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November 22, 2019

Jose Caballero  
PO Box 146  
Alderpoint, CA 95511

Re: APN 223-022-002

The following is an evaluation of potential timberland conversion on cannabis cultivation sites and associated areas for a proposed cannabis cultivation permit under the Humboldt County Cannabis Land Use Ordinance (HCCLUO) 2.0. 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 contained within the application on October 21, 2019. 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: 223-022-002

Acreage: 98 acres

Legal Description: NE ¼ of SE ¼ of Section 1  
Township 5 South, Range 4 East,  
Humboldt Base & Meridian, Humboldt County

Located on USGS 7.5' Quadrangle: Harris

Humboldt County Zoning: Agricultural Exclusive and TPZ

Site Address: None

Landowner/Timber Owner: Jose L & Cathy A Caballero Trust

The project is located in the New Harris area, on the west side of Bell Springs Road, and is accessed by Bellus Road.

## 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 consists of second growth tanoak, madrone, and Douglas-fir, and oak woodlands/natural grasslands encroached upon by Douglas-fir. Review of 1968 historic aerial imagery reveals that the property was a combination of natural grassland, oak woodlands, and scattered old growth Douglas-fir. Review of 1993 imagery reveals that the old growth Douglas-fir was harvested post 1968/early 1970's based upon the presence of skid roads, truck roads, and landings. Review of aerial imagery from 1968 to present reveals oak woodlands and natural grasslands have been shrinking due to Douglas-fir encroachment. Present timber stand composition are a mosaic of second growth tanoak and Douglas-fir (40-50 years in age) and mixed stands of Douglas-fir, black oak, and Oregon white oak. The formerly harvested old growth stands are dominated by tanoak with a minor component of madrone. Since the original harvest of old growth, there have been no subsequent commercial harvests per Cal Fire's Watershed Mapper ([http://egis.fire.ca.gov/watershed\\_mapper/](http://egis.fire.ca.gov/watershed_mapper/)). The current landowner has owned the property since 2003.

## Project Description

Six cultivation sites were inspected during the field assessment within APN 223-022-002. The following table lists the inspected sites and their acreages; see detailed site descriptions below.

Cultivation Site	Total Acreage	Converted?	Converted Acreage
Site 1	0.15	Yes	0.15
Site 2	0.14	Yes	0.14
Site 3	0.04	Yes	0.04
Site 4	0.04	Yes	0.04
Site 5	0.47	Yes	0.47
Site 6	0.30	No	0.30
Total:	1.14		0.84

### Site 1

Review of Google and NAIP aerial imagery reveals that the cultivation site was located in a forest opening consisting of whitethorn, manzanita, and other ceanothus species (buckbrush, snowbrush, and blueblossom). The site was developed to its present size and configuration between 2010 and 2012. The cultivation activities observed impede the use of this space for current timber growth and harvesting; in this way, the landowner has effectively converted the single use of this space from timber production to cannabis cultivation.

### Site 2

Review of Google and NAIP aerial imagery reveals that the cultivation site was located in a forest opening consisting of whitethorn, manzanita, and other ceanothus species (buckbrush, snowbrush, and blueblossom). The site was initially developed between 2010 and 2012 and later expanded to its present size and configuration between 2012 and 2014. The cultivation activities observed impede the use of this space for current timber growth and harvesting; in this way, the landowner has effectively converted the single use of this space from timber production to cannabis cultivation.

### Site 3

Review of Google and NAIP aerial imagery reveals that the cultivation site was located on an old skid road/logging road and road-side landing, which appears to have formerly contained conifer and hardwood pole-sized timber. The site was initially developed between 2010 and 2012 and later slightly expanded to its present size and configuration between 2012 and 2014. The cultivation activities observed impede the use of this space for current timber growth and harvesting; in this way, the landowner has effectively converted the single use of this space from timber production to cannabis cultivation.

## **Project Description (Cont.)**

### **Site 4**

Review of Google and NAIP aerial imagery reveals that the cultivation site was formerly second growth tanoak, madrone, and Douglas-fir. The site was developed to its present size and configuration between 2010 and 2012. The cultivation activities observed impede the use of this space for current timber growth and harvesting; in this way, the landowner has effectively converted the single use of this space from timber production to cannabis cultivation.

### **Site 5**

Review of 1968, 1993, and 1998 imagery (<https://www.historicaerials.com>) reveals that the site was formerly a log landing. 1993 imagery in particular, reveals the extent of the graded flat, which is masked/obscured in subsequent imagery from surrounding trees and brush. Close physical inspection of the site's fill-slopes reveals that former landing has not been enlarged since original construction over 50 years ago. However, there are indications that the landing surface was cleared of brush, presumably whitethorn, manzanita, and other ceanothus species, between 2014-2016. In 2017 substantial timber harvesting occurred along the periphery of the site, most significantly along the western edge, to increase sunlight as seen in the attached photographs. However, there were no signs that the site was expanded relative to its original size observed in the 1968, 1993, and 1998 imagery. The trees harvested were not removed, and most of the harvested trees have begun re-sprouting via coppice growth. This area is not "understocked" per 14CCR 912.7 of the Forest Practice Rules. The recently-past use of this landing for cannabis cultivation did not result in "timberland conversion" given that the landing was already there. However, future cultivation activities at Site 5 may negatively impact timberland productivity if it results in permanent development (structures), which would impede use of this area for landing operations. Other landing locations are certainly available, but future cannabis cultivation at this site could technically result in conversion which is a loss of timberland productivity.

### **Site 6**

Review of Google and NAIP aerial imagery reveals the cultivation site occupies a natural grassy opening. Review of historic aerial imagery shows no encroachment of brush and/or conifer/hardwood trees. The site was developed to its present size and configuration between 2014 and 2016 with no signs of tree removal. It's my professional opinion that conversion of timberland did not occur based upon present site conditions and available historic aerial imagery.

### **Timberland Conversion Summary**

Future cannabis cultivation at Site 5 may result in 0.47 acres of timberland conversion for cultivation-related purposes. The balance of the sites previously converted (0.37 acres) shall be restocked per the attached Restocking Plan to mitigate past activities.

## 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 Zones (WLPZ) or Equipment Exclusion Zone (EEZ). See attached Conversion Evaluation Map, which depict the locations of all watercourses on the property.

### 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.*

Logging slash and logs, which require treatment, are located at Site 5 as shown on the attached maps and photographs.

## Limitations and Considerations for Timberland Conversion Activities (Cont.)

### 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 November 14, 2019 revealed one observation of sensitive, rare, threatened, or endangered species or species of special concern within a 1.3-mile radius biological assessment area (BAA) surrounding the property. Methuselah's beard lichen was observed within the BAA. This species is not federally or state listed, but is considered limited in distribution in California. This species would not have required protection per the Forest Practice Rules had it been observed. No sensitive, rare, threatened, or endangered species or species of special concern were observed during the TRC field assessment of the project area, though potential habitat exists on the property.

