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Signed Checklist added to file 3/2//16 (PE)

## Appendix B - Full Application Checklist

SNC Reference#: 861

Project Name: \_\_\_\_\_

Applicant: \_\_\_\_\_

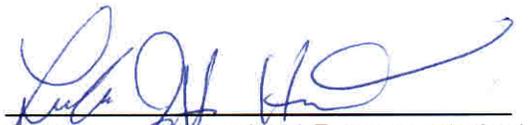
Please mark each box if item is included in the application. Please consult with SNC staff prior to submission if you have any questions about the applicability to your project of any items on the checklist. All applications must include a CD including an electronic file of each checklist item, if applicable. The naming convention for each electronic file is listed after each item on the checklist. (Electronic File Name = EFN: "naming convention". file extension choices)

Submission requirements for all Category One and Category Two Grant Applications

1.  Completed Application Checklist (EFN: Checklist.doc,.docx,.or .pdf)
2.  Table of Contents (EFN: TOC.doc,.docx, or .pdf)
3.  Full Application Project Information Form (EFN: Slform.doc, .docx, or .pdf)
4.  CCC/Local Conservation Corps Document (EFN: CCC.pdf)
5.  Authorization to Apply or Resolution (EFN: authorization.doc, .docx, or .pdf)
6.  Narrative Descriptions (EFN: Narrative.doc or .docx)
  - a.  Detailed Project Description (5,000 character maximum for section 6a only)  
Project Description including Goals/Results, Scope of Work, Location, Purpose, etc.
  - b.  Workplan and Schedule
  - c.  Restrictions, Technical/Environmental Documents and Agreements
    - Restrictions / Agreements (EFN: RestAgree.pdf)
    - Regulatory Requirements / Permits (EFN: RegPermit.pdf)
  - d.  Organizational Capacity
  - e.  Cooperation and Community Support
    - Letters of Support (EFN: LOS.pdf)
  - f.  Tribal Consultation Narrative (EFN: tribal.doc, docx)
  - g.  Long Term Management and Sustainability
    - Long-Term Management Plan (EFN: LTMP.pdf)
  - h.  Performance Measures
7. Budget documents
  - a.  Detailed Budget Form (EFN: Budget.xls, .xlsx)
8. Supplementary Documents
  - a. Environmental Documentation
    - California Environmental Quality Act (CEQA) documentation (EFN: CEQA.pdf)
    - National Environmental Policy Act (NEPA) documentation (EFN: NEPA.pdf)
  - b. Maps and Photos
    - Project Location Map (EFN: LocMap.pdf)
    - Parcel Map showing County Assessor's Parcel Number(s) (EFN: ParcelMap.pdf)

- Topographic Map (EFN: Topo.pdf)
- Photos of the Project Site (10 maximum) (EFN: Photo.jpg, .gif)
- c. Additional submission requirements for Fee Title Acquisition applications only
  - Acquisition Schedule (EFN: acqSched.doc, .docx or .pdf)
  - Willing Seller Letter (EFN: WillSell.pdf)
  - Real Estate Appraisal (EFN: Appraisal.pdf)
- d. Additional submission requirements for Site Improvement / Restoration Project applications only
  - Land Tenure Documents (EFN: Tenure.pdf)
  - Site Plan (EFN: SitePlan.pdf)
  - Leases or Agreements (EFN: LeaseAgmnt.pdf)

I certify that the information contained in the Application, including required attachments, is accurate, and that I have been authorized to apply for this grant.

  
Signed \_\_\_\_\_ (Authorized Representative)

2/26/2016

Date

Luke Hunt, Director of Headwaters

Name and Title (print or type)

## Appendix B - Full Application Checklist

SNC Reference#: \_\_\_\_\_

Project Name: \_\_\_\_\_

Applicant: \_\_\_\_\_

Please mark each box if item is included in the application. Please consult with SNC staff prior to submission if you have any questions about the applicability to your project of any items on the checklist. All applications must include a CD including an electronic file of each checklist item, if applicable. The naming convention for each electronic file is listed after each item on the checklist. (Electronic File Name = EFN: "naming convention". file extension choices)

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3.  Full Application Project Information Form (EFN: *SIform.doc, .docx, or .pdf*)
4.  CCC/Local Conservation Corps Document (EFN: *CCC.pdf*)
5.  Authorization to Apply or Resolution (EFN: *authorization.doc, .docx, or .pdf*)
6.  Narrative Descriptions (EFN: *Narrative.doc or .docx*)
  - a.  Detailed Project Description (5,000 character maximum for section 6a only)  
Project Description including Goals/Results, Scope of Work, Location, Purpose, etc.
  - b.  Workplan and Schedule
  - c.  Restrictions, Technical/Environmental Documents and Agreements
    - Restrictions / Agreements (EFN: *RestAgree.pdf*)
    - Regulatory Requirements / Permits (EFN: *RegPermit.pdf*)
  - d.  Organizational Capacity
  - e.  Cooperation and Community Support
    - Letters of Support (EFN: *LOS.pdf*)
  - f.  Tribal Consultation Narrative (EFN: *tribal.doc, docx*)
  - g.  Long Term Management and Sustainability
    - Long-Term Management Plan (EFN: *LTMP.pdf*)
  - h.  Performance Measures
7. Budget documents
  - a.  Detailed Budget Form (EFN: *Budget.xls, .xlsx*)
8. Supplementary Documents
  - a. Environmental Documentation
    - California Environmental Quality Act (CEQA) documentation (EFN: *CEQA.pdf*)
    - National Environmental Policy Act (NEPA) documentation (EFN: *NEPA.pdf*)
  - b. Maps and Photos
    - Project Location Map (EFN: *LocMap.pdf*)
    - Parcel Map showing County Assessor's Parcel Number(s) (EFN: *ParcelMap.pdf*)

- Topographic Map (EFN: *Topo.pdf*)
- Photos of the Project Site (10 maximum) (EFN: *Photo.jpg, .gif*)
- c. Additional submission requirements for Fee Title Acquisition applications only
  - Acquisition Schedule (EFN: *acqSched.doc, .docx or .pdf*)
  - Willing Seller Letter (EFN: *WillSell.pdf*)
  - Real Estate Appraisal (EFN: *Appraisal.pdf*)
- d. Additional submission requirements for Site Improvement / Restoration Project applications only
  - Land Tenure Documents (EFN: *Tenure.pdf*)
  - Site Plan (EFN: *SitePlan.pdf*)
  - Leases or Agreements (EFN: *LeaseAgmnt.pdf*)

I certify that the information contained in the Application, including required attachments, is accurate, and that I have been authorized to apply for this grant.

\_\_\_\_\_  
Signed (Authorized Representative)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and Title (print or type)

<b>SIERRA NEVADA CONSERVANCY</b>	
<b>PROPOSITION 1 – Watershed Improvement Program Project Information Form</b>	
<b>SNC REFERENCE #</b>	
<b>PROJECT NAME</b>	
<b>APPLICANT NAME</b> <i>(Legal name, address, and zip code)</i>	
<b>AMOUNT OF GRANT REQUEST</b>	
<b>TOTAL PROJECT COST</b>	
<b>PROJECT LOCATION</b> <i>(County with approx. lat/long, center of project area)</i>	
<b>SENATE DISTRICT NUMBER</b>	<b>ASSEMBLY DISTRICT NUMBER</b>
<b>PERSON WITH MANAGEMENT RESPONSIBILITY FOR GRANT CONTRACT</b>	
<i>Name and title:</i> _____ <i>Phone:</i> _____ <i>Email Address:</i> _____	
<input type="checkbox"/> Mr.	
<input type="checkbox"/> Ms.	
<b>TRIBAL CONTACT(S) INFORMATION</b>	
<i>Name:</i> _____ <i>Phone Number:</i> _____	
<i>Email address:</i> _____	
<b>COUNTY ADMINISTRATOR OR PLANNING DIRECTOR CONTACT INFORMATION</b>	
<i>Name:</i> _____ <i>Phone Number:</i> _____	
<i>Email address:</i> _____	
<b>NEAREST PUBLIC WATER AGENCY CONTACT INFORMATION</b>	
<i>Name:</i> _____ <i>Phone Number:</i> _____	
<i>Email address:</i> _____	

**Please identify the appropriate project category below and provide the associated details** *(Choose One)*

Category One Site Improvement

Category Two Pre-Project Activities

Category One Acquisition

**Site Improvement/ Acquisition Project Area (for Category One Projects Only)**

Total Acres:

SNC Portion (if different):

**Acquisition Projects Only For Acquisitions Only**

Appraisal Included

**Select one deliverable (for Category Two Projects Only)**

Permit

CEQA/NEPA Compliance

Appraisal

Condition Assessment

Biological Survey

Environmental Site Assessment

Plan

# CCC and LCC Consultation

## CCC Consultation

Hello Luke.

Nick Johnson, the Conservation Supervisor at our CCC Redding location has responded to the partnership for your project: Pine Creek Restoration Project. CCC can assist with the 3<sup>rd</sup> step of this project only.

Please include this email with your project application as proof that you reached out to the CCC. Feel free to contact Nick Johnson at [Nicholas.Johnson@ccc.ca.gov](mailto:Nicholas.Johnson@ccc.ca.gov) directly if you have project-specific questions and when your project receives funding.

Thanks,  
Nick Martinez  
Region II Analyst  
California Conservation Corps  
Office (916) 341-3157  
[Nicholas.Martinez@ccc.ca.gov](mailto:Nicholas.Martinez@ccc.ca.gov)



**From:** Luke Hunt [<mailto:lhunt@americanrivers.org>]  
**Sent:** Wednesday, February 10, 2016 4:58 PM  
**To:** 'Prop1@ccc.ca.gov'; 'inquiry@prop1communitycorps.org'  
**Subject:** Pine Creek CCC Consultation

Hello,

We consulted with you in September when we submitted this project to the Wildlife Conservation Board. However CEQA was not completed in time for WCB funding, so we are resubmitting the forest health portion to the Sierra Nevada Conservancy. The project is delayed, however all the other elements remain the same.

Thanks.  
Luke

## LCC Consultation

Hello Luke,

Baldeo of the Sacramento Regional Conservation Corps has responded that they are able to assist with the Pine Creek Restoration Project if it receives funding. Please include this email with your application as proof that you reached out to the Local Conservation Corps.

Additionally, please feel free to contact Baldeo Singh ([bsingh@saccorps.org](mailto:bsingh@saccorps.org)) directly if your project receives funding.

Thank you,  
Dominique

**California Association of Local Conservation Corps**

**Proposition 1 – Water Bond**

**Consultation Review Document**

Applicant has submitted the required information by email to the Local Conservation Corps (CALCC):

✓ Yes (applicant has submitted all necessary information to CALCC)

After consulting with the project applicant, the CALCC has determined the following:

✓ It is feasible for CALCC to be used on the project (deemed compliant)

APPLICANT WILL INCLUDE THIS DOCUMENT AS PART OF THE PROJECT APPLICATION.

On Wed, Feb 10, 2016 at 4:58 PM, Luke Hunt <[lhunt@americanrivers.org](mailto:lhunt@americanrivers.org)> wrote:

Hello,

We consulted with you in September when we submitted this project to the Wildlife Conservation Board. However, CEQA was not completed in time for WCB funding, so we are resubmitting the forest health portion to the Sierra Nevada Conservancy. The project is delayed, however all the other elements remain the same.

Thanks.  
Luke

February 24, 2016

Sierra Nevada Conservancy  
Jim Branham, Executive Officer  
11521 Blocker Dr., Ste. 205  
Auburn, CA 95603

***Re: Authorization to submit application to SNC Proposition 1 grant program***

Dear Mr. Branham:

I would like to thank you for giving American Rivers the opportunity to submit a proposal under the Proposition 1 Sierra Nevada Watershed Improvement Program for our ***Pine Creek Meadow and Forest Health Improvement*** project.

This project was designed by a strong team that includes American Rivers, Lassen National Forest, California Department of Fish and Wildlife, the Susanville Indian Rancheria, Honey Lake Resource Conservation District, UC Davis Cooperative Extension, Trout Unlimited, CalTrout, and others. The project will improve forest and meadow health and enhance streamflow and wildlife habitat in the Pine Creek watershed. We are requesting SNC funds to remove conifers along meadow fringes on 1,400 acres in the Pine Creek watershed. SNC funds would support permitting, monitoring and conifer removal.

**Pursuant to American Rivers' Bylaws**, adopted on October 2, 2015, the Board of Directors resolved to authorize the President to enter into contracts and sign legal documents on behalf of the Corporation and to designate such signatory authority to other employees. Such role includes approval of the filing of funding proposals and certifying that American Rivers will comply with all federal, state and local environmental, public health, and other appropriate laws and regulations applicable to the project. Thus, as American Rivers President, I provide the following assurances: American Rivers understands the assurances and certification requirements in the application and will comply with all legal requirements as determined during the application process.

The U.S. Forest Service (USFS) manages the land on which the project will be implemented. The USFS is a project partner, supports the proposed project activities and will maintain the project site consistent with the long-term benefits described in the application (see letter of support attached to funding proposal).

If offered a grant by the Sierra Nevada Conservancy, American Rivers authorizes our Chief Financial Officer to sign a contract for administration of the grant funds and the Director of Headwaters Restoration to act as Project Manager for the project. The Director of Headwaters Restoration will work with the Director of California Finance & Administration to manage all aspects of the grant, including executing and submitting all documents including, but not limited to applications, agreements, and payment requests, which may be necessary for the completion of the aforementioned project.

American Rivers President supports this project and authorizes the submission of this grant application requesting for funding from the Sierra Nevada Conservancy for this project.

Sincerely,



Wm. Robert Irvin  
President and CEO



## BYLAWS

By resolution of the Board of Directors, American Rivers, Inc. (the “Corporation”) shall be bound by these bylaws, as adopted in full and effective on October 2, 2015.

### Article I. General Provisions

#### Section 1. Name

The name of the Corporation shall be American Rivers, Inc.

#### Section 2. Purpose

The mission of the Corporation is to protect and restore rivers and the variety of life they sustain, for people, fish and wildlife. The Corporation is organized exclusively for not-for-profit educational and charitable purposes as such term is used in Section 501(c)(3) of the Internal Revenue Code of 1954.

#### Section 3. Offices

The principal office of the Corporation shall be in the District of Columbia. The Corporation may have such other offices, either within or outside the District of Columbia as the Board of Directors may designate or as the business of the Corporation may require from time to time.

#### Section 4. Amendment

The Board of Directors may alter and amend these bylaws, or repeal them and adopt new bylaws at any meeting, provided that there is thirty (30) days advance written notice prior to such meeting.

#### Section 5. Fiscal Year

The fiscal year shall be July 1 - June 30.

#### Section 6. Definitions

The following terms used in these bylaws shall have the meanings set forth below.

- A. *Directors* – Individual persons composing the Board of Directors.
- B. *Board of Directors* – The collective body of Directors that has the responsibility and authority to exercise all the powers of the Corporation, set strategic direction, and monitor the affairs of the Corporation.
- C. *Members* – Persons who may become a non-voting member by paying annual membership dues and completing a membership application, but who shall not have

the power to elect the Corporation's Board of Directors, to amend its corporate governing documents, or to otherwise vote on corporate matters. There shall be no limit to the number of non-voting members. Non-payment of annual dues forfeits membership.

