways, greenbelt and other ignitable areas within 200 feet of a home.	Cal Fire, RID and property owners	On-going task.
Yearly evaluation of plan to monitor progress.	RID, SCFD	Annual report.
Research and apply for grant opportunities.	RID, SCFD, non-profits	On-going task.