

**2<sup>nd</sup> ANNUAL REPORT**

**submitted to  
The California Department of Fish and Wildlife**

**&**

**1<sup>st</sup> ANNUAL REPORT**

**submitted to  
The U.S. Fish and Wildlife Service**

**by  
Green Diamond Resource Company**

**in fulfillment of requirements specified in the Marten Safe Harbor Agreement with the California Department of Fish and Wildlife, pursuant to the California State Safe Harbor Agreement Program Act (Fish & G. Code, 2089.2 et seq.) for incidental take of Humboldt marten, and the requirements specified in the Coastal Marten Conservation Memorandum of Understanding with the U.S. Fish & Wildlife Service.**

**1 March 2021**

|              |  | <u>Page</u> |
|--------------|--|-------------|
| Chapter I.   | Introduction   | 1           |
| Chapter II.  | Marten Studies   | 2           |
|              | A. Methods   | 2           |
|              | B. Results   | 4           |
|              | C. Discussion  | 8           |
| Chapter III. | Habitat Modeling   | 9           |
|              | A. Methods   | 9           |
|              | B. Results   | 9           |
|              | C. Discussion  | 9           |
| Chapter IV.  | Land Transactions  | 10          |
|              | A. Methods   | 10          |
|              | B. Results   | 10          |
|              | C. Discussion  | 10          |
| Chapter V.   | THP Conservation Measures  | 11          |
|              | A. Methods   | 11          |
|              | B. Results   | 16          |
|              | 1. Pre-harvest Habitat Retention Planning                          | 16          |
|              | 2. Post-harvest Habitat Retention                                  | 16          |
|              | 3. Comparison of Pre- and Post-harvest Wildlife Retention Measures | 17          |
|              | 4. Herbicide Applications  | 18          |
|              | 5. Den Site Retention Measures                                     | 18          |

|  |    |
|--|----|
| 6. TREE Scorecard Habitat Retention Comparison   | 18 |
| C. Discussion  | 18 |
| <u>APPENDICES</u>  |    |
| I: Results of non-invasive marten occupancy surveys 2019/2020.   | 19 |
| II: Inspection dates for all water tanks located within the Enrolled Lands   | 25 |
| III: Pre- and post-habitat retention measures for harvest units with completions during the current reporting period           | 27 |
| <u>FIGURES</u>   |    |
| 1: Monitoring stations within the Enrolled Lands and Potential Marten Source Area by block                                     | 3  |
| 2: Monitoring stations within the Enrolled Lands and Potential Marten Source Area with and without marten detections 2019-2020 | 5  |
| 3: Water tank locations within the Enrolled Lands  | 7  |
| <u>TABLES</u>  |    |
| 1: Summary of land transactions during the current reporting period within the Enrolled Lands.                                 | 10 |
| 2: Comparison of live tree retention features and scores associated with the TREE retention scorecards.                        | 15 |
| 3: Summary of pre-harvest THP conservation measures for completed THP units  | 16 |
| 4: Summary of post-harvest THP conservation measures for completed THP units   | 17 |
| 5: Comparison of pre- and post-harvest THP conservation measures for completed THP units                                       | 17 |

# I. Introduction

On April 27, 2018, Green Diamond Resource Company (Green Diamond) and the California Department of Fish and Wildlife (CDFW) entered into a Safe Harbor Agreement (Agreement) under the California State Safe Harbor Agreement Program Act (Fish & G. Code, 2089.2 et seq.). The purpose of this Agreement is to provide a net conservation benefit to the Humboldt marten (*Martes caurina humboldtensis*) and assure Green Diamond that no additional regulatory burdens, fines, or penalties will result from management activities that are designed to benefit marten within 363,967 acres of the Green Diamond ownership in California (the Enrolled Lands). Based on contemporary survey efforts, the Humboldt marten is rare or absent from the majority of the Enrolled Lands; however, the Enrolled Lands account for approximately 12 percent of the area that is within 15 km (dispersal distance) of the known extant population. Through implementation of habitat management and research commitments, the Marten Safe Harbor Agreement (MSHA) is designed to increase the species' population and range, promote the creation of new habitat, and enhance existing potential habitat within the Enrolled Lands. On April 4, 2020, Green Diamond and the U.S. Fish and Wildlife Service signed a Coastal Marten Conservation Memorandum of Understanding (MOU). Similar to the MSHA, the MOU is designed to support proactive conservation efforts for the Humboldt marten on Green Diamond's California Timberlands and includes research, habitat management, and take avoidance commitments.

The key elements of Green Diamond's MSHA and MOU include:

- retention and recruitment of marten denning habitat in the form of green wildlife trees and snags following the Terrestrial Retention of Ecosystem Elements (TREE) guidelines,
- creation of a 2,098-acre no-harvest Marten Reserve Area,
- additional habitat management and monitoring measures applied to the Marten Special Management Area (a 127,217-acre area identified as a high priority connectivity area between known occupied sites),
- incorporate riparian and geologic retention measures as defined in Green Diamond's Aquatic Habitat Conservation Plan,
- technical and financial support for assisted dispersal of martens and associated research,
- retention and protection of known den sites, and
- research and monitoring of the marten population across the property.

The following report documents the second year of management under the MSHA and first year of management pursuant to the MOU and includes details specified to comply with the monitoring and reporting requirements of both agreements. Included are sections about marten occupancy surveys, marten habitat retention in timber harvest plans, water tank monitoring, and other information required for the annual reporting requirements.

The reporting period of this report was from September 1, 2019 to September 1, 2020.

## II. Marten Studies

### A. Methods

#### 1. Marten Occupancy Surveys

In order to estimate marten occupancy, Green Diamond established a randomly located sampling frame for remote camera stations across the Enrolled Lands and a portion of the Potential Marten Source Area (PMSA). The sampling frame consisted of remote camera stations centered at a 2-km grid spacing within the Marten Special Management Area (MSMA), Moore Tract, and PMSA. Each camera station (sampling unit) consisted of one or two cameras located within 200 meters of the grid point resulting in a total of 163 sampling units. Of the 163 sampling units, 126 were located within the MSMA, 5 were located within the Moore Tract and 32 were located within the PMSA (Figure 1). Green Diamond established an additional 58 sample units centered at a 4-km grid spacing in the balance of the Enrolled Lands resulting in 221 total sample units. These sample units utilized an identical survey protocol and were suitable for detecting marten.

In order to estimate marten occupancy, all sampling units were surveyed each year for the first two years. After the first two years, Green Diamond will continue to monitor marten occupancy by conducting non-invasive surveys on at least one-half of the MSMA every five years such that a complete survey would occur by year ten. The sampling period is October through March for each year the surveys occur. The survey grid was divided into five sampling blocks in order to sample all stations with a logistically feasible approach while accounting for spatial issues and comparisons among the various watersheds. Sampling blocks were randomly selected to determine sampling order. Sampling order in year one will remain the sampling order in subsequent survey years to allow for comparisons and account for seasonal variation in detection rates. All sample units within a sampling block were surveyed simultaneously.

Green Diamond deployed high-end Reconyx brand cameras (Reconyx Inc., Holmen WI, USA) at each sampling station. Models included first generation Hyperfire HC500, HC600, PC800, PC900, and second generation Hyperfire HP2X. Camera stations were baited with two raw chicken drumsticks and commercial trapping lure (Caven's Gusto Lure, Minnesota Trapline Products, Pennock MN) secured to a tree within 5 – 15 feet of the camera.

Cameras were deployed for a minimum of 21 days and were checked and rebaited weekly. During the current reporting period, two cameras were used at 32 stations (20% of 2-km spaced stations) to further evaluate the influence of multiple cameras on estimates of detection probability.

