

Revised Cannabis Relocation & Restoration Plan

APN: 210-144-011

County Application # 11969
Humboldt County

Prepared By:
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Site Maps

Vicinity of APNs 210-144-011,
210-144-012 & 210-144-017; T1S, R5E,
SEC 2, HB&M; USGS DINSMORE QUAD;
HUC12: 180101050902

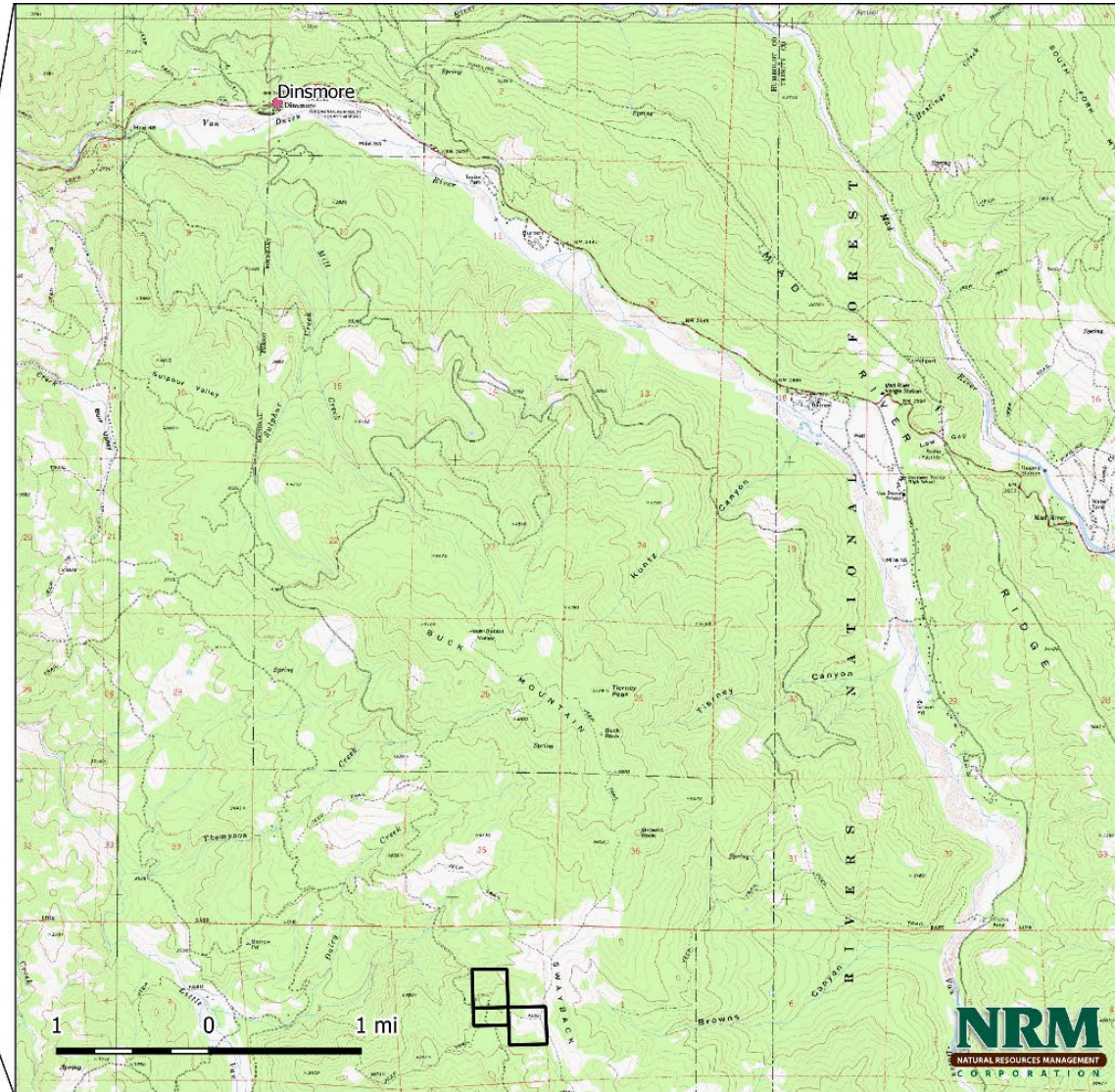
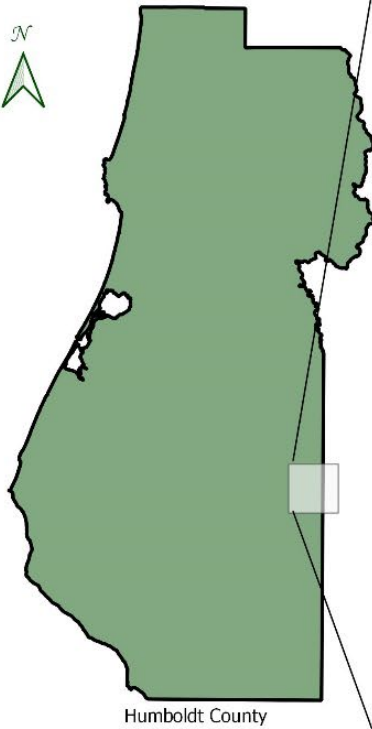