- D. *Annual Meeting* – The yearly meeting of the Board of Directors at which Directors and Officers are elected and general issues of business are carried out.
- E. *Regular Meeting* – A routinely scheduled meeting of the Board of Directors held throughout the fiscal year that is not a Special Meeting or the Annual Meeting.
- F. *Special Meeting* – A meeting of the Board of Directors, other than the Annual Meeting or a Regular Meeting, which can be called for any reason by the Board of Directors, and at which any matters of business may be conducted.
- G. *Officers* – With the exception of the Assistant Secretary, Officers are Directors who serve as the Chair, Vice Chair, Secretary, Treasurer and others if provided for in the bylaws or by resolution. Officers have duties as described in the bylaws and report to the Board of Directors.
- H. *Committees* – Groups of Directors that are authorized to carry out specific duties of the Board of Directors and as set forth in the bylaws.
- I. *Ex Officio Director serving on a Committee* – A Director who serves on a committee by reason of his/her office, rather than by being elected or appointed to the position.
- J. *At-Large Director serving on a Committee* – A Director who is elected or appointed to serve on a committee in order to represent the whole Board of Directors on issues of interest or concern, particularly those that arise outside of the standing committee structure.

## **Article II. Board of Directors**

### **Section 1. Duties**

The Board of Directors shall have fiduciary responsibility for:

- A. the overall policy and direction for the Corporation as well as making decisions to protect its assets; day to day operations shall be delegated to the Corporation's staff;
- B. the election and removal of Directors and the election of committee members as set forth in Article V; and,
- C. the selection and removal of the President, and setting his/her compensation.

Each Director shall serve the Corporation with the highest degree of undivided duty, loyalty and care and shall not profit personally from the position. Each Director shall be aware of his or her role and fiduciary responsibility.

### **Section 2. Number of Directors**

The number of Directors shall be no less than 18 and no more than 36. Any modification to the minimum or maximum number of Directors must be approved by a vote of two-thirds (67%) at a meeting with a quorum present.

### **Section 3. Election of Directors**

The Board of Directors shall be responsible for the election of Directors of the Corporation. A Director may be elected by a majority vote of the Board of Directors present and voting at a meeting at which a quorum (see Article IV, Section 3) is present, pursuant to the following procedures:

- A. The names of potential candidates may be submitted to the Board Governance Committee at any time. The Board Governance Committee (see Article V, Section 6) shall review the qualifications of proposed candidates, and attest that all candidates approved and proposed by it for election have the necessary qualifications to be Directors, are aware of the roles and responsibilities of Directors, and have agreed to uphold those duties.
- B. Candidates elected shall be invited to participate and vote immediately upon election.

### **Section 4. Terms**

Directors shall be elected to the Board of Directors for a term of three (3) years. Each term shall begin on the day of the Annual Meeting, and shall expire at the conclusion of the Annual Meeting three (3) years thereafter. The term of a Director elected at a meeting other than the Annual Meeting shall be calculated as if they were elected at the Annual Meeting prior to the year in which elected. For the purposes of this Section, a “year” is defined as the period between two (2) successive Annual Meetings (see Article III, Section 1).

### **Section 5. Term Limits**

Directors shall serve no more than three (3) consecutive three-year terms. A person who has formerly served as a Director for such three (3) consecutive three-year terms may be elected again to the Board of Directors, provided there has been a period of at least one (1) year between the expiration of the former terms and the new term.

As provided in Article VI, Section 2, a Director who has served three (3) consecutive three-year terms may be elected to serve up to three (3) consecutive one-year terms as Chair of the Board and may serve an additional one (1) year as a member of the Board of Directors following the expiration of his or her term as Chair.

### **Section 6. Resignation of Directors**

A Director may resign at any time by delivering written notice to the Chair, the President, or the Secretary of the Corporation. That resignation shall be effective when notice is delivered unless the notice specifies a later effective time.

### **Section 7. Removal of Directors**

The Board of Directors may remove any Director by a vote of two-thirds (67%) at a meeting with a quorum present.

**Section 8. Compensation**

The Executive Committee (see Article V, Section 7) may allow the Corporation to pay the Directors for any expenses incurred due to attendance at a meeting of the Board of Directors, or of any committee. Subject to the foregoing, Directors shall not be compensated for time spent performing the normal duties of a Director, such as attending meetings and participating on committees.

**Section 9. Conflicts of Interest**

The Corporation shall have a Conflicts of Interest Policy. Each Director shall review the policy annually and sign an acknowledgement whereby the Director agrees to abide by the provisions of said policy.

Any contract or other financial transaction with the Corporation in which a Director has a direct or indirect material financial interest must be approved by the Board of Directors. No such transaction shall be approved unless the relevant interest is fully disclosed, the interested Director does not vote, and the Board of Directors or the Executive Committee authorizes the transaction in good faith by vote of the remaining Directors.

**Article III. Meetings**

**Section 1. Annual Meeting**

The Corporation shall hold at least one meeting of the Board of Directors each fiscal year. Each Annual Meeting of the Board of Directors shall be held at a time set by the Executive Committee and shall be for the purpose of electing Directors and Officers and for the transaction of such other business as may come before the meeting. In addition to the Annual Meeting, the Executive Committee may schedule Regular Meetings throughout the year.

**Section 2. Special Meeting**

The Chair, the Executive Committee, or the President may call a Special Meeting for any purpose(s).

**Section 3. Notice of Meetings**

Notice of meetings of the Board of Directors shall state the place, time, and purpose(s), of the meeting. Such notice shall be delivered to each Director not less than ten (10) and not more than sixty (60) days before the date of the meeting. Notice may be written or oral, may be given personally, by first class mail, by e-mail, or phone. If notice is given by oral communication or by phone, it must be confirmed promptly by first class mail or e-mail. Notice shall be deemed delivered when deposited in the U.S. Mail with postage prepaid, addressed to the last known address of the Director, or when delivered by e-mail to the last known e-mail address of the Director.

In the event of an emergency, as determined jointly by the Chair and President, a Special Meeting may be convened without written notice. Any action taken at such emergency meeting shall be effective until ratified or rejected by the Board of Directors at its next Annual or Regular Meeting.

**Section 4. Waiver of Notice**

If a Director is present at a meeting, he or she waives the right to notice at such meeting, unless said Director is present solely to object to the lack of proper notice.

**Section 5. Location of Meeting**

The Executive Committee (see Article V, Section 7) may designate any place within the United States as the location of any meeting. If no designation is made, the location of the meeting shall be in the District of Columbia.

**Section 6. Meetings by Conference Telephone or Other Means**

Any meeting of the Board of Directors may be conducted by conference telephone or by any other means of communication by which all persons participating in the meeting are able to hear one another. Such participation shall constitute presence in person at the meeting.

**Section 7. Rules of Procedure**

Common parliamentary procedure shall govern all meetings of the Board of Directors, unless contrary to these bylaws, in which case the bylaws shall take precedence and govern.

**Article IV. Voting**

**Section 1. Taking Action**

The Corporation shall take action through the Board of Directors after a majority (51%) vote has confirmed the action at a meeting at which a quorum is present.

The Board of Directors may conduct any of its affairs without a meeting if all of the Directors entitled to vote on the relevant subject matter give signed, written consent to the action on a document which sets forth the specific action to be taken.

**Section 2. Voting Rights**

Each Director, including the Chair, shall be entitled to one vote. Each vote shall be equal in weight to that of any other Director on any issue. A Director must be excluded from a vote if it has been determined that s/he has a direct or indirect material financial interest in the matter before the Board of Directors (see Article II, Section 9).

**Section 3. Quorum**

A quorum shall consist of thirty-three percent (33%) of the current membership of the voting body, whether it is the Board of Directors or a committee.

## **Article V. Committees**

### **Section 1. Creation and Organization**

The Corporation shall have the following standing committees of the Board of Directors: the Executive Committee, the Board Governance Committee, the Audit Committee and the Compensation Committee. The Board of Directors may establish such other committees as it deems necessary to conduct its business in an efficient manner, and shall determine the functions of such other committees. Each committee may adopt rules for its own governance, provided those rules are not inconsistent with these bylaws. Standing committees may not be dissolved, but other committees may dissolve upon completion of their specific tasks or by resolution.

### **Section 2. Committee Meetings**

For each committee, regular meetings shall be held from time to time as warranted. Special meetings may be called at the request of the Chair of the committee, or any three (3) members of that committee. These meetings may be held pursuant to Article III, Sections 5 and 6.

### **Section 3. Notice of Committee Meetings**

Notice of a committee meeting, whether regular or special, shall be given at least two (2) business days before that meeting. Notice may be given by e-mail or telephone. Notice of a special meeting shall include the purpose(s) for which the meeting is being called. A committee member's participation in a meeting shall constitute waiver of notice, unless that participation is limited to objecting to a lack of proper notice.

### **Section 4. Voting**

A committee shall take action by a majority vote at a committee meeting at which a quorum is present. A member may vote in writing or by e-mail, prior to a meeting, if provided the same notice and information as the members present at that meeting. A member voting in this manner may amend his or her vote by participating in the meeting or in writing, by e-mail, provided that the amendment is received prior to that meeting.

### **Section 5. Chairs of Committees**

The Chair of the Board of Directors (see Article VI, Section 6) shall appoint Committee Chairs for each committee, not specifically provided for elsewhere in these bylaws. A Committee Chair shall be responsible for presiding over his/her committee's meetings, and providing its members with notice of those meetings (see Article V, Section 3).

### **Section 6. Board Governance Committee**

The Board of Directors shall elect at least three (3) Directors to the Board Governance Committee. The Board Governance Committee shall present a list of candidates for nomination to the offices of Chair, Vice Chair, Secretary, Treasurer, Assistant Secretary, and At-Large members of the Executive Committee to be voted on by the Board of Directors. The Board Governance Committee shall deliver a list to the Board of Directors at

least ten (10) days prior to the Annual Meeting by e-mail or first class mail. There shall be at least one (1) candidate nominated for each of these offices.

#### **Section 7. Executive Committee**

It shall be the function of the Executive Committee to act for the Board of Directors as may be required in between Annual, Regular, and Special Meetings, provided however that the power to elect to, or remove a Director from, the Board of Directors is a power reserved solely to the Board of Directors as a whole. The Executive Committee shall be composed of up to nine (9) members: five (5) serving Ex Officio: the Chair, Vice Chair, Secretary, Treasurer, and Chair of the Board Governance Committee; and up to four (4) other Directors serving At-Large as elected by the Board of Directors.

The Secretary (see Article VI, Section 8) shall ensure the preparation of minutes describing any action(s) of the Executive Committee and shall distribute the minutes to the Board of Directors within a reasonable time following the meeting.

#### **Section 8. Audit Committee**

The Board of Directors shall elect at least three (3) Directors to the Audit Committee. The Audit Committee shall oversee the selection, hiring, and monitoring of the outside auditor, review the auditor's report and present the audit report to the Board of Directors for its acceptance. The Audit Committee will also review the annual filing of the IRS Form 990 on behalf of the Board prior to its submission to the IRS.

#### **Section 9. Compensation Committee**

The Chair, Vice Chair, Secretary, and Treasurer shall be members of the organization's Compensation Committee. The Committee shall periodically review and recommend to the Board of Directors any salary and fringe benefit adjustments for the President. The Committee shall periodically review the performance of the President and make a report to the Board of Directors. The Committee shall periodically receive the President's recommendation regarding salary and fringe benefits of any employee that meets the criteria for classification as a "key employee" based on the IRS's definition in the Form 990. The Committee will follow the Corporation's Compensation Policy to determine the appropriate salary for the President and other key employees of the organization.

### **Article VI. Officers**

#### **Section 1. Defined**

Unless otherwise specified by the Board of Directors, the Officers of the Corporation shall be the Chair, Vice Chair, Secretary, and Treasurer, and an Assistant Secretary, who is the General Counsel of the Corporation.

#### **Section 2. Term**

Officers shall hold office for a term of one (1) year and may serve up to three (3) consecutive one-year terms in that particular office, provided however that this limitation of terms does not apply to the office of Assistant Secretary. Officers shall hold office

until successors have been duly elected at the Annual Meeting, or until death, resignation, or removal. The term of an Officer elected at a meeting other than the Annual Meeting shall be calculated as if they were elected at the Annual Meeting prior to the year in which elected. For the purposes of this Section, a “year” is defined as the period between two (2) successive Annual Meetings.

A Director may be elected to serve up to three (3) consecutive one-year terms as Chair and may serve an additional year as a Director following the expiration of his or her term as Chair.

**Section 3. Election**

The Board of Directors shall elect the Officers at the Annual Meeting. In addition to the Officers described in this Article, the Board of Directors may elect any other Officers deemed necessary by the Board of the Directors.

**Section 4. Nomination**

Officers shall be nominated pursuant to Article V, Section 6. In addition to the candidates presented by the Board Governance Committee at the Annual Meeting, Directors may nominate other candidates at the Annual Meeting.

**Section 5. Vacancies**

If a vacancy occurs in any of the Officer positions stated above between Annual Meetings of the Corporation, the Board Governance Committee shall appoint a new Officer until a new candidate has been duly elected and qualified at the next meeting

**Section 6. Duties of the Chair**

The Chair shall be responsible for:

- A. providing notice of meetings;
- B. presiding over meetings;
- C. appointing all of the other positions, including committee positions not specifically provided for elsewhere in these bylaws;
- D. entering into any contract and executing any document on behalf of the Corporation; and,
- E. performing all other duties as from time to time may be necessary.

**Section 7. Duties of the Vice Chair**

In the absence of the Chair, or in the event that he or she is unable to perform his or her duties, the Vice Chair shall fulfill the duties of the Chair.

**Section 8. Duties of the Secretary**

The Secretary shall ensure that minutes of the meetings are kept and have oversight responsibility for the archives and history of the Corporation, including minutes of all past Board and Executive Committee meetings. The Secretary is authorized to certify legal documents on behalf of the Corporation.

**Section 9. Duties of the Treasurer**

The Treasurer shall manage the Board's oversight of the finances of the Corporation, including the annual budget, and shall ensure that appropriate financial reports are made available to the Board of Directors on a timely basis.

**Section 10. Duties of the Assistant Secretary**

The Assistant Secretary shall be the General Counsel of the Corporation and have the same duties and responsibilities as the Secretary and shall be empowered to act as Secretary if the Secretary is unavailable.

**Article VII. Operations**

**Section 1. Duties of the President**

Subject to overall review by the Board of Directors, the business and affairs of the Corporation shall be managed by the President elected by the Board of Directors. The President is authorized:

- A. to hire staff and other personnel necessary to carry out the purposes of the organization;
- B. to approve proposals for funding;
- C. to incur and make payment for expenses necessary to permit efficient operation of the Corporation; and,
- D. to contract for loans upon authorization by the Executive Committee. Such authorization shall be confined to specific instances. In no event shall any loan be made by the Corporation to a Director.

**Section 2. Execution of Documents**

The President is authorized to enter into contracts and sign legal documents on behalf of the Corporation and to designate such signatory authority to other employees. The Board of Directors may authorize additional Officers or representatives to enter into any contract or execute and deliver any instrument on behalf of the Corporation; such authority may be general or confined to specific instances.