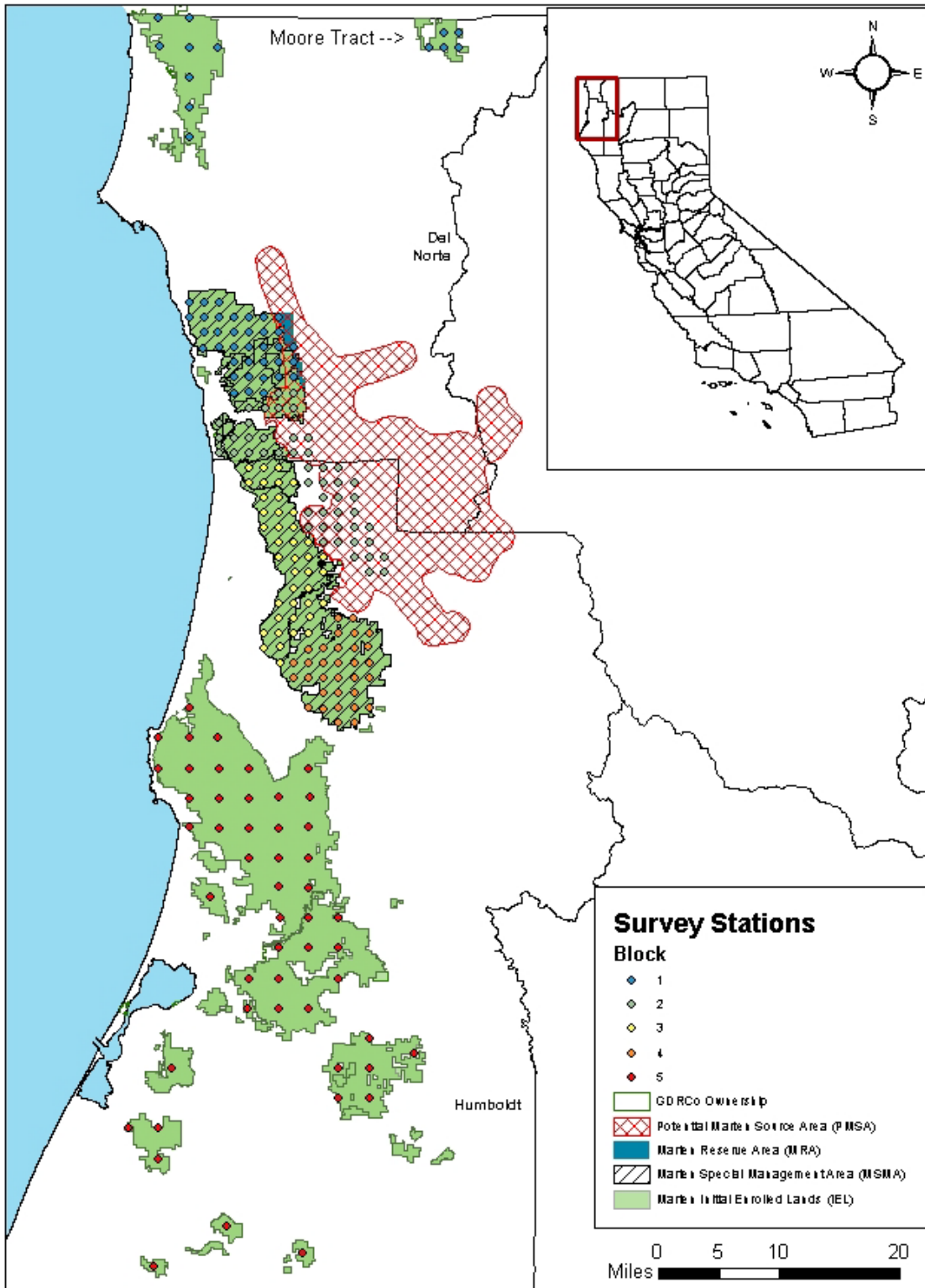


Figure 1. Monitoring stations within the Enrolled Lands and Potential Marten Source Area by block 2019-2020.

## 2. Water Tank Surveys

Water tanks within the Enrolled Lands were inspected during the current reporting period and measures were taken to prevent marten from becoming entrapped. Inspections determined if openings greater than two inches existed, and if the openings were secure and effective in excluding wildlife.

Tanks were composed of either plastic (newer/modern tanks) or steel material (older tanks originating from the early 1900s to 1960s). Plastic tanks usually required little to no exclusion efforts while the majority of steel tanks required repairs in this or a previous year using a variety of exclusion techniques and specialized tools. A powder fastener was often utilized to drive nails into the steel surfaces of the tank to fasten mesh around openings. The primary issues with using steel mesh were oxidation which was mitigated by applying a coat of spray paint. However, this technique has been monitored and proven to be a long-lasting repair method.

## 3. Assisted Dispersal

Green Diamond agreed to provide financial and technical support for a marten assisted dispersal (MAD) feasibility analysis conducted by CDFW. Via the MAD feasibility analysis, CDFW will evaluate and assess habitat suitability of potential release sites for martens within their historical range that are within typical dispersal distance of the core population. Green Diamond will provide financial and technical support for the capture and assisted dispersal of marten based on the recommendations of the MAD feasibility analysis. Green Diamond will work with CDFW and other partners to capture, collar, and release martens from recommended source areas to recommended release areas. The recommended release areas may include portions of the Enrolled Lands. Green Diamond will also provide financial and in-kind technical support to monitor collared martens in the recommended release areas.

# B. Results

## 1. Marten Occupancy Surveys

During the 2019/2020 sampling period, all 221 sample units within the MSMA (n = 126), Moore Tract (n = 5), PMSA (n = 32), and the balance of the Enrolled Lands (n = 58) were surveyed (Appendix I). Sixty-nine camera stations (MSMA = 48, PMSA = 0, Moore Tract = 5, and balance of the Enrolled Lands = 16) were surveyed for more than 21 days for a total of 5,413 camera days (range 21 – 53). Reasons for extending surveys for more than the minimum 21 days included responding to access issues, camera malfunctions, and safety issues, and testing latency to detect marten.

Of the 163 sample units within the 2-km grid spacing, 22 (13.5%) detected marten (Figure 2). Of the 22 sample units, 4 were located within the MSMA, 3 were located within the Moore Tract, and 15 were located within the PMSA. Zero detections occurred within the Marten Reserve Area. However, one of the 58 sample units outside of the MSMA, Moore Tract and PMSA detected marten resulting in 23 total detections.