The query of the CNDDDB NSO Database revealed no known Northern Spotted Owl (NSO) Activity Centers within a 1.3-mile radius biological assessment area (BAA) surrounding the property.

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.

### Cultural Resources

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

No archeological sites were observed during the TRC field assessment. 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. 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.

## Recommendations

TRC observed 0.84 acres of timberland conversion for cultivation-related purposes within APN 223-022-002. This total does not exceed the three-acre conversion exemption maximum. The conversion activities conducted on the property do not comply with the California Forest Practice Act and the California Forest Practice Rules.

### RPF Recommendations

1. Treat slash and logs at Site 5 as mapped and pictured.
2. Restock converted sites (Sites 1-4) which will not be used for future cannabis cultivation, per the attached Restocking Plan.

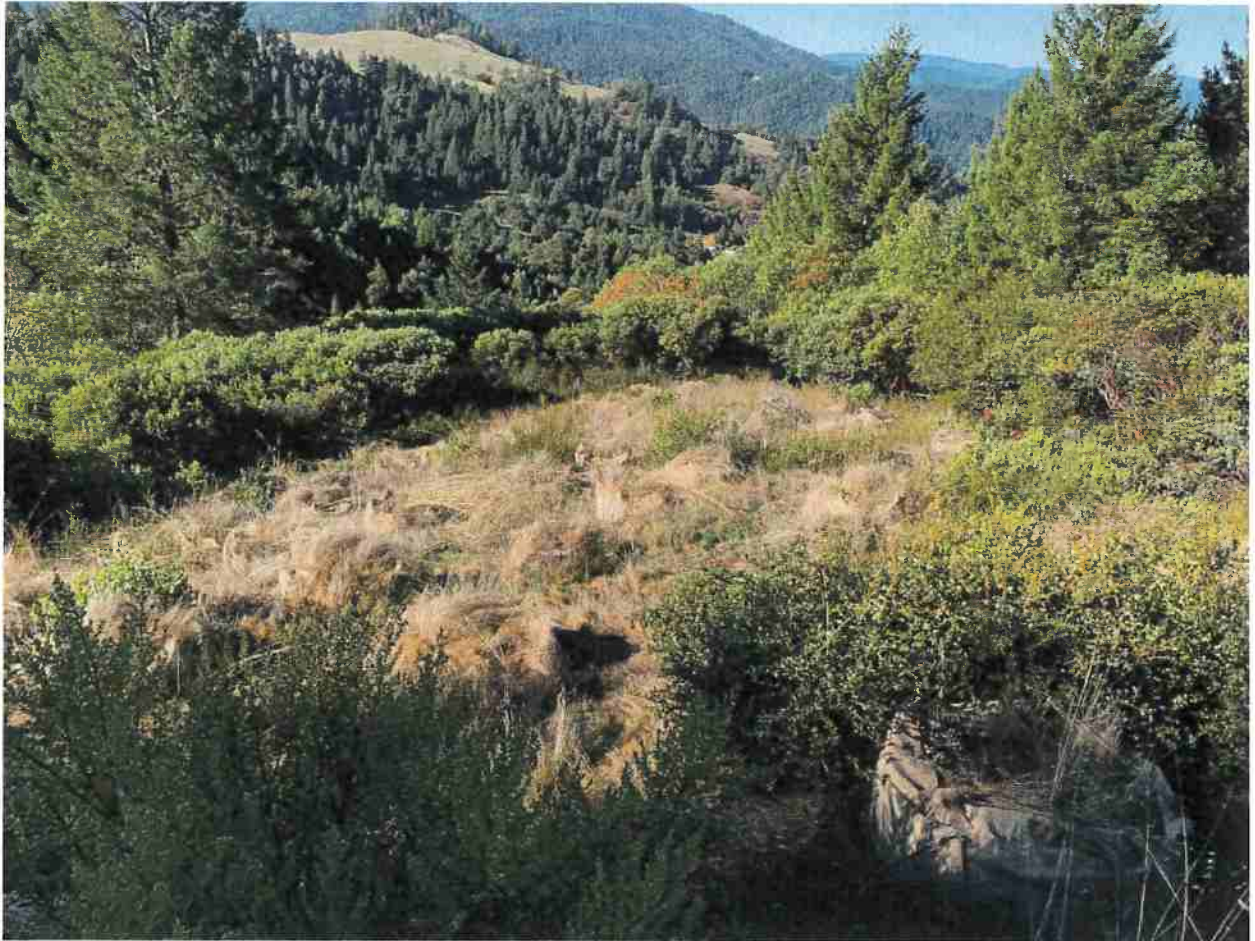
Sincerely,



Chris Carroll, RPF #2628  
Timberland Resource Consultants

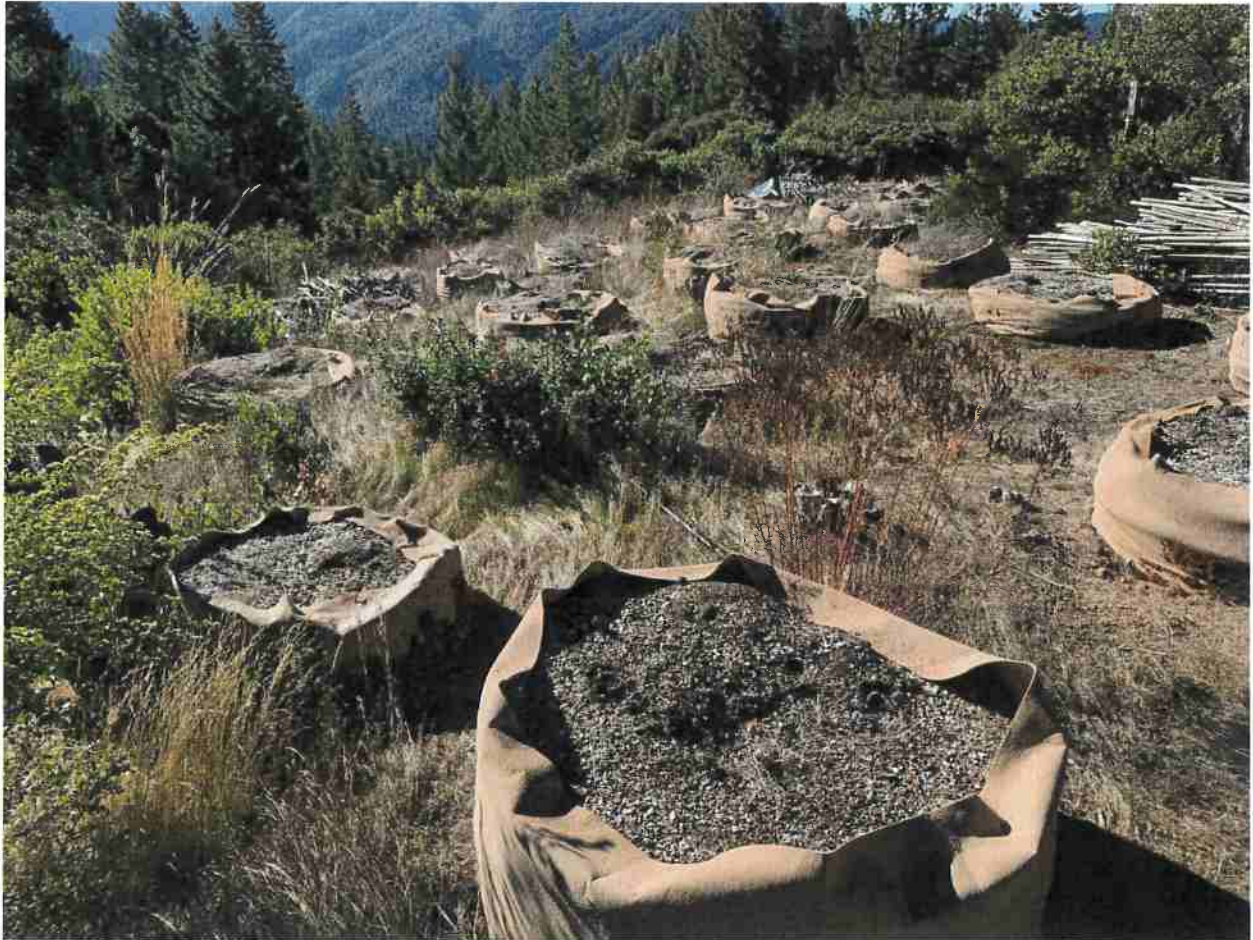


## Pictures



**Picture 1:** Site 1. Photo date 10-21-2019.

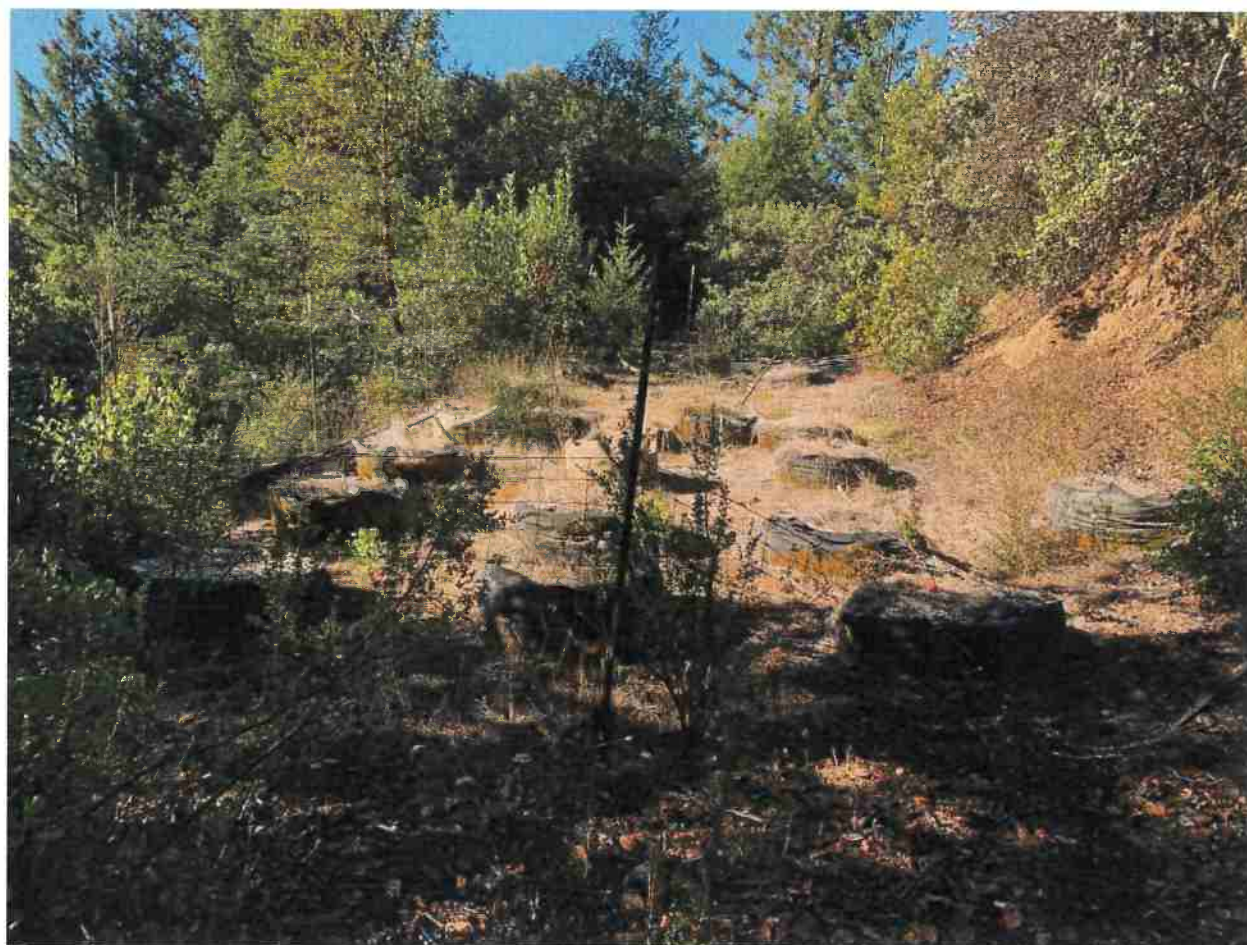
## Pictures



**Picture 2:** Site 2. Photo date 10-21-2019.

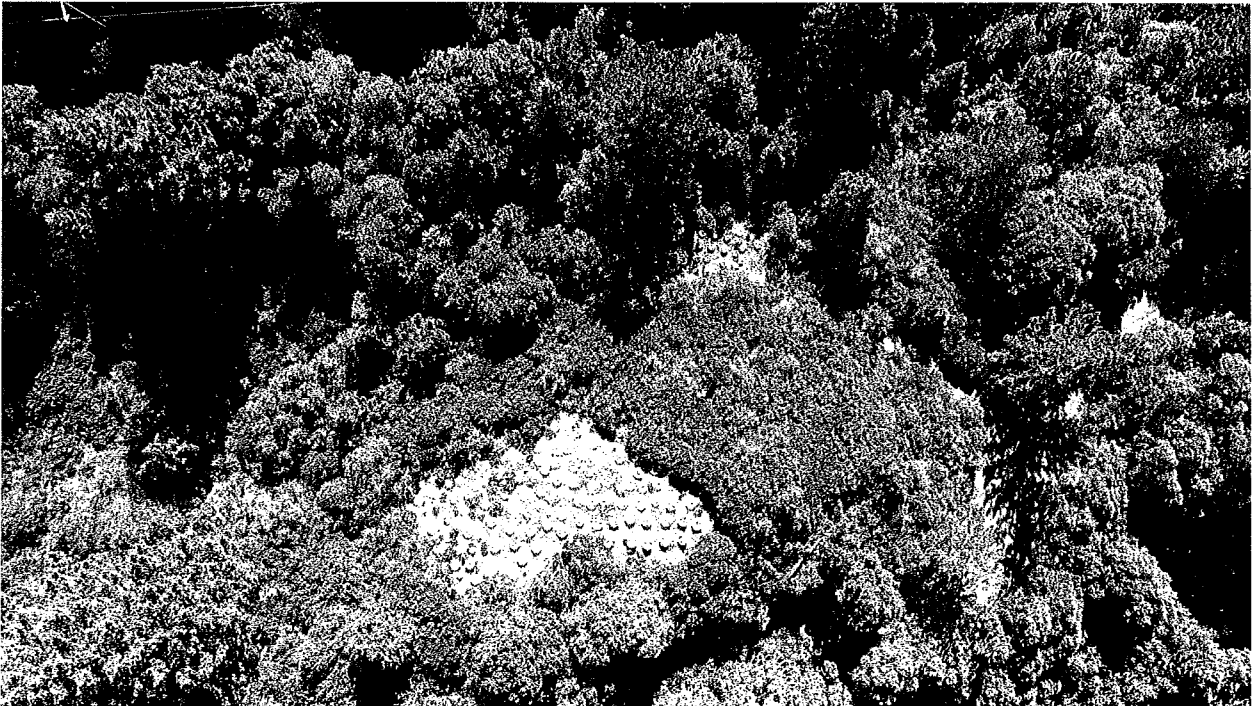
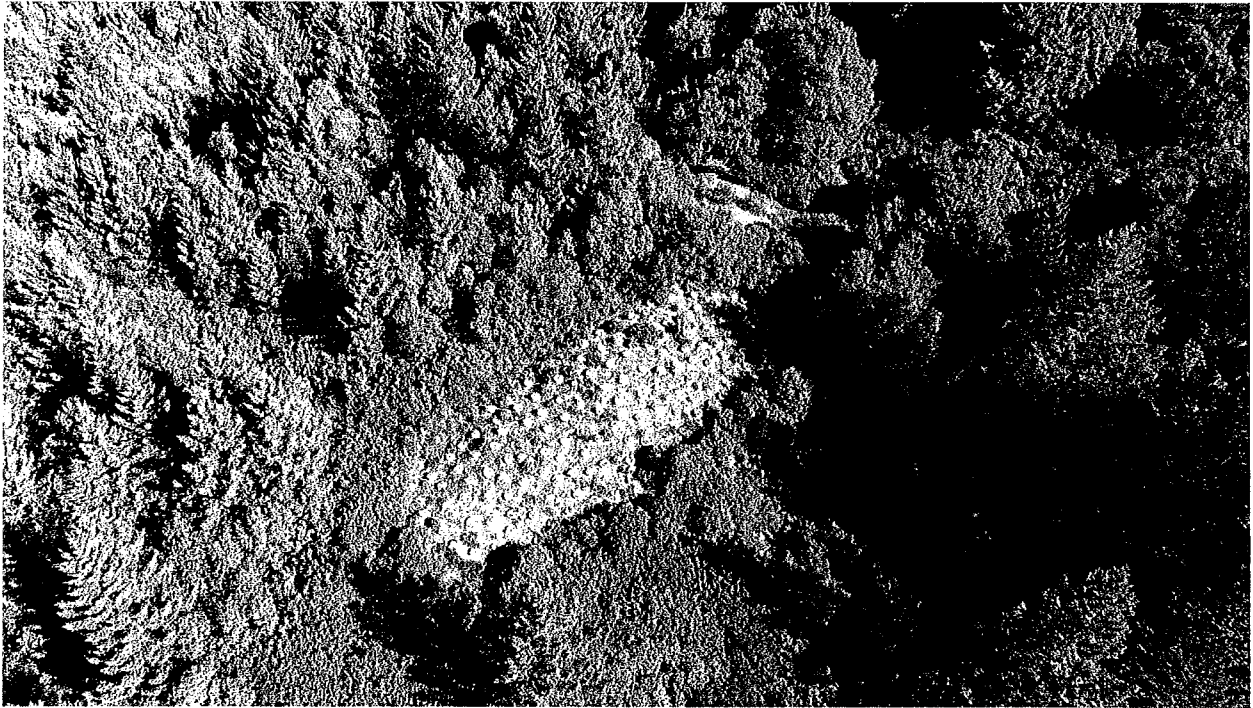


## Pictures



**Picture 3:** Site 3. Photo date 10-21-2019.

## Pictures



**Picture 4 & 5:** Site 1 top photo. Site 2 and Site 3 bottom photo. Photo date 10-21-2019.



## Pictures



**Picture 6 & 7:** Site 4 top photo. Site 5 bottom photo. Photo date 10-21-2019.



## Pictures



**Picture 8 & 9:** Site 5 top photo. Site 6 bottom photo. Photo date 10-21-2019.



## Pictures



**Picture 10:** Log deck at northeastern corner of Site 5 that requires treatment. Photo date 10-21-2019

## Pictures



**Picture 11:** Downed trees and slash located along the western periphery of Site 5 that requires treatment.  
Photo date 10-21-2019



## Pictures



**Picture 12:** Downed trees and slash located along the western periphery of Site 5 that requires treatment.  
Photo date 10-21-2019