**Section 3. Checks, Drafts, and other Corporation Payments of Money**

All orders for the payment of money shall be signed by the Chair or President, or by any employee designated in writing by the President, provided that orders for the payment of money exceeding an amount to be determined by the Chair and the President shall require

the signature of two authorized persons. From time to time, the Board of Directors may authorize additional representatives of the Corporation to sign checks or orders for the payment of money by resolution. Such resolution shall specify the extent of the authority granted.

**Section 4. Deposits**

All funds of the Corporation not otherwise employed shall be deposited from time to time to the credit of the Corporation in such banks or other depositories as the President shall select upon review by the Executive Committee.

**Article VIII. Indemnification**

**Section 1. Indemnification**

The Corporation shall indemnify its Directors, in accordance with the District of Columbia Nonprofit Corporation Act of 2010. However, the Corporation shall not indemnify a Director for liability arising out of conduct that constitutes:

- A. Receipt by the Director of a financial benefit to which s/he is not entitled;
- B. An intentional infliction of harm on the Corporation or the Board of Directors; or
- C. An intentional violation of criminal law.

## 6. NARRATIVE DESCRIPTION

### a. Detailed Project Description

#### **Project Goal and Scope**

The goal of this multiple-benefit project is to improve forest and meadow health, enhance streamflow, and restore habitat for Eagle Lake Rainbow Trout (ELRT) in the Pine Creek watershed. The objectives in support of this goal include: 1) remove encroaching conifers that are reducing the size and function of meadows in the watershed; 2) reduce wildfire fuel; 3) increase flow volumes and prolong streamflow in Pine Creek; 4) improve aquatic, riparian and meadow habitat; 5) improve connectivity for spawning ELRT and other aquatic species; 6) reduce erosion; and 7) increase organizational capacity for restoration.

The proposed project is designed to proceed in two phases. Phase I, for which we are requesting SNC funds, improves forest health through the removal of conifers from 1,400 acres along meadow fringes in the Pine Creek watershed. Proposed tasks (described in detail in section b) include permitting, pre-project monitoring and removal of encroaching conifers. Phase II, which we are not asking SNC to support, focuses on improving riparian health and restoring habitat and connectivity for ELRT. Phase II tasks include removing impoundments (dug out waterholes and railroad grades) that reduce flow volumes and alter the timing of flows in Pine Creek and capping a diversion and dedicating the existing water right to instream flow. We will apply to the Wildlife Conservation Board and National Fish and Wildlife Foundation to support Phase II.

These activities are specifically identified as needs in at least three studies conducted by the Forest Service and Pine Creek Coordinated Resource Management Planning group (Young 1989, Platts and Jensen 1991, Pustjovsky 1997). The encroachment of pines into Pine Creek watershed meadows is further supported by tree-ring analyses, which indicates that encroachment closely followed periods of historic overgrazing (Norman and Taylor, 2010).

#### **Location and Context**

The Pine Creek watershed covers 230 square miles to the east of the Pacific Crest and west of Susanville, in Lassen County. From its headwaters, Pine Creek flows eastward for approximately 40 miles and provides 75 to 85 percent of the surface flow to the closed basin of Eagle Lake, California's second largest lake. Eagle Lake has no surface outlet, so lake levels and alkalinity depend strongly on inflows, and the alkalinity of Eagle Lake has resulted in a unique assemblage of aquatic species. Pine Creek provides the primary spawning habitat for ELRT, one of eight species of trout endemic to California, which is being reviewed for listing under the Endangered Species Act.

## Improving Forest Health and Alignment with Prop 1 and State Planning Priorities

The proposed forest health project is consistent with Proposition 1 goals and existing state planning priorities and will result in multiple watershed benefits. Specifically, it will improve forest health through fuel treatment activities that will reduce wildfire risk, expand the area of meadow habitat and promote watershed health. It will also enhance the resilience of the Pine Creek watershed in the face of climate change by achieving multiple benefits, including: improving water quality, increasing streamflow, and improving wildlife habitat. The project also aligns with the central goals of the SNC Watershed Improvement Program. In addition, the community involvement and planning process and the involvement of grazing permittees follow the guiding principles of SNC's Strategic Action Plan.

This project advances Action 4: Protect and Restore Important Ecosystems of the *California Water Action Plan* (2014). Action 4 calls for restoration of key mountain meadow habitat and the protection and restoration of degraded stream and meadow ecosystems to assist in natural water management and improved habitat. Additionally, the specific actions that will be taken to restore meadows in Pine Creek are identified in the *Conservation Strategy for the Eagle Lake Rainbow Trout* a recovery plan produced jointly by the California Department of Fish and Wildlife, US Fish and Wildlife Service, and Forest Service. The project has been developed in cooperation with, and meets the goals of, the Pine Creek Coordinated Resource Management Program (CRMP). In addition, pronghorn and at least three bird species (Yellow Warbler, Greater Sandhill Crane and Swainson's Hawk) that inhabit the project area are targets of the *State Wildlife Action Plan*. The fish species affected by this project are also one of eight conservation targets in the Wildlife Action Plan for the province.

### **b. Workplan and Schedule Narrative**

#### **Tasks, Milestones and Deliverables**

##### Task 1: Project Management and Administration

Under this task, American Rivers will complete all invoicing, subcontracting and reporting necessary to complete the work and fulfill the grant requirements. This includes project team meetings, bidding, evaluating and awarding subcontracts, grant and project reporting, reporting to partners and stakeholders and managing the project budget and timeline. American Rivers has completed numerous projects of similar scope and the project team has a strong track record of working together to successfully complete projects on time and within budget.

##### Task 2: Permitting

American Rivers and the Forest Service will work with the Lahontan Regional Water Quality Control Board to complete the timber waiver required for this project, which exempts forest management projects from water quality regulations as long as the project follows specific best management practices. American Rivers and the Forest Service have strong working relations with regulatory staff at the Lahontan Board and will begin this task in March 2015.

##### Task 3: Monitoring and Project Evaluation

Under this task, the project team will install photo points, vegetation transects and stream

gauges to monitor flow above and below this and future watershed restoration projects that are currently being planned for the reach. Photo points will be used to demonstrate pre- and post-restoration conditions in a way that is easily understood. Photo points will also be used to track the release of aspen in areas where they are being shaded out and provide a baseline for future management. Vegetation transects will track recolonization by meadow vegetation and be used to estimate the meadow area gained as a result of the project. Stream gauges will record stream stage and will be calibrated to provide discharge data. Stage and temperature will be logged every 15 minutes and will be analyzed to assess the effects of this and future projects on stream flow. All data and reports will be provided to the Sierra Nevada Conservancy hub, as well as to the UC Davis Meadow Data Clearinghouse. The project team has a strong track record of monitoring and evaluating projects and understands that quantitative evaluation is critical for demonstrating benefits and expanding investment in watershed restoration. Reports will be circulated widely and made available in an easy-to-understand, concise format for individuals with management or regulatory responsibility for similar landscapes.

#### Task 4: Restoration Implementation

This project will remove conifers across 1,400 acres of meadow using hand labor. Meadows cover a large proportion of the Harvey Valley area. Norman and Taylor (2010) used tree ring analysis to identify waves of lodgepole and ponderosa pine encroachment into these meadows. As a result, meadow forage has been reduced and meadow habitat has been lost. In addition, there are scattered aspen stands that total approximately 1.5 acres. Conifers that are causing a decline in productivity and vigor of the aspen will be removed. Trees less than 20 inches DBH will be removed and pile burned, where conifers are thick, or lopped and scattered in upland areas where trees are small and sparse. The Lassen National Forest will burn the piles. In addition, the Lassen National Forest will underburn the areas to remove lopped and scattered material and to restore vigor of meadow communities. Because of the large area to be treated, we plan to use a variety of contract resources, including the California Conservation Corps.

Detailed Project Deliverables	Timeline
<b>Task 1: Project Management and Administration</b>	
Signed agreement with Lassen National Forest	August 1, 2016
Signed subcontracts	August 31, 2016
Project initiation report to CRMP	August, 2016
Invoices	Quarterly
Progress reports	Quarterly
Project interim report to CRMP	February, 2017
Draft final report	January 10, 2018
Final report	February 15, 2018
<b>Task 2: Permitting</b>	
Timber waiver complete	August 31, 2016

<b>Task 3: Monitoring and Project Evaluation</b>	
Monitoring equipment installed	June 1, 2016
Pre-project data collected	August 1, 2016
Post-project data collected	October 1, 2017
Year 1 monitoring report	December 1, 2017
Data and reports in UC Davis Meadows Clearinghouse and SNC data hub	February 1, 2018
Outreach materials distributed widely to potential investors and IRWM members in other watersheds	February 1, 2018
<b>Task 4: Restoration Implementation</b>	
Conifers removed from 1,400 acres of meadow	October 31, 2016
Piles burned	October 31, 2017

### **c. Restrictions, Technical/Environmental Documents and Agreements Narrative**

#### **Restrictions/Agreements**

American Rivers has national Cost-Share and Participating Agreements with the Forest Service. We will specify a workplan and budget specific to this project in a supplemental agreement. The national agreements and examples of supplemental agreements are available upon request.

#### **Regulatory Requirements/Permits**

The Regulatory Requirements for the SNC-funded portion of this project are:

- **NEPA**: The Forest Service has completed a Finding of No Significant Impact and two Environmental Assessments (EAs). The Harvey Valley EA (attached) describes the treatment of fuels and meadow encroachment that is the subject of this proposal. The Pine Creek EA describes the removal of impoundments, road and railroad grades that will be the subject of a proposal to Wildlife Conservation Board. This EA is available upon request.
- **CEQA**: Not started (see CEQA below)
- **Timber Waiver**: We are currently assembling information requested by the Lahontan Regional Water Quality Control Board to complete the timber waiver.
- **401,404 permits and stormwater pollution prevention plan** are also required for the non-SNC funded portion of the project that includes removing water holes, railroad and road grades and diversions. The project team will obtain these permits through the project phase for which we are requesting Wildlife Conservation Board support.

### **d. Organizational Capacity**

American Rivers is a leader in meadow restoration with a decade of technical, on-the-ground experience and a track record of building successful and efficient partnerships and completing projects on time and within budget. Our work to restore headwater meadows has covered all aspects of the field, including the development of science-based assessment and monitoring protocols, restoration planning for meadows on private and public lands, implementation of

large-scale restoration projects, and training programs to build the capacity of the restoration field. We have advanced meadow restoration in seven watersheds, including completing restoration of three sites. We are leading an additional 15 projects in various stages of completion, including the project proposed here. We have also conducted comprehensive science-based assessment and prioritization of meadows in eight watersheds. American Rivers has partnered with six National Forests in California on assessment and restoration projects, including a collaborative assessment of the Pine Creek watershed in 2015.

Indian Valley is an example of a project of similar complexity. In 2012, American Rivers worked with partners Plumas Corporation, the Forest Service, the National Fish and Wildlife Foundation, Coca-Cola and the Alpine Watershed Group to restore 500-acre Indian Valley Meadow. The project repaired 1.5 miles of eroded stream channel in the headwaters of the Mokelumne River on the Eldorado National Forest. This project employed the plug-and-pond technique to rapidly raise the water table, resulting in an immediate increase in groundwater storage and augmented peak and base flows. It also resulted in a shift from xeric meadow vegetation to hydric meadow vegetation and enhanced recruitment of riparian cover across much of the project area. Post-project monitoring has shown that even after several years of drought, restoration resulted in increased stream flows downstream of the site during the late summer season, as well as elevated groundwater levels and restoration of wet meadow vegetation in areas that were transitioning to sagebrush uplands. American Rivers was awarded the USFS Regional Foresters Award for ecological restoration in Indian Valley.

American Rivers staff will work with Lassen National Forest staff, California Conservation Corps, and a contractor (to be determined), with input from the Pine Creek CRMP Technical Review Team to complete the proposed activities. Also, see Tribal Consultation below.

#### **e. Cooperation and Community Support**

This project was designed by the Lassen National Forest in cooperation with the Pine Creek CRMP. The Pine Creek CRMP is a local collaborative that has advanced watershed restoration since its formation in 1987. Participants in the CRMP include the Lassen National Forest, California Department of Fish and Wildlife, the Susanville Indian Rancheria, Honey Lake RCD, UC Davis Cooperative Extension, NRCS, Lassen Lands and Trails Trust, grazing permittees, Trout Unlimited, CalTrout, the Eagle Lake Guardians, American Rivers, and local residents. The success of the CRMP is well known and stems from an agreement to work together to improve the watershed. Goals of the CRMP include improving livestock forage, preserving water levels in Eagle Lake, improving forest conditions, and recovering ELRT (Pustejovsky, 2007). These goals are summed up as watershed improvement goals and seen as complementary by the diverse interests represented by the CRMP. As a result of the diversity of the group and strong working relationships, issues that are controversial in other areas—such as moving stock watering holes, removing roads, thinning forests and even using chemicals to remove brook trout—are planned with early stakeholder involvement and therefore have had a strong record of support and successful implementation. This project was planned with CRMP members and monitoring

results will be presented to the CRMP and the site will be included in the annual CRMP field trip.

The Endangered Species Act (ESA) status of ELRT is one example of CRMP success, and the trust built with federal agencies because of a strong record of successful watershed improvement. Since the formation of the CRMP, the ELRT has been petitioned for listing as endangered three times and the species is currently under review by the US Fish and Wildlife Service. The US Fish and Wildlife Service has repeatedly cited restoration activities planned through the CRMP as the reason that ELRT listing is not yet necessary.

This project is also supported by multiple statewide and multi-agency plans (see Alignment with Prop 1 and Statewide plans, above). The specific actions in the workplan –to remove conifers from meadow fringes—are included in the *Conservation Plan for Pine Creek and Eagle Lake Rainbow Trout* (Pustejovsky, 1997) and the *Conservation Strategy for Eagle Lake Rainbow Trout* (CDFW, Lassen National Forest, US Fish and Wildlife Service, 2015).

In addition to local, state and federal support, this project will leverage a significant investment in planning and coordination. The Forest Service has completed NEPA. Numerous volunteer and staff hours have been invested in CRMP meetings and field trips, and the project has been identified in at least 3 plans dating to 1989. Successful implementation of this project will also build new momentum within the CRMP and increase our collective capacity for future projects.

#### **f. Tribal Consultation Narrative**

This project was planned in coordination with the Susanville Indian Rancheria (SIR). We presented a project description and map to Aaron Brazzanovich, Vice Chairman and member of the Natural Resources Department. Mr. Brazzanovich presented the project to the Tribal Government Liaison Committee. A letter of support the SIR is included. In addition, the SIR's forestry crew will attend the pre-project site visit and may submit an estimate to complete a portion of the work. The SIR's "wood for elders" program is also interested in participating.