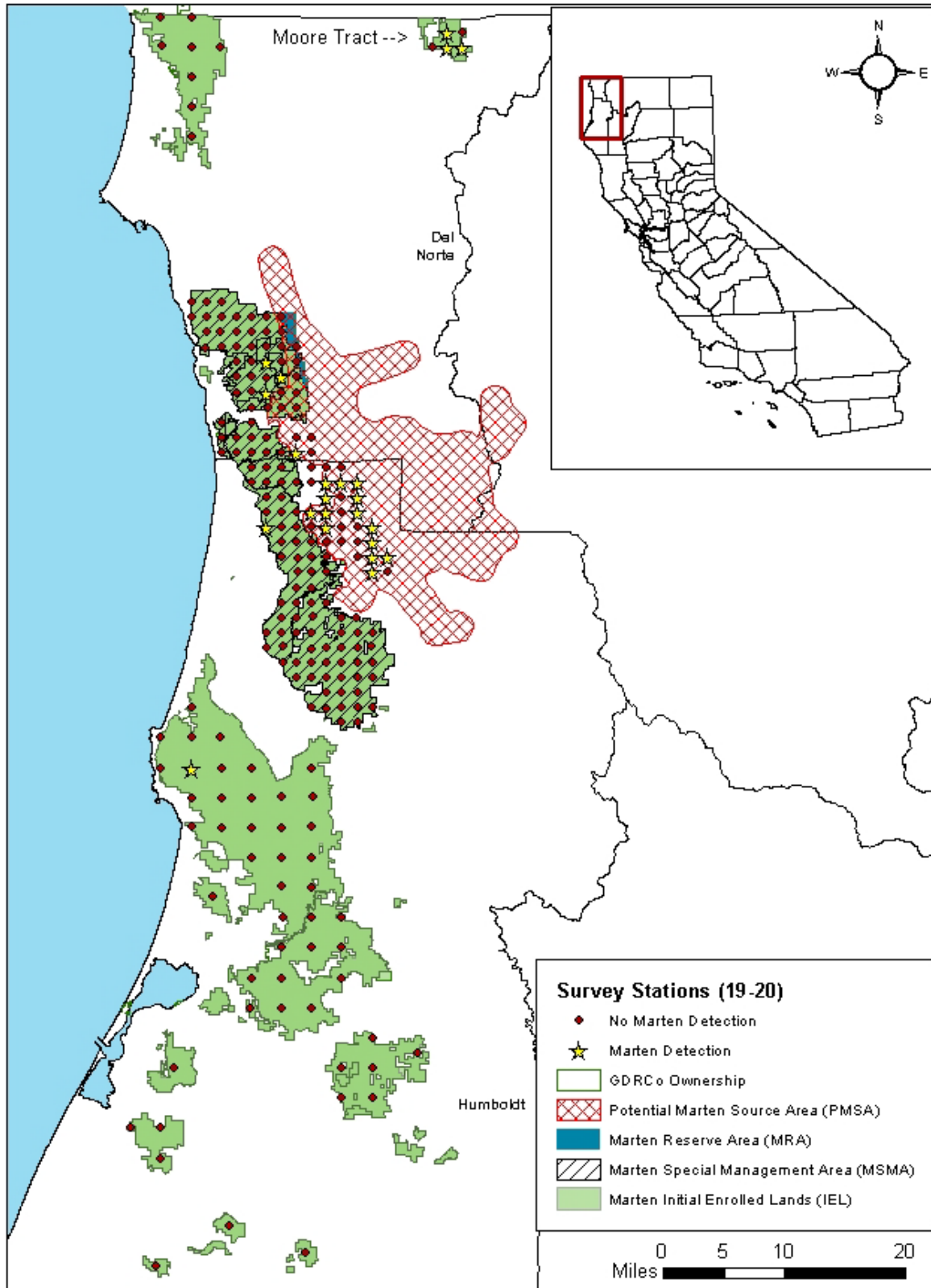


Figure 2. Monitoring stations within the Enrolled Lands and Potential Marten Source Area with and without marten detections 2019-2020.



## **2. Water Tank Surveys**

Forty-eight water tanks were located on the Enrolled Lands in 2020, and all 48 tanks were inspected for damage or openings (Figure 3, Appendix II). One tank inspected in 2019 was removed from the Enrolled Lands. Past exclusion installations were also assessed for continued integrity. Twenty-eight of the 48 tanks had openings repaired in previous years, and 22 were still functional. Six tanks were found to have new openings or damage to previous patches, and all six were repaired. Twenty of the 28 tanks did not require exclusion installations. No marten or other remains were identified in or around the 48 tanks.

## **3. Assisted Dispersal**

During the current reporting period, Green Diamond continued to collaborate with the U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), Yurok Tribe, and the National Council for Air and Stream Improvement (NCASI) to analyze existing data and collect new data on Humboldt marten within the Enrolled Lands and Potential Source Area as part of the initial feasibility assessment for Assisted Dispersal. The initial analyses include demographic summaries, population estimates, and conservation value of slash piles; and once finalized, the results will be included in future reports.

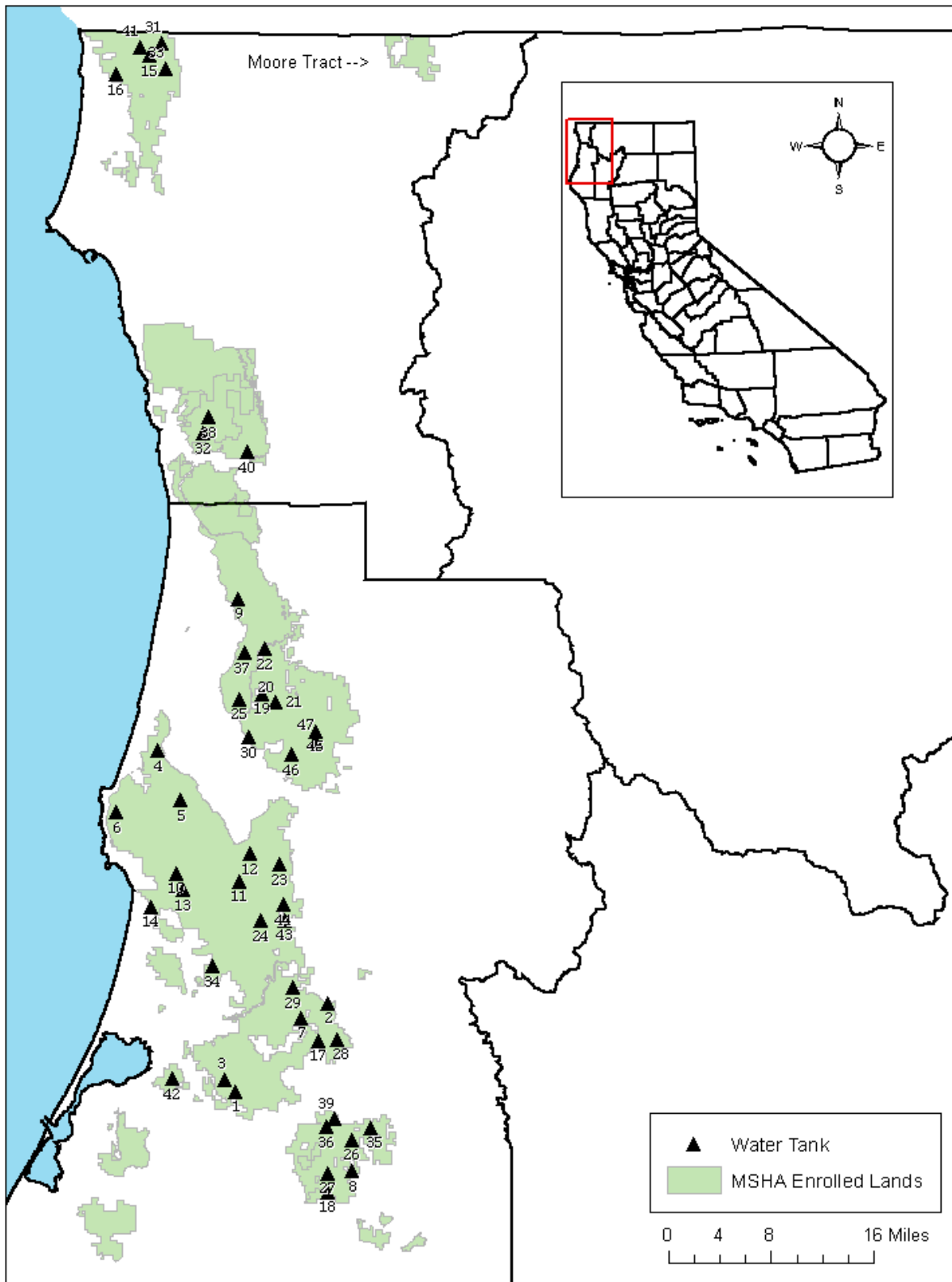


Figure 3. Water tank locations within the Enrolled Lands.

## C. Discussion

Green Diamond will conduct an occupancy analysis using the results from 2018-2019 and 2019-2020 sampling periods, and the results of this analysis will be made available in the fourth annual report. During the current reporting period, marten were detected at 10.4% of the sample units within the Enrolled Lands and PMSA. Two of the 23 detections occurred in an area without previous marten detections. One of these detections occurred approximately 3.0 miles west of the detections in the PMSA and approximately 0.5 mile east of recent detections in Prairie Creek Redwoods State Park. The second detection occurred south of Big Lagoon approximately 18 miles south of the nearest contemporary detection. Of the 69 sample units that were surveyed for greater than the 21-day survey period, only one sample unit detected a marten outside of 21 days. Green Diamond will use this information to evaluate the sampling methods for future surveys. Since marten were detected in the Big Lagoon tract, the 2-km sampling grid may be expanded to other areas within the Enrolled Lands surrounding this sample station.

While remote camera surveys can confirm the presence of marten, these surveys cannot confirm the absence of marten within the survey area. However, based on the current survey effort, the sampling design and the 21-day survey duration were adequate to detect marten. Although marten detections remain rare within the Enrolled Lands, non-invasive camera surveys have detected marten in areas with known marten occupancy and areas without previous detections. All active and historic water tanks were inspected during the current reporting period, and exclusion methods appear to be successful at preventing entrapment and drowning of marten and other species. Water tank inspections will continue in 2021 to ensure exclusion methods continue to be effective.