Figure 1. Vicinity of APN 210-144-011

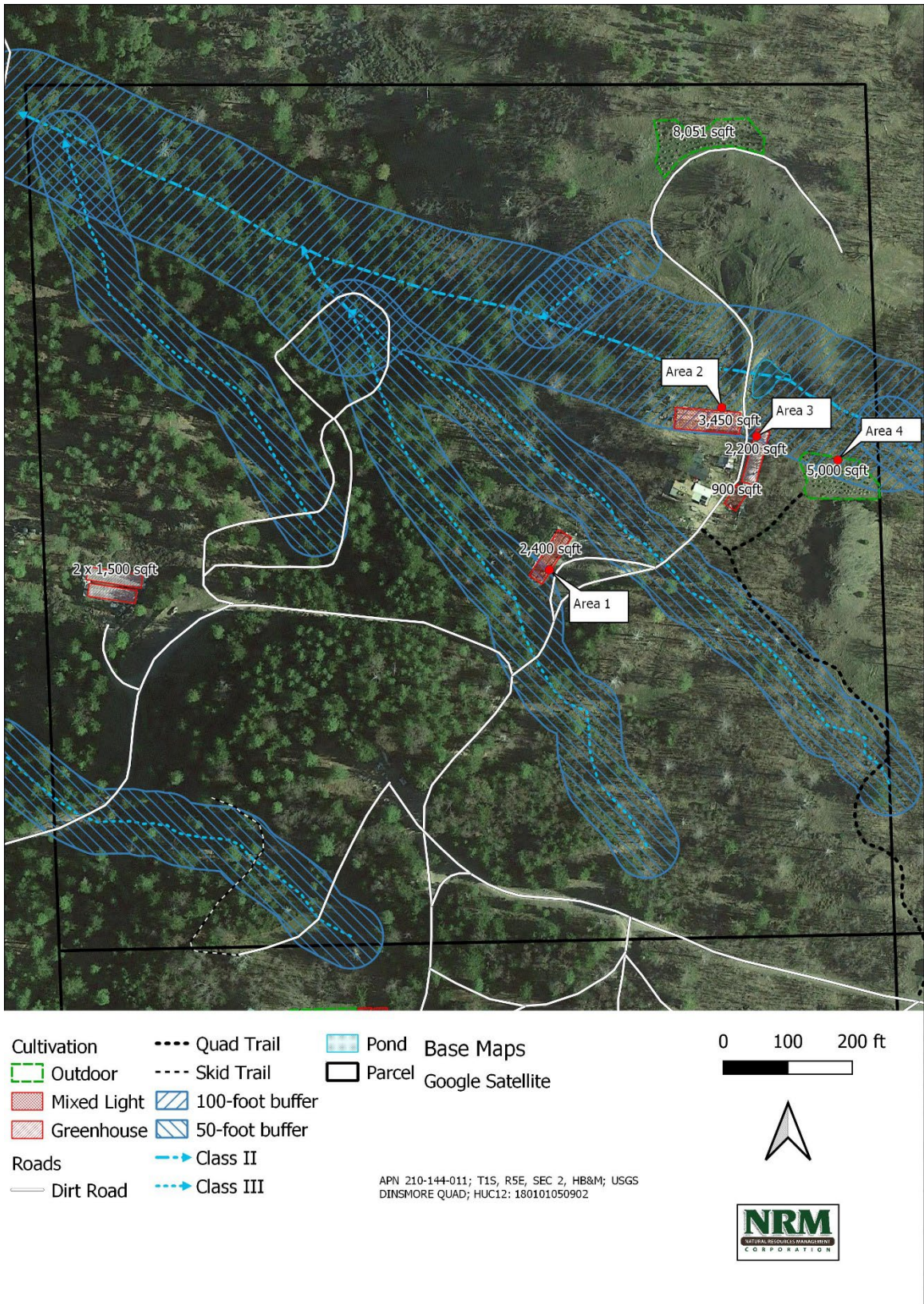


Figure 2. Stream Buffers Impacted by Cannabis Cultivation on APN 210-144-011

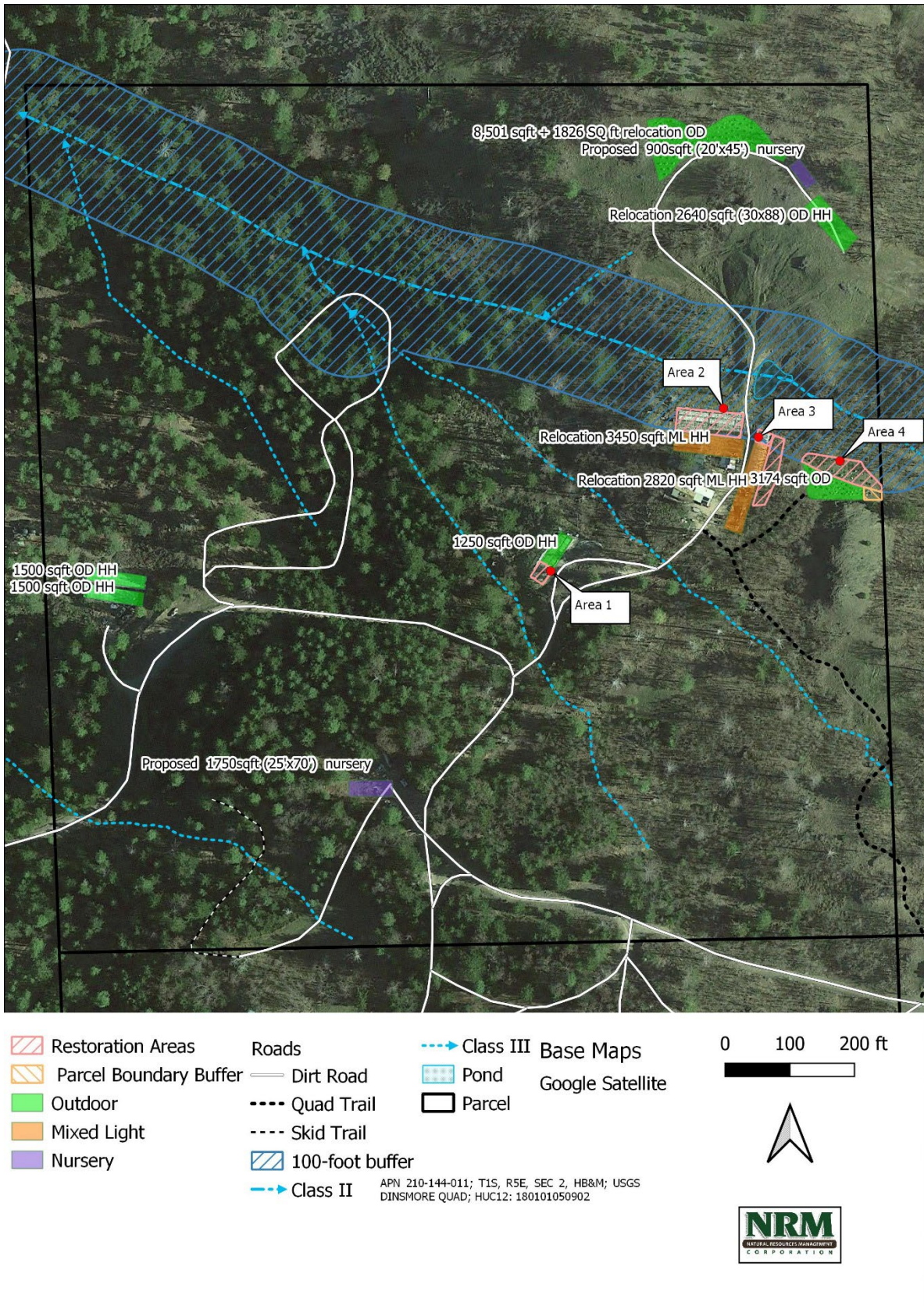


Figure 3. Cannabis Existing and Relocation, areas on APN 210-144-011

Summary

This revised relocation plan reflects the changes recommended by Steve Cannata on the county relocation site visit that took place on December 8, 2021. The total pre-existing square footage per the County Interim Permit is 26,661 ft² which was made up of 20,390 ft² of outdoor and 6,271 ft² of mixed light. Approximately 6,551 ft² of this original cultivation space is located within Streamside Management Areas (SMAs)/Water Board Riparian Buffers of watercourses. An additional 344 ft² is within 30 feet of the parcel boundary. Relocation areas include previously disturbed areas by the residences as well as a new area in the northeastern corner of the property. The preexisting outdoor area in the northeastern corner of the property will also be expanded to accommodate some of the area removed from the riparian areas. Once the relocation is complete