#### **g. Long-Term Management and Sustainability**

The project is on Lassen National Forest Lands. Over 85 percent of the Pine Creek watershed is managed by the Lassen National Forest, including the area surrounding this project. The project area is open for public access and is managed under the Lassen National Forest Land and Resource Management Plan (1992) and subsequent amendments, including the Sierra Nevada Forest Plan Amendment, or "Framework" (2004). The management plans promote adaptive management to protect forest and riparian values. The Framework also emphasizes the need for collaborative management that accelerates fuel reduction activities, while preserving resource values and local livelihoods. The environmental assessment (attached) identifies the need for the project as follows:

*"Because conifer encroachment has reduced the size and function of meadows in the Harvey Valley allotment, there is a need to implement meadow enhancement projects designed to meet*

*the following objectives: 1) remove conifers that have encroached into the meadow, 2) increase the area occupied by meadow communities, 3) increase the richness and abundance of meadow understory vegetation and enhance ecological services and functions provided by meadows, and 4) restore the process of fire to maintain and enhance meadow conditions.”*

Conifer encroachment in this area is due to past impacts, including fire suppression and overgrazing. The Land Management plan calls for managing grazing to protect multiple values and to reintroduce fire onto the landscape. Both activities will maintain the benefits created by the project for the very long term.

#### **h. Performance Measures**

Below we list the performance measures the project team will track.

- Acres of Land Improved or Restored
- Measurable Changes in Knowledge or Behavior
- Number and Type of Jobs Created
- Number and Value of New, Improved or Preserved Economic Activities
- Number of People Reached
- Resources Leveraged for the Sierra Nevada

#### **f. Tribal Consultation Narrative**

This project was planned in coordination with the Susanville Indian Rancheria (SIR). We presented a project description and map to Aaron Brazzanovich, Vice Chairman and member of the Natural Resources Department. Mr. Brazzanovich presented the project to the Tribal Government Liaison Committee. A letter of support the SIR is included. In addition, the SIR's forestry crew will attend the pre-project site visit and may submit an estimate to complete a portion of the work. The SIR's "wood for elders" program is also interested in participating.

**SIERRA NEVADA CONSERVANCY**  
**SNC Watershed Improvement Program - DETAILED BUDGET FORM**

**Project Name:** Pine Creek Meadow and Forest Health Enhancement

**Applicant:** American Rivers

<b>SECTION ONE</b>						
<b>DIRECT COSTS</b>	<b>Year One</b>	<b>Year Two</b>	<b>Year Three</b>	<b>Year Four</b>	<b>Year Five</b>	<b>Total</b>
Project Management Costs - American Rivers staff time (Task 1)	\$26,060.00	\$10,561.00				\$36,621.00
Restoration Implementation (Task 4)						\$0.00
American Rivers staff time	\$8,000.00	\$2,000.00				\$10,000.00
CA Conservation Corps	\$160,000.00					\$160,000.00
Local Conservation Corps	\$40,000.00					\$40,000.00
TBD Contractor	\$180,000.00					\$180,000.00
Travel - 7 trips of approximately 400 miles roundtrip, Nevada City to Pine Creek project site	\$1,080.00	\$432.00				\$1,512.00
Signage - Prop 1 Acknowledgment		\$300.00				\$300.00
<b>DIRECT COSTS SUBTOTAL:</b>	<b>\$415,140.00</b>	<b>\$13,293.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$428,433.00</b>

<b>SECTION TWO</b>						
<b>PARTIAL INDIRECT COSTS</b>	<b>Year One</b>	<b>Year Two</b>	<b>Year Three</b>	<b>Year Four</b>	<b>Year Five</b>	<b>Total</b>
Monitoring and Project Evaluation- American Rivers staff time (Task 3)	\$4,100.00	\$4,100.00				\$8,200.00
Reporting - performance measures, invoicing (Task 1)	\$2,800.00	\$2,800.00				\$5,600.00
Outreach - publications, printing (Task 3)		\$800.00				\$800.00
<b>INDIRECT COSTS SUBTOTAL:</b>	<b>\$6,900.00</b>	<b>\$7,700.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$14,600.00</b>
<b>PROJECT TOTAL:</b>	<b>\$422,040.00</b>	<b>\$20,993.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$443,033.00</b>

<b>SECTION THREE</b>						
<b>Administrative Costs (Costs may not exceed 15% of the above listed Project costs) :</b>						<b>Total</b>
Administrative Overhead (15%)	\$17,556.05	\$3,148.95				\$20,705.00
<b>ADMINISTRATIVE TOTAL:</b>	<b>\$17,556.05</b>	<b>\$3,148.95</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$20,705.00</b>
<b>SNC TOTAL GRANT REQUEST:</b>	<b>\$439,596.05</b>	<b>\$24,141.95</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$463,738.00</b>

<b>SECTION FOUR</b>						
<b>OTHER PROJECT CONTRIBUTIONS*</b>	<b>Year One</b>	<b>Year Two</b>	<b>Year Three</b>	<b>Year Four</b>	<b>Year Five</b>	<b>Total</b>
USFS - Pile burning (Task 4)		\$60,000.00				\$60,000.00
AmeriCorps Volunteer time (Tasks 2,3,4)	\$2,000.00	\$1,000.00				\$3,000.00
<b>Total Other Contributions:</b>	<b>\$2,000.00</b>	<b>\$61,000.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$63,000.00</b>

\* See Cooperation and Community Support Narrative section for details regarding non-match project contributions.

## Appendix F - CEQA/NEPA Compliance Form

(California Environmental Quality Act & National Environmental Policy Act)

*Instructions: All applicants must complete the CEQA compliance section. Check the box that describes the CEQA status of the proposed project. You must also complete the documentation component and submit any surveys, and/or reports that support the checked CEQA status.*

*If NEPA is applicable to your project, you must complete the NEPA section in addition to the CEQA section. Check the box that describes the NEPA status of the proposed project. Submit any surveys, and/or reports that support the NEPA status. For both CEQA and NEPA, submittal of permits is only necessary if they contain conditions providing information regarding potential environmental impacts.*

*NOTE: Effective July 1, 2015, AB52 compliance is required.*

### **CEQA STATUS**

#### **(All applicants must complete this section)**

*Check the box that corresponds with the CEQA compliance for your project. The proposed action is either Categorical Exempt from CEQA, requires a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report per CEQA.*

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#### **Categorical Exemption or Statutory Exemption**

*If a project is exempt from CEQA, all applicants, including public agencies that provide a filed Notice of Exemption, are required to provide a clear and comprehensive description of the physical attributes of the project site, including potential and known special-status species and habitat, in order for the SNC to make a determination that the project is exempt. A particular project that ordinarily would fall under a specific category of exemption may require further CEQA review due to individual circumstances, i.e., it is within a sensitive location, has a cumulative impact, has a significant effect on the environment, is within a scenic highway, impacts an historical resource, or is on a hazardous waste site. Potential cultural/archaeological resources must be noted, but do not need to be specifically listed or mapped at the time of application submittal. Backup data informing the exemption decision, such as biological surveys, Cultural Information Center requests, research papers, etc. should accompany the full application. Applicants anticipating the SNC to file an exemption should conduct the appropriate surveys and submit an information request to an office of the California Historical Resources Information System (CHRIS).*

1. Describe how your project complies with the requirements for claiming a Categorical or Statutory Exemption per CEQA:

2. If your organization is a state or local governmental agency, submit a signed, approved Notice of Exemption (NOE) documenting the use of the Categorical Exemption or Statutory Exemption, along with any permits, surveys, and/or reports that have been completed to support this CEQA status. The Notice of Exemption must bear a date stamp to show that it has been filed with the State Clearinghouse and/or County Clerk, as required by CEQA.
3. If your organization is a nonprofit, there is no other California public agency having discretionary authority over your project, and you would like the SNC to prepare a NOE for your project, let us know that and list any permits, surveys, and/or reports that have been completed to support the CEQA status. All supplementary documentation must be provided to the SNC before the NOE can be prepared.

- 
- Negative Declaration OR**  
 **Mitigated Negative Declaration**

*If a project requires a Negative Declaration or Mitigated Negative Declaration, then applicants must work with a qualified public agency, i.e., one that has discretionary authority over project approval or permitting, to complete the CEQA process.*

1. Describe how your project complies with the requirements for the use of a Negative Declaration or a Mitigated Negative Declaration per CEQA:

2. Submit the approved Initial Study and Negative Declaration/Mitigated Negative Declaration along with any Mitigation Monitoring or Reporting Plans, permits, surveys, and/or reports that have been completed to support this CEQA status. The IS/ND/MND must be accompanied by a signed, approved Notice of Determination, which must bear a date stamp to show that it has been filed with the State Clearinghouse and/or County Clerk, as required by CEQA.

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**Environmental Impact Report**

*If a project requires an Environmental Impact Report, then applicants must work with a qualified public agency, i.e., one that has discretionary authority over project approval or permitting, to complete the CEQA process.*

1. Describe how your project complies with the requirements for the use of an Environmental Impact Report per CEQA:

2. Submit the Draft and Final Environmental Impact Report along with any Mitigation Monitoring or Reporting Plans, permits, surveys, and/or reports that have been completed to support this CEQA status. The EIR documentation must be accompanied by a signed, approved Notice of Determination, which must bear a date stamp to show that it has been filed with the State Clearinghouse and/or County Clerk, as required by CEQA.

## **NEPA STATUS**

*Check the box that corresponds with the NEPA compliance for your project.*

**Categorical Exclusion**

Submit the signed, approved Decision Memo and Categorical Exclusion, as well as documentation to support the Categorical Exclusion, including any permits, surveys, and/or reports that have been completed to support this NEPA status.

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**Environmental Assessment & Finding of No Significant Impact**

Submit the signed, approved Environmental Assessment and Finding of No Significant Impact along with any permits, surveys, and/or reports that have been completed to support this NEPA status.

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**Environmental Impact Statement**

Submit the Draft and approved, Final Environmental Impact Statement, along with the Record of Decision and any permits, surveys, and/or reports that have been completed to support this NEPA status.

**Decision Notice**  
and  
**Finding of No Significant Impact**  
for  
**Harvey Valley Allotment**  
**Grazing Management Project**  
USDA Forest Service, Lassen National Forest  
Eagle Lake Ranger District  
Lassen County, California

## **Decision and Reasons for the Decision**

### **Background**

The 1995 Rescission Act (Public Law 104-19), directed that National Environmental Policy Act (NEPA) analysis be completed for all grazing allotments on National Forests to support re-issuance of livestock grazing permits. From each analysis, Allotment Management Plans (AMPs) would be developed to direct livestock management for the term of the associated permit. The purpose of this project was to analyze a new Allotment Management Plan (AMP) for the Harvey Valley Allotment for which the ten-year Term Grazing Permit was issued in 2011 (2011-2020).

Development of the Harvey Valley AMP would ensure rangelands on the Lassen National Forest are sustained in a healthy condition to provide forage for livestock and wildlife, as well as maintain other resource values. The permittee has agreed to rest the allotment for five years (2011 through 2015) during which time the Forest Service can complete resource surveys, and identify and implement resource improvement projects. There exist opportunities to enhance meadow and aspen communities within the allotment and projects associated with roads and stream channels have been identified which would improve watershed conditions. As a whole, these projects would improve overall ecological function as well as provide higher quality habitats when grazing commences.

The environmental assessment (EA) documents the analysis of three alternatives; the Proposed Action, Previous Management (No Action), and No Grazing. The Harvey Valley Allotment Grazing Management Project area is located in the north central area of the Eagle Lake Ranger District, bounded by Harvey Mountain on the north, Logan Mountain to the east, Crater Mountain on the south and Cone Mountain to the west (centered at T33N, R8E, Sec. 26). The allotment encompasses 33,072 acres comprised of meadow areas interspersed in stands of open timber dominated by ponderosa pine.

I have read the Harvey Valley Allotment Grazing Management Project Environmental Assessment (EA), reviewed the analysis in the project file, including documents incorporated by reference, and fully

understand the environmental effects disclosed therein. I have also considered the comments submitted during the public scoping and the 36 CFR 215 legal notice and comment period for this project. Comments on this EA and Forest response to these comments are available in the project file.

## **Decision**

Based upon my review of all the alternatives, it is my decision to select Alternative 1- the Proposed Action, which is fully described in the EA on pages 6 through 18. My decision to implement Alternative 1 is based on information contained in the administrative record, including the EA, response to public comments, integrated design features incorporated into the alternatives, and environmental consequences (EA pages 22 through 77).

This decision authorizes livestock grazing on the Harvey Valley Allotment beginning in the 2016 grazing season from approximately June 20 through September 15. Authorized use will be for 1/3 the permitted Animal Unit Months (852 AUMs), which equates to 235 cow/calf pairs. Herd movement, grazing utilization standards and livestock management requirements will be implemented as described in the EA, pages 7-11.

It is my decision to implement the resource improvement projects described in the Proposed Action (EA pages 11-14) including meadow enhancement, prescribed fire, aspen treatment, watershed improvements, and rangeland structural improvements. Projects will be scheduled to begin implementation during the 2013 field season with the emphasis to accomplish as many of these projects as possible prior to livestock returning to the allotment in 2016.

My decision includes all of the integrated design features and Best Management Practices (BMPs) necessary to protect resources within the Harvey Valley Allotment Grazing Management project area. The integrated design features are described in detail on pages 14 through 18 of the EA.

## **Reasons for the Decision**

I have decided to implement Alternative 1 because I believe it most fully addresses the purpose and need which is described in the EA on pages 2 through 4. My decision is also based on comments generated through public scoping and careful consideration of the analysis presented in the Harvey Valley Allotment Grazing Management Project EA and project specialist reports, including a review of relevant scientific information; a consideration of responsible opposing views; and the acknowledgement of incomplete or unavailable information, scientific uncertainty, and risk. Public input was considered during various phases of the project, and is addressed within the project record.

When compared to the other alternatives this alternative will best meet the purpose and need of managing livestock in such a manner as to sustain healthy rangeland conditions, while maintaining other resource values. This alternative continues livestock grazing as a legitimate use in the project area while adjusting livestock numbers to ensure that the management strategy can be successful in adhering to herbaceous

and browse utilization standards, riparian vegetation and streambank alteration standards, and meet other resource objectives for watershed condition and wildlife habitat. Alternative 1 provides for reduced livestock stocking levels initially with incremental increases over several years if monitoring indicates grazing standards and resource objectives are being met. When grazing resumes in 2016, the livestock will be new to the Harvey Valley allotment. A small herd is more easily controlled when familiarizing livestock to a new area, including locations of pasture fences, water sources and salt locations. Fewer numbers can be less cumbersome during pasture moves, easier to keep distributed across an area and have lighter overall use of forage, thus increasing the likelihood of success in meeting management objectives. When monitoring indicates grazing use is meeting standards and resource objectives are being met, livestock numbers would be gradually increased over the next several years as long as standards and objectives continue to be met. If monitoring indicates otherwise, adjustments to the strategy would be made so that standards and objectives would be met. This adaptive management strategy will enable Forest specialists and the permittee to manage the resources and continue move resource conditions toward management objectives.

Alternative 1 also addresses areas of other resource needs. Meadow ecosystems have declined in area due to numerous factors, including changes to hydrologic flow, encroaching conifers, fire suppression, and historic grazing. Conifer removal from meadow edges with associated prescribed fire treatments will contribute to existing efforts to improve resiliency of these systems to environmental disturbances including wildfire or drought, as well as improving the diversity of plant communities across the landscape and the wildlife habitat associated with them.

This decision would also implement watershed improvements including the re-contouring of old road beds and changes to existing dug-out waterholes to remove barriers to natural water flow. Removal of the bridge at the lower end of Little Harvey Valley and the associated activities to restore the channelized streambed will contribute to improved watershed condition and may provide additional downstream benefit to restoration efforts on Pine Creek.