## **III. Habitat Modeling**

### **A. Methods**

After two complete surveys to assess marten occupancy within the Enrolled Lands and a portion of the Potential Marten Source Area, provided that an adequate sample size exists for analysis, Green Diamond will attempt to develop a model estimating the probability of marten occupancy in association with various habitat and physiographic variables. This modelling effort shall attempt to include all available and complementary survey efforts conducted within the range of the marten on the Enrolled Land.

### **B. Results**

Surveys for both sampling periods (2018/2019 and 2019/2020) were completed during this reporting period, and results from the initial modeling effort will be presented in the fourth annual report due March 1, 2022.

## IV. Land Transactions

### A. Methods

The major premise of the MSHA was that the extent and quality of habitat suitable for marten on the Enrolled Lands would increase over the 40-year permit term of the agreement. As part of the agreement, the baseline habitat conditions for the Enrolled Lands were quantified and described prior to the start of the permit term. Since land transactions (acquisitions and disposals) following implementation can have an effect on the baseline conditions, this chapter summarizes the land transactions that occurred during the reporting period and any effect on the baseline conditions.

### B. Results

There was one land disposal and six land acquisitions in the Enrolled Lands during the reporting period. Approximately 922.1 acres were added and 197.0 acres were removed from the Enrolled Lands for a net increase of 725.1 acres (Table 1).

Table 1. Summary of land transactions during the current reporting period within the Enrolled Lands.

| Transaction Name   | Transaction Type | Transaction Date | Acres   |
|--------------------|------------------|------------------|---------|
| Waters             | Acquisition      | 9/25/2019        | 205.0   |
| Campodonico        | Acquisition      | 11/20/2019       | 43.0    |
| Copher             | Acquisition      | 12/20/2019       | 40.0    |
| Lemmons            | Acquisition      | 12/23/2019       | 20.1    |
| McKay              | Disposal         | 6/30/2020        | (197.0) |
| Ribar Alder Camp   | Acquisition      | 7/20/2020        | 60.0    |
| Ribar Cool Springs | Acquisition      | 7/20/2020        | 554     |
| Total Change       |                  |                  | 725.1   |

### C. Discussion

The land disposals were small parcels that did not have an effect on the baseline conditions of the Enrolled Lands, and the disposal acreage was offset by the acquisitions occurring during the reporting period. The land acquisitions, although greater in acreage than the land disposals, were relatively small parcels that shared similar characteristics to the surrounding and adjacent Enrolled Lands. Therefore, the acquired lands did not increase or decrease the landscape baseline conditions.

## V. THP Conservation Measures

### A. Methods

As outlined in the MSHA and MOU, habitat management measures for marten include timber harvest planning, marten habitat planning, and overall environmental resource planning. Site-specific measures were identified for each timber harvest plan (THP) initiated. The following summarizes habitat management features that were identified before and after timber harvest for THPs within the MSMA and the Moore Tract that were approved after April 27, 2018.

#### 1. Pre-harvest Habitat Retention Planning

The six major habitat management measures quantified were:

- habitat retention areas (HRAs) planned on the guidelines stated below (number, acres, justification of choice),
- habitat retained as a result of implementation of AHCP Riparian Management Zones (RMZ) and geologically unstable areas,
- retention of green wildlife trees outside of HRAs or RMZs specifically for marten (planned number of trees to be retained per acre individually or in clumps),
- snag retention (estimated number per acre present before and after harvest),
- large woody debris (LWD) retention specifically to benefit marten (number of structures present before and after harvest), and
- retention of den structures and HRAs around den structures (number of structures retained and acreage of surrounding HRAs).

In June 2007, Green Diamond began operating under an approved Aquatic Habitat Conservation Plan (AHCP)/Candidate Conservation Agreement with Assurances (CCAA). The riparian and slope protection measures under the AHCP also contribute to the development of future marten habitat across the landscape, and the riparian and geologic retention measures defined in the AHCP are incorporated into this MSHA. For young growth THPs, the amount of acreage retained in Class I and II RMZs or other partial harvest areas guided habitat retention. For Enrolled lands outside AHCP coverage (approximately 7,777 acres), riparian and geological retention measures were implemented in accordance with the California Forest Practice Rules, with the exception that RMZ's in the Moore Tract are limited to one harvest entry within the RMZ during the life of the MSHA concurrent with the even-aged harvest of the adjacent stand. An exception is light thinning harvest conducted with the specific objective of enhancing wildlife structure.

Within the MSMA and Moore Tract, THP prescriptions included retention of downed large woody debris (LWD) to enhance structural complexity, foraging, denning, resting, and escape cover benefitting marten. Harvest units retained pre-existing non-merchantable large woody debris and merchantable large woody debris with existing hollows or evidence of internal rot and hollows. Harvest units also retained all "safe snags" including

questionable merchantable snags. Pre-harvest amounts of snags per acre were assessed by ocular estimate.

Green Diamond developed the Terrestrial Retention of Ecosystem Elements (TREE) Guidelines for retaining green trees and snags in young growth stands (see MSHA attachment 5). Green Diamond implemented the TREE guidelines on all Enrolled Lands. Specific TREE measures designed as a conservation benefit to marten were applied through a marten-specific SHA scorecard on timberlands within the MSMA and Moore Tract and in future planning watersheds where marten are detected. Scorecard guidelines and a comparison between the marten-specific SHA scorecard and the scorecard for Enrolled Lands outside of the MSMA and Moore Tract are described below in Section 6. General guidelines for green wildlife tree retention are outlined below.

### **General Candidate Tree Selection for all Units:**

- Prefer defective or poorly formed trees (i.e. animal damaged, forked top, broken top, etc.)
- Prefer a mix of conifers and hardwoods (approximately 50/50 mix where possible)
- Species preference: Douglas fir, hemlock, white fir, cedar, spruce, redwood, tanoak, madrone, California laurel, chinquapin
- Consider protection from wind throw and site preparation burning when designating HRA and tree clump locations
- Retain trees with the average diameter equal to or greater than average diameter of trees in the THP area
- Green wildlife tree retention is in addition to snag and RMZ retention

### **Tree Retention Guidelines within the MSMA and Moore Tract**

#### *Conifer Dominated Harvest Areas with RMZ Retention:*

- Retain all conifer scorecard trees  $\geq 7$  in non-clearcut areas and in clearcut areas retain conifer scorecard trees at a rate of two trees per clearcut acre
- Retain all hardwood scorecard trees  $\geq 7$  in non-clearcut areas and in clearcut areas retain hardwood scorecard trees at a rate of three trees per clearcut acre
- Retain other evergreen hardwoods in clearcut areas at a rate of two trees per clearcut acre where they exist

#### *Conifer Dominated Harvest Areas without RMZ retention:*

- Retain all conifer scorecard trees  $\geq 7$  in non-clearcut areas and in clearcut areas retain conifer scorecard trees at a rate of two trees per clearcut acre
- Retain other conifer at a rate of two trees per clearcut acre
- Retain all hardwood scorecard trees  $\geq 7$  in non-clearcut areas and within clearcut areas retain hardwood scorecard trees at a rate of three trees per clearcut acre
- Retain other evergreen hardwoods within clearcut areas at a rate of two trees per clearcut acre where they exist (if a unit lacks hardwoods, retain conifer up to two trees per clearcut acre within clearcut areas)

*Hardwood Dominated Harvest Areas with RMZ Retention:*

- Retain two trees per clearcut acre
- Retain all conifer scorecard trees  $\geq 7$  within non-clearcut areas and in clearcut areas retain conifer scorecard trees at a rate of two trees per clearcut acre
- Retain all hardwood scorecard trees  $\geq 7$  in non-clearcut areas and in clearcut areas retain hardwood scorecard trees at a rate of three trees per clearcut acre
- Retain other evergreen hardwoods in clearcut areas at a rate of two trees per clearcut acre where they exist

*Hardwood Dominated Harvest Areas without RMZ Retention:*

- Retain all conifer scorecard trees  $\geq 7$  in non-clearcut areas and in clearcut areas retain conifer scorecard trees at a rate of two trees per clearcut acre
- Retain all hardwood scorecard trees  $\geq 7$  in non-clearcut areas and in clearcut areas retain hardwood scorecard trees at a rate of three trees per clearcut acre
- Retain a minimum 0.5 acre HRA or clumps totaling 0.5 acres and additional scattered or clumped evergreen hardwood trees at a rate of two trees per clearcut acre.