there will be 26,661 ft² of cultivation made up of 6,270 sq ft of Mixed light and 20,391 ft² of Outdoor. The riparian areas where cultivation is present be removed will be cleaned up and re-vegetated with native species as described in the Relocation area des.

Pre-existing Cultivation Sites

The pre-existing cannabis cultivation was a mix of outdoor and hoop houses. Approximately 5121 sq ft of the hoop houses are within the riparian buffers of two watercourses (figure 2). Approximately 1500 sq ft of outdoor cultivation is also located in the riparian buffer of one of the same watercourses (figure 2) an additional 344 ft² of outdoor cultivation is located within 30 feet of the parcel boundary.

Relocation Areas

Multiple relocation sites will be used. The portion of the existing 2,400 ft² Mixed Light Hoophouse at Area 1 that is within the buffer will be removed and the remainder of the square footage will become an outdoor hoop-house.

Near the house, a mixed light hoop house in Area 2 will be moved outside of the SMA. Part of an existing outdoor hoop-house in area 3 will be moved and part of another smaller 900 ft² existing hoop house will be consolidated into a single 2,200 ft² Mixed Light Greenhouse for a total of 6270 ft² mixed light all of which will be in areas already disturbed by domestic activities around the residence outside of the riparian buffer. The area is mostly unvegetated and flat. To the east of these, the existing 5000 ft² outdoor cultivation area will be reduced to 3174 square feet when cultivation is removed from the SMA and a small 344 ft² area that is within 30 feet of the parcel boundary.

In the northeastern property corner, a new 2640 ft² hoop house will be constructed to relocate the remainder of the cultivation volume from Areas 1 and 3. And the preexisting outdoor cultivation will be expanded from 8,501 ft² to 10,327 ft². These areas are currently meadows. A botany survey was done in 2019 (see Botany Report in the project file). No rare species were found in these areas. The slopes in these areas where cultivation will be relocated are less than 15%.

Two nursery/propagation greenhouses will be constructed on the parcel, one 900 ft², and one 1750 ft² for a total of 2650 ft², not counted as cultivation space.

