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trc@timberlandresource.com

December 22, 2022

Cannabis Services Division
Humboldt County Planning and Building Department
3015 H Street
Eureka, CA 95501

Dear Planner,

APN 220-241-017
PLN-10697-ZCC

This brief report is in response to the County's deficiency letter dated September 8, 2022, which in part states:

Additional Assessments

As discussed during the visit, the February 2019 Preliminary Biological Assessment is limited in scope and considers a different project configuration from what is currently proposed. The clearing and construction of the processing building and the construction of the tank farm on APN 220-251-034 are examples of areas that have not been assessed. It is my understanding that Timberland Resource Consultants, who was on site during the visit, will be providing additional assessments and possible recommendations for these areas.

The Tank Farm has been relocated to Cultivation Area A as shown on the attached Site Management Plan Site Map. The former Tank Farm location has been cleaned up of all cultivation related infrastructure, and the entire flat has been treated for erosion control per the BMPs contain in the Site Management Plan, which are in compliance with State Water Resources Control Board Order WQ 2017-0023-DWQ. While in use, the Tank Farm area was visited by CDFW staff in October 2021 and no violations of Fish and Game Code Sections 5650, 5652, and/or 1602 were issued. CDFW extended Streambed Alteration Agreement #1600-2015-0504-R1 with no conditions related to the Tank Farm location during its use. The baseline condition of the former Tank Farm site poses no risk to biological resources particularly given the lack of future cannabis activity.

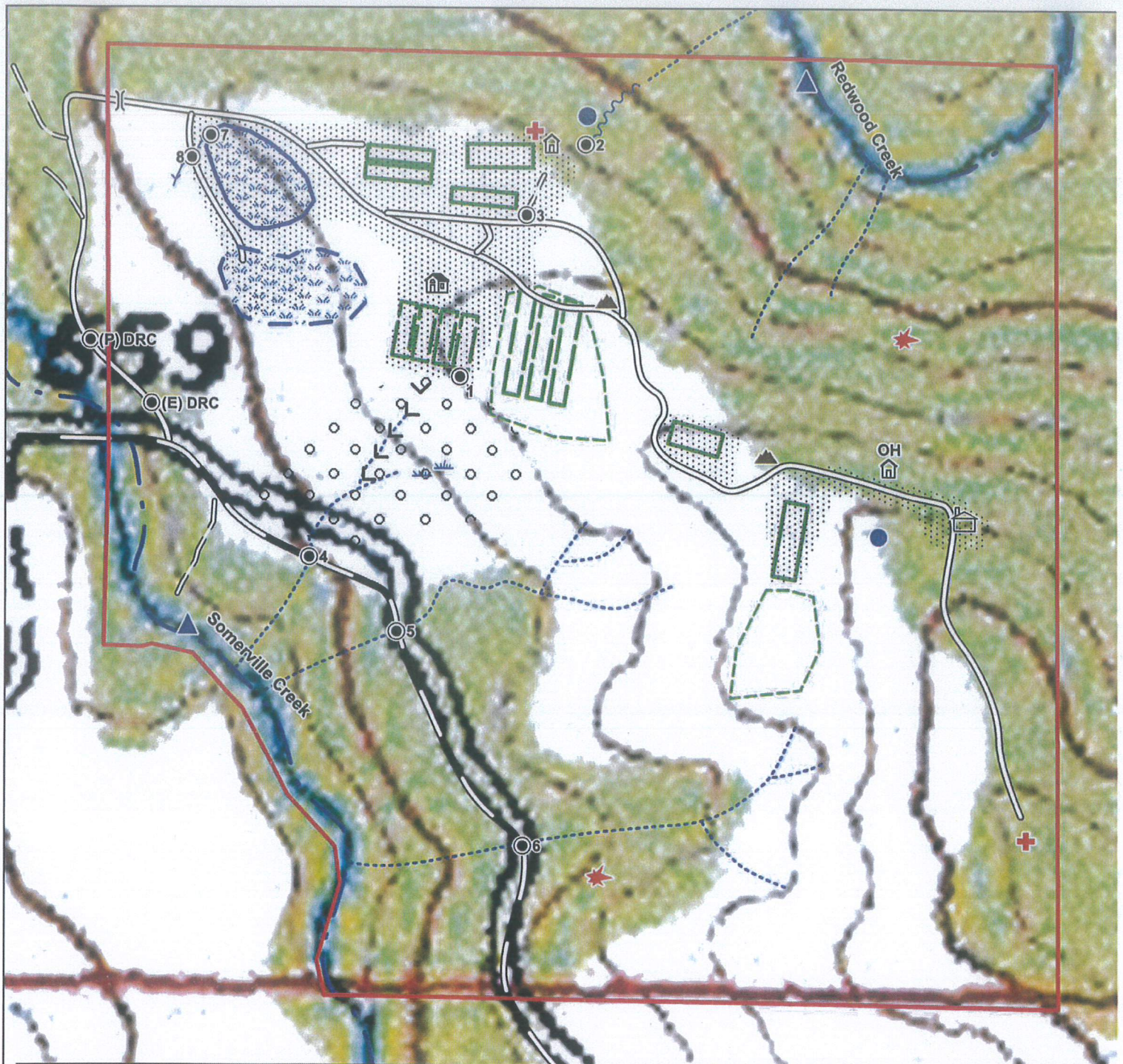
The Drying Processing & Storage Building site was initially assessed by TRC in December 2016 in association with the preparation of the Water Resource Protection Plan, and again in August 2019 in association with the preparation of the Site Management Plan. See attached WRPP Map and SMP Map depicting the Drying Processing & Storage Building and associated developed area. Although the subject area appears to have been significantly expanded between July 2020 and April 2021 (Land Vision); the Drying Processing & Storage Building and six cabins were pre-existing as of the preparation of the Biological Assessment in February 2019. What appears to have been new development is actually timber harvesting for defensible space. In October 2020, TRC prepared a Defensible Space Plan (attached), which recommended the removal of dead, dying, and diseased Douglas-fir surrounding the Drying Processing & Storage Building and six cabins as photographed in the report. TRC has not closely inspected the timber harvesting area for compliance with the General Recommendations listed in the Defensible Space Plan. However, based upon the August 23, 2022 site visit, timber harvesting surrounding the Drying Processing & Storage Building and six cabins appears to have been done for the purpose of defensible space. The Preliminary Biological Assessment conducted in February 2019 appears to have assessed the subject area for disturbance impacts to biological resources. TRC queried the California Natural Diversity Database (CNDDB) on December 22, 2022 and there are no new occurrences of sensitive species relative to those shown in the February 2019 Preliminary