**2. Post-harvest Habitat Retention**

Post-harvest completion data were collected for units that received company harvest plan completions during the reporting period or for plans in which harvest activity had terminated. For plan completions, the number of green wildlife trees retained was estimated as the number of remaining trees  $> 12''$  dbh per acre. Post-harvest LWD and snag retention for all units within the MSMA and Moore Tract were measured by ocular estimate following the completion of the harvest unit. Slash piles to benefit marten occupancy within the MSMA and Moore Tract were created post-harvest and retained at a rate of one structure per 5-10 clearcut acres within each ground-based unit. Slash pile numbers for clearcut harvest units were measured by ocular estimate following the completion of the harvest unit. If a THP was to be burned for site preparation, the completion data was not collected until after the plan was burned. It was noted for each completion whether site preparation, burning, wind throw or some other form of forest management damaged the retained habitat features.

**3. Commercial Thinning**

Commercial thinning involves removing selected trees that may contain commercial value in order to create additional growing space for crop trees. Commercial thinning on Green Diamond's forest lands is typically an intermediate treatment applied to younger stands that allows for the release of the selected crop trees by providing more light and in cases, more nutrients and soil moisture when they are limiting factors. The log size of these younger thinned stands is inherently smaller than those of an older stand ready for the final harvest stages of even-aged management (i.e., clearcut harvest). In addition to the release of crop trees, commercial thinning allows for the release of understory vegetation through increased light exposure. The release of understory vegetation may provide additional cover and an increase in mast production that may benefit martens. The



protection measures and mitigations included in a final clearcut harvest also apply to these intermediate thinning harvests with exception of the creation of slash piles. Given the goal of thinning harvests and amount of post-harvest habitat retention associated with this type of silviculture, marten habitat is at a minimum maintained, but this type of harvest should advance the development of marten habitat. Therefore, these units meet or exceed post-harvest habitat retention standards of the MSHA and are excluded from the pre- and post-harvest retention summaries in the annual report.

#### **4. Herbicide Applications**

Herbicide applications involve treating selected areas to eliminate vegetation in order to create growing space for crop trees (site preparation). Herbicide applications on Green Diamond's forest lands are applied via backpack spraying and hack and squirt applications. These herbicide applications allow for the release of selected crop trees by increasing light and in cases, more nutrients and soil moisture when they are limiting factors. Green Diamond utilizes backpack spraying to reduce competing vegetation and allow for the release of crop tree seedlings. These applications are typically applied during the end of the second growing season after the completion of a final clearcut harvest unit. The backpack application of herbicides does not affect the retention of green wildlife trees, tree clumps or HRAs within the original final harvest unit. Therefore, all prescribed retention including green wildlife trees retained as the result of the marten-specific TREE scorecard, are unaffected by these treatments. Hack and squirt herbicide applications on Green Diamond's forest lands are prescribed in units with sprouting hardwoods or young stands with a high volume of standing hardwoods. The log size of these younger stands is inherently smaller than those of an older stand ready for the final harvest stages of even-aged management (i.e., clearcut harvest). Given the smaller log size of treated stands and the amount of post-treatment habitat retention described above, marten habitat is maintained, but hack and squirt applications could also advance the development of marten habitat. Therefore, the units treated with these herbicide applications meet or exceed the habitat retention standards of the MSHA and are excluded from the pre- and post-harvest retention summaries in the annual report. However, the number of units and total acreage treated with herbicides are provided in the results.

Hack and squirt treatments may also be utilized in older stands as a stand-replacing harvest (commercial treatment) with post-harvest results similar to clearcut silviculture. The protection measures and mitigations included in final clearcut harvest units also apply to commercial hack and squirt units. The number of units and total acreage treated with hack and squirt applications that involve the elimination of commercial age trees are provided in the results.

#### **5. Den Sites**

Natal or maternal den structures were retained on the landscape, and tree retention around the den structure was incorporated when appropriate. The standard for tree retention around a natal den structure included a no-less-than 0.5-acre no-harvest HRA. Any harvest conducted within the natal den HRA was only done in consultation with CDFW. Harvest conducted within the natal den HRA was designed to protect the

biological integrity of the site and increase/accelerate development of large trees within the HRA.

Habitat retention around maternal den structures may have included the individual den structure element (live tree, snag, log, etc.), the individual structure with tree clump retention, or the individual structure and a 0.5-acre HRA with 70 percent over story tree canopy composed of a variety of tree sizes and tree species present in the existing pre-harvest stand. The tree retention around known den structures helped to retain existing biologically important habitat elements such as large trees, snags and large down wood.

## 6. TREE Scorecard Habitat Retention Comparison

Green Diamond will use a stratified random sample to analyze 10 percent of the THP units (pre-harvest) to quantify tree retention using the marten-specific TREE scorecard applied to the MSMA and Moore Tract versus the scorecard applied to the balance of the enrolled lands (Table 2). Green Diamond will conduct and report the results of this analysis at 5-year intervals. Green Diamond and CDFW will evaluate the results at the 5-year reporting intervals and during the adaptive management review in year 25 to determine if this monitoring process should be modified.

Table 2. Comparison of live tree retention features and scores associated with the TREE retention scorecards.

| <b>Marten-specific SHA Tracts<br/>(MSMA and Moore Tract)</b>                                 |       | <b>Balance of Enrolled Lands</b>                         |       |
|--|-------|--|-------|
| Tree Elements  | Score | Tree Elements  | Score |
| Conifer > 30", hardwood > 18"  | 3     | Conifer > 30", hardwood > 18"                            | 3     |
| Large cavity, hollow, basal hollow   | 4     | Large cavity, hollow, basal hollow                       | 4     |
| Small cavity, broken top, reiteration  | 3     | Small cavity, internal rot or mistletoe broom*           | 2     |
| Crevice cover (fissure, loose bark, furrowed bark)   | 1     | Crevice cover (loose or deeply furrowed bark)            | 1     |
| Complex crown (dead or forked top, lateral large limbs, epicormic branching, ledge/platform) | 1     | Complex crown (lateral large limbs, epicormic branching) | 1     |
| Internal decay, mistletoe broom  | 2     |  |       |

\* In marten-specific tracts, small cavities, broken tops, internal rot, and mistletoe brooms are assigned higher values as these features pose a conservation benefit to marten.

## B. Results

One THP comprised of nine clearcut harvest units totaling 236.29 acres received an approved completion during the reporting period. No commercially thinned harvest units received approved completions during the reporting period. For more details on the clearcut harvest unit retention see Appendix III and Tables 3, 4, and 5.

### 1. Pre-harvest Habitat Retention Planning

Of the nine clearcut harvest units, all were conifer dominated with RMZ retention and prescribed two green wildlife trees (GWT) per clearcut acre. No habitat retention areas (HRA) were required. The average number of scorecard trees marked for retention was 0.16 per acre. The average number of snags pre-harvest was estimated to be 0.16 snags per acre (Table 3).

Table 3. Summary of pre-harvest THP conservation measures for completed THP units (n=9 units)

|         | GWT/<br>Acre | Snags/ acre | HRAs (#) | Scorecard<br>Trees (#) | Scorecard Trees<br>/acre |
|---------|--------------|-------------|----------|------------------------|--------------------------|
| Minimum | 2.00         | 0.10        | 0        | 1                      | 0.04                     |
| Maximum | 2.00         | 0.20        | 0        | 15                     | 0.43                     |
| Average | 2.00         | 0.16        | 0        | 4.56                   | 0.16                     |

GWT = Green Wildlife Tree

HRA = Habitat Retention Area

### 2. Post-harvest Habitat Retention

All nine units retained at least two GWT per clearcut acre. The average number of scorecard trees retained was 0.16 per acre. The average number of snags and large woody debris pieces retained post-harvest was 0.16 and 0.26 per acre, respectively (Table 4). A total of 35.6 acres were retained within riparian and geological retention areas, which were a mix of selective and no harvest.

