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April 10, 2021

Humboldt Bud Company, LLC
Attention: David Shea
P.O. Box 1244
Westport, WA 98595

Re: APN 211-261-016
Applications #11934

The following is an evaluation of potential timberland conversion on cannabis cultivation sites and associated areas included in the Humboldt County Cannabis Application #11934. Please accept this letter as the RPF's written report required by Humboldt County Code, Ordinance No. 2559 (Commercial Medical Marijuana Land Use), Section 55.4.12.2.4 as cited below.

"Where existing or proposed operations occupy sites created through prior unauthorized conversion of timberland, if the landowner has not completed a civil or criminal process and/or entered into a negotiated settlement with CALFIRE, the applicant shall secure the services of a registered professional forester (RPF) to evaluate site conditions and conversion history for the property and provide a written report to the Planning Division containing the RPF's recommendation as to remedial actions necessary to bring the conversion area into compliance with provisions of the Forest Practices Act. The Planning Division shall circulate the report to CAL-FIRE for review and comment."

Timberland Resource Consultants (TRC) inspected and evaluated the cultivation sites and associated areas on April 7 2021. The RPF exercised due diligence in reviewing all sites and available resources to fully assess potential timberland conversion and consequential impacts. This report evaluates the cultivation sites and associated areas for timber operations only. The scope of this report does not include: all other land alteration (such as grading, construction, and other permit-regulated activities), all property features and sites unrelated to cultivation activities, or any proposed, planned, or absent cultivation-related project sites. All findings are summarized in the report below.

Project Location

APN: 211-261-016

Acreage: 22 acres

Legal Description: S ½ of SW ¼ of NE ¼ of Section 1
Township 2 South, Range 2 East,
Humboldt Base & Meridian, Humboldt County

Located on USGS 7.5' Quadrangle: Weott

Humboldt County Zoning: Unclassified

Site Address: 2500 Newton Road, Weott

Landowner/Timber Owner: Daisy Flats LLC Co

Access to the property is from Newton Road, which is located off Highway 101. From Highway 101 (Weott offramp), take Newton Road for approximately 1.7 miles to locked gate, which is the property.

Parcel Description & Timber Harvest History

Note: The property background has been summarized using personal accounts of the current landowner, digital orthographic quadrangle (DOQ) imagery, Humboldt County Web GIS, CAL FIRE Watershed Mapper v2, and Historic Aerials. To avoid speculation and maintain relevancy, the property background focuses mainly on the past 10-15 years.

The property is dominated by 12-year-old conifer and hardwood regeneration resulting from a 2009 timber harvest in association with THP 1-09-067 HUM. With the exception of the southwestern corner, the majority of the property was clearcut using the Variable Retention silvicultural prescription. The southwestern corner of the property was treated with the selection prescription due to the presence of springs, Class II watercourses, and a Special Treatment Area located adjacent to Humboldt Redwood State Park. Following the timber harvesting, the property was sold to Jessie Parsons in 2010. The current owners, Daisy Flats LLC Company, acquired the property in 2020.

Project Description

Six sites related to cannabis cultivation were inspected during the field assessment within APN 211-261-016. The following table lists the inspected sites and their acreages; see detailed site descriptions below.

Cultivation Site/Associated Area	Total Acreage	Converted?	Converted Acreage
Site 1	0.12	Yes	0.12
Site 2	0.10	Yes	0.10
Site 3	0.31	Yes	0.31
Site A	0.57	Yes	0.57
Site B	0.11	Yes	0.11
Site C	0.46	Yes	0.46
Total:	1.67		1.67

Site 1

Per the Premises Diagram, Site 1 (Canopy 1) consists of 2,240 ft² of existing cannabis cultivation. Development of this site occurred between May 2014 and September 2015 per Google Imagery. The cultivation activities observed at this site impede the use of this space for current timber growth and future harvesting, and the site has effectively been converted from timber production to cannabis cultivation.

Site 2

Per the Premises Diagram, Site 2 (Canopy 2) consists of 1,841 ft² of existing cannabis cultivation. Development of this site occurred between May 2014 and September 2015 per Google Imagery. The cultivation activities observed at this site impede the use of this space for current timber growth and future harvesting, and the site has effectively been converted from timber production to cannabis cultivation.

Site 3

Per the Premises Diagram, Site 3 (Canopy 3 & 4) consists of 4,300 ft² of existing cannabis cultivation. Development of this site for cannabis cultivation occurred between May 2014 and September 2015 per Google Imagery. However, a majority of Site 3 is located within the footprint of a log landing used in association with THP 1-09-067 HUM. Based upon the RPF's familiarity with this log landing; no significant grading or expansion of the former log landing occurred in association with development and use for cannabis cultivation. The cultivation related activities observed at this site impede the use of this space for current timber growth and future harvesting, and the site has effectively been converted from timber production to cannabis cultivation.

Project Description (Cont.)

Site A

Per the Premises Diagram, Site A contains a 3,500-gallon water tank and is used for cannabis related storage. Per the Applicant; this site may be utilized for future cannabis cultivation in association with Commercial Cannabis Land Use Ordinance 2.0. Development of this site for cannabis cultivation occurred between May 2014 and September 2015 per Google Imagery. The cultivation related activities observed at this site impede the use of this space for current timber growth and future harvesting, and the site has effectively been converted from timber production to cannabis cultivation.

