

## **Appendix D**

### **Management Indicator Species Report**

#### **SUGARBERRY PROJECT**

#### **Feather River Ranger District**

#### **Plumas National Forest**

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## **1. Introduction**

The purpose of this report is to evaluate and disclose the impacts of the Sugarberry Project on plant Management Indicator Species (MIS) identified in the Plumas National Forest (NF) Land and Resource Management Plan (LRMP) (USDA 1988). This report documents the effects of the No Action (Alternative A) and the action alternatives on selected plant MIS. Detailed descriptions of the Sugarberry Project alternatives are found in Chapter 2 of the Project Environmental Impact Statement (USDA 2007).

MIS are animal or plant species identified in the Plumas NF LRMP (USDA 1988), Appendix G, Pages (G-1 and G-2), which was developed under the 1982 National Forest System Land and Resource Management Planning Rule (1982 Planning Rule) (36 CFR 219). Guidance regarding MIS set forth in the Plumas NF LRMP directs Forest Service resource managers to (1) at project scale, analyze the effects of proposed projects on the habitats of each MIS affected by such projects, and (2) at the national forest (forest) or bioregional scale, monitor populations and/or habitat trends of forest MIS, as identified by the LRMP.

### **1.a. Direction Regarding the Analysis of Project-Level Effects on MIS**

Project-level effects on MIS are analyzed and disclosed as part of environmental analysis under the National Environmental Policy Act (NEPA). This involves examining the impacts of the proposed project alternatives on MIS habitat by discussing how direct, indirect, and cumulative effects will change the quantity and/or quality of habitat in the analysis area.

These project-level impacts to habitat are then related to broader scale (generally national forest, and, in some cases, bioregional) population and/or habitat trends. The appropriate approach for relating project-level impacts to broader scale trends depends on the terms in the LRMP. Under the 2005 National Forest System Land Management Planning Rule (2005 Planning Rule) (70 Federal Register 1060, January 5, 2005), national forests with LRMPs developed under the 1982 planning rule, including the Plumas NF, “may comply with any obligations relating to MIS by considering data and analysis relating to habitat unless the plan specifically requires population monitoring or population surveys for the species” (36 CFR 219.14(f)).

Hence, where the Plumas NF LRMP requires population monitoring or population surveys for an MIS, the project-level effects analysis for that MIS may be informed by population monitoring data, which are gathered at the forest or bioregional scale. Population monitoring and survey data are not generally gathered for site-specific projects, consistent with the 2005 planning rule, which states, “Site-specific monitoring or surveying of a proposed project or activity area is not required, but may be conducted at the discretion of the Responsible Official” (36 CFR 219.14(f)). For certain MIS, the Plumas NF LRMP does not require population monitoring or surveys; for these MIS, project-level MIS effects analysis can be informed by forest-scale habitat monitoring and analysis alone. The Plumas NF LRMP requirements for MIS plants analyzed for the Sugarberry Project are summarized in Section 3 of this report.

Therefore, adequately analyzing project effects to MIS plants, including Threatened, Endangered, and Sensitive (TES) species that are also MIS, involves the following steps:

- Identifying which MIS have habitat that would be either directly or indirectly affected by the project alternatives; these MIS are potentially affected by the project.
- Identifying the LRMP forest-level or bioregional-level monitoring requirements for this subset of forest MIS.
- Analyzing project-level effects on MIS habitats or habitat components for this subset of forest MIS.
- Discussing forest or bioregional scale habitat and/or population trends for this subset of forest MIS.
- Relating project-level impacts on MIS habitat to habitat and/or population trends for the affected MIS at the forest or bioregional scale.

These steps are described in detail in the Pacific Southwest Region's draft document "MIS Analysis and Documentation in Project-Level NEPA, R5 Environmental Coordination" (USDA 2006a). This Management Indicator Species (MIS) Report documents application of the above steps to select and analyze MIS plants for the Sugarberry Project.

### **1.b. Direction Regarding Monitoring of MIS Population and Habitat Trends at the Forest or Bioregional Scale.**

Forest or bioregional scale monitoring requirements for the Plumas NF's MIS are found in the Monitoring Plan of the LRMP (USDA 1988, Chapter 5, pages 5-1 to 5-21) and in Appendix E of the Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement (FEIS) (USDA 2001), as adopted by the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) Record of Decision (ROD) (USDA 2004) and modified by Chapter 2 of the 2004 SNFPA SEIS.