Six of the nine completed units (154.81 acres) used ground-based harvesting methods and retained a total of 20 slash piles for an average of 1.29 structures per 10 acres (Appendix III). None of the completed units were burned during the current reporting period.

Table 4. Summary of post-harvest THP conservation measures for completed THP units (n=9 units)

|         | GWT/<br>Acre | Snags/<br>acre | HRAs<br>(#) | Scorecard<br>trees (#) | Scorecard<br>trees/acre | LWD (#/acre) |
|---------|--------------|----------------|-------------|------------------------|-------------------------|--------------|
| Minimum | 2.00         | 0.10           | 0           | 1                      | 0.04                    | 0.20         |
| Maximum | 2.00         | 0.20           | 0           | 15                     | 0.43                    | 0.40         |
| Average | 2.00         | 0.16           | 0           | 4.56                   | 0.16                    | 0.26         |

GWT = Green Wildlife Tree

HRA = Habitat Retention Area

LWD = Large Woody Debris

### 3. Comparison of Pre- and Post-harvest Wildlife Retention Measures

The prescribed pre-harvest and post-harvest data were compared for the nine THP units with approved completions during the reporting period. Average post-harvest retention of GWTs and scorecard trees was equal to pre-harvest retention levels during the reporting period (Table 5). Pre-harvest estimates for large woody debris were not available during the reporting period; and therefore, no comparisons were included in this section. Likewise, slash pile creation and retention only occur post-harvest, and all ground-based clearcut units retained at least the minimum number of required structures.

Table 5. Comparison of pre- and post-harvest THP conservation measures for completed THP units (n=9 units)

|                        | Pre<br>GWT/<br>acre | Post<br>GWT/<br>acre | Pre<br>Snag/<br>acre | Post<br>Snag/<br>acre | Pre<br>HRA<br>(#) | post<br>HRA<br>(#) | Pre<br>Scorecard<br>Trees/acre | Post<br>Scorecard<br>Trees/acre |
|------------------------|---------------------|----------------------|----------------------|-----------------------|-------------------|--------------------|--------------------------------|---------------------------------|
| Average                | 2.00                | 2.00                 | 0.16                 | 0.16                  | 0.00              | 0.00               | 0.16                           | 0.16                            |
| Average<br>change/unit | 0.00                |                      | 0.00                 |                       | 0.00              |                    | 0.00                           |                                 |

GWT = Green Wildlife Tree

HRA = Habitat Retention Area

#### **4. Herbicide Applications**

One-hundred units (2247.7 total acres) were treated with herbicide applications during the reporting period. Zero of the 100 units were treated with hack and squirt herbicide applications that involved the treatment of commercial age trees. As described above, the 100 units treated with herbicide applications were not included in the pre-harvest or post-harvest retention summaries.

#### **5. Den Site Retention Measures**

No marten den structures were discovered within the Enrolled Lands during the reporting period.

#### **6. TREE Scorecard Habitat Retention Comparison**

Green Diamond will conduct and report the results of this analysis at 5-year intervals. Therefore, the results of the initial analysis will not be available until the 5<sup>th</sup> annual report.

### **C. Discussion**

Retention measures were implemented in compliance with the MSHA and MOU, and all planned habitat retention features were successfully retained. Habitat retained post-harvest were equal to planned levels of retention in all units with completions during the reporting period. At times, trees were left for unanticipated reasons, and if they satisfied the criteria for a green wildlife tree, they were counted as additional trees in the post-harvest evaluation. Loss of green wildlife trees in harvest plans may occur due to operational constraints, safety reasons, and site preparation (burning). Increase of green wildlife trees in harvest plans may occur due to additional marking of trees prior to operations. These trees are counted post-harvest because they were marked, however, they were not reported on during pre-harvest because they had not been marked or recorded on the pre-harvest form. RPFs noted the additional incidental retention of scattered and clumped sub-merchantable trees as a result of Green Diamond's Forest Stewardship Council (FSC) certification, but these habitat features were not quantified in this report. In many instances, this incidental structure is likely to add another element of structural diversity to future forest stands.

The greatest amount of habitat retention occurred in riparian and geologic retention areas. Class I and II watercourses are usually given retention that exceeds the standard Forest Practice Rules, therefore representing a significant amount of retention for future marten habitat. No plans were completed and reported on during the 2019 reporting period, so no comparisons between years are included in this report. Additionally, Green Diamond did not locate any marten den sites within 0.25 miles of a timber harvesting unit. Therefore, no den site protection or habitat retention measures were implemented during the current reporting period.

Appendix I. Results of non-invasive marten occupancy surveys during the 2019/2020 sampling period.

| Station ID | Block ID | Total Camera Days | Single/Dual Camera Setup | Location             | Marten Detection (Yes/No) |
|------------|----------|-------------------|--------------------------|----------------------|---------------------------|
| 1          | 1        | 29                | Single                   | Other Enrolled Lands | No                        |
| 2          | 1        | 29                | Single                   | Other Enrolled Lands | No                        |
| 3          | 1        | 35                | Single                   | Moore Tract          | Yes                       |
| 4          | 1        | 35                | Single                   | Moore Tract          | No                        |
| 5          | 1        | 29                | Single                   | Other Enrolled Lands | No                        |
| 6          | 1        | 28                | Single                   | Other Enrolled Lands | No                        |
| 7          | 1        | 28                | Single                   | Other Enrolled Lands | No                        |
| 8          | 1        | 35                | Single                   | Moore Tract          | No                        |
| 9          | 1        | 35                | Single                   | Moore Tract          | Yes                       |
| 10         | 1        | 35                | Single                   | Moore Tract          | Yes                       |
| 11         | 1        | 28                | Single                   | Other Enrolled Lands | No                        |
| 12         | 1        | 29                | Single                   | Other Enrolled Lands | No                        |
| 13         | 1        | 28                | Single                   | Other Enrolled Lands | No                        |
| 14         | 1        | 31                | Single                   | MSMA                 | No                        |
| 15         | 1        | 28                | Single                   | MSMA                 | No                        |
| 16         | 1        | 28                | Single                   | MSMA                 | No                        |
| 18         | 1        | 31                | Single                   | MSMA                 | No                        |
| 19         | 1        | 31                | Single                   | MSMA                 | No                        |
| 20         | 1        | 28                | Dual                     | MSMA                 | No                        |
| 21         | 1        | 28                | Single                   | MSMA                 | No                        |
| 22         | 1        | 27                | Single                   | MSMA                 | No                        |
| 23         | 1        | 27                | Single                   | MSMA                 | No                        |
| 24         | 1        | 29                | Dual                     | MSMA                 | No                        |
| 25         | 1        | 31                | Single                   | MSMA                 | No                        |
| 26         | 1        | 28                | Dual                     | MSMA                 | No                        |
| 27         | 1        | 28                | Single                   | MSMA                 | No                        |
| 28         | 1        | 29                | Single                   | MSMA                 | No                        |
| 29         | 1        | 29                | Single                   | MSMA                 | No                        |
| 30         | 1        | 29                | Dual                     | MSMA                 | No                        |
| 31         | 1        | 28                | Dual                     | MSMA                 | No                        |
| 32         | 1        | 28                | Dual                     | MSMA                 | No                        |
| 33         | 1        | 27                | Single                   | MSMA                 | No                        |
| 34         | 1        | 29                | Single                   | MSMA                 | No                        |
| 35         | 1        | 29                | Single                   | MSMA                 | No                        |
| 36         | 1        | 29                | Single                   | MSMA                 | No                        |
| 37         | 1        | 28                | Single                   | MSMA                 | No                        |
| 38         | 1        | 28                | Single                   | MSMA                 | No                        |