Site B

Per the Premises Diagram, Site B is a compost area and also used for cannabis related storage. Per the Applicant; this site may be utilized for future cannabis cultivation in association with Commercial Cannabis Land Use Ordinance 2.0. Development of this site for cannabis cultivation occurred between May 2014 and September 2015 per Google Imagery. The cultivation related activities observed at this site impede the use of this space for current timber growth and future harvesting, and the site has effectively been converted from timber production to cannabis cultivation.

Site C

Per the Premises Diagram, Site C contains a 50' by 72' metal building used for cannabis related storage, processing, and drying. Site C also contains 900 ft² of nursery/immature plant canopy, six 5,000-gallon water tanks, and a 2,500-gallon tank used for domestic water. Development of this site for cannabis cultivation initially occurred between September 2010 and August 2012, and was later expanded to its present size and configuration between May 2014 and September 2015 per Google Imagery. The cultivation related activities observed at this site impede the use of this space for current timber growth and future harvesting, and the site has effectively been converted from timber production to cannabis cultivation.

Timberland Conversion Summary

TRC observed 1.67 acres of timberland conversion for cultivation-related purposes within APN 211-261-016. This total does not exceed the three-acre conversion exemption maximum.

Limitations and Considerations for Timberland Conversion Activities

Watercourses and Water Resources

14CCR 1104.1(a)(2)(F): "No timber operations are allowed within a watercourse and lake protection zone unless specifically approved by local permit (e.g., county, city)."

No conversion areas exist within a Watercourse and Lake Protection Zone (WLPZ). Site 3 is located within the footprint of a log landing used in association with THP 1-09-067 HUM. A Class II spring is located approximately 70-75 feet upslope. This spring was protected during timber operations with a 50-foot WLPZ. Humboldt County's Grading and Open Space Ordinance would have applied to a Cal Fire Conversion Exemption (Unclassified Zoning) and County review and sign off would have been required for Cal Fire approval. Per Humboldt County's Streamside Management Area Ordinance (1984 General Plan), the spring would have been treated as an "Other Wet Area" as follows:

Other Wet Areas

10. For natural ponds, springs, vernal pools, marshes and wet meadows (exhibiting standing water yearlong or riparian vegetation): Development except for wells and springboxes shall be consistent with the standards for streamside management areas, where appropriate.

Limitations and Considerations for Timberland Conversion Activities (Cont.)

"Other Wet Areas" per Humboldt County's Grading and Open Space Ordinance prohibit development within such features but do not explicitly require an SMA to be established around said features to provide protection. Therefore, the past timberland conversion that occurred within 70-75 feet of the spring or "Other Wet Area" is in conformance with Humboldt County's Streamside Management Area Ordinance (1984 General Plan). The development of Site 2, which is located below and downstream of the "Other Wet Area" is also in conformance with Humboldt County Code § 314-61.1.11 as follows:

61.1.11 Prohibited Activities.

61.1.11.1 The following prohibitions pertain to all development and related activities within streamside management areas, wetlands and or other wet areas within the County:

61.1.11.1.1 The discharge of soil, vegetation, or other organic or inorganic material from any development activity, except those authorized pursuant to the County's Streamside Management Area Ordinance, on site or off site, into any streamside management or other wet area in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.

61.1.11.1.2 The placement of soil, vegetation, or other organic or inorganic material from any development activity, except those authorized pursuant to the County's Streamside Management Area Ordinance, on site or off site, where such material could pass into any streamside management or other wet area in quantities which could be deleterious to fish, wildlife, or other beneficial uses.

Slash, Woody Debris, and Refuse Treatment

14 CCR 914.5(b): "Non-biodegradable refuse, litter, trash, and debris resulting from timber operations, and other activity in connection with the operations shall be disposed of concurrently with the conduct of timber operations."

14CCR 1104.1(a)(2)(D) – Treatment of Slash and Woody Debris

- 1) Unless otherwise required, slash greater than one inch in diameter and greater than two feet long, and woody debris, except pine, shall receive full treatment no later than April 1 of the year following its creation, or within one year from the date of acceptance of the conversion exemption by the Director, whichever comes first.
- 2) All pine slash three inches and greater in diameter and longer than four feet must receive initial treatment if it is still on the parcel, within 7 days of its creation.
- 3) All pine woody debris longer than four feet must receive an initial treatment prior to full treatment.
- 4) Initial treatment shall include limbing woody debris and cutting slash and woody debris into lengths of less than four feet, and leaving the pieces exposed to solar radiation to aid in rapid drying.
- 5) Full treatment of all pine slash and woody debris must be completed by March 1 of the year following its creation, or within one year from the date of acceptance of the conversion exemption by the Director, whichever comes first.
- 6) Full slash and woody debris treatment may include any of the following:
 - a) Burying;
 - b) Chipping and spreading;
 - c) Piling and burning; or
 - d) Removing slash and woody debris from the site for treatment in compliance with (a)-(b). Slash and woody debris may not be burned by open outdoor fires except under permit from the appropriate fire protection agency, if required, the local air pollution control district or air quality management district. The burning must occur on the property where the slash and woody debris originated.
- 7) Slash and woody debris, except for pine, which is cut up for firewood shall be cut to lengths 24 inches or less and set aside for drying by April 1 of the year following its creation. Pine slash and woody debris which is cut up for firewood shall be cut to lengths 24 inches or less and set aside for drying within seven days of its creation.
- 8) Any treatment which involves burning of slash or woody debris shall comply with all state and local fire and air quality rules.