Biological Assessment. This project is not expected to significantly impact biological resources as there are no known Sensitive, Rare, Threatened, or Endangered Species or Species of Special Concern within one-mile of the project area.

Sincerely,



Chris Carroll, RPF #2628
Timberland Resource Consultants



Water Resource Protection Plan **WRPP Map - WDID1B161032CHUM**

- Property Boundary
- Old Briceland Road (county, paved)
- Rocked Access Roads
- Driveway
- Map Point
- Existing Cultivation Greenhouse
- Proposed Cultivation Greenhouse
- Developed Areas
- Future Grading / Terracing

- Class I Watercourse
- Class III Watercourse
- Wet Area
- Undefined Overland Flow (During High Runoff)
- Erosion Gully
- Rain Catchment Pond
- Proposed Rain Catchment Pond
- Pond Overflow Runoff
- Point of Diversion
- Water Tank
- Well

- Cultivation Soil Pile
- Small Unstable Area
- Disrupted Ground
- House
- Drying / Storage Shed
- Shed (OH = Outhouse)
- Gate

NORTH
 1" = 200'
 Contour Interval 40'

Site Management Plan

Site Map [WDID - 1_12CC418809]

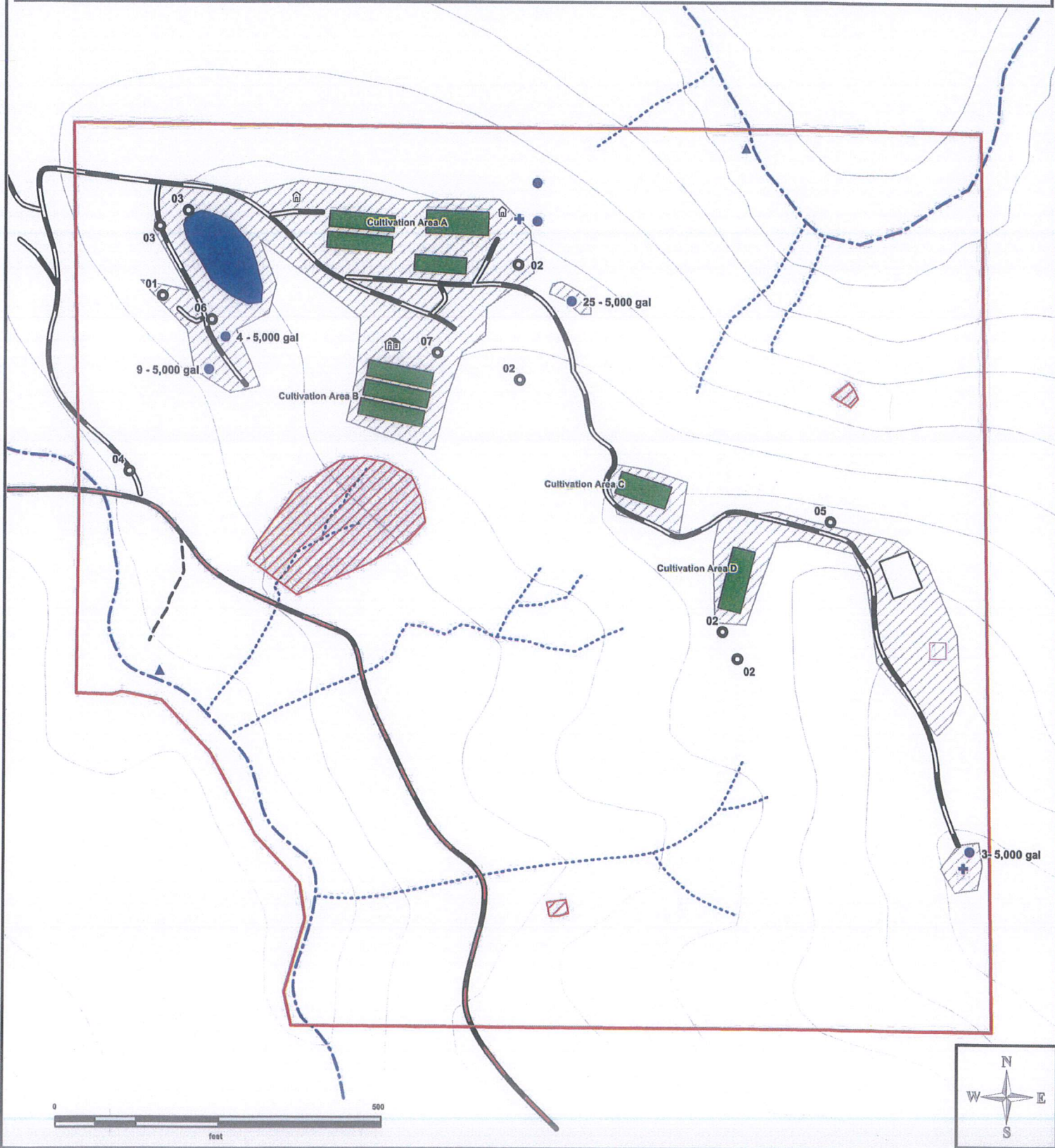


- | | | | |
|--|-------------------|--|---------------------|
| | Property Boundary | | Processing Building |
| | Cultivation Area | | Pond |
| | Disturbed Area | | Unstable Area |