### **Habitat Status and Trend.**

The Plumas NF LRMP (USDA 1988) requires forest-scale monitoring of habitat status and trend for select MIS on the Plumas NF; for MIS with habitat potentially affected by the Sugarberry Project, these habitat monitoring requirements are summarized in Table 2 of this report. Habitat status is the current amount of habitat on the Plumas NF. Habitat trend is the direction of change in the amount of habitat between the time the LRMP was approved and the present. The methodology for assessing habitat status and trend for the Plumas MIS is described in detail in the Plumas National Forest MIS Report (USDA 2006b) and summarized below.

Habitats are the vegetation types (for example, mixed conifer forest) and/or ecosystem components (for example, serpentine outcrops) and any special habitat elements (for example, fens) required by an MIS plant for survival and reproduction. Required habitat

is identified using habitat relationships data, GIS corporate layers or models. In the case of MIS plants that are also federally threatened or endangered or Forest Service sensitive species that have been studied in detail, additional habitat relationships information from conservation assessments, interim management prescriptions or rare plant databases may be used. Habitat relationships for most MIS plants are identified individually. Information on the habitat relationships for MIS plants on the Plumas NF and can be found in the Plumas National Forest MIS Report (USDA 2006b).

MIS habitat trend is monitored, if required, using ecological and vegetation data for the Plumas NF. These data include spatial ecological and vegetation layers created from remote-sensing imagery obtained at various points in time, which are verified using photo-imagery, on-the-ground measurements, and tracking of vegetation-changing actions or events (for example, wildland fires).

### **Population Status and Trend.**

Population monitoring requirements for the MIS of the Plumas NF are identified in either Appendix E of the Sierra Nevada Forest Plan Amendment (SNFPA) FEIS (USDA 2001), as adopted by the 2004 Sierra Nevada Forest Plan Amendment Record of Decision (ROD) (USDA 2004), or the Monitoring Plan of the LRMP (USDA 1988, Chapter 5, pages 5-6 to 5-10).

For Plumas NF MIS (USDA 1988, Appendix G) that are listed in Appendix E of the SNFPA FEIS (USDA 2001), population monitoring requirements are identified in Appendix E. For all other Plumas NF MIS, population monitoring requirements are identified in the LRMP Monitoring Plan (USDA 1988). These documents require monitoring of population status and trend for select MIS on the Plumas NF. There are many types of population data, and these documents also identify the type of population monitoring data required for each MIS. The population monitoring requirements for the MIS with habitat potentially affected by the Sugarberry Project are summarized in Table 2 of this report. All population monitoring data are collected and/or compiled at the forest or bioregional scale, consistent with the LRMP as amended by the SNFPA and the 2005 Planning Rule that “site specific monitoring or surveying of a proposed project or activity area is not required” (36 CFR 219.14(f)).

Population status is the current condition of the MIS related to the type of population monitoring data (population measure) required in the LRMP for that MIS. Population trend is the direction of change in that population measure over time.

As discussed in Appendix E of the 2001 SNFPA (USDA 2001), there is a wide range of monitoring data that can be used to describe the status and trend (or change) of populations, ranging from describing changes in distribution based on presence-absence data to describing changes in population structure. A distribution population monitoring approach is identified for most MIS listed in Appendix E (Tables E-9 to E-11). Distribution population monitoring consists of collecting presence data for the MIS across a number of sample locations; over time, changes in the distribution of the MIS

can then be identified and tracked. Presence data is collected using a number of direct and indirect methods, such as surveys (population surveys), incidental sightings, and so forth. Presence population data for MIS are collected and consolidated by the Plumas NF in cooperation with State and Federal agency partners (including the California Department of Fish and Game, USFS PSW Research, California Department of Forestry, and USDI Fish and Wildlife Service) or conservation partners (including the Native Plant Society).

The Plumas NF’s MIS monitoring program for species typically hunted, fished, or trapped was designed to be implemented in cooperation with California Department of Fish and Game (CDFG), consistent with direction in the 1982 Planning Rule to monitor forest-level MIS population trends in cooperation with state fish and wildlife agencies to the extent practicable (36 CFR 219.19(a)(6)). To be biologically meaningful for wide-ranging MIS, presence data are collected and tracked not only at the forest scale, but also at larger scales, such as range-wide, state, province (Sierra Nevada), or important species management unit (for example, Deer Assessment Unit or waterfowl migratory routes). Population data at various scales are important to both assess and provide meaningful context for population status and trend at the forest scale.