This allotment encompasses a large area (33,072 acres) and these projects are distributed across the entire allotment. They could be considered at a later time or under another analysis. However, I feel they are complementary to the analysis of the grazing management and it is appropriate to include them at this time to accomplish resource improvement at a more landscape level. These projects done in conjunction with the period of rest from livestock grazing are expected to result in more apparent improvements in meadow and watershed conditions than if they were implemented while the allotment is actively grazed.

Aspen communities across the west have greatly declined. The conifer removal from 1.5 acres of aspen stands may be small in the big picture of aspen ecosystems, but will contribute to the overall emphasis made by the Eagle Lake District to sustain as many of the aspen that are present on the district as possible.

The Harvey Valley Allotment is well developed with structural improvements. Division fences exist to divide the allotment into pastures. Others have been constructed to protect treated aspen stands from livestock browsing or sensitive reaches of Pine Creek (Logan Spring area) to allow recovery and stabilization of streambanks and riparian vegetation. The allotment has an array of stock watering facilities from dug-out stock ponds, developed and undeveloped springs, borrow pits and troughs. Alternative 1 proposes primarily modifications to fences and watering facilities that are intended to aid in livestock management and distribution as well as support meadow and watershed improvements and protect cultural resources.

## **Alternatives Considered**

Three alternatives were considered in detail for the Harvey Valley Allotment Grazing Management Project. These include Alternative 1 - Proposed Action, Alternative 2 - Previous Management (No Action), and Alternative 3 - No Grazing.

Comments were received during the scoping and comment periods suggesting reduced stocking levels for various lengths of time, or variations to the number of pastures to use for rotation grazing. I felt these comments did not require development of additional alternatives, as the reduced stocking level in Alternative 1 will be adjusted as management requirements and resource objectives are being met. There are no defined automatic increases. Thus, if conditions are not met, livestock numbers would remain constant at the reduced level. Additionally, the existing pasture divisions in the allotment are well defined, fenced pastures that are manageable and provide good control of livestock. There is balanced use across the allotment in all pastures. Resource conditions do not at this time suggest the need to add pastures to the rotation. If conditions change in the future, this decision does not preclude making such adjustments if warranted.

### **Alternative 1: Proposed Action**

Alternative 1 was developed to implement a new Allotment Management Plan (AMP) for cattle grazing on the Harvey Valley Allotment. Additionally, the opportunity existed to coordinate and implement other resource improvements during the period of rest from grazing. After the rest period, livestock stocking would be initially reduced to ensure success in implementing management requirements and meeting resource objectives, then incrementally increased.

Resource Improvement projects include conifer removal from meadow edges, followed by prescribed fire for fuel reduction where appropriate. Conifer removal would occur in several small aspen stands to improve their health and vigor. Where old road beds are effecting natural water flow, low-stature grade controls or re-contouring would be used to improve natural flow. Two waterholes would be decommissioned and alternative water sources developed for livestock use. The Dixie Spring Corral facility would be replaced with a new corral, the spring fenced, and water piped to a new trough for

livestock use. The decommissioned bridge in Little Harvey Valley would be removed and the stream channel re-contoured to restore more natural floodplain conditions and connectivity with the surrounding meadow areas.

Rangeland structural improvements include small modifications to two existing fences, construction of a small protection fence, and removal of old, non-functioning fences.

The full description of Alternative 1 can be found on pages 6-18 of the EA.

### **Alternative 2: Previous Management (No Action)**

Under the No Action alternative, current management plans would continue to guide management of the project area. The No Action alternative does not fully meet the Purpose and Need for the Harvey Valley Allotment Grazing Management Project.

Alternative 2 would authorize livestock grazing the same as under the previous Term Grazing Permit. There would be no additional rest from grazing through the 2015 grazing season. Livestock management implemented the LRMP standards and guideline as amended by the Sierra Nevada Forest Plan Amendment. No standards were in place for protection of vernal pool habitats or related TES plants. No resource improvement projects, including meadow enhancement, prescribed fire, aspen treatments, watershed improvements or rangeland structural improvements, would occur under Alternative 2.

The full description of Alternative 2 can be found on pages 18-21 of the EA

### **Alternative 3: No Grazing**

The No Grazing Alternative would discontinue livestock grazing on the Harvey Valley Allotment. The Term Grazing Permit would be cancelled.

Resource improvement projects, including meadow enhancement, prescribed fire, aspen, watershed improvement and rangeland structural improvements, would not be implemented under Alternative 3.

Structural rangeland improvements would not be maintained. Boundary fences would be re-assigned to adjacent permittees for maintenance.

Alternative 3 is described on page 21 of the EA.

## **Public involvement**

A proposal to analyze grazing management on the Harvey Valley Allotment was listed in the Schedule of Proposed Actions (SOPA) starting on January 1, 2011. The proposal was provided to the public and other agencies for comment during scoping which began on February 17, 2012. Comments were received from Lahontan Regional Water Quality Control Board, Western Watersheds Project, the permittee and two other individuals. Verbal comments were recorded on March 5 and March 23, 2012 from adjacent allotment permittees.

Comments received focused on the NEPA process and requirements, clarification of the purpose and need for the activities proposed, the need to analyze effects to other resources including numerous wildlife species and habitats, cultural resources, water and soils. Comments were also received about fences, stocking levels, and other regulatory requirements for project implementation.

No issues were raised during the scoping period that would necessitate development of additional alternatives to the proposed action. The analysis of the public comments is contained in the document titled, "Harvey Valley Allotment Grazing Management Project Public Scoping and Comment Period Issue Analysis and Alternative Development" (located in the Harvey Valley Allotment Grazing Management Project record, ELRD office).

A draft EA was made available for a legal notice and comment period which began on August 21, 2012 and ended on September 21, 2012. Comments were received from two of the same commenters who commented during scoping. Comments were very similar or identical to those received during scoping. District specialists reviewed the comments, determined appropriate responses necessary, made improvements to analysis documents where needed, and included necessary information in the EA. The analysis of the public comments is contained in the document titled, "Harvey Valley Allotment Grazing Management Project Public Scoping and Comment Period Issue Analysis and Alternative Development" (located in the Harvey Valley Allotment Grazing Management Project record, ELRD office).

## **Finding of No Significant Impact**

After careful consideration of the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts as stated in the regulations for implementing NEPA, 40 CFR Parts 1500-1508. These regulations include a definition of "significantly" as used in NEPA. Significance as used in NEPA requires considerations of both Context and ten elements of Intensity. The eleven elements of this definition are critical to reducing paperwork through use of a Finding of No Significant Impact when an action would not have a significant effect on the human environment. After careful consideration of the environmental effects described in the EA, thorough review of the project file, and consideration of context and intensity, I have determined that implementation of the proposed action will not have a significant effect on the quality of the human environment as defined at 40 CFR Part 1508.14. Therefore, further analysis and documentation is not required and an environmental impact statement (EIS) will not be prepared. This determination is based on the following intensity factors.

### **(a) Context:**

The local context of the proposed action is limited to the northeast portion of the Lassen National Forest, in the location described on page 1. The Harvey Valley Allotment is one of 49 grazing allotments across the entire Lassen National Forest and represents a relatively small portion of the land base. Out of a twelve-month year, the allotment is grazed for approximately three months, mid-June to mid- September. The rotation grazing system to be implemented further shortens the duration of time spent in any

particular location to only one month, affecting a small portion of the land base during a defined timeframe.

This allotment has been grazed for over 100 years by cattle. Over the last 50 years, livestock numbers have remained relatively constant, but management changes to meet current standards and guidelines have provided continued improvement in overall condition of the allotment. Fencing and water developments have greatly improved livestock distribution. Rotational grazing has been implemented to replace the long-time practice of season-long grazing over the entire allotment. The allotment provides summer and early fall forage for the permitted livestock and serves as an important part of the year-round ranching operation.

Proposed resource projects would take place in numerous locations across the allotment area. Most would occur during the summer through early fall, many depending on soils being dry enough to avoid impacts from activities and equipment. Most of the watershed improvement projects, fencing, and meadow treatments would occur during a defined time period and would not be recurring. Prescribed burning may occur either during the spring or late fall after conifer removal in meadows and aspen.

Even in the context of seasonality and duration of activities, analysis prepared in support of the EA (listed on pages 24 of the EA, hereby incorporated by reference, and available upon request), indicate that the Proposed Action would not pose significant short- or long-term effects.

**(b) Intensity:**

**(1) Impacts both beneficial and adverse.**

Effects determinations are summarized in the Harvey Valley Allotment Grazing Management Project EA (pages 22-77) and supporting analysis. Both beneficial and adverse effects have been taken into consideration when making the determination of significance. Beneficial effects have not, however, been used to offset or compensate for potential significant adverse effects.

**(2) Public health or safety.**

There will be no significant effects on public health and safety. Livestock grazing activities do not occur within developed campgrounds, along high traffic roadways, or on NFS lands where public would have contact with livestock manure or potentially affected waters from livestock manure that would cause human health issues.

**(3) Unique characteristics of the geographic area.**

There will be no significant effects on unique characteristics of the area or ecologically critical areas such as historic or cultural resources, park lands, prime farmlands, wetlands, or wild and scenic rivers. Wetlands and vernal pool habitats will be managed to protect associated values through implementation of Integrated Design Features described on pages 15 and 17 of the EA. Historic and cultural resources will be protected as required in the Programmatic MOU and as described in the LNF Grazing-Heritage Resource Management Strategy (2008) (see EA pages 15-16).

**(4) Highly controversial.**

The effects on the quality of the human environment are not likely to be highly controversial. There is no known scientific controversy over the impacts of the project.

**(5) Degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

We have considerable experience with the types of activities to be implemented. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risk. Livestock grazing has occurred on western lands for more than a century. Many of the grazing practices that were incorporated decades ago are no longer used due to a better understanding of range conditions, the needs of livestock, and effects of grazing on resource values. With each decade range managers become more adaptive to changing conditions, which is reflected in continued improvement of rangeland health. The Lassen National Forest has allowed livestock grazing since its inception, thus there are no unknown or unique risks involved in continuing grazing on this allotment.

Meadow and watershed improvement activities including conifer thinning, installation or removal of structures for water flow, road decommissioning techniques, fence building, and prescribed burning are all activities the forest has implemented in other locations across the forest to manage and improve resource conditions. There are no unknown or unique risks involved in implementing these activities within the Harvey Valley Allotment (see EA pages 22-77).

**(6) Precedent for future actions with significant effects or decisions in principle about future considerations.**

The action is not likely to establish a precedent for future actions with significant effects. Any future decision to revise other allotment management plans would be analyzed separately and on their own merits to determine a future course of action. Future projects would require additional site-specific analysis and separate decisions as required under NEPA.

**(7) Relationship to other actions with individually insignificant but cumulatively significant impacts.**

This decision does not represent potential significant cumulative adverse impacts when considered in combination with other past, ongoing, or reasonably foreseeable future actions.

A cumulative effects analysis was completed for each resource area. None of the specialists found the potential for significant adverse cumulative effects. The Past, Ongoing, and Reasonably Foreseeable Future Actions Summary (PORFFA) can be found in the project record. Also, Integrated Design Features included in the action would avoid or minimize adverse cumulative effects and protect federally-listed threatened plants, cultural resources, wildlife, aquatic species, and other sensitive resources to the extent that any residual effects would not be cumulatively significant.

Biological Assessments and Evaluations, as well as other resource reports that disclose direct, indirect and cumulative effects, are in the project file and available from the District office.

**(8) Adverse effects on properties listed or eligible for National Register of Historic Places, or loss of significant scientific/cultural/historical resources.**

The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. The action will not cause loss or destruction of significant scientific, cultural, or historical resources. Known cultural sites within the allotment have been identified and surveyed for livestock impacts. Mitigation measures for those sites being impacted by livestock activities have been identified and will be implemented. Additional monitoring is on-going in accordance with the Programmatic MOU and the LNF Grazing-Heritage Resource Management Strategy (2008). Both provide guidance and acceptable means for protecting cultural sites within active grazing allotments (see EA pages 41-43).

**(9) The degree to which this action may adversely affect an endangered or threatened species or critical habitat.**

The action will not adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973, because no Federally Listed threatened or endangered species required analyzing for this project.

Due to the project area being outside the range of the species, or due to the lack of suitable habitat or habitat components in the project area, the action alternatives would have “no effect” on the following Federally Listed threatened or endangered species or their critical habitat: northern spotted owl, valley elderberry beetle, Central Valley steelhead distinct population segment (DPS), Central Valley chinook salmon evolutionary significant unit (ESU), Delta smelt, Winter-run chinook salmon ESU, California red-legged frog, Shasta crayfish, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and giant garter snake.

In early January 2012, the first gray wolf (federally-listed, threatened) in 80 years was documented in California. OR-7 is an individual wolf that has moved over a very wide area during the last year, at times near or along the periphery of the Harvey Valley Allotment area. We do not believe that re-issuance of this on-going grazing permit would negatively affect OR-7 or wolves and their habitat. This is due to OR-7 having moved into the landscape of the Lassen National Forest where there is a long history of on-going grazing. It is not a new use being proposed for this landscape. Also, OR-7 does not appear to be using the project area. There is no den site or rendezvous sites within or near the allotment area. He is a lone male wolf, with no evidence of female wolves or other conspecifics in the Lassen area.

Also, the existing condition would not materially be changed by re-issuance of this permit. Some of the included actions, like removal of encroaching conifers from meadow edges, watershed work and aspen enhancement would marginally benefit habitat for prey species such as deer and pronghorn. Therefore,

due to lack of effects to this individual and to wolves in general, we believe that re-issuance of this long-held permit would not cause direct, indirect or cumulative effects to gray wolves.

As a member of a federally-listed species, OR-7 is protected under the Endangered Species Act (ESA). Nothing in this NEPA document supersedes the ESA and its regulations. Any issues with wolf-caused livestock depredation would be resolved with the USFWS in its regulatory capacity. Additionally, an Integrated Design Feature was designed to address any concern and added to the Proposed Action.

A determination of “may affect individuals or their habitat, but not likely to result in a trend towards federal listing or loss of species viability” was made for the following Forest Service Sensitive Species: northern bald eagle, northern goshawk, greater sandhill crane, pallid bat, western red bat and Eagle Lake rainbow trout (see EA pages 45-64).

A determination of “may affect but not likely to adversely affect” was made for the federally-listed threatened plant *Orcuttia tenuis* (slender Orcutt grass), and its designated critical habitat within the project area (see EA pages 31-35, 37).

**(10) Whether the action threatens a violation of Federal, State, or local law or requirement imposed for the protection of the environment.**

The action will not violate Federal, State, and local laws or requirements for the protection of the environment. It is fully consistent with the Lassen National Forest Land and Resource Management Plan (1993) as amended by the Sierra Nevada Forest Plan Amendment Records of Decision (2001, 2004). This action is also in full compliance with the National Environmental Policy Act of 1969, the Rescission Act of 1995 (P.L.104-19), and is consistent with the National Forest Management Act of 1976, the Clean Water Act [as amended in 1972 (Public Law 92-500) and 1977 (Public Law 95-217)], and the Endangered Species Act of 1973 (Public Law 93-205).