- Roads**
- County
 - Permanent
 - Trail
- Watercourses**
- Class I
 - Class III

- Site
- POD
- Tank
- Well
- House
- Storage Shed
- Six Cabins (12' x 15' each)

TRC-115





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Rama Boyd
PO Box 1250
Redway, CA 95560

October 22, 2020

Subject: Evaluation of fire hazard and fuels reduction projects at APN: 220-241-017

Introduction

This report presents the results of an evaluation of wildfire risk and fuels reduction projects located at APN: 220-241-017 conducted by Timberland Resource Consultants. The intent of this report is to document wildfire risk and provide recommendations to decrease the potential of ignition and improve fire safety around residential and commercial areas. Ultimately, the proposed management activities are meant to reduce flammable materials and maintain fuelbreaks by eliminating the vertical continuity of fuels and the horizontal continuity of tree crowns and understory vegetation.

The scope of the investigation included a review of state and county regulations, site reconnaissance, and the preparation of this report presenting observations and conclusions. The preparation of this report was conducted in general conformance with state Public Resources Code (PRC) § 4290 and 4291, the Humboldt County Community Wildfire Protection Plan, and the California Forest Practice Rules. As such, the study focused on determining the fuel loading and potential ignition sources associated with the site, identifying access and defensible areas for fire suppression activities, evaluating site management activities, and developing recommendations to educate landowners and reduce the potential for wildfire ignition and spread.

Background

Wildfires are natural processes that have influenced the California landscape for millennia. Their frequency, intensity, and seasonality determine not only floristic compositions and the rate of forest succession but are major factors affecting land use as well. Over time, the combination of spatial and temporal patterns of wildfire creates a regionalized fire regime, and this regular rate of disturbance is an integral component of the natural ecology.

Anthropogenic activity for the last several hundred years has affected the natural disturbance regimes. Land use, including forest management, has altered fuel conditions and regulated the rate disturbances occur. Timber harvest entries are often less frequent than fire return intervals, so the accumulation of fuel on the landscape has been able to exceed its historical capacity. Resulting damages from wildfire led to an aggressive fire suppression campaign that would continue to alter fuel loads for nearly a century.

In addition to changing forest conditions, increasing development in the Wildland-Urban Interface (WUI) continues to put more people, homes, and infrastructure in harm's way from wildland fire. The most recent assessment of California's WUI shows that as of 2010, there were about 3 million housing units in Fire Hazard Severity Zones (FHSZ) that are potentially at risk from wildland fire. A large proportion of the houses within FHSZs are in the southern portion of the state. The top five counties for FHSZ housing units, all in southern California, contain about half of all statewide housing units in FHSZ. However, this is a statewide problem, with 37 counties having at least 10,000 housing units in FHSZ.

A Report from Governor Newsom's Strike Force (April 12, 2019) reveals that climate change has created a new wildfire reality for California. The state's fire season is now almost year-round. It's not a question of "if" wildfire will strike, but "when." More than 25 million acres of California wildlands are classified under very high or extreme fire threat.

Wildfires are not only more frequent but far more devastating. Recognizing the need for urgent action, Governor Gavin Newsom issued Executive Order N-05-19 on January 9, 2019. The Executive Order directs the California Department of Forestry and Fire Protection (CAL FIRE), in consultation with other state agencies and departments, to recommend immediate, medium and long-term actions to help prevent destructive wildfires. The Governor's Strike Force Report and CAL FIRE'S Community Wildfire Prevention & Mitigation Report (February 22, 2019) both recommend improving vegetation management and forest health as a preventative and minimization measure for preventing ignition and spread of wildfire, while simultaneously improving fire resiliency of the landscape.

Humboldt County Wildfire Protection Plan

In 2002, the Humboldt County Board of Supervisors formed the Humboldt County Fire Safe Council (HCFSC) to oversee the preparation of a countywide plan to support the development and implementation of community fire-safe programs and activities. This has become known as the Humboldt County Community Wildfire Protection Plan [CWPP]. This plan was updated most recently in 2019. The stated purpose of the CWPP is to inspire and guide actions that will help mitigate the potential for wildfire loss in all vulnerable communities within the boundaries of Humboldt County.

Thus far it is fortunate that Humboldt County communities and wildlands have avoided the significant losses experienced by neighboring counties during the last few years. However, the CWPP's risk assessment concludes that weather and fire patterns, together with Humboldt County's rugged topography and dense fuel loads, combine to create a generally high fire risk during dry parts of the year. There are indications that the level of risk could continue to grow in the face of climate change. Increasing fuel loads, the spread of forest diseases such as sudden oak death, and continued residential and commercial development in the wildland-urban interface all contribute to the growing risk.

It is also becoming increasingly common that during times of high fire danger in Humboldt County a large portion of local and state firefighting resources are committed to other incidents throughout the state. A wildfire ignition during one of these periods, when resources are stretched thin, could potentially spread quickly, threatening citizens' lives, as well as homes, schools, and businesses. In this scenario, a single fire ignition could have potentially devastating consequences in any Humboldt County community, including coastal areas. Every year, these homes and natural assets are increasingly vulnerable to damage or loss from wildfire.