**2. Selection of Project level MIS**

Management Indicator Species (MIS) plants for the Plumas NF are identified in the LRMP (USDA 1988). The MIS analyzed for the Sugarberry Project were selected from this list of MIS plants identified in the LRMP, as indicated below in Table 1. In addition, Table 1 identifies the status of the MIS (2<sup>nd</sup> column), reason each MIS was identified in the LRMP (3<sup>rd</sup> column) and discloses whether or not the MIS is potentially affected by the Sugarberry Project (4<sup>th</sup> column).

**Table 1. Management Indicator Species, Plumas NF, and Selection of MIS for Project-Level Analysis for the Sugarberry Project.**

<b>Management Indicator Species</b>	<b>Species Status</b>	<b>LRMP Habitat Indicator</b>	<b>Category for Project Analysis <sup>1</sup></b>
Constance’s Rock Cress ( <i>Arabis constancei</i> )	Forest Service Sensitive	Rare Plant Habitats	1
Butte County Fritillary ( <i>Fritillaria eastwoodiae</i> )	Forest Service Sensitive	Rare Plant Habitats	1
Quincy Lupine ( <i>Lupinus dalesiae</i> )	Forest Service Sensitive	Rare Plant Habitats	3
Stebbins’ Wild Mint ( <i>Monardella stebbinsii</i> )	Forest Service Sensitive	Rare Plant Habitats	1
Closed-throated penstemon ( <i>Penstemon personatus</i> )	Forest Service Sensitive	Rare Plant Habitats	2
Cryptic Catchfly ( <i>Silene invisa</i> )	Special Interest	Rare Plant Habitats	1
Scarlet Huckleberry ( <i>Vaccinium coccineum</i> )	Special Interest	Rare Plant Habitats	3

Cantelow's Lewisia ( <i>Lewisia cantelovii</i> )	Forest Service Sensitive	Rare Plant Habitats	1
Feather River Stonecrop ( <i>Sedum albomarginatum</i> )	Forest Service Sensitive	Rare Plant Habitats	1

<sup>1</sup> **Category 1:** MIS whose habitat is not in or adjacent to the project area and would not be affected by the project.

**Category 2:** MIS whose habitat is in or adjacent to project area, but would not be either directly or indirectly affected by the project.

**Category 3:** MIS whose habitat would be either directly or indirectly affected by the project.

*Arabis constancei*, *Fritillaria eastwoodiae*, *Monardella stebbinsii*, *Silene invisia*, *Lewisia cantelovii*, and *Sedum albomarginatum* identified as Category 1 above, will not be further discussed because the habitat factors for these species are not in or adjacent to the project area; therefore, the project will not directly or indirectly affect the habitat for these species and will, therefore, have no impact on forest-level habitat or population trends for these species. Also, Category 2 species will not be analyzed further. Although potential habitat may exist for *Penstemon personatus* within the project area, botanical surveys have not identified it. Between the years of 1985 and 2006 there have been 15 botanical surveys in the Sugarberry project area. None have identified *Penstemon personatus*. As discussed in chapter 3 of the FEIS, if *Penstemon personatus* is identified during project implementation, plants will be protected through Controlled Areas, and/ or Limited Operating Periods.

The MIS whose habitat would be either directly or indirectly affected by the Sugarberry Project, identified as Category 3 in Table 1, are carried forward in analysis. This MIS report will evaluate the direct, indirect, and cumulative effects of the proposed action and alternatives on the habitat of the Category 3 non-TES MIS and summarize effects to those TES MIS discussed in the BA/BE. The MIS selected for Project-Level MIS analysis for the Sugarberry Project are:

1. *Lupinus dalesiae*
2. *Vaccinium coccineum*

### **3. LRMP Monitoring Requirements for MIS Selected for Project-Level Analysis**

#### **3.a. MIS Monitoring Requirements.**

The Plumas NF LRMP (USDA 1988, Chapter 5) and Appendix E of the Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement (USDA 2001), as adopted by the 2004 Sierra Nevada Forest Plan Amendment ROD (USDA 2004), identify forest and bioregional scale habitat and population monitoring direction for the Plumas NF MIS. As discussed in the introduction to this report, forest-scale habitat monitoring direction is identified in the Monitoring Plan of the Plumas NF LRMP (USDA 1988, Chapter 5). The Plumas NF LRMP did not identify habitat monitoring for MIS plants (USDA 1988, Chapter 5). For those Plumas NF MIS (USDA 1988, Appendix G) that are listed in Appendix E of the SNFPA FEIS (USDA 2001), population monitoring direction is described in Appendix E. For all other Plumas NF MIS, population monitoring direction is described in the LRMP Monitoring Plan (USDA 1988, Chapter 5). Habitat

and population monitoring results for Plumas NF’s MIS are described in the Plumas National Forest Management Indicator Species Report (USDA 2006b) and are summarized below for the MIS being analyzed for the Sugarberry Project.