Figure 3 shows the proposed site layout and square footage. The OD (outdoor) vs. ML (mixed light) refers to what type of cultivation will occur in the area *going forward*, regardless of the cultivation type that existed in the area in the past.

Restoration

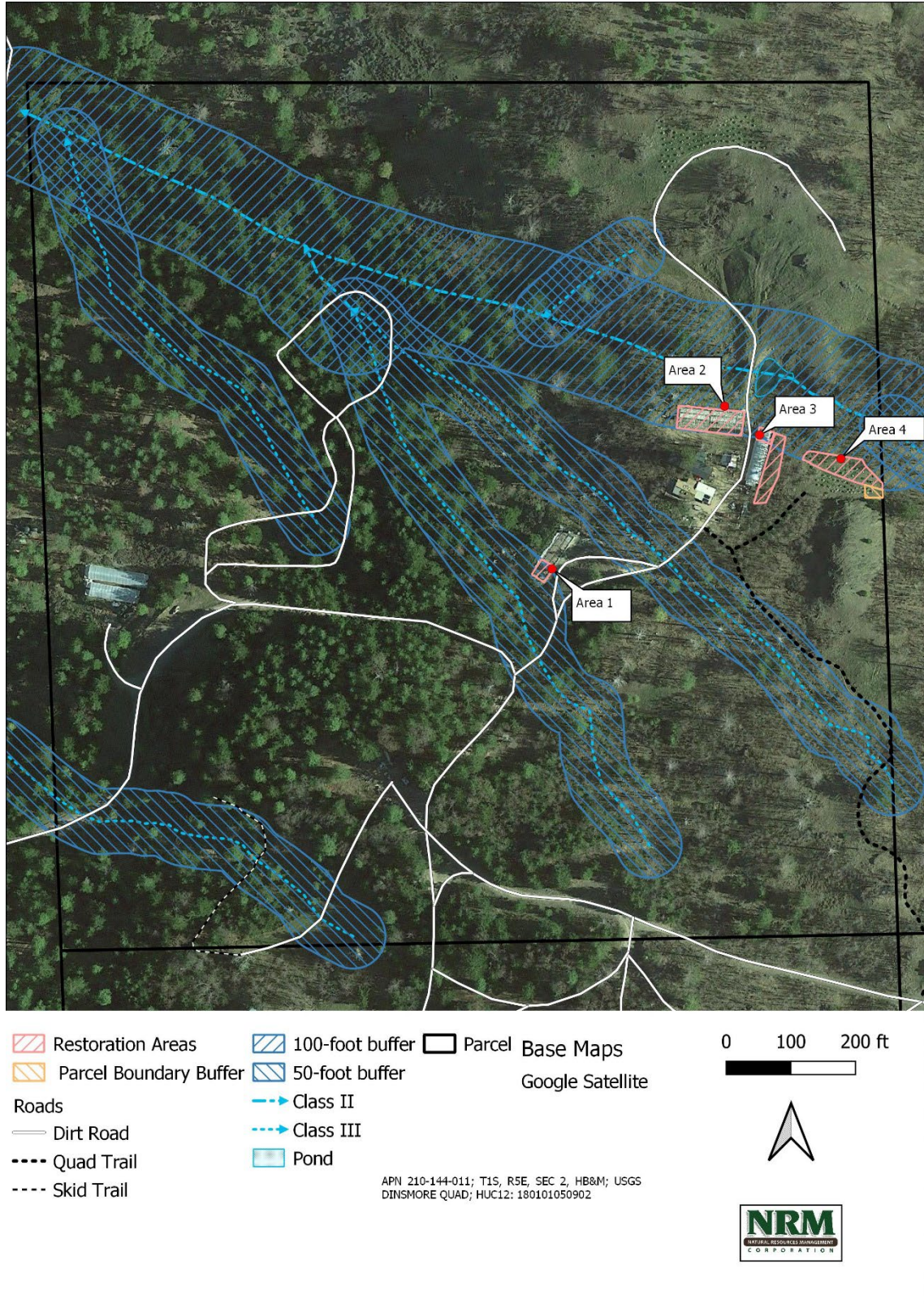


Figure 4. Restoration Areas on APN 210-144-011

Restoration Sites

In four different areas, the original cultivation footprint was within the Water Board setbacks of class 2 and 3 watercourses (figure 4).