Cannabis

The legal marijuana industry is a major part of Humboldt County. Since its legalization, hundreds of existing farms have enrolled in the permitting process, however it is uncertain how many still exist illegally (CalCannabis, 2020). Historically, production and extraction both have had a high potential for fire ignitions. The influx of seasonal workers during the peak fire season increases human activity in the WUI, and could contribute to increased wildfire ignition risk. Additionally, the use of spark-generating equipment such as vehicles and generators, infrastructure with faulty wiring, and extraction labs, some using explosive butane, also increases the risks of fire ignitions resulting from cannabis operations. These ignition sources are not only a wildfire risk but can create dangerous conditions for responding firefighters as well. Reducing ignitions in this sector is targeted in the CWPP's County Wide Action Plan, and regulations provide the opportunity to curtail fire risks and hazards associated with the industry. The two key metrics, defensible space and fuel reduction, are the primary actions to reduce potential ignitions and increase community fire safety.

The Commercial Medical Marijuana Land Use Ordinance was adopted by the Board of Supervisors and became effective February 26, 2016. Under the CMMLUO framework, numerous structures are permitted by the County as part of commercial operations. These buildings can include greenhouses, processing facilities, fuel storage and generator housings, and other structures. All of these are required by California law to have defensible space. The treatment of fuels in conjunction with defensible space is consistent with the recommendations not only within the Humboldt County Community Wildfire Protection Plan, but also the Strategic Fire Plan for California, and Executive Order N-05-19.

After considering the current threat from wildfires and reviewing state and county minimization measures, this report presents an evaluation of wildfire risk and provides recommendations to promote fire safety and reduce the potential for on-site ignitions. Recommendations are aimed at removing fire hazards from within and adjacent to cultivation sites, high-use areas, and access roads. This includes defensible space around structures, brush and vegetation removal, and fuel treatments to remove or alter slash following operations. The recommendations contained herein shall not result in the conversion of timberland, nor the removal of Large Old Trees, as defined in 14 CCR 895.1, which may be of value to wildlife. Following the implementation of the treatments described in this report, the subject property will maintain a well-stocked forest comprised of healthy fire resilient vegetation, will have achieved defensible space goals around structures and appurtenant roads, and will pose a lower risk of potential on-site ignitions causing a wildfire.

Timberland Resource Consultants visited the plan area on October 13, 2020. The investigation focused on identifying existing fuel conditions around high-use areas, understanding the landowner's long-term goals for fire safety, and determining appropriate management strategies to increase fire safety reduce fire potential. The investigation also focused on developing a property-wide management plan to implement forest improvement projects across a longer planning horizon.

Site Description

The property located at APN: 220-241-017 is approximately 41 acres and found in portions of Section 18, Township 4 South, Range 3 East, Humboldt Base and Meridian of the U.S. Geological Survey Briceland 7.5-minute quadrangle. The site occupies a broad grassland adjacent to forested areas on a foothill ridge in the Redwood Creek drainage. The property is approximately 0.2 linear miles east of the town of Briceland.

Elevations range from 600-840 feet above sea level, and slopes range from gentle to steep. There are seven structures used for human occupation on the property, as well as an agricultural building and nine commercial greenhouses for cannabis cultivation.

Ecological Setting and Fire History

As described above, the subject property is located in southern Humboldt County within the South Fork Eel River watershed. This part of Humboldt County features rugged terrain consisting of redwood forests, mixed conifer/hardwood forests, broad grasslands, true oak woodlands, and rivers in the coastal anadromy zone. In addition to the natural resources associated with this region, a diverse range of land use and public assets are also at risk from wildfire. These assets include residential homes and neighborhoods, commercial and service industries, community centers, schools, historical sites, medical and dental clinics, water treatment plants, churches, fire stations, and municipal buildings. Prominent industries within southern Humboldt County include timber production, ranching, agriculture, fisheries, and commercial cannabis cultivation.

Fire scar tree ring data for this area shows historically these ecosystems would have been maintained by the regular occurrence of fire, at least as often as every 10 years (Southern Humboldt Planning Unit Action Plan, 2019). Frequent fires would prevent the accumulation of high fuel loads, and were an important component of the ecosystem. While lightning strikes certainly provided some of the ignition sources of these fires, anthropogenic burning was the main source of ignition. Native American tribes of this region utilized fire to maintain grasslands, improve forage, control forest diseases, and reduce fire danger. However, following the adoption of an aggressive fire suppression policy, fuel load accumulations have been allowed to grow substantially dense, compounding year after year. This practice has led to increased flammability of understory and overstory fuels, and increases the risks of high-intensity/high-severity wildfires.

Today fire suppression is still the main practice used to prevent wildfires from causing damage to natural and anthropogenic resources. While prescribed burning is a popular topic among a variety of forest and rangeland stakeholders, the risk of fires escaping boundaries, and the high costs of implementation limit its application.

Despite the region's moist climate and coastal influence, fire remains a serious threat during the late summer-fall when fire risk is at its greatest. There also is an increased likelihood in this part of Humboldt County that wildfires may become structural fires and vice versa. The CWPP acknowledges that residences within the WUI face the highest risk of structural ignitability, and reports many homes in the greater Southern Humboldt area need to take measures to ensure structure survival in the event of a wildfire. The CWPP cites defensible space and fuel reduction as the actions required for achieving this goal.

Ignition sources within the region may be either natural or human-caused. Potential sources include lightning, vehicle accidents, vehicles dragging chains, smoking, playing with fire, poorly monitored burns and campfires, arson, and ignitions associated with cannabis cultivation. On the property, potential sources include human activity, vehicle traffic, generator use, and chainsaw and power tool use.