Limitations and Considerations for Timberland Conversion Activities (Cont.)

The RPF observed no slash, logs, and/or woody debris at any of the sites, which would require treatment per the Forest Practice Rules.

Biological Resources and Forest Stand Health

14 CCR 1104.1 (2)(H): "No sites of rare, threatened or endangered plants or animals shall be disturbed, threatened or damaged and no timber operations shall occur within the buffer zone of a sensitive species as defined in 14 CCR 895.1"

The query of the CNDDDB Database on April 10, 2021 revealed one observation of sensitive, rare, threatened, or endangered species or species of special concern within a 0.7-mile radius biological assessment area (BAA) surrounding the property. An Obscure bumblebee was detected approximately ½ mile west of the closest conversion site. This species, albeit sensitive, would not require protection per the Forest Practice Rules and Act given that this species is neither state or federally listed nor is a Board of Forestry Species of Special Concern.

The query of the CNDDDB NSO Database revealed one known Northern Spotted Owl (NSO) Activity Center within a 0.7-mile radius biological assessment area (BAA) surrounding the property. HUM 331 is located approximately 3,000 feet north of the property. Given the distance from the project area, the 100-acre Core Area and conventional ¼-mile disturbance buffer do not overlap the subject property. There is adequate NSO habitat for the NSO site per USFWS Attachment A Northern Spotted Owl Take Avoidance Analysis – Coast (3/15/11), Scenario 4 [14 CCR 919.9(e)]. The 1.67 acres of timberland conversion would not have resulted in a loss of NSO habitat below thresholds required by the USFWS. Timberland Resource Consultants has been conducting NSO surveys on an adjoining property to the west (1-20NTMP_009-HUM), which include survey stations that overlap the subject property. No NSOs have been historically detected during NSO surveys conducted in association with THP 1-09-067 HUM and 1-20NTMP_009-HUM)

The conversion areas did not include late successional stands, late seral stage forests, or old growth trees. The conversion area did not include any trees that existed before 1800 A.D. and are greater than sixty (60) inches in diameter at stump height for Sierra or Coastal Redwoods, and forty-eight (48) inches in diameter at stump height for all other tree species.

Sudden Oak Death

No major forest health issues were observed during the field assessment. The property is located within Humboldt County, a Zone of Infestation (ZOI) for Sudden Oak Death (SOD) and the RPF observed symptoms, signs, and evidence of oak mortality within the subject property, including several of the six sites inspected. Preliminary research has shown that trees infected or killed by SOD are prone to rapid decay and unpredictable failure. The RPF's professional experience and opinion is that infected trees will eventually die and topple over and their removal is recommended when located within striking distance of improvements to minimize hazard. Proper disposal of infested SOD material contributes toward limiting pathogen spread. Removal of SOD debris from the property is not recommended. Whenever possible, leave SOD tree debris on site in a safe area where woody debris will not become dislodged, contaminate uninfected hosts, or constitute a fire hazard. When infected oaks are cut down and left on site, chip the branches and cut and split the wood. To prevent pathogen spread via muddy boots or equipment, avoid chipping in wet weather. Stack woodpiles in sunny locations to promote rapid drying. Do not leave firewood and chips in an area where they might be transported to another location. Leaving infected trees intact on site may benefit wildlife. If chipping is not possible, reduce fire hazard by lopping and scattering branches so they lay close to the ground at least 30 feet away from any structure, driveway, roadside, or propane tank (consult your local fire department). See attachment titled *A Homeowners Guide to Sudden Oak Death* for more information on diagnosing infected trees, disposing of contaminated material, and understanding treatment options to minimize spread of SOD.

Limitations and Considerations for Timberland Conversion Activities (Cont.)

Cultural Resources

14 CCR 1104.1 (2)(I): "No timber operations are allowed on significant historical or archeological sites."

The RPF conducted pre-field research for the project's geographic location and closely surveyed the converted sites and surrounding undisturbed areas for presence or evidence of prehistoric or historic sites. The archaeological survey was conducted by Chris Carroll, a certified archaeological surveyor with current CALFIRE Archeological Training (Archeological Training Course #575). The survey consisted of examining boot scrapes, rodent disturbances, natural and manmade areas of exposed soils, and road and cultivation site surfaces. No archeological sites were observed during the April 7, 2021 field assessment.

Per 14 CCR 1104.2(2)(I), all required Native American tribes and organizations have been notified of the project location and are encouraged to respond with any information regarding archaeological sites, cultural sites, and/or tribal cultural resources within or adjacent to the project area.

Please note that the entire subject property was surveyed by myself in association with THP 1-09-067 HUM and no prehistoric or historic sites were found within or adjacent to the THP area. See *Archaeological Survey Report for the Mail Ridge Timber Harvest Plan, Humboldt County, California (June 3, 2009)*.

Recommendations

In summary, a total of 1.67 acres of unauthorized timberland conversion has occurred within APN 211-261-016. This total does not exceed the three-acre conversion exemption maximum. The past conversion activities conducted on the property comply with the California Forest Practice Act and the California Forest Practice Rules. The RPF has no recommendations.

Sincerely,



Chris Carroll, RPF #2628
Timberland Resource Consultants

Pictures



Picture 1: Site 1. Photo date 4-7-2021.

Pictures



Picture 2: Site 2. Photo date 4-7-2021.