**Table 2. Plumas NF LRMP MIS Requirements for the Selected Project-Level MIS for the Sugarberry Project (USDA 1988, as amended by the SNFPA 2004).**

SELECTED PROJECT-LEVEL MIS	MIS MONITORING REQUIREMENTS	
	Habitat <sup>a</sup>	Population <sup>b</sup>
Constance’s Rock Cress ( <i>Arabis constancei</i> )	None	Distribution and demographic (USDA 2001, Page E-50)
Butte County Fritillary ( <i>Fritillaria eastwoodiae</i> )	None	Distribution and demographic (USDA 2001, Page E-50)
Quincy Lupine ( <i>Lupinus dalesiae</i> )	None	Distribution and demographic (USDA 2001, Page E-50)
Stebbins’ Wild Mint ( <i>Monardella stebbinsii</i> )	None	Distribution and demographic (USDA 2001, Page E-50)
Closed-throated penstemon ( <i>Penstemon personatus</i> )	None	Distribution and demographic (USDA 2001, Page E-50)
Cryptic Catchfly ( <i>Silene invisa</i> )	None	Distribution and demographic (USDA 2001, Page E-50)
Scarlet Huckleberry ( <i>Vaccinium coccineum</i> )	None	Distribution and demographic (USDA 2001, Page E-50)

<sup>a</sup> Plumas NF LRMP, Monitoring Plan (USDA 1988, Chapter 5).

<sup>b</sup> FEIS, Appendix E (USDA 2001).

### **3.b. How MIS Monitoring Requirements are Being Met.**

#### Sensitive and Special Interest MIS Plants:

Population Monitoring – the monitoring objective shown in Table 2 above comes from Appendix E. This monitoring on the Plumas is being met through distribution and demographic monitoring of existing MIS plant populations. Distribution and demographic monitoring is being conducted on MIS populations by tracking changes in plant occurrences and number of individuals over time.

### **4. Description of Proposed Project.**

The Proposed Action and Action Alternatives of the Sugarberry Project implement fuel reduction, group selection, individual tree selection (ITS), biomass removal and road construction, reconstruction and decommissioning in the project area. A detailed description of each of the alternatives is in Chapter 2 of the Sugarberry Project Environmental Impact Statement (USDA 2007).

Project Design standards for all action alternatives include; standards & guidelines identified in Table 2 of the Supplemental SNFPA (2004) Record of Decision, use of limited operating periods identified in Table 2.3, HFQLG FEIS (1999), or implementation of Interim Management Prescriptions for Sensitive and Special Interest Plants.

The Sugarberry Project analysis area (or botanical analysis area) is approximately 48,000 acres, of which 37,100 are National Forest managed by the Plumas National Forest and 10,900 acres of private land within National Forest boundary. All direct, indirect and cumulative effects discussed, occur within this 48,000 acre analysis area. The direct and indirect effects of each alternative, together with the additive or cumulative effects of each alternative, have been considered in evaluating impacts to MIS plants and habitat.

## **5. Effects of Proposed Project on Selected MIS**

### **5.c. Quincy Lupine**

#### **5.c.1. Habitat/Species Relationship.**

This lupine is found in a variety of habitats and in quite a few open undisturbed locations on the forest. It is also found in areas that have been disturbed.

The following is the Interim Management Prescription for Quincy lupine (reviewed in 2007): Take information from the *Lupinus dalesiae* – A Botanical Investigation (1989) report to establish a set of Key Occurrences to protect in each Level 5 Watershed. At least 30% of the known occurrences within a Level 5 Watershed should be protected from all ground disturbing actions. In selecting Key Occurrences, give priority to those residing in settings undisturbed (at least recently) by management activities. Additional occurrences may be protected with appropriate rationale. The level of impact to be incurred by non-key occurrences should be determined as each project is designed and analyzed, and should follow the following strategy. Avoid building landings, temporary roads, and fire control lines through known occurrences. Avoid sub-soiling through known occurrences. Strive to apply mechanical treatments after seed-set. Avoid machine piling within known occurrences. To the degree possible, lop-and-scatter hand fuel treatments to avoid creating piles within known occurrences. If pile burning is necessitated by other resource issues, work with the District Botanist to avoid placing piles on individual plants within the occurrence to the degree feasible. Strive to apply prescribed fire in the fall.