Area 1: The portion of the existing hoop house in the buffer will be removed. The buffer area should be re-vegetated with native grasses. We recommend the Native Erosion Control mix from Pacific Coast Seed.

Table 1. Seeding rates for restoration areas. The seeding rate for Native Erosion Control Mix is 45 lbs. per acre.

Site	Square footage	Native Erosion Control Mix
Area 1	950	11b

Area 2, 3, and 4 total approximately 8,000 square feet of area that needs to be re-vegetated. We believe this area was formerly vegetated with Oregon white oak. In addition to this in the area between areas 3 and 4 White oaks were removed from the hillside outside of the stream buffer. This whole area (hillside and stream buffers) will be re-vegetated with Oregon white oaks. Within the last 5 years, an estimated seventy-five (75) Oregon white oak trees (*Quercus garryana*) were cut down to provide light for cultivation in the hillside area partially within the buffer of a Class II watercourse. Additionally, we believe Oregon white oak was also removed in Areas 2, 3, and 4 for cultivation. This restoration Plan call for restoring 375 Oregon white oak trees.

Oregon white oaks are vigorous stump-sprouters but grow extremely slowly from seed. Additionally, Oregon white oak is NOT a native tree species that can be obtained commercially as a container-grown plant within Humboldt or Trinity Counties. Caging the stump sprouts is a reliable, viable way to facilitate the regeneration of these trees, and is a superior strategy to planting for this species. However, planting will also be necessary to achieve the restoration and re-vegetate the cultivation footprint. On-site acorn (seed) collection and propagation is the best way to protect the genetic resources of California's oak woodlands (McCreary 2009). Direct seeding of these acorns is the best way to promote healthy root formation in young oak trees and prevent the transmission of soil-borne pathogens via the importation of nursery stock (McCreary 2009).

Caging will account for a portion of the revegetation; the rest of the regeneration will occur through acorn planting. Oak caging will take place in the hillside area where 75 stumps will be caged. Using acorns an additional 300 trees will be replanted in areas 2, 3, and 4. The 300 planting sites will be evenly distributed across Areas 2, 3, and 4. This density will produce an Oregon white oak for every 23 square feet of disturbed buffer area.

Caging

Cages can be made of any material of sufficient strength to deter deer, should be at least 3 feet in diameter and 3 feet tall, and should have strong stakes. 75 cages shall be placed around the stump sprouts growing off the roots of the white oaks that were cut down. Cages shall be placed in a manner as to protect the strongest, healthiest re-sprouts most effectively from deer herbivory.

Acorn Planting

Acorn Source Trees

Oregon white oak acorns shall be sourced from trees in the immediate area.

Acorn Collection and Handling

Acorns will be gathered in the late summer to early fall when they break easily from their attachment point of the source tree. Acorns should be harvested directly from the tree if possible, or very soon after they have dropped to the ground. All acorns must be inspected for insect or other damage and then checked for viability via the float test. **Acorns must NOT be allowed to dry out once collected** and should be stored carefully in refrigeration or moist medium in the interim between collection and planting. Please refer to *Regenerating Rangeland Oaks in California* (McCreary 2009) for specific instructions on collecting, sorting, and handling acorns.

Planting Site Preparation

Before planting begins, the site will be thoroughly weeded of all non-native vegetation. Emphasis shall be placed on removing any perennial invasive species. For each planting site, a micro-terrace approximately 2 feet in diameter should be constructed, creating a small level area referred to hereafter as a planting basin. The soil within this planting basin should be loosened to a depth of approximately 1 foot. **Do NOT fertilize the soil.**

Materials Preparation

Each planting basin will require a cylindrical cage. The cage can be of any material of sufficient strength to deter deer, should be at least 3 feet in diameter and 3 feet tall, and should have strong stakes.