|    |   |    |        |                              |     |
|----|---|----|--------|------------------------------|-----|
| 39 | 1 | 28 | Single | MSMA                         | No  |
| 40 | 1 | 28 | Dual   | MSMA                         | Yes |
| 41 | 1 | 28 | Single | MSMA                         | No  |
| 42 | 1 | 29 | Single | MSMA                         | No  |
| 43 | 1 | 29 | Single | MSMA                         | No  |
| 44 | 1 | 29 | Single | MSMA                         | No  |
| 45 | 1 | 29 | Dual   | MSMA                         | No  |
| 46 | 1 | 29 | Single | MSMA                         | Yes |
| 47 | 1 | 29 | Single | MSMA                         | No  |
| 48 | 1 | 29 | Dual   | MSMA                         | No  |
| 49 | 1 | 28 | Single | MSMA                         | No  |
| 50 | 1 | 29 | Single | MSMA                         | Yes |
| 51 | 2 | 21 | Single | MSMA                         | No  |
| 52 | 2 | 21 | Single | MSMA                         | No  |
| 53 | 2 | 21 | Single | MSMA                         | No  |
| 54 | 2 | 21 | Single | MSMA                         | No  |
| 55 | 2 | 21 | Dual   | MSMA                         | No  |
| 56 | 2 | 21 | Dual   | MSMA                         | No  |
| 57 | 2 | 21 | Single | MSMA                         | No  |
| 58 | 2 | 21 | Single | MSMA                         | No  |
| 60 | 2 | 51 | Single | MSMA                         | No  |
| 61 | 2 | 21 | Single | MSMA                         | No  |
| 62 | 2 | 21 | Dual   | MSMA                         | No  |
| 63 | 2 | 21 | Single | MSMA                         | No  |
| 64 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 65 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 66 | 2 | 21 | Dual   | MSMA                         | No  |
| 67 | 2 | 21 | Single | MSMA                         | No  |
| 68 | 2 | 21 | Single | MSMA                         | No  |
| 69 | 2 | 21 | Single | MSMA                         | No  |
| 70 | 2 | 21 | Single | MSMA                         | No  |
| 71 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 72 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 77 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 78 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 79 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 84 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 85 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 86 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 87 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 91 | 2 | 21 | Single | Potential Marten Source Area | Yes |

|     |   |    |        |                              |     |
|-----|---|----|--------|------------------------------|-----|
| 92  | 2 | 21 | Single | Potential Marten Source Area | No  |
| 93  | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 97  | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 98  | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 99  | 2 | 21 | Single | Potential Marten Source Area | No  |
| 100 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 104 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 105 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 106 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 107 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 108 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 113 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 114 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 115 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 116 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 122 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 123 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 124 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 128 | 2 | 21 | Single | Potential Marten Source Area | Yes |
| 129 | 2 | 21 | Single | Potential Marten Source Area | No  |
| 74  | 3 | 21 | Single | MSMA                         | No  |
| 75  | 3 | 21 | Dual   | MSMA                         | No  |
| 76  | 3 | 21 | Dual   | MSMA                         | No  |
| 80  | 3 | 21 | Single | MSMA                         | No  |
| 81  | 3 | 21 | Single | MSMA                         | No  |
| 82  | 3 | 21 | Dual   | MSMA                         | No  |
| 83  | 3 | 21 | Single | MSMA                         | No  |
| 88  | 3 | 21 | Single | MSMA                         | No  |
| 89  | 3 | 22 | Single | MSMA                         | No  |
| 94  | 3 | 22 | Single | MSMA                         | No  |
| 95  | 3 | 21 | Dual   | MSMA                         | No  |
| 96  | 3 | 22 | Dual   | MSMA                         | No  |
| 101 | 3 | 21 | Dual   | MSMA                         | Yes |
| 102 | 3 | 21 | Single | MSMA                         | No  |
| 103 | 3 | 22 | Single | MSMA                         | No  |
| 110 | 3 | 21 | Single | MSMA                         | No  |
| 111 | 3 | 21 | Dual   | MSMA                         | No  |
| 112 | 3 | 21 | Single | MSMA                         | No  |
| 118 | 3 | 21 | Single | MSMA                         | No  |
| 119 | 3 | 21 | Dual   | MSMA                         | No  |
| 120 | 3 | 21 | Single | MSMA                         | No  |



|     |   |    |        |      |    |
|-----|---|----|--------|------|----|
| 121 | 3 | 21 | Dual   | MSMA | No |
| 125 | 3 | 21 | Single | MSMA | No |
| 126 | 3 | 21 | Single | MSMA | No |
| 127 | 3 | 21 | Single | MSMA | No |
| 130 | 3 | 21 | Dual   | MSMA | No |
| 131 | 3 | 21 | Single | MSMA | No |
| 132 | 3 | 21 | Single | MSMA | No |
| 133 | 3 | 21 | Single | MSMA | No |
| 134 | 3 | 21 | Dual   | MSMA | No |
| 135 | 3 | 21 | Single | MSMA | No |
| 136 | 3 | 21 | Single | MSMA | No |
| 137 | 3 | 21 | Single | MSMA | No |
| 138 | 3 | 21 | Single | MSMA | No |
| 141 | 3 | 21 | Single | MSMA | No |
| 142 | 3 | 21 | Single | MSMA | No |
| 143 | 3 | 21 | Single | MSMA | No |
| 144 | 3 | 21 | Single | MSMA | No |
| 148 | 3 | 21 | Single | MSMA | No |
| 149 | 3 | 21 | Single | MSMA | No |
| 155 | 3 | 21 | Single | MSMA | No |
| 139 | 4 | 53 | Single | MSMA | No |
| 140 | 4 | 21 | Single | MSMA | No |
| 145 | 4 | 53 | Single | MSMA | No |
| 146 | 4 | 21 | Single | MSMA | No |
| 147 | 4 | 21 | Single | MSMA | No |
| 150 | 4 | 28 | Single | MSMA | No |
| 151 | 4 | 28 | Single | MSMA | No |
| 152 | 4 | 28 | Single | MSMA | No |
| 153 | 4 | 21 | Dual   | MSMA | No |
| 154 | 4 | 21 | Single | MSMA | No |
| 156 | 4 | 28 | Single | MSMA | No |
| 157 | 4 | 28 | Single | MSMA | No |
| 158 | 4 | 21 | Single | MSMA | No |
| 159 | 4 | 21 | Single | MSMA | No |
| 160 | 4 | 21 | Single | MSMA | No |
| 161 | 4 | 21 | Dual   | MSMA | No |
| 163 | 4 | 21 | Single | MSMA | No |
| 164 | 4 | 21 | Single | MSMA | No |
| 165 | 4 | 21 | Single | MSMA | No |
| 166 | 4 | 21 | Single | MSMA | No |
| 167 | 4 | 21 | Dual   | MSMA | No |

|     |   |    |        |                      |     |
|-----|---|----|--------|----------------------|-----|
| 168 | 4 | 21 | Dual   | MSMA                 | No  |
| 169 | 4 | 21 | Single | MSMA                 | No  |
| 170 | 4 | 21 | Dual   | MSMA                 | No  |
| 171 | 4 | 21 | Dual   | MSMA                 | No  |
| 173 | 4 | 21 | Dual   | MSMA                 | No  |
| 174 | 4 | 21 | Single | MSMA                 | No  |
| 175 | 4 | 21 | Single | MSMA                 | No  |
| 176 | 4 | 21 | Single | MSMA                 | No  |
| 177 | 4 | 21 | Single | MSMA                 | No  |
| 178 | 4 | 21 | Dual   | MSMA                 | No  |
| 179 | 4 | 21 | Single | MSMA                 | No  |
| 172 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 180 | 5 | 51 | Single | Other Enrolled Lands | No  |
| 181 | 5 | 48 | Single | Other Enrolled Lands | No  |
| 182 | 5 | 48 | Single | Other Enrolled Lands | No  |
| 183 | 5 | 51 | Single | Other Enrolled Lands | No  |
| 184 | 5 | 51 | Single | Other Enrolled Lands | Yes |
| 185 | 5 | 51 | Single | Other Enrolled Lands | No  |
| 186 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 187 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 188 | 5 | 50 | Single | Other Enrolled Lands | No  |
| 189 | 5 | 51 | Single | Other Enrolled Lands | No  |
| 190 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 191 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 192 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 193 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 194 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 195 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 196 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 197 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 198 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 199 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 200 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 201 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 202 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 204 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 205 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 206 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 207 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 208 | 5 | 21 | Single | Other Enrolled Lands | No  |
| 209 | 5 | 21 | Single | Other Enrolled Lands | No  |