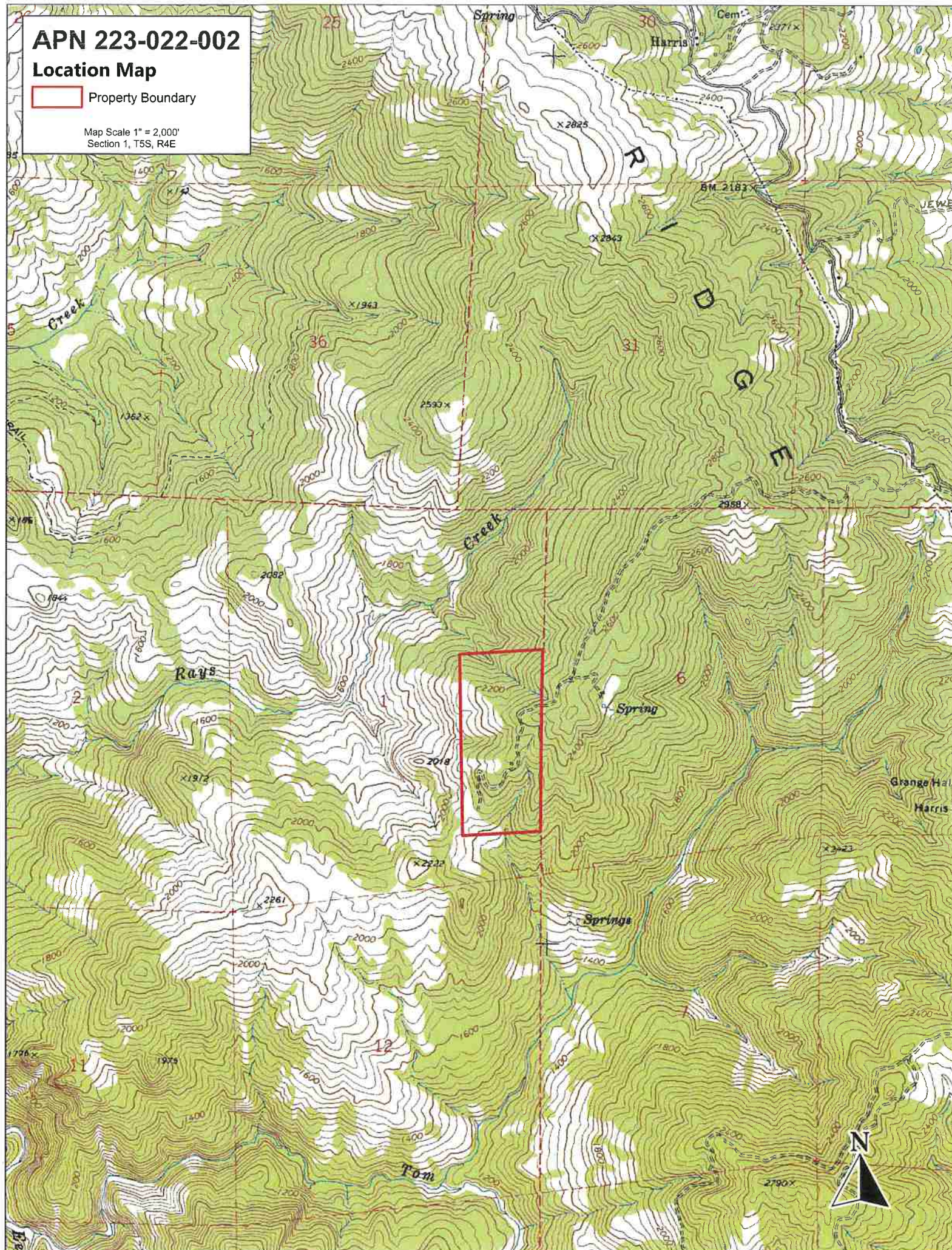


**APN 223-022-002**

**Location Map**

 Property Boundary










Map Scale 1" = 2,000'  
Section 1, T5S, R4E





# APN 223-022-002

## Conversion Evaluation Map

-  Property Boundary
-  Pre-existing Cultivation Site to be Restocked
-  Pre-existing Cultivation Site to be Utilized
-  Class III Watercourse
-  Class II Watercourse
-  Seasonal Dirt Road
-  ATV - Jeep Road
-  Seasonal Dirt/Rocked Road
-  Slash Treatment Required

Map Scale 1" = 200'  
Section 1, T5S, R4E, HB&M



Site 1



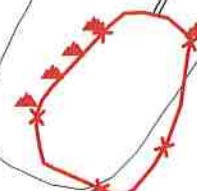
Site 2



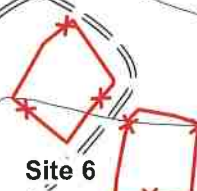
Site 4



Site 3



Site 5












Site 6



# APN 223-022-002

## Conversion Evaluation Map

-  Property Boundary
-  Pre-existing Cultivation Site to be Restocked
-  Pre-existing Cultivation Site to be Utilized
-  Class III Watercourse
-  Class II Watercourse
-  Seasonal Dirt Road
-  ATV - Jeep Road
-  Seasonal Dirt/Rocked Road
-  Slash Treatment Required