Forest Stand Conditions

The site consists of grasslands, true oak woodlands, and mixed species forests comprised of Douglas-fir, redwood, tanoak, and Pacific madrone. Estimated trees per acre is 200-400 TPA. Basal area ranges from 160-320 ft²/acre and varies by forest type. Within the conifer forest type, the majority of trees appear to be second-growth timber following a 1950's era harvest. Within the true oak woodland type, Douglas-fir tree ages vary as the result of episodic conifer encroachment into areas historically occupied by grasslands and California black oak. Various densities of regeneration exist, consisting mainly of tanoak.

The existing fuel conditions within the property contains both vertical and horizontal continuity of live and dead fuels. Forest stand structure varies throughout the site, however can be characterized by a two-tiered stand comprised of an overstory of conifer and hardwoods, with a midlevel canopy of advanced regeneration. The understory densities vary with respect to past management activities and consist of shrubs and regeneration. Standing dead and dying fuels are scattered throughout the property with a high concentration of dead Douglas-fir and oak trees near to structures used for human occupation. Down woody debris occurs sparingly throughout the forested areas.

Cultivation Site Conditions

During the site evaluation, TRC assessed fuel conditions and fire preparedness at areas used in association with commercial cannabis cultivation (see Site Map). The assessment consisted of evaluating fuel loading, including the type and density of fuels, and the degree of fuel continuity. TRC observed moderately-dense levels of understory and overstory fuels adjacent to commercial structures in all areas. Fuel consisted of grasses, shrubs including manzanita and huckleberry, standing dead Douglas-fir and oak trees, tanoak regeneration, and conifer and hardwood trees.

PRC § 4291 states, “A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall at all times maintain defensible space of 100 feet from each side and from the front and rear of the structure...”. The law goes on to state “The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure.” This buffer not only reduces the potential for wildfire to damage assets within the property but also reduces the likelihood of ignition and spread from occurring around the cultivation sites.

Fire Suppression Resources

As determined by CAL FIRE, the subject property occurs within a “High” Fire Hazard Severity Zone. This designation is based on a combination of the expected fire behavior, burn probability, weather, fuel, and terrain conditions, and the probability of flames and embers threatening buildings. This area is within a State Responsibility Area (SRA). The nearest local emergency response may come from the fire departments listed in the table below.

Table 1. Contact information for local emergency response.	
Briceland Fire Protection District	(707) 923-7204/0023
Redway Fire Department	(707) 923-2617

The road network located within the property is generally well suited to provide access for fire suppression resources and provide good coverage of the area. The road network begins at the gate at the driveway's intersection with Old Briceland Road, a permanent county road that traverses the southwest portion of the property. Internal roads are rock and dirt surfaced and will be usable during the time of the year when fire risk is greatest. In addition to the seasonal road network within the property, skid trails exist that would serve as additional fuel breaks and access for fire suppression activities.

Water for fire suppression activities may include immediate support from water storage within the subject property, or various drafting sites available to CAL FIRE and local fire districts. The nearest available registered draft sites include BRC229 and BRC230 on Old Somerville Creek Road.

Recommendations

Based on the evaluation of site conditions surrounding cultivation areas, existing fuel conditions, forest composition, relative topography, local climate, and proximity to high population areas the wildfire risk for the subject property is determined to be High wildfire risk. The following recommendations to reduce fire risk are developed in accordance with state and county codes and regulations including the Forest Practice Rules.

As described above, there are multiple areas of concern, and projects should prioritize the areas of highest use and potential risk. The areas of immediate attention include the removal of hazard trees near structures, and managing the existing fuels around structures and high use areas. The landowner is advised to begin vegetation treatment to reduce fuel loads within 100-150 feet of structures, focusing the most intense efforts within the first 30 feet. The appurtenant road network and remaining areas of the property should also be considered for future and long-term fuel reduction projects. Considering the costs associated with non-commercial fuels reduction projects, the landowner may also pursue additional funding through grant opportunities, or revenue-generating projects such as commercial timber operations approved by CAL FIRE.

During the site visit, the landowner inquired about pollarding black oak and madrone hazard trees within striking distance of structures. This seems appropriate given the species' propensity for resprouting, and is a preferred alternative to removing these individuals. Once pruned to a manageable height, the landowner should monitor the trees for sprouting success. Pollarding should occur during the winter dormant months.

The following practices will be used to meet the objectives of defensible space and long-term fuels reduction across the ownership in three phases. The landowner intends to treat all of these areas as soon as environmentally and economically feasible, prioritizing first the minimum 30-foot buffer around each cultivation site. The operations presented herein were developed following the general practice requirements from the CAL FIRE Defensible Space minimum requirements.