#### **5.c.2. Project-level Effects Analysis based on Habitat**

**Key Habitat Factor(s) for the Analysis:** The following factors are used to assess the effects of the proposed action and alternatives on Quincy Lupine habitat: (1) overall acres of suitable habitat affected, (2) acres of occupied habitat affected.

**Analysis Area for Project-level Effects Analysis:**

For the analysis of effects of the Sugarberry Project documented in this report, the “botanical analysis area” geographic boundary was delineated based on the potential direct, indirect and cumulative effects on Quincy lupine. The Sugarberry Project analysis area is approximately 48,000 acres, of which 37,100 are National Forest managed by the Plumas National Forest and 10,900 acres of private land within National Forest boundary. Direct and indirect effects from the project will be limited to this area. Consequently, any negative cumulative effects will be expressed in this area as well.

### **Effects of Alternative A (no action) on the Quincy Lupine**

**Direct Effects-** No direct effects.

**Indirect Effects-** Habitat will become more susceptible to high intensity wildfire, however this would likely benefit Quincy lupine. This plant is known to tolerate moderate to high disturbance and likely needs clearings in the forest to successfully reproduce. This is based on where the Quincy lupine occurs across the landscape.

**Cumulative Effects-** Habitat will likely decline as the forest becomes denser. Overstory trees and shrubs will out-compete the Quincy lupine for sunlight and water.

**Cumulative Effects Conclusion:** It is anticipated that implementation of the no action alternative, in combination with past, present and reasonably foreseeable future actions, would not have a cumulative negative effect on Quincy lupine or its habitat. The no action alternative would likely result in a gradual habitat decline for Quincy lupine in the project area.

### **Effects of Alternatives B and C.**

**Direct/ Indirect Effects-** Mature plants may be uprooted, buried, or physically damaged in other ways by harvest activities.

**Cumulative effects-** This project is unlikely to have any negative effects to the Quincy lupine because it is tolerant of moderate to high levels of disturbance and requires openings in the forest canopy to reproduce. Approximately 30% of the plants in the analysis area are located in a group selection unit, and they will likely benefit from alternatives B and C. Also, there are four occurrences outside of treatment units, within one mile of Quincy lupine that will be treated. In the unlikely event that plants within the treatment unit are killed, the geographic distribution of plants will be maintained.

**Cumulative Effects Conclusion:** Implementation of either action alternative, in combination with past, present and reasonably foreseeable future actions would have no negative effect on known Quincy lupine sites, nor would cause any change in population trend across the Plumas National Forest.

### **5.c.3. Summary of Habitat and Population Status and Trend at the Forest/Bioregional Scale**

The Plumas NF LRMP (as amended by the SNFPA) requires distribution and demographic population monitoring for MIS plants (Table 2); hence, the Quincy Lupine effects analysis for the Sugarberry Project may be informed by population monitoring data. The sections below summarize the habitat and population status and trend data for the Quincy Lupine. This information is drawn from the detailed information on habitat and population trends in the Plumas National Forest MIS Report (USDA 2006a), which is incorporated by reference.

### **Habitat Status and Trend.**

The habitat status for Quincy Lupine (*Lupinus dalesiae*) consists of 1,713 acres of occupied suitable habitat within the Forest.

The habitat trend for Quincy Lupine (*Lupinus dalesiae*) on the Plumas NF appears to be stable.

### **Population Status and Trend.**

The population status on Plumas National Forest consists of 131 known occurrences. An occurrence is defined as all plant locations within ¼ mile of each other. For Quincy lupine (*Lupinus dalesiae*), there are 564 plant locations that make up the 131 occurrences on the Forest.

The population trend for Quincy Lupine (*Lupinus dalesiae*) appears to be stable on the Plumas National Forest. At the time the Forest Plan was developed in 1988, the number of occurrences for Quincy lupine (*Lupinus dalesiae*) was simply stated as “many”. The number of known occurrences has increased over the years since development of the Forest Plan. These occurrence records are attributed to increased survey efforts for Sensitive Plants across the Forest as a result of pre-project planning and landscape assessments. The implementation of Interim Management Prescriptions has helped maintain this stable trend on the Forest.