Map Scale 1" = 200'  
Section 1, T5S, R4E, HB&M

Site 1

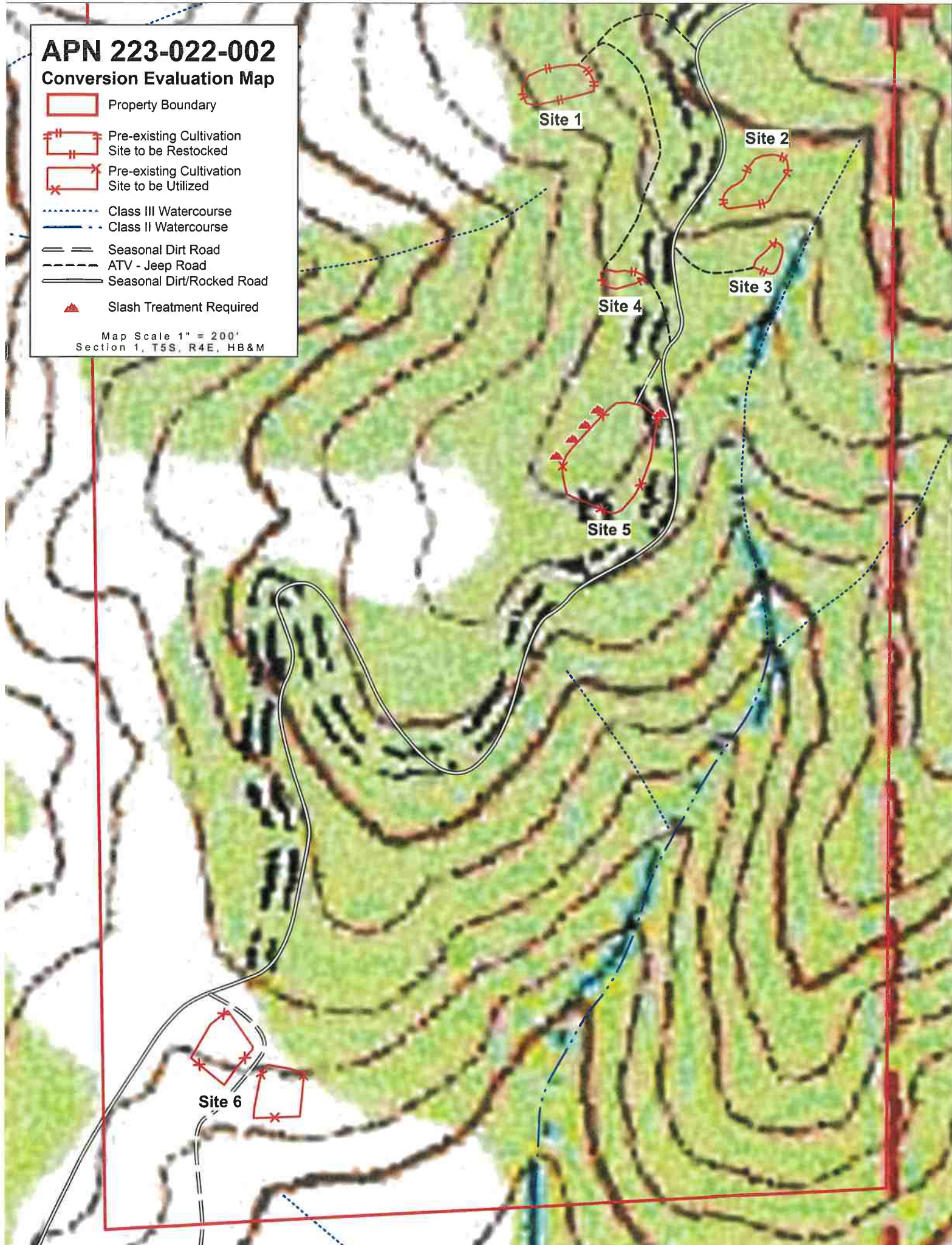
Site 2

Site 3

Site 4

Site 5










Site 6





# APN 223-022-002

## Conversion Evaluation Map

-  Property Boundary
-  Pre-existing Cultivation  
Site to be Restocked
-  Pre-existing Cultivation  
Site to be Utilized
-  Class III Watercourse
-  Class II Watercourse
-  Seasonal Dirt Road
-  ATV - Jeep Road
-  Seasonal Dirt/Rocked Road
-  Slash Treatment Required

Map Scale 1" = 200'  
Section 1, T5S, R4E, HB&M

### 1998 DOQ

Site 1

Site 2

Site 3

Site 4










Site 5

Site 6



# APN 223-022-002

## Conversion Evaluation Map

-  Property Boundary
-  Pre-existing Cultivation Site to be Restocked
-  Pre-existing Cultivation Site to be Utilized
-  Class III Watercourse
-  Class II Watercourse
-  Seasonal Dirt Road
-  ATV - Jeep Road
-  Seasonal Dirt/Rocked Road
-  Slash Treatment Required

Map Scale 1" = 200'  
Section 1, T5S, R4E, HB&M

# 2018 DOQ

Site 1

Site 2

Site 3

Site 4




Site 5

Site 6

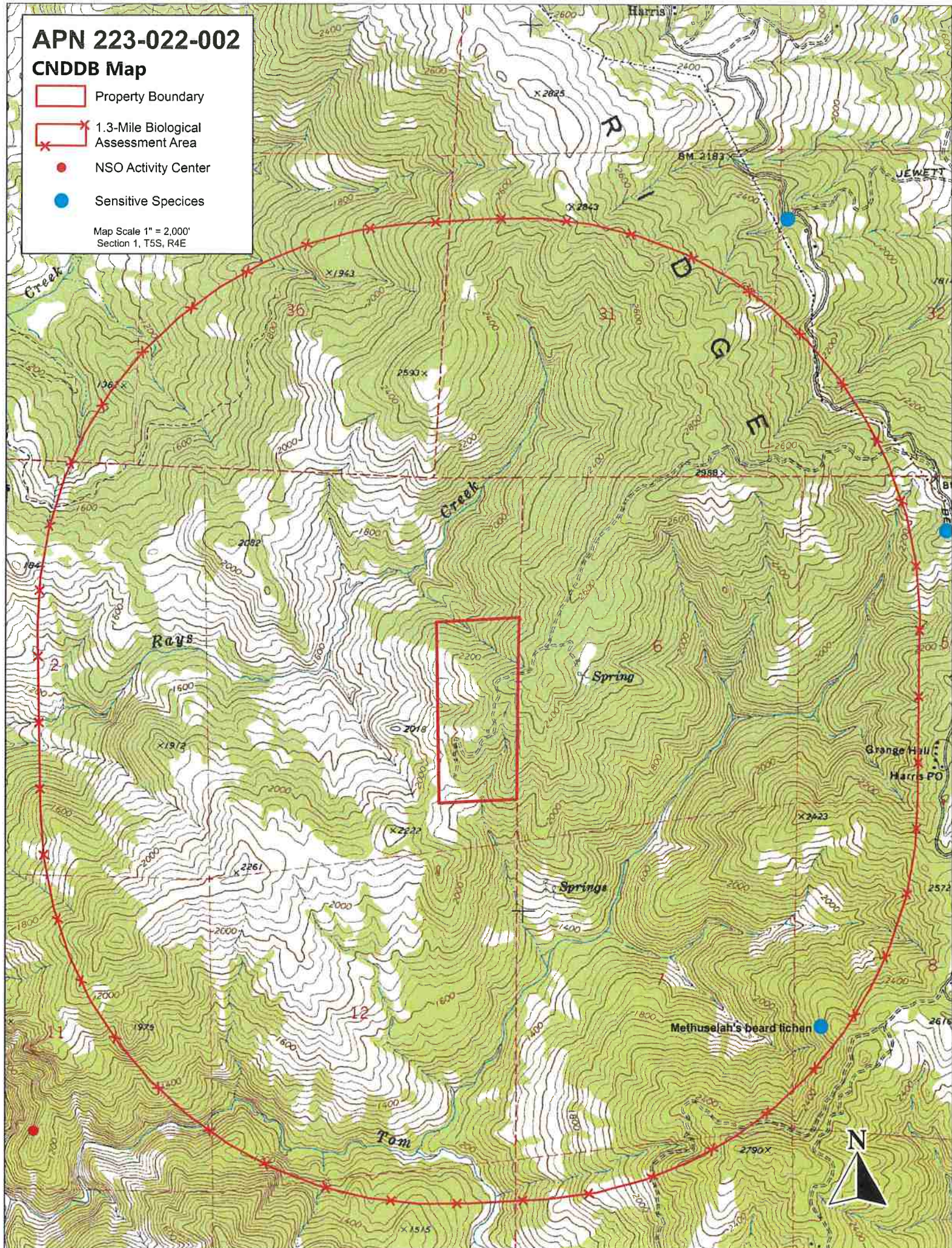


# APN 223-022-002

## CNDDDB Map

-  Property Boundary
-  1.3-Mile Biological Assessment Area
-  NSO Activity Center
-  Sensitive Species

Map Scale 1" = 2,000'  
Section 1, T5S, R4E







**RESTOCKING PLAN**

**FOR**

**APN 223-022-002**

November 21, 2019

165 South Fortuna Blvd  
Fortuna, CA 95540  
707-725-1897  
707-725-0972 Fax  
[trc@timberlandresource.com](mailto:trc@timberlandresource.com)

## Restocking Plan

**Restocking Area:** Approximately 0.37 acres or 16,117 ft<sup>2</sup> as listed below and shown on the attached Conversion Evaluation Map.