Pictures



Picture 3: Site 3. Photo date 4-7-2021.

Pictures



Picture 4: Site A. Photo date 4-7-2021.

Pictures



Picture 5: Site B. Photo date 4-7-2021.

Pictures



Picture 6 & 7: Site C. Photo date 4-7-2021.

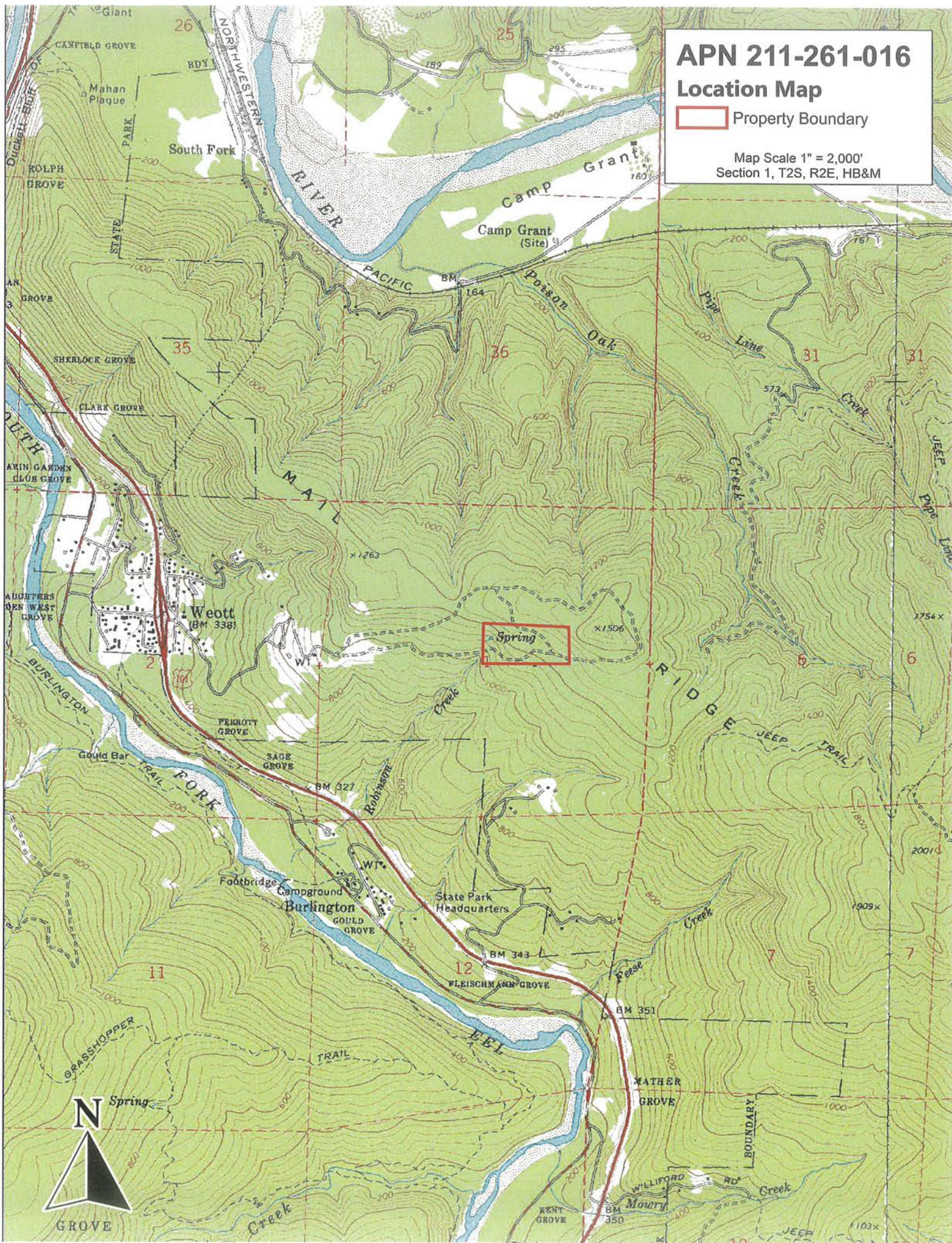
Maps

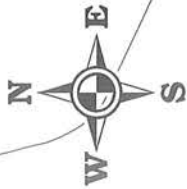
APN 211-261-016

Location Map

 Property Boundary

Map Scale 1" = 2,000'
Section 1, T2S, R2E, HB&M





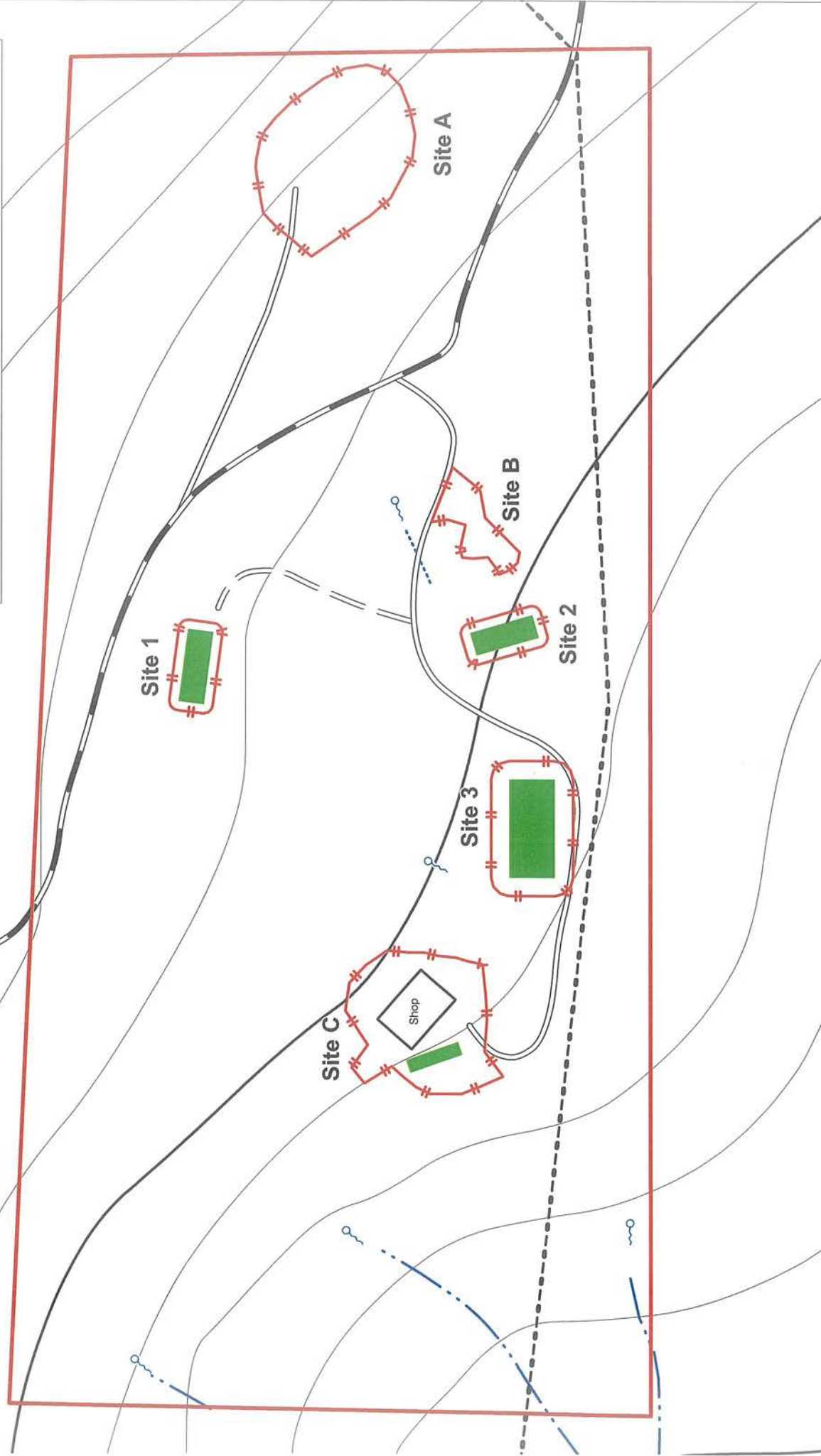
APN 211-261-016

Conversion Evaluation Map



1" = 150'

- | | |
|-----------------------|-----------------------------------|
| Property Boundary | Newton Road / Permanent Rock Road |
| Timberland Conversion | Permanent Rock Road |
| Cannabis Site | Seasonal Road |
| Powerline | Class II Watercourse |
| | Class III Watercourse |
| | Spring |















APN 211-261-016

Conversion Evaluation Map

 NORTH
1" = 150'

- | | |
|---|---|
|  Property Boundary |  Newton Road / |
|  Timberland Conversion |  Permanent Rock Road |
|  Cannabis Site |  Seasonal Road |
| |  Class II Watercourse |
| |  Class III Watercourse |
| |  Spring |
| |  Powerline |