**Findings required by other laws and regulations**

My decision complies with all aspects of the National Forest Management Act of 1976 and all other applicable laws and regulations, including:

**The Lassen National Forest LRMP as amended**

This decision is consistent with the 1992 *Lassen National Forest Land and Resource Management Plan* (LRMP) and 1993 *Record of Decision* (ROD) as amended by the the *Sierra Nevada Forest Plan Amendment* (SNFPA) FSEISs and RODs (2001, 2004), and the *Sierra Nevada Forests Management Indicator Species* (SNF MIS) Amendment FEIS and ROD (2007). Upland and riparian vegetation use standards are applied as well as integrated design features for botany, cultural resources, wildlife, hydrology and soils. Best Management Practices (BMPs) are a part of the term permit and the Allotment Management Plan.

### **National Historic Preservation Act (NHPA), 1966, as amended (P.L. 89-665, 80 Stat.915)**

This action is in conformance with regulations of the National Historic Preservation Act (NHPA), 1966, as amended (P.L. 89-665, 80 Stat.915); Archaeological Resources Protection Act of 1979 (ARPA); Native American Grave Protection and Repatriation Act (1990: P.L. 101-601); and American Indian Religious Freedom Act (1978: P.L. 95-341), and as called for by the First Amended Regional Programmatic Agreement among the U.S.D.A. Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region (USDA 2001) (Regional PA) (EA pages 15-16).

### **Endangered Species Act of 1973 (Public Law 93-205)**

This decision is consistent with the Endangered Species Act as found in the botany, wildlife, and aquatic species biological evaluations and biological assessments. Section VII of the Endangered Species Act requires Federal agencies to consult with the United States Department of the Interior Fish and Wildlife Service (Service) and/or the United States Department of Commerce National Marine Fisheries Service (NMFS), whichever is appropriate, during project planning when Threatened or Endangered species, or their associated critical habitat, may be affected by a project.

### **Clean Water Act [as amended in 1972 (Public Law 92-500) and 1977 (Public Law 95-217)]**

All Federal agencies must comply with the provisions of the Clean Water Act. The Clean Water Act regulates forest management activities near federal waters and riparian areas. This decision meets the terms of the Clean Water Act for non-point sources of pollution, primarily pollution caused by erosion and sedimentation. Compliance with the Clean Water Act is accomplished through implementation of Best Management Practices (BMPs) for National Forests in California (USDA FS 2000a).

The State and Regional Water Quality Control Boards entered into agreements with the U.S. Forest Service to control non-point source discharges by implementing control actions certified by the State Water Quality Control Board and the EPA as BMPs. BMPs are designed to protect and maintain water quality and prevent adverse effects to beneficial uses both on-site and downstream. In addition, the land disturbing activities will be dispersed in time and space so that the sub-watersheds will not reach or exceed the threshold of concern for overall watershed disturbance.

## Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to 36 CFR Part 215. Only those individuals and organizations who have submitted written or oral comments during the 30-day comment period (36 CFR 215.6) and otherwise meet the specific requirements of 36 CFR 215.11(a) have standing to appeal. Appeals must be filed within 45 days from the publication date of the legal notice for this decision in the Lassen County Times, the newspaper of record. Notices of appeal must meet the specific content requirements of 36 CFR 215.14. An appeal, including attachments, must be filed (regular mail, fax, e-mail, hand-delivery, express delivery, or messenger service) with the appropriate Appeal Deciding Officer (36 CFR 215.8) within 45 days following the publication date of this notice. The publication date of this notice is the exclusive means for calculating the time period to file an appeal (36 CFR 215.15 (a)). Those wishing to appeal should not rely upon dates or timeframe information provided by any other source.

Appeals must be submitted to Jerry Bird, Forest Supervisor, 2550 Riverside Drive, Susanville, CA 96130, (530) 257-2151. Appeals may be submitted by FAX [530-252-6448] or by hand-delivery to the Forest Headquarters, at the address shown above, during normal business hours (Monday-Friday 8:00am to 4:30pm). Electronic appeals, in acceptable [plain text (.txt), rich text 9.rtf) or Word (.doc)] formats, may be submitted to [appeals-pacificsouthwest-lassen@fs.fed.us](mailto:appeals-pacificsouthwest-lassen@fs.fed.us) with Subject: Harvey Valley Allotment.

## Implementation

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. If appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition. In the event of multiple appeals, the implementation date is controlled by the date of the last appeal disposition.

## Contact person

For additional information concerning this decision or the Forest Service appeal process, contact: KC Pasero, Eagle Lake Ranger District, 477-050 Eagle Lake Road, Susanville, CA 96130, (530) 257-4188.

*/s/ Ann D. Carlson*

*1/28/2013*

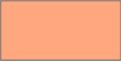
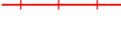
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Ann D. Carlson  
District Ranger  
Eagle Lake Ranger District

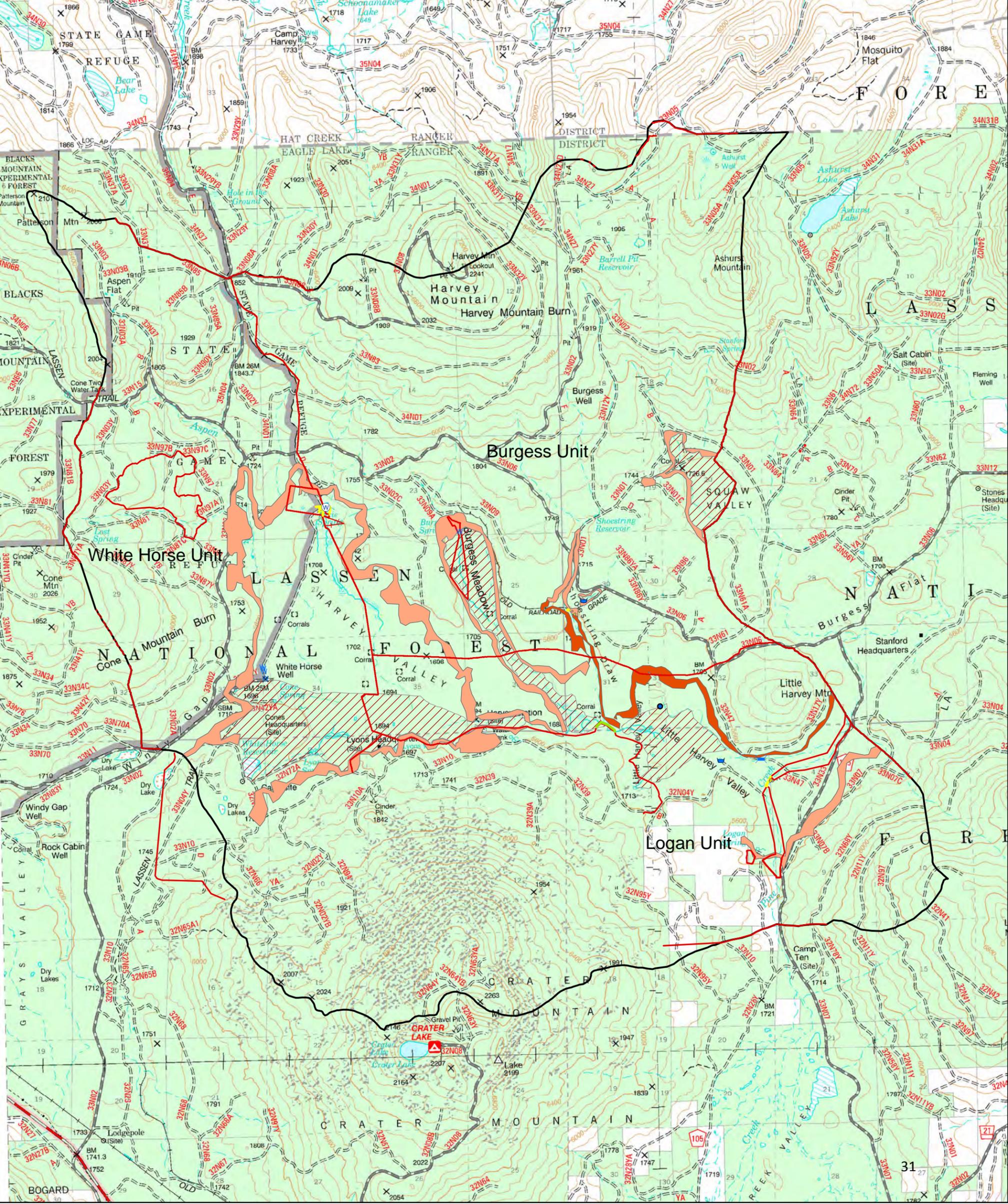
Date:

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# Harvey Valley Allotment EA - Alternative 1

	Allotment Boundary	<b>Watershed Projects</b>		<b>Meadow Enhancement</b>	
	Existing Fences		1. Wattles		Hand thin, fire backed into meadow
	Proposed Fences		2. Old Harvey Valley Road		Hand thin, pile burn if necessary, underburn
	New		3, 4. Waterhole Removal		Meadow Underburn
	Remove		5. Dixie Spring		Aspen Treatments
	Relocate		6. Bridge Removal		

krp 012813



# ENVIRONMENTAL ASSESSMENT

USDA Forest Service  
Pine Creek Restoration Project  
Eagle Lake Ranger District, Lassen National Forest  
Lassen County, California

## Introduction

The Pine Creek Restoration Project proposal stems from an evaluation of opportunities to increase the resiliency and overall function of the Eagle watershed by improving water quality and quantity, timing and duration of flows, and stream and riparian condition. As a result of the evaluation, the Eagle Lake Ranger District (ELRD) of Lassen National Forest (LNF) is proposing actions focused on decommissioned and unauthorized roads and railroad grades, diversions, and dug-out waterholes on Pine Creek and tributaries to improve watershed function and address many areas of degraded aquatic and riparian habitat.

The Pine Creek Restoration Project will be implemented under the pre-decisional objection process found at 36 CFR 218. Under this collaborative process public concerns can be addressed before a decision is made increasing the likelihood of resolving any concerns and making better, more informed decisions.

Differences to the proposed action for clarification or additional specificity are disclosed in this document and changes are written in *italics*. See page 18 of the Environmental Consequences section of this Environmental Assessment (EA) for a list of specialist's reports incorporated by reference for the Pine Creek Restoration EA.

## Project Area

The projects occur in three areas along Pine Creek and associated tributaries within the Eagle watershed: Upper Pine Creek Valley, Lower Pine Creek Valley, and Burgess Meadow. Project work will occur over approximately 55 acres total in these three areas. Upper and Lower Pine Creek Valley are within the Campbell (MA 23) Management Area and Burgess Meadow is within the Harvey (MA 12) Management Area, as identified in the LNF Land Resource Management Plan (LRMP). The project areas are roughly 24 air miles northwest of Susanville, Lassen County, California, just east and southeast of the Blacks Mountain Experimental Forest. Included are portions of Township (T) 31 North (N), Range (R) 8 East (E), Sections (S) 1-4 and 11; T32N, R9E, S16, 29, 31-32; T33N, R8E, S36; and T33N, R9E, S31 of the Mount Diablo Meridian (Figure 1).

The Eagle watershed is a significant drainage basin on the Eagle Lake Ranger District (ELRD) located within the 4<sup>th</sup> field Honey-Eagle Lakes sub-basin (HUC<sup>1</sup>: 18080003). It includes Upper Pine Creek

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<sup>1</sup> Hydrologic Unit Code (HUC), a commonly-used system for defining drainage boundaries from the US Geological Survey's Watershed Boundary Dataset. Codes describe geographic location and level of the watershed unit.

(1808000301), Middle Pine Creek (1808000302), Lower Pine Creek-Eagle Lake (1808000303) 5<sup>th</sup> field watersheds, and three of LNF's 6<sup>th</sup> field priority watersheds identified in 2011 under the US Forest Service's watershed condition classification: Pine Creek Valley-Pine Creek (180800030103), Champs Flat-Pine Creek (180800030204), and Antelope Valley-Pine Creek (180800030301). The Eagle watershed covers 270,000 acres with the majority of it on ELRD (Figure 3). Eagle Lake is in a closed drainage basin with numerous streams providing surface inflows: Pine, Merrill, Little Merrill, Papoose, and Cleghorn creeks. Most are small seasonal streams with the exception of the headwaters of Pine Creek. Pine Creek is the major tributary to Eagle Lake and its watershed comprises over 50 percent of the land area within the basin.

The main channel of Pine Creek is approximately 40 miles in length with a 1,200 ft. elevation gradient change from Leaky Louie's Pond (6,315 ft.) to Eagle Lake (5,100 ft.) Pine Creek is highly variable both seasonally and inter-annually. Pine Creek is perennial from the headwaters near Leaky Louie's spring to McKenzie Cow Camp (approximately 7 miles). The remaining reaches are intermittent and typically flow from mid-March to June depending on the water year. These lower reaches cross a sequence of four much larger, broad, nearly level, alluvial valleys separated by short, relatively steep, volcanic bedrock narrows before entering into Eagle Lake. Pine Creek Valley is the largest valley in the Upper Pine Creek watershed. The valley includes ten miles of Pine Creek flowing in anastomosing<sup>2</sup> channels. The vegetative communities in Pine Creek Valley are characterized by grass and grass-like plants in both wet (*Juncus balticus*, *Carex nebrascensis*) and dry (*Carex filifolia*, *Deschampsia cespitosa*) habitats, as well as brush (*Artemisia tridentata*, *A. arbuscula*, *Purshia tridentata*, *Ericameria bloomeri*).

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<sup>2</sup> Anastomosing channels are multithreaded stream channels, but are much more stable than braided channels and commonly have thick clay and silt banks, vegetated islands, and occur at lower stream bed gradients.