Cultivation Site	# Trees at 10'x10' Spacing	# Trees at 8'x8' Spacing
Site 1 – 0.15 acres	65	102
Site 2 – 0.14 acres	61	95
Site 3 – 0.04 acres	18	27
Site 4 – 0.04 acres	18	27
Total:	162	251

**Site Preparation:** Site preparation is commonly utilized to facilitate timber stand establishment. The primary objective of this practice is to create an area suitable for planting seedlings and establishing a new stand of trees. Site preparation activities remove or reduce competing vegetation, reduce or remove unwanted trees and logging debris, and prepare the soil to ultimately promote the growth and survival of desired tree species. There are many methods of site preparation that fall under either chemical or mechanical site preparation. Subsoiling/ripping is a mechanical site prep method for heavy soils on cutover timberlands or agricultural lands that have a compacted layer at or below the soil surface that limits root growth and development. Subsoiling/ripping increases aeration and water-holding capacity of compacted soils and breaks up root restricting hardpans and/or traffic pans. Chemical preparation includes broadcast and directed herbicide application.

**Recommendation:** Unless planting occurs within one-year, mechanical site preparation will be necessary to remove competing brush. The use of a small tractor, excavator, or bob-cat style sized machine will suffice to clear the brush and disturb the top soil.

**Types of Seedlings:** Harvested and/or understocked timberlands should be artificially regenerated with naturally-occurring conifer species and cultivars well-adapted to the timber stand's specific climate, elevation, and other environmental conditions. Planting seedlings from appropriate seed zones and elevation ranges ensures better seedling success and, eventually, a more resilient timber stand. Specifically, timberland within the property is characterized by Douglas-fir, tanoak, and madrone. The planting site occurs within California Seed Zone 390 at approximately 2,300 feet in elevation.

**Recommendation:** The landowner shall plant with Douglas-fir seedlings (best suited for Seed Zone 390 at 2,300-foot elevation) at a uniform spacing no less than 10-feet by 10-feet. If deer browsing is expected (based on landowner's local knowledge), then the density can be slightly increased to 8-feet by 8 feet to account for potential mortality and/or damage.

Most conifer seedlings that come from nurseries are available in two forms: bareroot seedlings and containerized seedlings. Bareroot seedlings are essentially stock whose roots are exposed at the time of planting. Bareroot seedlings are grown in nursery seedbeds and lifted from the soil in which they are grown to be planted in the field. Containerized seedlings are grown individually in a variety of hard-walled vessels or in peat pots from seed. They're typically more expensive than bareroots but usually have a higher survival rate after planting due to their well-formed root system.

**Recommendation:** Given the conditions of the site and the higher survival rate associated with containerized stock, use containerized conifer seedlings if available.

**Seedling Care:** Seedling care and handling is extremely important to ensure post planting survival.

**Recommendation:** For long-term storage (more than 3 days), store seedlings at 33 to 36 degrees Fahrenheit. For short-term storage (several hours to less than 3 days), store below 42 degrees Fahrenheit. At the planting site, take care not to let the roots dry out and avoid exposure to the sun or warmer temperatures.

**Planting Instructions:** When planting seedlings, the landowner or tree planter should abide by the following:

1. Tree planting shall only occur in winter or early spring. Tree planting should not occur if the ground is frozen or during unusually warm periods.
2. Dig a hole at least one inch deeper and wider than the seedling roots. If planting from a container, dig the hole an inch deeper and wider than the container.
3. Place the seedling into the hole taking care not to bend the taproot, or main vertical root, and cover with soil.
4. Pack the soil down firmly around the seedling to remove any air pockets.
5. See Appendices A-D for illustrations for correct planting techniques.

**Seedling Survival:** Although a newly planted stand immediately fulfills stocking standards, the timber stand must continually contain an average density of at least 300 trees per acre (or 12-foot by 12-foot spacing) in order to meet the intent of the California Forest Practice Rules (CFPRs). Seedling survival can vary widely depending on several factors including genetics, weather, herbivory, etc. Monitoring growth and success of planted seedlings is key to ensure a 300-point count stocking level is maintained 2-3 year after planting.

*Recommendation:* Monitor growth and success of planted trees one year after planting. Conduct a point count stocking sampling survey (protocol described in CFPRs 14CCR 1072). If less than 55% of the planted area meets the 300-point count minimum stocking level, repeat the replanting process. Consider consulting an RPF for continued timber management in this area.

**Stock Purchase:** Ideally, landowners should procure seedlings from sources growing local, site-specific stock. Appropriate stock is determined by stand type, seed zone, elevation, as well as other factors like soil type, site quality, and weather.

*Recommendation:* The RPF recommends acquiring conifer seedlings from Green Diamond Resource Company's nursery in Korbel, California. For inquiries, contact Nursery Superintendent Glen Lehar at (707) 668-4439. He will recommend the appropriate stock based on geographic area and site conditions.

Sincerely,

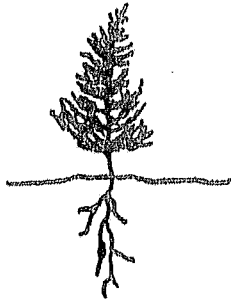


Chris Carroll, RPF# 2628  
Timberland Resource Consultants



## APPENDIX A

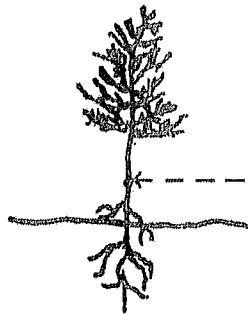
### CORRECT METHOD OF SEEDLING PLANTING



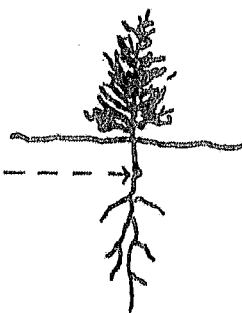
- Soil firmly packed around roots.
- No air pockets.
- Roots straight with no J or L bends.
- Root collar at or slightly below ground level.
- Root not pruned.