APN 211-261-016

CNDDDB Map

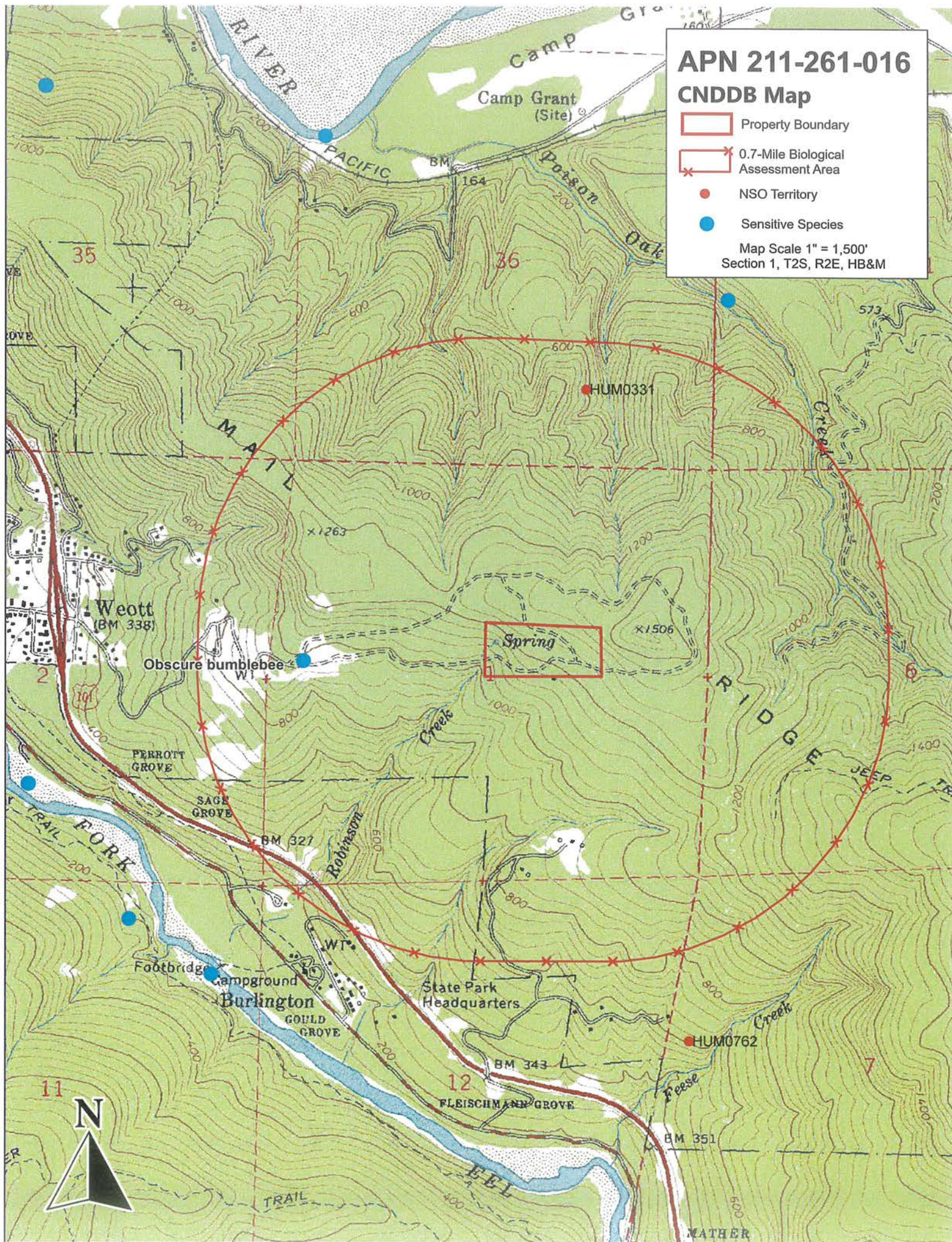
Property Boundary

0.7-Mile Biological Assessment Area

NSO Territory

Sensitive Species

Map Scale 1" = 1,500'
Section 1, T2S, R2E, HB&M



A Homeowners Guide to Sudden Oak Death

A Homeowner's Guide to Sudden Oak Death

A plant disease commonly called Sudden Oak Death is threatening coastal forests in California and Oregon. Currently found in coastal California counties from Monterey to Humboldt and in a small portion of southwest Oregon, the disease is caused by the pathogen *Phytophthora ramorum* (pronounced Fi-TOFF-thor-ra ra-MOR-um). Sudden Oak Death has resulted in the death of millions of tanoak and coast live oak trees. In addition, more than 35 other plant species are susceptible to the pathogen, yet most of these species suffer only minor damage, limited to leaf spots or twig dieback. Though Sudden Oak Death is a forest disease, it is common in urban-wildland interface areas, so it presents many challenges for homeowners. This guide addresses homeowner concerns, including diagnosing infected trees, disposing of contaminated material, and understanding treatment options that are available.

What is the connection between Sudden Oak Death and nursery plants?

Many common horticultural plants are hosts for *Phytophthora ramorum*; consequently, nurseries in California, other states, and other countries, have found the pathogen on their plants. Plants are shipped all across the country, but they are strictly regulated. All *P. ramorum* host plants in California's regulated counties must be inspected and approved prior to shipment out of the regulated area. Nevertheless, carefully inspect the leaves of host plants for symptoms before making a purchase, and refrain from planting these horticultural hosts near susceptible oaks in your yard.

Because *P. ramorum* may be spread through the movement of infested soil and plant materials, State and federal regulations are in place to control the potential spread of the pathogen to uninfested areas. *P. ramorum* host species plant material is regulated by the California Department of Food and Agriculture (CDFA) and the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS). Quarantine regulations are in place for the infested counties, and before moving susceptible plant material out of the regulated area, you must contact your Agricultural Commissioner for a permit.

If my oak tree has Sudden Oak Death, what are the chances it will die?

There is no way to determine if an individual tree will live or die after contracting Sudden Oak Death. Each tree responds differently to infection; experience tells us that it is rare for a tree pathogen to kill all of the trees it infects. Depending on a number of factors, some trees may never become infected, some may become infected and survive for various lengths of time, and others may become infected and die quickly. Because Sudden Oak Death is a relatively new disease in California, it will take time to determine just how likely different outcomes are for different tree species. Initial observations tell us that once infected, tanoak has a high probability of being killed by *P. ramorum*, but some individuals are still likely to survive. Coast live oaks appear to have a lower probability of being killed, though many have been killed by the disease. There is little mortality information on California black oak at this time, so it is difficult to predict how this tree species will fare.



California
Oak Mortality
Task Force

Hosts, Symptoms, & Diagnosis

Phytophthora ramorum affects different species in different ways. It can be lethal to tanoak, coast live oak, California black oak, Shreve oak, canyon live oak, and madrone saplings, while it may cause only a minor leaf or needle disease for other hosts such as California bay laurel, coast redwood, and Douglas-fir. The list of species and varieties known to be susceptible to this plant pathogen continues to grow; check suddenoakdeath.org for the latest updated host list.