Vicinity Map

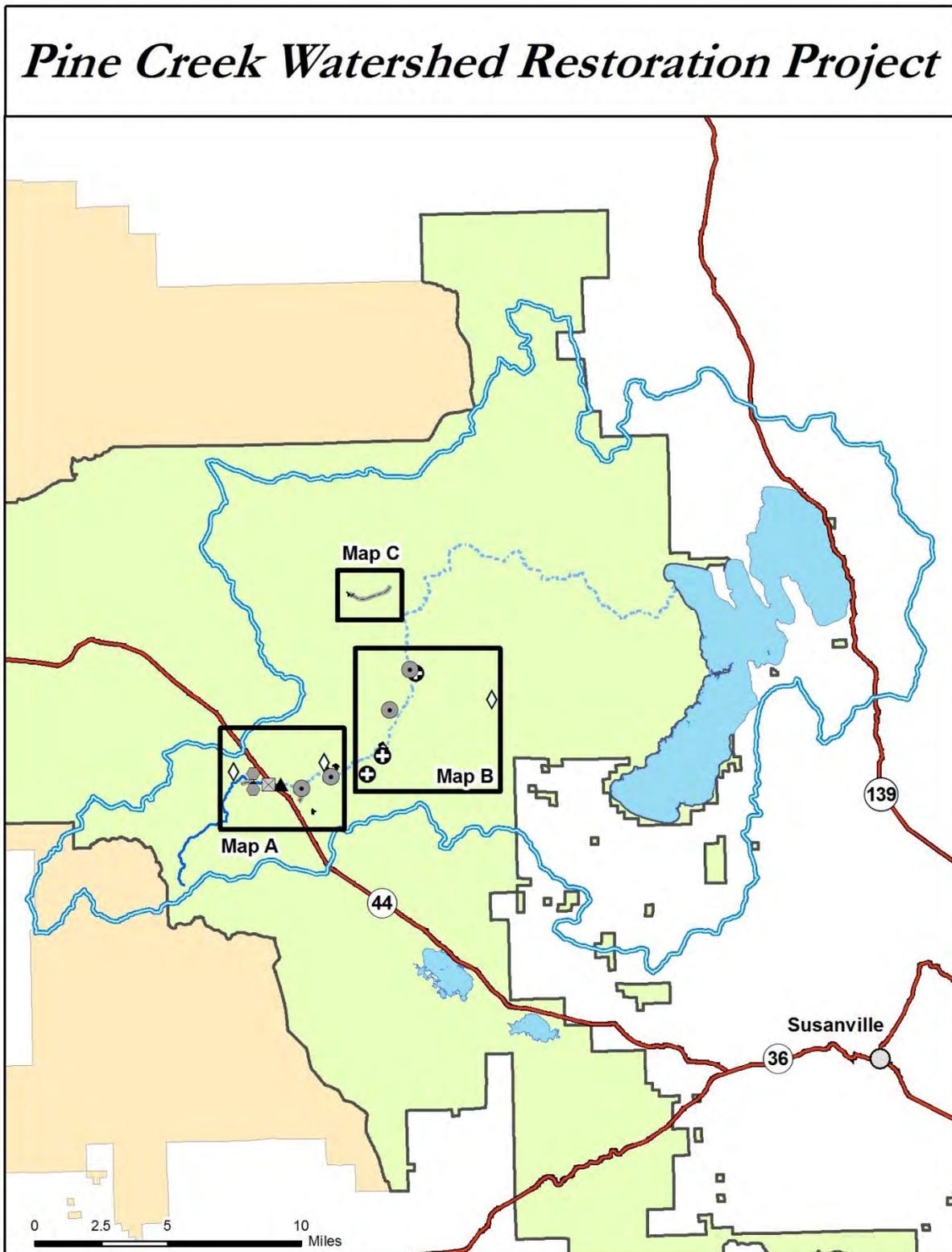


Figure 1. Vicinity map showing project locations.

## Maps for Project Areas

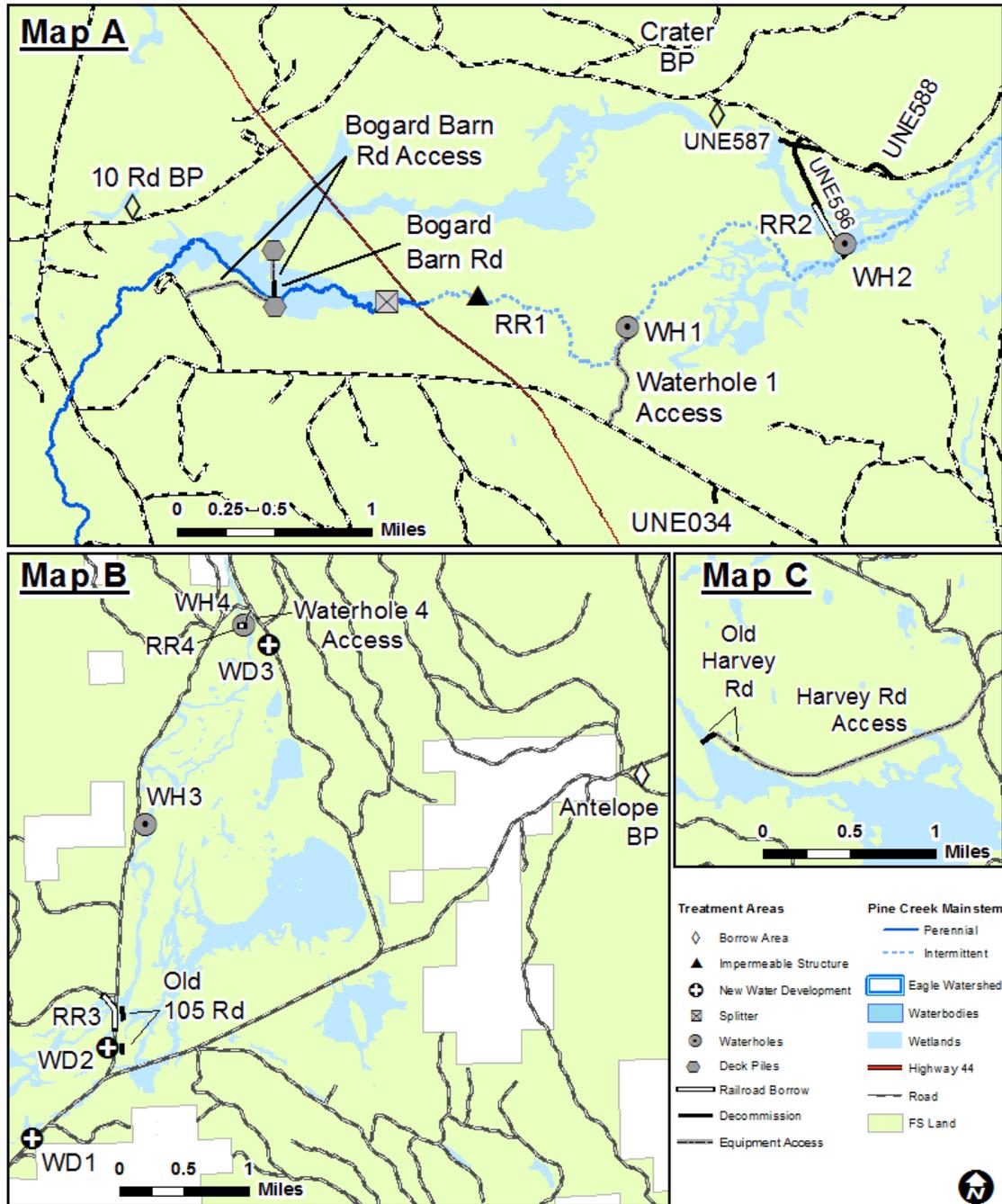


Figure 2. Zoomed-in areas of maps identified in vicinity map showing exact locations of dug-out waterholes, railroads, and roads that were identified to improve watershed function (e.g. hydrologic connectivity and water quality) in Pine Creek Valley and associated tributaries. (Crater BP is approximately 700 yds. (0.4 mi) from original map location).

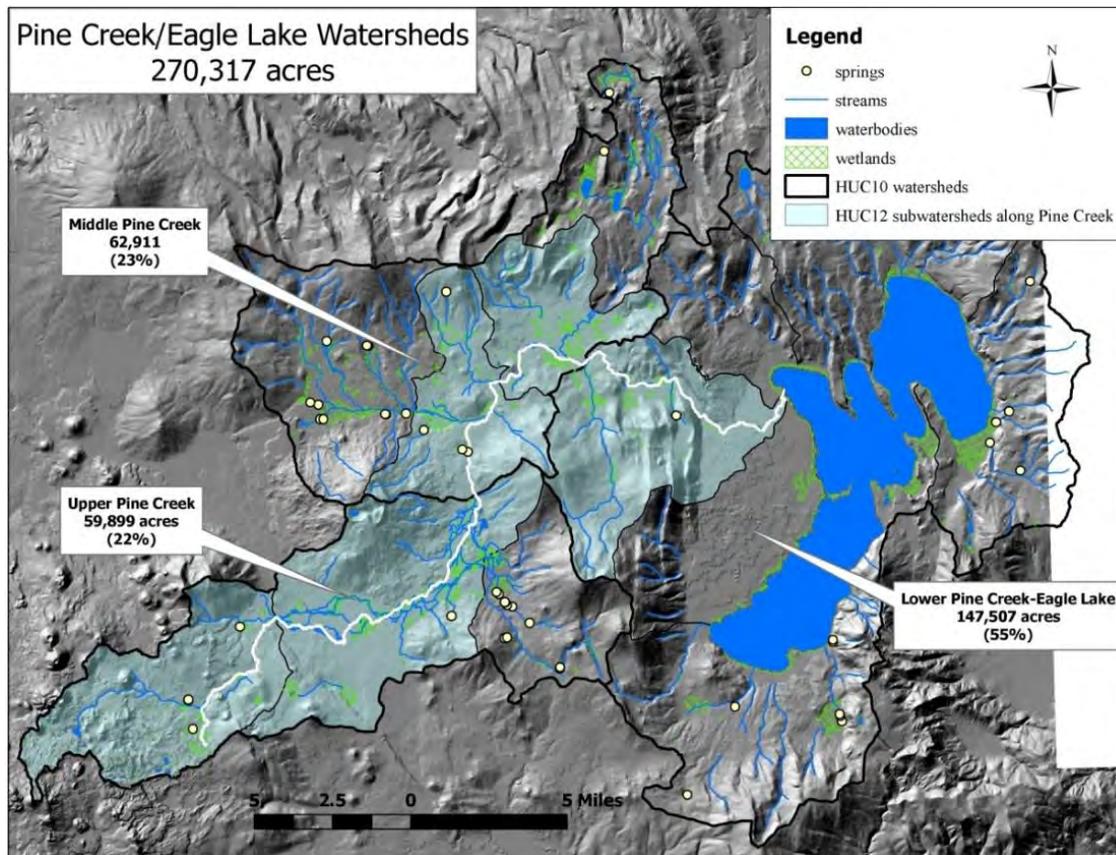


Figure 3. Aerial view of the Eagle watershed (HUC10) and subwatersheds (HUC12).

## Purpose and Need

The proposed treatments in the Pine Creek Watershed Restoration Project are based on watershed and range management objectives, as per the LRMP as amended by the Sierra Nevada Plan Amendment (SNFPA). Water and riparian management direction in the LRMP is to maintain or improve riparian-dependent resources in and around wetlands, stream corridors, lakes, seeps, springs, and wet meadows. The LRMP also directs management to provide for long-term rangeland productivity for fisheries, wildlife, soil, water, timber, and livestock forage values. Management objectives focus on distribution of livestock use over rangelands using structural improvements.

The SNFPA management intent for aquatic, riparian and meadow ecosystems include but are not limited to the following:

- maintain and restore the hydrologic connectivity of streams, meadows, wetlands and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths,
- maintain and restore spatial and temporal connectivity for aquatic and riparian species within and between watersheds to provide physically, chemically, and biologically unobstructed movement for their survival, migration, and reproduction,

- maintain and restore the physical structure and condition of stream banks and shorelines to minimize erosion and sustain desired habitat diversity, and
- maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows, wetlands, and other special aquatic features.

This project is also aligned with both regional and national goals for watershed restoration, including the Region 5 Ecological Restoration Goal to make land and water ecosystems more sustainable, more resilient, and healthier under current and future conditions.

Pine Creek is the primary spawning tributary for the Eagle Lake rainbow trout (ELRT), a subspecies of rainbow trout endemic to the Eagle Lake watershed. The ELRT is under a 12 month review for federal listing due to concerns over its ability to naturally reproduce under current conditions. Portions of its migration and spawning habitat along Pine Creek are degraded as a result of past land management practices that included extensive logging, heavy grazing, stream channelization, and construction of railroads and roads across meadows and streams. Degraded habitat conditions, along with historic commercial fishing and poaching, led to a drastic decline in the population of ELRT by the 1930s. A fish trap and barrier were built near the lake on Pine Creek and ELRT began to be reared entirely in a fish hatchery in the 1950s to prevent possible extinction. Efforts to restore natural spawning started in the late 1990s with improvements to aquatic passage. Although most fish passage concerns have been addressed by collaborative restoration efforts in the past two decades, there is still a need to improve watershed function to enhance the aquatic and riparian habitat along many reaches of Pine Creek to increase the chances of successful re-establishment of a wild population of ELRT. Current work on the spawning run indicates that extending duration of flow may help reestablish natural reproduction. This proposal would address many areas of degraded aquatic and riparian habitat and could contribute towards restoring longer flow duration.

The proposed projects are consistent with key watershed issues related to flow characteristics, channel shape and function, and vegetative condition identified in the USDA Forest Service Watershed Condition Framework FY2011. These projects were identified as opportunities to increase the resiliency and overall function of the watershed by improving water quality and quantity, timing and duration of flows, and stream and riparian condition.

### **Railroads and Roads**

Pine Creek's main channel has been affected by construction of roads and railroads. These railroads and roads decrease watershed function by:

- 1) impeding hydrologic connectivity, especially when they cross valley floors,
- 2) confining flows to designated crossings, which prevents streams from meandering through the valley bottom, reducing sinuosity and increasing stream power, leading to channel incision. This lowering of the stream bed through the process of channel incision results in less surface flow access to the floodplain during ordinary high flows,

- 3) re-directing flows and capturing water in borrow ditches, which alters water retention patterns, collectively lowers water table levels and decreases water storage, alters channel morphology and stream flow patterns, and changes vegetative cover and composition.

Sections of abandoned railroads and roads within the floodplain need to be recontoured and the associated borrow ditches filled to allow Pine Creek to migrate across the valley floor, improving hydrologic connectivity and water retention patterns. Additionally, filling in the borrow ditches that hold water would remove the attractants for cattle so they do not concentrate on the stream channel, which should increase the likelihood of meeting riparian and stream channel standards.

The following four railroad grades cross Pine Creek Valley, of which one is active.

#### Burlington Railroad - Railroad - 1 (T31N, R8E, S3)

The stream channel of Pine Creek on the northeast side of the railroad is higher in elevation than the borrow ditch allowing water to flow into the borrow ditches. As stream flows decrease, water recedes and becomes trapped in the borrow ditches. An impermeable berm is needed to prevent water from flowing down the borrow ditch where it is subjected to high evaporative losses.

#### Abandoned Railroad - 2 (T31N, R8E, S1)

Abandoned railroad 2, downstream of the Burlington railroad, extends across Pine Creek Valley with a narrow cut-out where Pine Creek crosses. The railroad grade within the floodplain needs to be recontoured and associated borrow ditches filled to allow stream sinuosity and improve hydrologic connectivity. Filling in the borrow ditch on the northwest side of the grade would prevent surface flows from moving away from the channel and retaining water following the recession of spring thaw flows. This proposed area is approximately 0.45 mile long and 25 ft. wide.

#### Abandoned Railroad - 3 (T32N, R9E, S32)

Abandoned railroad 3 is located off of Lassen County Road 105. The elevated railroad grade and associated borrow ditch connect to the 105 road. The abandoned railroad needs to be recontoured within the floodplain to allow stream sinuosity and improve floodplain connectivity. The associated borrow ditch would also need to be filled. This would prevent water from being diverted and stored away from the main channel of Pine Creek, where it provides an attractant for cattle to use as a water source. This railroad impacts an area approximately 0.3 mile long and 35 ft. wide.

#### Abandoned Railroad - 4 (T32N, R9E, S16)

Abandoned railroad 4 crosses Pine Creek Valley where the valley narrows. This railroad grade has a limited effect on channel movement, but the associated borrow ditches divert water from the main channel where it is stored and used by cattle as a waterhole. The borrow ditches need to be filled to remove the livestock attractant from the stream bank. The impacted area is approximately 0.2 mile long and 25 ft. wide.