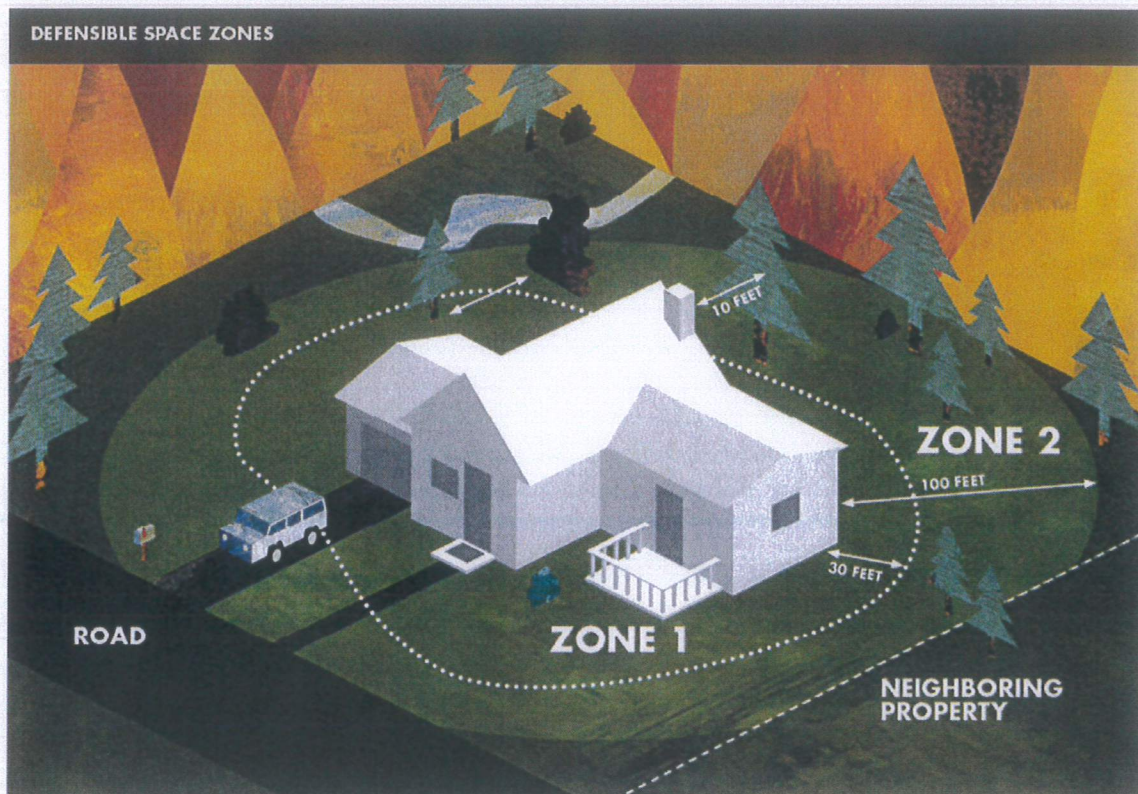


Figure 1. The above diagram displays the general Zone 1 and 2 widths from structures. (CAL FIRE).

Fuels Reduction and Defensible Space

The operations described below are designed to be carried out by small crews working with hand tools (chainsaws) and pieces of machinery where appropriate. The use of heavy equipment is prohibited from buffers associated with Streamside Management Areas. On slopes greater than 50%, heavy equipment shall be limited to the existing roads and trails. No cut and fill construction of skid trails shall occur without a grading permit.

General Recommendations

- Following vegetation removal, in no way shall the treated areas be used for any purpose other than timber production and defensible space. This prohibits the use of these areas for vehicle or equipment staging purposes, cultivation purposes, or any other activity.
- No large old trees (trees existing before 1800 AD and is greater than 48" in diameter at stump height) or Decadent and Deformed Trees with Value to Wildlife shall be cut, per 14 CCR § 1038.1(c)(15).
- Following implementation, the treated areas shall retain a minimum of 50 ft² of basal area per acre.
- Trees within 150' of structures were inspected for nesting birds with none observed. If a nest is found during operations, cease operations and consult your RPF for guidance.
- SMA's have been excluded from the project area during Phase 1 and 2 implementations. However, understory treatments within the SMA is advisable during property-wide fuel reduction projects. Prior to implementing any tree removal within the SMA, a Special Permit is required from Humboldt County.

Implementation

Phase 1 – (Immediate)

Zone 1: 30 feet from structures

- Remove all dead vegetation.
- Remove all vegetation greater than 18-inches above the ground, retaining only isolated fire-resistant trees or brush. *Retained vegetation shall be pruned to a minimum six (6) feet above the ground.
- Remove branches or trees overhanging structures, keep dead branches at least 10 feet away from the vertical footprint of structures.
- Treat all slash and woody debris greater than one (1) inch in diameter within Zone 1.
 - *Treatments are detailed in the Slash Treatment section of this report.*

Phase 2 – (1-2 years following Phase 1)

Zone 2: 30-150 feet from structures

- Create horizontal space between trees and shrubs by removing brush and trees in the suppressed and intermediate canopy positions.
 - On slopes less than 20%, achieve a minimum 10 feet between tree crowns
 - On slopes greater than 20% but less than 40%, achieve a minimum 20 feet between tree crowns
 - On slopes greater than 40%, achieve a minimum 30 feet between tree crowns.
- Create vertical space between understory and overstory fuels by a combination of understory vegetation removal, and pruning of overstory branches.
 - Maintain a minimum 6 feet of vertical clearance between the lowest live branches of the tree and ground
 - Maintain a minimum vertical clearance between brush and tree canopy height of at least 3x the height of the shrub. (i.e., a shrub three-feet tall should have at least nine (9) feet of clearance before the lowest branches of the overstory tree.)
- Treat all slash and woody debris greater than one (1) inch in diameter within Zone 1.
 - *Treatments are detailed in the Slash Treatment section of this report.*

Phase 2 – (continued)

Appurtenant roads (25 feet from roadsides)

- Remove all dead vegetation.
- Remove all vegetation greater than 18-inches in height, retaining only well-spaced fire-resistant trees and shrubs.
- Create horizontal space between retained vegetation by removing shrubs and trees in the suppressed and intermediate canopy positions.
- Create vertical space between understory and overstory fuels by a combination of understory vegetation removal, and pruning of overstory branches.
- Remove trees overhanging the road surface.
- Treat all slash and woody debris greater than one (1) inch in diameter within 25' of the road surface.