Acorn Planting Instructions

First, irrigate the planting basin so that the soil is saturated to a depth of at least 2 feet. Five acorns should then be planted within the inner cage, at a depth of between 1 and 2 inches. Then install the cage and stake it in. A thin mulch of leaf duff collected on-site or weed-free straw can be used around the inner cage. Please refer to *Regenerating Rangeland Oaks in California* (McCreary 2009) for specific instructions on planting acorns.

Initial Monitoring and Maintenance

The acorns should be monitored every other week after planting. If there are dry spells long enough to dry out the top several inches of soil, each planting basin should be irrigated. By May of the spring following planting, the strongest, healthiest individual seedling growing within each planting basin should be identified, and the other individuals should be thinned by snipping off at ground level. Continue irrigating deeply once a month throughout the dry season of the first year. **Do not fertilize.** Hand weed around the plantings as necessary. Please refer to *Regenerating Rangeland Oaks in California* (McCreary 2009) for specific instructions on post-planting maintenance.

Planting Design

A total of 300 planting basins will be constructed, requiring a total of 1,500 acorns. The basins should be evenly distributed throughout areas 2, 3, and 4.

5-Year Monitoring, Reporting, and Maintenance period

A 5-year monitoring, reporting, and maintenance period shall follow planting, and the initial monitoring and maintenance. A final maintenance event will occur upon the completion of the 3rd monitoring year.

Planting Maintenance

During each summer (May-August) for the 3 years following planting, each planting basin should be irrigated deeply once a month. This irrigation should be sufficient to wet soil within the basin down to a depth of two feet. Irrigation should **not occur** more frequently than recommended, as deep, infrequent watering encourages better root formation than frequent shallow watering. Weeds should be managed within the restocking sites regularly throughout this period. Caging must be inspected for effectiveness in preventing herbivory, and that it is not impeding tree growth or development. Adaptive management must be implemented to address additional caging needs. Maintenance may include re-planting if survivorship does not meet the Success Criteria in any of the three monitoring years.

Caging Maintenance

During each summer (May-August) for the 3 years following caging, each cage should be checked to make sure the materials are not injuring the oak sprouts, and that the caging is still sufficient to protect them.

Monitoring

In the fall (September-October) of the 5 years following planting, each of the 75 caged trees and 300 planting basins will be assessed for survival and growth. The number of surviving trees will be recorded, and this number will be used to assess the percent survivorship of the plantings. Notes will be made about issues such as herbivory, disease, or any other factors influencing survivorship. Photos of the sites will be taken.

Reporting

An annual monitoring report will be submitted to CDFW, NCRWQCB, and the County by December 31 of each monitoring year. This report will include photos, planting survival status, a description of site conditions, a discussion of any needed maintenance or other labor, and whether Success Criteria were met in that year. If survival is not high enough not meet the Success Criteria described below, arrangements will be made for re-planting. Adaptive management should be utilized to solve any unforeseen problems preventing the Success Criteria from being met by year 3.

Success Criteria

By the fall of each monitoring year and by the end of monitoring year 5, there should be at least 85% survival of plantings, 85% survival of caged re-sprouts, and less than 5% absolute cover of invasive plant species within the site.

Literature Cited

McCreary, Douglas D. 2009. Regenerating Rangeland oaks in California. University of California Agriculture and Natural Resources Publication 21601e. Oakland, CA.

(available online at http://ucanr.edu/sites/oak_range/files/59453.pdf)



looking at a hoop house from outside the riparian buffer.



looking at the hoop house from within the riparian buffer.



looking at another hoop house that sits partly within the riparian buffer, note where oaks have been removed from the upslope within the last few years.



looking at the hoop house from the Class II watercourse. Approximately 20 feet of this structure is within the riparian buffer and will be removed.



looking at the hillside area.



looking down at the hillside area and the hoop house within the stream buffer.