How can I confirm that my oak tree has Sudden Oak Death?

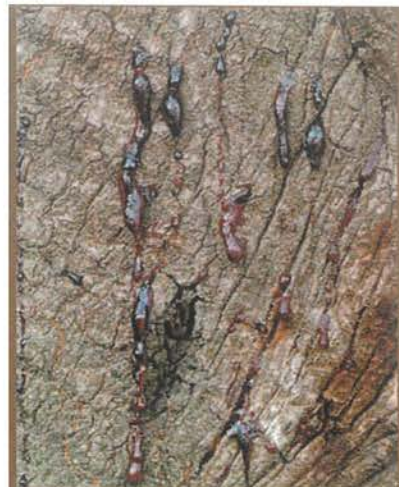
Because other organisms and injuries can produce symptoms on oaks that look similar to Sudden Oak Death, homeowners will not be able to diagnose their trees by themselves with absolute certainty. However, there are some steps that can help you determine if *Phytophthora ramorum* is likely.

(1) Determine if your oak tree is a susceptible species. To date, Sudden Oak Death has only been found on the following tree species in California: tanoak, coast live oak, Shreve oak, canyon live oak, and California black oak. Of these, tanoak is the species most likely to be killed.

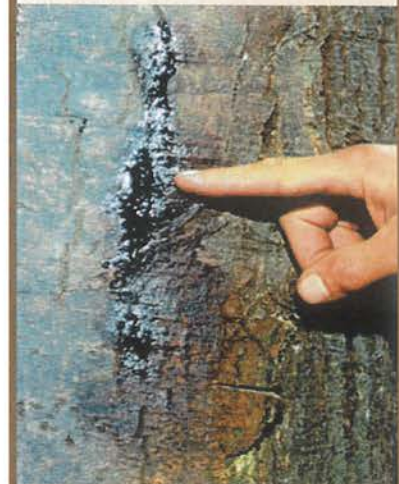
(2) Determine if you are in an infested area. Check the Sudden Oak Death mapping and monitoring site or contact staff in your local County Extension, Agricultural Commissioner, or California Department of Forestry and Fire Protection (CDF) offices. If you are outside of an infested area, your tree could still be infected with *Phytophthora ramorum*, but it would be less likely.

(3) Compare the symptoms of Sudden Oak Death with those on your oak tree. Check other susceptible tree and shrub species nearby. Do they have leafspots or other symptoms of *P. ramorum*? California bay laurel is the best indicator of the risk and presence of the disease. Photos of symptoms on oaks, California bay laurel, and other hosts can be found at suddenoakdeath.org.

The probability that your tree is infected with *Phytophthora ramorum* will be greater if your tree is a susceptible species, exhibits typical symptoms, and is located in an infested area where other trees and plants are showing symptoms. Although positive confirmation can only be done through laboratory testing, diagnosis of *Phytophthora ramorum* based on visual symptoms can justify taking preventative action if you live in a generally infested area. If you ask a tree care professional to make such a judgment, determine what training or qualifications enable them to do this.



Bleeding cankers on a coast live oak trunk (Photo by Matteo Garbelotto, University of California, Berkeley)



Bleeding cankers on a tanoak trunk (Photo by Pavel Svihra, UC Cooperative Extension)

Rhododendron leaf spots (Photo by B. Moltzan, Missouri Department of Conservation)



(Left) California bay laurel showing leaf spots typical of *P. ramorum* (Photo by Bruce Moltzan, Missouri Department of Conservation)
(Right) California bay laurel leaf spots (Photo by Matteo Garbelotto, University of California, Berkeley)



Treatments: A phosphonate compound is registered as a preventative treatment for *Phytophthora ramorum*, for use on individual, high-value tanoak and oak trees. This treatment is NOT a cure, but can help protect trees from infection, as well as suppress disease progression in very early infections. However, fungicide treatment of *P. ramorum*-infected trees is not always appropriate. Trees with advanced symptoms cannot be saved.

The phosphonate compound may be injected or mixed with a surfactant and sprayed on the trunk for absorption through bark. The optimal treatment routine for coast live oaks calls for two applications the first year followed by one application annually thereafter. It is recommended to treat in either the fall then spring, or spring then fall the first year. Follow up treatments should be only in the fall annually (avoid treatments when temperatures are very low). If risk is minimal, meaning low abundance of infections or host species in the area, follow up treatments can be bi-annual.

Since the treatment must be made to healthy trees, and the pathogen's distribution and activity is patchy and somewhat unpredictable, it is difficult to determine which trees need to be treated. Generally, you should treat healthy, high-value oak or tanoak trees within 150ft of other infested plants. You may want to treat healthy, high-value oaks or tanoaks if they are surrounded by healthy California bay laurel and there are known infections between 150ft and 1000ft away. Treatment is NOT recommended in areas where infested plants are not already present. Although these treatments are best used as a preventative approach, it may be possible to prolong the life of trees already infected by *P. ramorum*. Research results indicate that treatments are effective only if trees are treated within the first two months of infection. Treatment of trees having displayed symptoms for six months or longer is not recommended.