### ERROR IN PLANTING

**Too shallow**



**Too Deep**

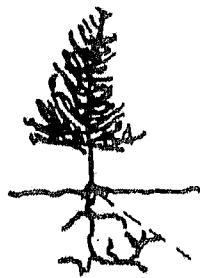


Root Collar

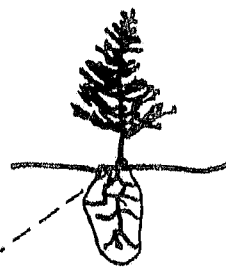
- Hole not deep enough.
- Root collar and upper roots exposed.
- Roots dry out.

- Hole is too deep.
- Root collar buried.

**J or L Roots**



**Air Pockets**



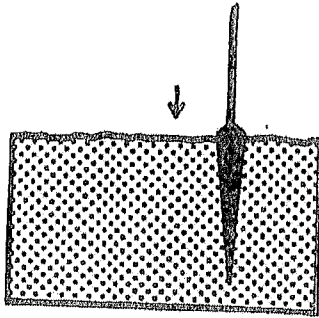
Root Collar

Hole is not deep enough — planting in rocky soil.  
Roots cannot effectively take up water.  
Tree not wind-firm.

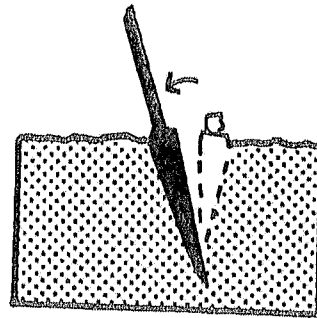
- Soil not firmly packed around roots.
- Air pocket forms.
- Roots dry out.

APPENDIX B  
PLANTING WITH A FLAT BAR

1. Insert flat bar straight down.

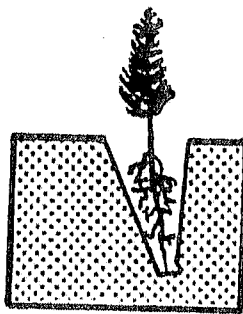


2. Pull flat bar backward to open hole.

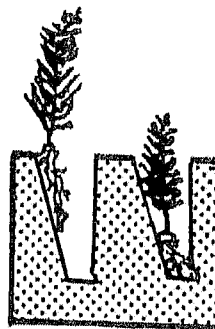


3. Remove flat bar and place seedling at correct depth with root collar at or slightly below ground level.

Correct



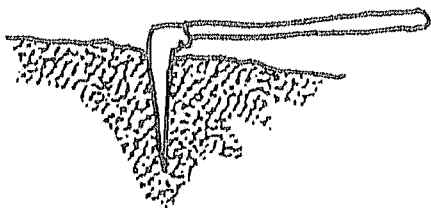
Incorrect



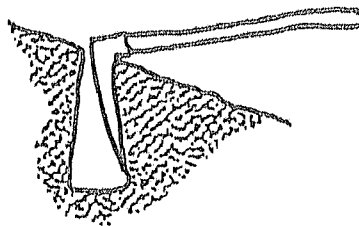


APPENDIX C  
PLANTING WITH A HOE

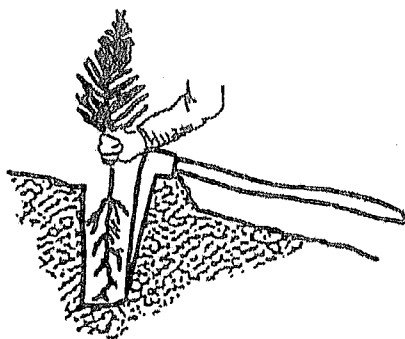
1. Swing hoe to get full penetration.



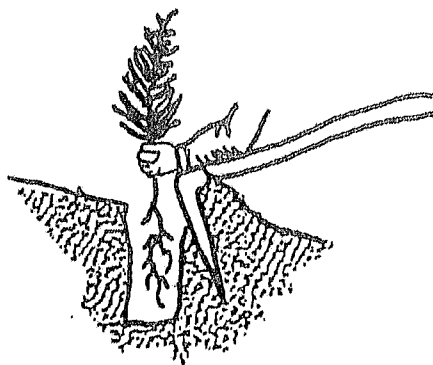
2. Lift handle and pull up to widen hole.



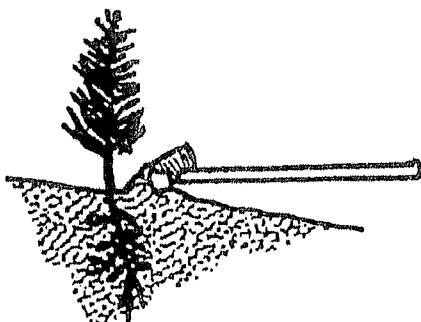
3. Place seedling while using hoe to hold back soil.



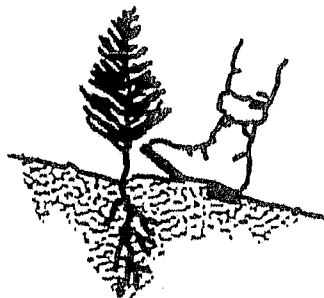
4. Use hoe to pack soil at bottom of hole.



5. Use hoe to pack soil at top hole.



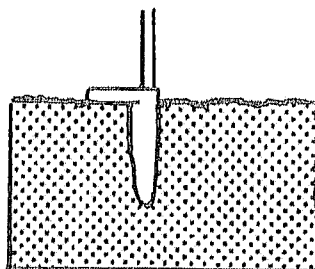
6. Firm soil around seedling with feet.



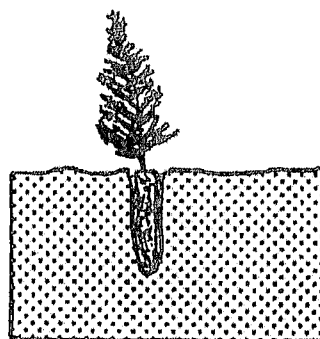
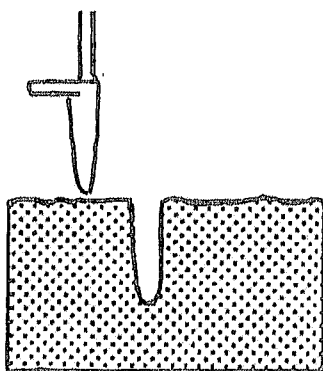
## APPENDIX D

### PUNTING WITH A PLUG BAR

1. Insert plug bar straight down until plug bar footrest is level with ground.



2. Remove plug bar and place seedling in hole.



3. Firm soil around seeding with heel of boot.