### **5.c.4. Relationship of Project-Level Impacts to Forest-Scale Habitat and Population Trends for the species.**

The forest-wide population of Quincy lupine is considered stable. Selection of an Action Alternative (Alternatives B and C) of the Sugarberry Project would result in a slight increase in forest-wide suitable habitat for lupine. Based on the direct, indirect and cumulative effects of the action alternatives, the habitat capacity on the Forest would be minimally improved and lupine numbers would respond to the habitat changes such that there would be a localized upward trend in the lupine population. Improving habitat capacity on National Forest land would contribute toward the existing stable forest-wide population trend.

## **5.g. Scarlet Huckleberry**

### **5.g.1. Habitat/Species Relationship.**

Evaluate all project activities on a site-by-site basis considering species abundance, population size, geographic distribution, and known species ecology.

### **5.g.2. Project-level Effects Analysis based on Habitat**

**Key Habitat Factor(s) for the Analysis:** The following factors are used to assess the effects of the proposed action and alternatives on scarlet huckleberry habitat: (1) overall acres of suitable habitat affected, (2) acres of occupied habitat affected.

#### **Analysis Area for Project-level Effects Analysis:**

The analysis area for the scarlet huckleberry is the same as Quincy lupine described above.

### **Alternative A – No Action**

#### Direct/Indirect Effects

There will be no direct effects to the scarlet huckleberry from the no action alternative. An indirect effect of no action will be increased fuel load build up and an increased risk to high intensity wild fire. A high intensity wildfire could remove overstory canopy cover, increasing the risk to noxious weed invasion.

**Cumulative Effects Conclusion:** It is anticipated that implementation of the no action alternative, in combination with past, present and reasonably foreseeable future actions, would not have a cumulative effect on scarlet huckleberry or its habitat. The direct, indirect and cumulative effects of the no action alternative would not result in any change in population trends on the Plumas NF.

### **Alternative B-C –Action Alternatives**

#### Direct/Indirect Effects

There are a total of 49 acres of scarlet huckleberry within the Sugarberry Project Area. Approximately 2 acres of scarlet huckleberry are located within group selection units. Group selection harvest activities may kill scarlet huckleberry plants and temporarily reduce habitat in treated areas.

**Cumulative Effects Conclusion:** Implementation of any action alternative, in combination with past, present and reasonably foreseeable future actions would not

jeopardize the viability of the scarlet huckleberry in the sugarberry project area or the Plumas National Forest for the following reasons:

- It is abundant throughout the range range.
- Only 3% of the known population will be impacted through this project, this will maintain the geographic distribution of the species in the project area.

### **5.g.3. Summary of Habitat and Population Status and Trend at the Forest/Bioregional Scale**

The Plumas NF LRMP (as amended by the SNFPA) requires distribution and demographic population monitoring for MIS plants (Table 2); hence, the scarlet huckleberry effects analysis for the Sugarberry Project may be informed by population monitoring data. The sections below summarize the habitat and population status and trend data for the scarlet huckleberry. This information is drawn from the detailed information on habitat and population trends in the Plumas National Forest MIS Report (USDA 2006a), which is incorporated by reference.

#### **Habitat Status and Trend.**

Currently, scarlet huckleberry (*Vaccinium coccineum*) occupies 1,810 acres of suitable habitat on the Forest.

The habitat trend for scarlet huckleberry (*Vaccinium coccineum*) on the Plumas NF appears to be stable.

#### **Population Status and Trend.**

The population status for scarlet huckleberry (*Vaccinium coccineum*), consist of 220 plant locations that make up the 33 occurrences currently on the Plumas NF.

The population trend for scarlet huckleberry (*Vaccinium coccineum*) is considered stable for the Plumas NF.

### **5.g.4. Relationship of Project-Level Impacts to Forest-Scale Habitat and Population Trends for the species.**

The forest-wide population of scarlet huckleberry is considered stable. Selection of an Action Alternative (Alternatives B-C) of the Sugarberry Project would result in a slight decrease in forest-wide suitable habitat for huckleberry. Based on the direct, indirect and cumulative effects of the action alternatives, the habitat capacity on the Forest would be unchanged and huckleberry numbers would respond to the habitat changes such that there would be a localized stable trend in the huckleberry population. Improving habitat capacity on National Forest land would contribute toward the existing stable forest-wide population trend.