Exactly how the pathogen spreads to oak trees is unknown, but it is suspected that neighboring non-oak host plants may be a source of infection for oak trees. However, because this relationship is poorly understood, large-scale removal of non-oak host plants is not being recommended as a way to prevent disease spread. Currently, it may be best to plant non-*Phytophthora ramorum* hosts under or adjacent to oak trees. Rhododendron, for example, is a commonly planted ornamental that is a host for *P. ramorum*, and it is possible that an infested rhododendron could infect a nearby oak. Additionally, the summer watering necessary to keep lawns and non-native ornamental shrubs, such as camellias, alive under an oak tree severely predisposes the oak to other diseases.

The use of insecticides to prevent *P. ramorum* infection is unjustified and without merit. However, the treatment of individual, high-value landscape trees displaying early bleeding symptoms of Sudden Oak Death may be justified to control damage from secondary bark beetle attacks. If an insecticide is to be used, apply it only if the disease is not at an advanced stage and realize it may only prolong the life of the tree for a relatively short period of time.

Tree Removal: A tree with Sudden Oak Death needs to be considered and treated differently than a tree without the disease, but the disease alone is not justification for removing a tree. Current information indicates that non-oak foliar hosts contribute the most to disease spread, so removing infected oak trees will probably have little or no impact on local disease levels and spread. However, an important consideration with respect to any tree is whether or not it presents a hazard to life or property. All trees present some hazard, depending on the tree's structural integrity and its potential to do harm should it fail or portions break off. Preliminary research has shown that trees infected or killed by *P. ramorum* are prone to rapid decay and unpredictable failure. Green infected trees, as well as trees already dead from *P. ramorum* and/or secondary pests, are at increased risk of trunk and limb breakage.

Who should I hire to treat my trees?

The COMTF has held many training sessions for tree care professionals in California. A list of those training participants can be found on the COMTF website. Go to suddenoakdeath.org to find a professional in your area who has attended a general diagnostic training session or a training session on applying the registered preventative chemical treatment. While they have been trained, it is still important to ask for references, as well as to interview the arborist and applicator to see if they are up-to-date on the latest *Phytophthora ramorum* management strategies.

The decision to remove a hazardous tree ultimately lies with the property owner. In order to get an objective assessment of hazardous conditions, contact a certified arborist or other qualified professional. Any dead tree has an increased risk of failure, but even dead trees have value, and if there is not a risk to life or property, consider leaving it standing. Standing dead trees provide important wildlife habitat, and after they fall and decay, they are a source of nutrients to be recycled into the soil.

Always consult regulatory officials regarding local tree ordinances before deciding to remove trees. Experienced tree service technicians should conduct tree felling, as infected trees may have an abundance of structural wood decay. If there is an acute emergency, contact your city arborist, local fire, or police department.

If I have an infected oak tree cut down, what should be done with the wood?

The simplest and best way to deal with infested wood is to leave it on site, chipping the smaller pieces of wood for use as mulch, and splitting the larger pieces of wood for firewood. Do not stack oak firewood next to living oak trees since this can lead to insect attack on the living trees. If the stack must be next to living trees, consider seasoning the logs beneath a tightly sealed, clear plastic tarp to prevent the buildup of destructive insects.

What should be planted to replace a tree that was killed by *Phytophthora ramorum*?

If you want to replant, it is important to choose a plant that will suit your needs and adapt well to the site. There are many resources available that can guide you in making the right choice. Check to see if there are any local ordinances or guidelines that govern tree replacement or planting.

Resistance to *P. ramorum* in oak trees is just beginning to be explored. Resistant planting stock is not available at this time, nor is it known if it will ever be available. If you want to replant the same species of tree that was lost, there is a risk that the new tree may also suffer from the disease. If you have space for replanting many trees, consider replanting the same species in combination with other trees that don't get the disease. Thus, if some trees are lost to *P. ramorum* there will still be other trees that survive. Coast live oaks do not seem to be infected by *P. ramorum* until they reach about 4" in diameter, so new trees should be immune for a number of years, and high value trees can be treated if necessary once they reach a susceptible age. Species in the white oak group such as valley oak, Garry oak, and blue oak are not susceptible to *P. ramorum*.

Many common ornamental plants, such as rhododendrons, azaleas, and camellias, are also known hosts of *P. ramorum*. These plants not only can host spores that may infect oak trees, but their watering requirements are vastly different than those of California native oaks. We do not recommend planting these species under or near native oaks.

If infected wood is removed from your property, make sure it is utilized or disposed of in a way that does not spread the disease. Avoid leaving wood next to roads where it could be picked up and transported off-site by unauthorized parties. Regulations prohibit the movement of host plants and plant parts out of the quarantined area. If you have infected trees cut down, make sure the wood and other tree parts are not moved outside of the quarantine area.

Debris Disposal:

Disposal of infested material is extremely important because branches, twigs, and leaves from California bay laurel, rhododendron and other host plants may harbor *P. ramorum*, even after they are removed from the plant. If infested plant debris

or infected live plants are moved, they may inadvertently transfer the pathogen to uninfested areas. Unfortunately, *P. ramorum* has been present in many areas of coastal California for a decade or longer, making complete eradication impossible. In infested areas, the best option is to leave infested material on site, chipping the small material (for use as ground cover) and using larger pieces for firewood. Composting can also successfully kill the pathogen, but the compost must reach temperatures that are probably not possible or practical in a home composting site. Since inoculum levels are already thought to be high, leaving the additional inoculum from the infested plant material on site will not significantly worsen the local disease conditions. Plant debris removal from the property is only recommended if it is the first infected tree to be detected in the area, or if fire risk is high.