Phase 3 - (Indefinitely following Phase 2)

- Monitor treated areas periodically for further fuels reduction projects. Fuel accumulation is anticipated to continue, however, following Phase 1 and 2 treatments it will be minimal and easily controlled.
- Extend fuels reduction projects into additional areas of the ownership. Consider pre-commercial thinning, brush removal, and other forest improvement operations.
- Pursue alternative means of understory management including prescribed fire.

Slash Treatment

Zone 1

- Slash created during fuels reduction projects shall be treated by one, or by a combination, of the following practices:
 - Removal
 - Chipping/mulching
 - Pile and burning
 - Piles shall be clean and free of soil during their construction.
 - Piles shall not be placed below or adjacent to retained vegetation.
 - Piles shall have a fire line (at least one foot wide) dug around the perimeter of the pile.

Zone 2 / Appurtenant roads

- Slash created during fuels reduction projects may be treated by one, or by a combination, of the following practices:
 - Removal
 - Chipping/mulching
 - Pile and burning
 - Piles shall be clean and free of soil during their construction.
 - Piles shall not be placed below or adjacent to retained vegetation.
 - Piles shall have a fire line (at least one foot wide) dug around the perimeter of the pile.
 - Decking
 - In the event the landowner wishes to retain cut material for personal use such as firewood, self-milled lumber, etc., log decks may be appropriate.
 - Log decks shall be neatly stacked and separated away from retained vegetation.
 - Log decks shall be accessible via roads or trails.
 - Log decks shall be stacked so overstory branches are separated by at least three times (3x) the height of the log deck.

It should also be noted that prior to burning slash piles applicable burn permits must be obtained from the local CAL FIRE and Air Quality Management District offices.

Additional Fuels Reduction Projects

The management recommendations described in this report intend to meet defensible space minimums around structures and cultivation areas. During the October, 2020 site visit, the landowner expressed interest in applying similar treatments across the ownership to improve forest health, relative site occupancy of conifer species, and forest stand resiliency to fire. This is not a short endeavor. Several opportunities exist and are available to landowners to receive grant funding/cost-share programs to engage in forest stand improvement activities. The California Forest Improvement Program (CFIP) awards grant funding to landowners for fuel reduction treatments around roads, brush removal, pre-commercial thinning, and various other projects. Similarly, the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) also provides funding for hazardous fuels reduction projects through the Environmental Quality Incentives Program (EQIP). Alternatively, there are several pathways to engage in the commercial sale of timber products to offset project costs while simultaneously achieving fuel reduction goals. At this point, achieving a minimum of 30 feet of defensible space around the above-described sites is the highest priority. However, the landowner should consider seeking additional alternative measures. See Appendix C for a list of related programs, projects, and permits.

Conclusions

This investigation intends to assess the wildfire risk associated with the subject property and to provide management recommendations to implement fuel reduction projects. This study focused on identifying fuel levels around commercial structures and appurtenant roads and prescribing methods to achieve the objective of defensible space. The activities described in this report were developed in general conformance with accepted fuel reduction treatment practices and are prescribed to meet the specific conditions of the project area. Ultimately, the proposed management activities are meant to improve fire safety within the wildland and reduce the potential for wildfire ignition and spread.

Certification

Following the completion of operations, no later than one year after completion, the RPF, or supervised designee, must examine the area to evaluate compliance with the practices outlined in this report. This inspection shall be used to certify slash created during fuel reduction activities was successfully treated per this report. After the inspection, at the landowner's discretion and request, TRC can prepare a brief report to be submitted to the Humboldt County Planning Department Cannabis Division describing the results of the restoration activities and the project's status in conformance. This inspection will additionally serve to ensure no timberland conversion resulted following treatment implementation.

I certify that I have read and understand the information within this report and, if implemented, fuels reduction projects will adhere to the specifications detailed within this report.

Signature: _____

Rama Boyd

Date: _____

11/4/20

Limitations

The conclusions presented in this report are based on conditions at the time of our work. Given the dynamic state of forest ecosystems, it is impossible to preclude changes that may occur in the future that could alter site conditions. Prior to any operations occurring within the property, all required permits pertinent to the operations must be obtained.

We trust that this report provides the information that you need at this time. If you have any questions, or require additional information, please contact our office at 707-725-1897.

Sincerely,



Jon Dylan Leonard
Registered Professional Forester #3107
Timberland Resource Consultants

Appendices

- Appendix A: References
- Appendix B: Maps and Diagrams
- Appendix C: Additional Programs and Fuels Reduction Projects

Appendix A

References

- California Department of Food and Agriculture. 2020. California Cannabis Portal. CalCannabis. <https://cannabis.ca.gov/>
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Appendix B

Maps and Photographs



Above and below. Existing fuel conditions located on the periphery of high use areas. Horizontal continuity and vertical continuity of fuels is high in these areas.





Above. Structures used for human occupation with high density of overstory fuels in Zone 1 band. **Below.** High concentration of standing dead Douglas-fir trees in striking distance of structures.





Above and below. Example of past brush removal in Zone 1 band. Zone 2 consists of dense fuels in the understory. Treatments should retain well-spaced overstory trees and remove brush and regeneration.



Appendix C

Additional programs, projects, and permits

Cost-Share Programs Forest Management Plan

A Forest Management Plan is tool for landowners that outlines the conditions and capability of property resources, documents the landowner's objectives and decisions, and identifies potential resource improvement projects. It is meant to be a flexible and educational document that considers a planning horizon of at least 5 years but may include objectives that require a much longer time period.