|     |   |    |        |                      |    |
|-----|---|----|--------|----------------------|----|
| 210 | 5 | 21 | Single | Other Enrolled Lands | No |
| 211 | 5 | 21 | Single | Other Enrolled Lands | No |
| 212 | 5 | 21 | Single | Other Enrolled Lands | No |
| 213 | 5 | 21 | Single | Other Enrolled Lands | No |
| 214 | 5 | 21 | Single | Other Enrolled Lands | No |
| 215 | 5 | 21 | Single | Other Enrolled Lands | No |
| 216 | 5 | 21 | Single | Other Enrolled Lands | No |
| 217 | 5 | 21 | Single | Other Enrolled Lands | No |
| 218 | 5 | 21 | Single | Other Enrolled Lands | No |
| 219 | 5 | 21 | Single | Other Enrolled Lands | No |
| 220 | 5 | 21 | Single | Other Enrolled Lands | No |
| 221 | 5 | 21 | Single | Other Enrolled Lands | No |
| 222 | 5 | 21 | Single | Other Enrolled Lands | No |
| 223 | 5 | 21 | Single | Other Enrolled Lands | No |
| 224 | 5 | 21 | Single | Other Enrolled Lands | No |
| 225 | 5 | 21 | Single | Other Enrolled Lands | No |
| 226 | 5 | 21 | Single | Other Enrolled Lands | No |
| 227 | 5 | 21 | Single | Other Enrolled Lands | No |
| 228 | 5 | 21 | Single | Other Enrolled Lands | No |
| 229 | 5 | 21 | Single | Other Enrolled Lands | No |

<sup>1</sup>A total of 221 sample units were surveyed. Nonsequential station identification numbers are the result of grid sample units occurring in areas bordering the Green Diamond ownership or in areas with long-term safety concerns.

<sup>2</sup>Cameras located within the Other Enrolled Lands and surveyed > 40 days were located adjacent to marten detections and were surveyed longer than the minimum 21-day period in order to test for latency to detect marten. All other sample units surveyed for longer than the minimum 21-day period were the result of camera malfunctions or access issues.

Appendix II. Inspection dates for all water tanks located within the Enrolled Lands in 2020.

| <b>Tank ID</b> | <b>Tank Name</b>     | <b>Inspection Date</b> |
|----------------|----------------------|------------------------|
| 1              | 7010                 | 9/3/2020               |
| 2              | 2000 Drafting        | 9/9/2020               |
| 3              | 5000/Dry Creek       | 9/3/2020               |
| 4              | Arrow Mills          | 12/28/2020             |
| 5              | BL1100               | 11/2/2020              |
| 6              | BL2000               | 10/29/2020             |
| 7              | BL3910               | 10/14/2020             |
| 8              | C900                 | 9/3/2020               |
| 9              | Chaparral            | 9/3/2020               |
| 10             | CL South             | 10/27/2020             |
| 11             | CR1300 Drafting      | 11/2/2020              |
| 12             | CR2700 Drafting      | 11/19/2020             |
| 13             | CR2900               | 9/16/2020              |
| 14             | CR3000               | 11/2/2020              |
| 15             | Crannell Well        | 11/2/2020              |
| 16             | D1000/W1000          | 8/31/2020              |
| 17             | D1110/Ritmer Creek   | 8/31/2020              |
| 18             | Fernwood             | 9/3/2020               |
| 19             | Graham Creek Lower   | 9/2/2020               |
| 20             | HC120                | 10/16/2020             |
| 21             | HC130                | 10/16/2020             |
| 22             | HC132                | 10/16/2020             |
| 23             | J1100                | 11/10/2020             |
| 24             | K&K 900              | 9/3/2020               |
| 25             | K&K LR               | 9/22/2020              |
| 26             | K&K North            | 10/16/2020             |
| 27             | Little Boulder Creek | 9/2/2020               |
| 28             | Miller's Road        | 9/2/2020               |
| 29             | Noisy Creek          | 9/9/2020               |
| 30             | Old-299              | 9/1/2020               |
| 31             | R120                 | 10/16/2020             |
| 32             | R2000                | 8/31/2020              |
| 33             | R4                   | 10/22/2020             |
| 34             | Ravine Creek         | 8/31/2020              |
| 35             | Ribar                | 9/8/2020               |
| 36             | Roddiscraft          | 9/15/2020              |

| <b>Tank ID</b> | <b>Tank Name</b>          | <b>Inspection Date</b> |
|----------------|---------------------------|------------------------|
|                |                           |                        |
| 37             | Snow Camp Powerline       | 9/2/2020               |
| 38             | T100 Bridge               | 10/26/2020             |
| 39             | Teepo Ridge               | 10/22/2020             |
| 40             | Twin Tanks                | 9/2/2020               |
| 41             | U10 Dandy Creek           | 11/4/2020              |
| 42             | W2300                     | 8/31/2020              |
| 43             | Washington Gulch Drafting | 11/19/2020             |
| 44             | Wiregrass East            | 10/26/2020             |
| 45             | Wiregrass West            | 10/9/2020              |
| 46             | WM10                      | 11/10/2020             |
| 47             | WM200                     | 11/10/2020             |
| 48             | WM710                     | 11/10/2020             |

Appendix III. Raw data for habitat retention measures for individual clearcut harvest units summarized in Tables 3, 4, and 5 (2020).

| THP #  | Acres | Unit | RMZ Acres | TREE Guidelines              | Pre GWT/clearcut acre | Post GWT/clearcut acre | Pre Scorecard Tree # | Post Scorecard Tree # | Pre snags/acre | Post snags/acre | Pre-harvest HRA # | Post-harvest HRA # | Min Slash Pile Required | Post Slash Pile # | Post LWD/acre |
|--------|-------|------|-----------|------------------------------|-----------------------|------------------------|----------------------|-----------------------|----------------|-----------------|-------------------|--------------------|-------------------------|-------------------|---------------|
| 731702 | 29.91 | A    | 6.40      | Conifer Dominated / With RMZ | 2                     | 2                      | 2                    | 2                     | 0.1            | 0.1             | 0                 | 0                  | 0                       | 0                 | 0.2           |
| 731702 | 21.3  | B    | 2.40      | Conifer Dominated / With RMZ | 2                     | 2                      | 6                    | 6                     | 0.2            | 0.2             | 0                 | 0                  | 1                       | 2                 | 0.4           |
| 731702 | 34.7  | C    | 6.96      | Conifer Dominated / With RMZ | 2                     | 2                      | 4                    | 4                     | 0.1            | 0.1             | 0                 | 0                  | 3                       | 6                 | 0.4           |
| 731702 | 30.83 | D    | 1.59      | Conifer Dominated / With RMZ | 2                     | 2                      | 5                    | 5                     | 0.2            | 0.2             | 0                 | 0                  | 3                       | 4                 | 0.3           |
| 731702 | 18.09 | E    | 1.57      | Conifer Dominated / With RMZ | 2                     | 2                      | 4                    | 4                     | 0.2            | 0.2             | 0                 | 0                  | 0                       | 0                 | 0.2           |
| 731702 | 15.33 | F    | 0.00      | Conifer Dominated / With RMZ | 2                     | 2                      | 1                    | 1                     | 0.2            | 0.2             | 0                 | 0                  | 1                       | 2                 | 0.2           |
| 731702 | 34.5  | G    | 7.14      | Conifer Dominated / With RMZ | 2                     | 2                      | 15                   | 15                    | 0.2            | 0.2             | 0                 | 0                  | 3                       | 4                 | 0.2           |
| 731702 | 22.51 | H    | 1.59      | Conifer Dominated / With RMZ | 2                     | 2                      | 1                    | 1                     | 0.1            | 0.1             | 0                 | 0                  | 1                       | 2                 | 0.2           |
| 731702 | 37.54 | I    | 7.97      | Conifer Dominated / With RMZ | 2                     | 2                      | 3                    | 3                     | 0.1            | 0.1             | 0                 | 0                  | 0                       | 0                 | 0.2           |