With a Forest Management Plan, you are eligible to participate in the California Department of Forestry and Fire Protections California Forest Improvement Program (CFIP), US Forest Service's Forest Stewardship Program (USFS), the American Forest Foundation's American Tree Farm System (ATFS) and The Natural Resources Conservation Service (NRCS) Environmental Quality Incentives (EQIP) programs.

The following is a list of a few of the potential projects that would be available to you following the completion of a Forest Management Plan.

EQIP Code (CFIP Practice)	Conservation Practice	Treatment Period
666 (Pre-commercial thinning)	Forest Stand Improvement: Pre-commercial thinning. Cost is variable depending on the density of trees being removed.	2020-2030
666 (Release)	Forest Stand Improvement: Tanoak removal in conifer stands. Cost is variable depending on the density of trees being removed.	2020-2030
384 (Woody Residue Treatment/ Slash disposal)	Slash Treatments: Treatment of slash material from conservation practices, generally mechanical or hand piling for future burning.	2020-2030
314 (Release)	Brush Management. This practice can be used for removing competing hardwood and brush in conifer stands that could improve site availability/occupancy of desired species.	2020-2030
660 (Prunning)	Pruning: Pruning to improve wood quality and reduce fuel hazards. Cost is variable depending on the density of trees being pruned.	2020-2030
338	Prescribed Burning. Prescribed fire may be used as a means of controlling brush and promoting healthy forest growth. There is no CFIP practice for this, however CALFIRE does have grants available through the Vegetation Management Program (VMP)	TBA
106 (Management Plan)	Management Plans. EQIP may have funding available for development of management plans for various conservation activities. Likewise, CFIP can provide funding for Management Plan updates (revisions). This practice should be used periodically to update the management plans baseline conditions and current conservation needs.	TBA

Commercial Timber Options

Commercial projects, those that intend on selling forest products, will require a timber harvest permit or exemption, along with any other applicable permit such as Stream Alteration Agreements and Waste Discharge Permits. The following is a list of pertinent permits available through CAL FIRE. Harvesting forms can be located at:

<https://fire.ca.gov/programs/resource-management/forest-practice/caltrees/timber-harvesting-forms/>

- **Forest Fire Prevention Exemption:** Allows the harvest of trees up to 24" diameter so long as following operations there is an increase to stand quadratic mean diameter and canopy coverage is at least 60%. This exemption is a low-cost permit that is useful for reducing fire risk and increasing fire resiliency over an ownership without the cost of a full THP.
- **Structure Protection 0-150' Fire Safe Exemption:** Allows the harvesting of trees in compliance with PRC § 4291. Harvesting under this exemption is intended to eliminate vertical and horizontal continuity of fuels around permitted structures for the purposes of reducing flammable materials and creating defensible space. Given the current stand compositions and structure, this exemption is a good fit to improve fire resiliency around permanent structures.
- **Small Timberland Owner Exemption:** Allows the harvesting of trees up to 26" diameter so long as following operations the post-harvest stand consists primarily of healthy dominant and codominant trees. Retention standards are similar to the Forest Fire Prevention Exemption. This type of exemption may be used once in a ten-year period. Given the size of the property this may be a good fit for future harvest entries.
- **Fuelwood Exemption:** Allows the harvest of fuel wood of no more than 10% of the volume per acre. This is a low-cost permit that allows the harvest of fuelwood (firewood) that can be commercially sold. This exemption is a good tool for smaller rehabilitation projects.
- **10% Dead, Dying and Diseased Exemption:** Allows the harvest of no more than 10% of volume per acre of trees likely to die within one year. This exemption is a low-cost permit that is useful for capturing mortality over an ownership without the cost of a full THP. Generally, all harvesting must occur on existing roads with no exceptions to the Forest Practice Rules.
- **Timber Harvest Plan (THP):** A THP is the primary harvest document and offers the most flexibility. Its preparation cost can be significant, so the proposed operation must be large enough to justify the plan. Under a standard THP evenaged and unevenaged silvicultural systems are available, as well the ability to propose alternatives to rules. The THP has the ability to deliver the most volume in one plan compared to all other options.
- **Non-Industrial Timber Management Plan (NTMP):** A NTMP is a long-term harvest permit that can be prepared on ownerships containing 2,500 acres or less timberland. An approved NTMP works differently than a THP in that a Notice of Timber Operations may be prepared any given year which specifies the area of the NTMP where operations will occur and to what extent, effectively bypassing the costly process of administering a THP. A NTMP is designed to utilize unevenaged (selective) harvesting at a rate that balances growth and harvest over time. A NTMP can be expensive to prepare, although the Notice of Timber Operations is a relatively inexpensive process once approved. The primary advantage to a NTMP is market readiness, that is, being able to respond to good log markets when they become available.

**Streamside Management Area (SMA)
Special Permit**

The clearing of vegetation beyond thirty feet to comply with the California state standard of one-hundred feet for fire safety could trigger the need for a Special Permit from County Planning and Building in Residential Zones, including the Rural Residential Agriculture Zone. Under current county and state laws, vegetation management to reduce wildfire hazards within SMAs and certain zoning districts requires a Special Permit, and could trigger a potentially cost-prohibitive site evaluation. These regulations could be a disincentive for active wildfire hazard reduction, potentially resulting in unnecessary losses and unintended damage to sensitive riparian ecosystems. The Humboldt County Fire Safe Council intends to collaborate with the Humboldt County Planning and Building Department, CDFW, CAL FIRE, University of California Cooperation Extension (UCCE), Fire Safe Councils, Salmonid Restoration Federation, watershed councils, and conservation organizations to encourage the incorporation of wildfire-hazard reduction considerations into the updated Streamside Management Ordinance and applicable zoning regulations, seeking solutions to avoid this disincentive