#### Bogard Barn Road (Decommissioned Road 31N19) (T31N, R8E, S4)

The Bogard Barn road transects the floodplain of Pine Creek where several braided channels are intersecting the road. Two sections of the road were removed to allow flows to cross, but these crossings are located on secondary channels. The primary channel has no stream crossing through the road bed, and flows from this channel are diverted laterally along the borrow ditch, away from the main channel of Pine Creek. The road bed within the floodplain needs to be recontoured to improve surface and subsurface flow and allow stream sinuosity.

#### Old 105 Road (T32N, R9E, S32)

The old 105 road is adjacent and east of the active Lassen County Road 105. Several channels cross the previous road bed. The road bed needs to be ripped and recontoured where the stream crossings occur to improve surface flows and allow stream sinuosity.

#### Harvey Road (T33N, R8E S36 and T33N, R9E, S31)

Burgess Meadow drains to Pine Creek. The Old Harvey Road transects the meadow at the base of Burgess Meadow and then wraps around on the northeast side of the meadow. The section of road transecting Burgess Meadow is an elevated road bed. When this section of the road was decommissioned, notches were cut through the road bed to allow surface flows to cross the road. These notches are channelizing water, causing increased velocity that may be contributing to downstream channel degradation in the meadow south of the road. The elevated road bed within the meadow needs to be recontoured to spread surface flows and improve subsurface flows within the meadow.

An additional section of the Old Harvey Road on the northeast side crosses a seep area flowing into Little Harvey Valley. This section of road is essentially at grade with the meadow, but the compacted road bed is impeding subsurface flow. The road bed needs to be ripped to improve subsurface flows.

#### Unauthorized Routes

UNE586, UNE587, UNE588, UNE034 are unauthorized routes that are dead-ends or identified as not necessary for our transportation system. These routes are located within or adjacent to Pine Creek Valley. They contribute to sedimentation; and alter surface/subsurface flow interactions; and channel morphology. There is a need to decommission these routes to decrease road density, reduce sediment sources, and improve surface and subsurface flows within the watershed.

#### **Dug-out waterholes**

There are two dug-out waterholes located directly on Pine Creek's channel in addition to two waterholes associated with railroad grades 2 and 4. These waterholes decrease hydrologic function on a small localized scale and expose more water to evaporative loss, alter stream channel morphology, and lower the water table, which changes riparian vegetation composition downstream of the waterhole along the stream channel. These waterholes are also a livestock attractant that concentrate cattle at the stream

channel, leading to stream bank degradation and high utilization of riparian vegetation. These waterholes need to be filled and recontoured to decrease evaporative losses, decrease sedimentation and poor local water quality associated with livestock concentrating in the channel, and enhance stream bank stability through improvement in vegetative cover.

#### Waterhole 1 (T31N, R8E, S2)

Waterhole 1 is located east of Highway 44 in an enclosure and is no longer needed for cattle. This waterhole is 205 feet long by 30 feet wide. The waterhole was created by excavating the stream bed and placing the material in the stream channel on the upstream side. This created a plug that Pine Creek flows around before returning to the channel where the waterhole is located. The plug material needs to be pushed back into the excavated waterhole to improve the surface flow path.

#### Waterhole 2 (T31N, R8E, S1)

Waterhole 2 is located downstream of abandoned railroad grade 2. This is the largest waterhole in Pine Creek Valley and is 215 feet by 135 feet in size. The dug-out waterhole was built by removing fill from the left stream bank and placing the material on the far side of the waterhole resulting in widening the channel. This waterhole needs to be filled and recontoured to decrease evaporative loss, improve stream bank condition, decrease sedimentation, improve local water quality, and remove a livestock attractant adjacent to the stream channel.

#### Waterhole 3 (T32N, R9E, S29)

Waterhole 3 is located approximately one mile downstream from the upper 105 road crossing and is 130 feet by 135 feet in size. The waterhole was built by excavating the channel bottom and placing the material on either side of the stream channel. This waterhole needs to be filled and recontoured to decrease evaporative loss, improve stream bank condition, decrease sedimentation, improve local water quality, and remove a livestock attractant located on the stream channel.

#### Waterhole 4 (T32N, R9E, S16)

Waterhole 4 is located on the north side of abandoned railroad grade 4 and is 175 feet by 115 feet in size. The borrow ditch on the same side of the abandoned railroad grade was excavated to extend exposure of water for cattle in the late season. This waterhole needs to be filled and recontoured to decrease evaporative loss, improve stream bank condition, decrease sedimentation, improve local water quality, and remove a livestock attractant adjacent to the stream channel.

### **Replacement Waterholes**

In order to maintain grazing in active allotments, three waterholes are needed to replace the four waterholes that are proposed to be removed as well as the water held along the borrow ditch associated with railroad 3. Two waterholes are needed in the Upper Pine Creek Valley Allotment and one waterhole

is needed in the Lower Pine Creek Valley Allotment. Waterholes are a livestock attractant and the replacement waterholes would be located away from the stream channel to improve livestock distribution and reduce stream bank instability, utilization, and bank alteration.

### **Check Dam/Splitter**

In the 1950s, a ditch, referred to as the “super ditch”, was built on the east side of Highway 44 from Pine Creek to direct all flows into a single channel to cross Highway 44 and the active railroad. In 1999 a check dam and splitter were built at the beginning of the super ditch on the west side of Highway 44 to redirect partial flows from the super ditch to one of the original channels of Pine Creek to restore the natural hydrology in this section of Pine Creek. This design was used to control the amount of water going into the original channel until riparian vegetation recovered and the functional condition of the channel could receive increased flows without negative effects. Monitoring has demonstrated that rhizomatous vegetation has recovered to approximately 50 percent aerial cover and can receive increased flows. Therefore, a new structure is needed that would divert all but flood event flows into the original channel. This would allow the restored channel to develop better channel morphology and increase water efficiency along Pine Creek because surface flows would not be spread across two areas.

### **Borrow Pits**

Additional material is needed to recontour and fill abandoned borrow ditches adjacent to railroad grades, roads, and dug-out waterholes. Approximately thirty percent of the on-site material used to create the abandoned railroad grades, roads, and waterholes has been lost through time via wind and water erosion. This material would be excavated from *two* existing and *one new* borrow areas on the forest to provide additional fill. These borrow areas would provide local soil and also would reduce the haul length and associated transportation cost to implement the proposed actions.

### **Fencing**

The restoration improvement sites are located within active allotments. Following implementation, these sites would be disturbed and bare soil would be exposed. If monitoring indicates, temporary fencing or rest would be needed to protect the disturbed areas from livestock grazing until vegetation recolonizes the area and the sites are stable.

## **Alternatives**

### **Alternative 1: Proposed Action**

#### **Railroads and Roads**

##### Railroad 1

Along the Burlington railroad (Railroad 1), an impermeable mound of rock and soil would be placed on an existing rock barrier on the northeast side of the railroad, northeast of the box culverts. The impermeable mound would prevent the diversion of water from Pine Creek into the borrow ditch, which occurs due to the streambed being higher in elevation on the downstream side of the railroad grade. Mechanical equipment would be used to transport fill and create the impermeable mound. Access to this location would be along the utility road adjacent to and east of the railroad. This would reduce evaporative losses and increase the volume of water that gets transported downstream. Because this is an active railroad, the ditch would be retained to allow for overflow during flood events.

##### Railroad 2 and 3

The abandoned railroad grades 2 and 3 would be recontoured and the associated borrow ditches filled within the floodplain of Pine Creek Valley. This would reduce flow barriers, restore natural surface water flow paths, decrease evaporative losses, and increase water storage leading to longer duration base flows. Material from the railroad grade and additional fill from the nearby borrow pits would be used. Mechanical equipment would be used to recontour the railroad grades and transport fill. UNE586 would be used by equipment to access the project areas for railroad 2 and the existing railroad grade would be used to access the project location for railroad 3. Protective cover would be placed on the disturbed area along the stream channel and bed to protect the stream channel from erosion until it stabilizes with riparian vegetation.

##### Railroad 4

Railroad 4 is located where Pine Creek Valley is narrowing and does not negatively influence hydrologic function. However, the associated borrow ditches hold water and cattle utilize these ditches as a watering hole. A section of the railroad grade on the west side of Pine Creek would be recontoured using mechanical equipment to fill the borrow ditches on both sides of the grade to prevent water from being held and used for watering by livestock. An existing access route would be used to access railroad 4 from 33N07.

##### Bogard Barn Road

Approximately 0.11 mile of the decommissioned Bogard Barn road located within the floodplain of Pine Creek would be recontoured and the adjacent borrow ditches would be filled with on-site material from the decommissioned road fill as well as additional fill. Mechanical equipment would be used to recontour

the road bed and transport fill. 31N19 would be used to access this area. Stream crossings would be recontoured to grade and the bank on the middle stream crossing would be sloped back. Trees that have grown on the elevated road bed would be removed using an excavator, so that the entire tree is removed (bole, stump, and roots), and piled in designated locations. This material would be sold, chipped, and/or burned.

#### Old 105 Road

Sections of the Old 105 road, (parallel and east of 32N28Y), totaling approximately 0.19 mile, would be ripped and recontoured to grade using mechanical equipment to improve surface and subsurface flow. Mechanical equipment would access the southern section using the Old 105 road from 32N28Y. A short access route would be used to access the northern section by crossing a sagebrush flat from 32N28Y. Protective cover would be used if needed, and/or mulch and seeded with native vegetation to stabilize the soil.

#### Old Harvey Road

Approximately 0.10 mile of the Old Harvey Valley Road crossing Burgess Meadow would be recontoured to grade with existing road fill as well as additional fill to reduce channelization and improve sub-surface flow. In the area where a seep is crossing the Old Harvey Valley Road, approximately 0.035 mile of road would be ripped to improve subsurface flow. The Old Harvey Road would be used to access this area from 33N47. Protective cover would be used if needed, and/or mulch and seeded with native vegetation to stabilize the soil.

#### Unauthorized Routes

UNE586, UNE587, UNE588, UNE034 are unauthorized routes in Pine Creek Valley totaling 1.2 miles in length. These roads would be decommissioned by ripping and/or recontouring to reduce potential sediment sources and overall road density in the Upper Pine Creek watershed.

#### **Dug-out waterholes**

##### Waterhole 1, 2, 3, and 4

The four waterholes would be filled and recontoured to match the natural channel morphology immediately upstream and downstream at each site. The on-site fill material that was removed to create the waterholes as well as additional fill would be used. Mechanical equipment would be used to recontour the waterholes and transport fill. Protective cover would be used to prevent erosion along the stream channel before vegetation stabilizes the area. Native vegetation would be seeded and mulched if the disturbed areas do not naturally re-vegetate.

An access route was designated from 31N06 along the sagebrush flat to waterhole 1. Tracked equipment would be used to recontour the existing waterhole. No additional fill is needed for this waterhole. The

same access route for railroad 2 (UNE586) and 4 would be used to access waterhole 2 and 4 respectively. Access to waterhole 3 would be 0.04 mile across a sagebrush flat from 32N28Y.

### **Replacement Waterholes**

The replacement waterholes would be developed prior to closing and restoring the dug-out waterholes. *Total size of all replacement waterholes would not exceed 1.5 acres.* In the Upper Pine Creek Allotment two water developments are needed. The replacement location for water development 1 would be located adjacent to the 21 road, and water development 2 would be located on an existing borrow ditch along 32N28Y. These borrow ditch areas would be further excavated *but each would not exceed 0.5 acres* using mechanical equipment to extend water exposure throughout the grazing season. If needed, a solar pump would be used to pump water from water development 1 to a trough to control the timing of water use to improve livestock distribution. In the Lower Pine Creek Allotment, replacement waterhole 3 would be located near 32N02 on the existing borrow ditch on the southeast side of railroad 4, 0.07 mile from waterhole 4. This borrow ditch would be excavated *but would not exceed 0.4 acres* using mechanical equipment to extend water exposure throughout the grazing season to replace waterhole 4.

### **Check Dam /Splitter**

An in-stream *impermeable* structure *made out of rock and soil* would be built to replace the *current rock* splitter at the existing location. This new structure would direct all but flood event flows into the original restored channel. The super ditch would be maintained as an overflow channel during flood events to protect the existing highway and active railroad infrastructure. *Rock and soil would be transported using mechanized equipment on the berm adjacent to the super ditch to the splitter location.*

### **Borrow Pits**

Fill would be taken from two existing borrow pits and one new borrow pit on the District. Approximately 10,000 cubic yards of fill would be excavated from the 10 Road borrow pit to provide fill for the proposed Bogard Barn Road area. Approximately 15,000 cubic yards of fill would be excavated from the Crater borrow pit to provide fill for the proposed railroad grade 2 and waterhole 2. Approximately 10,000 cubic yards of fill would be excavated from the Antelope borrow pit to provide fill for the proposed areas for waterhole 3 and 4 and the borrow ditches at Railroad 4.

*All trees occurring in the Crater borrow pit would be removed so that the entire tree (bole, stump, and roots) would be removed and piled in designated locations. This material would be sold, chipped, and/or burned.*

### **Fencing**

Treatments that occur within active allotments would be monitored to ensure that grazing does not impede recolonizing vegetation or cause damage to the restored site. If monitoring indicates that protection is needed, temporary fencing or rest would be implemented until the treatment area is stable.

## Integrated Design Features

The following are the integrated design features (IDF) that would be incorporated as part of the proposed action to minimize any possible negative effects of this proposal.

### Cultural Resources

1. All historic properties eligible or potentially eligible for listing on the National Register of Historic Places (i.e., Class I and Class II properties) within treatment areas would be protected by employing Standard Resource Protection Measures (SRPM) as defined in the Regional Programmatic Agreement and Interim Protocol. Cultural site boundaries would be flagged as non-entry zones for project activities (flag and avoid).
2. If cultural resources are encountered during project activities, all work would immediately stop in the vicinity of the find until an assessment of the situation is made.
3. To avoid any subsurface disturbance, no decommissioning of roads via ripping is allowed through sites; ripping is allowed on road segments not within sites. Decommissioning of roads could also be achieved through placement of barriers, as long as they are not ground disturbing and outside site boundaries.
4. *Waterholes would be located outside of historic properties.*
5. *If fencing is needed, it would be located outside of historic properties.*

### Noxious Weeds

6. All off-road equipment would be weed-free prior to entering the Forest. Staging of equipment would be done in weed-free areas.
7. Known noxious weed infestations would be identified, flagged where possible, and mapped for this project. Identified noxious weed sites within or adjacent to the project area containing isolated patches with small plant numbers would be treated (hand pulled or dug) prior to project implementation. Any larger or unpullable infestations would be avoided by equipment to prevent spreading weeds within the project.
8. New small infestations identified during project implementation would be evaluated and treated according to the species present and project constraints and avoided by project activities. If larger infestations were identified after implementation, they would be isolated and avoided by equipment, or equipment used would be washed after leaving the infested area and before entering an uninfested area.
9. Post-project monitoring for implementation and effectiveness of weed treatments and control of new infestations would be conducted as soon as possible and for a period of two years after completion of the project.

10. *If project implementation calls for mulches or fill, the source site would be surveyed beforehand and the material used only if it is determined to be weed-free. Seed mixes used for revegetation of disturbed sites would consist of locally adapted native plant materials to the extent practicable.*

### **Riparian Conservation Areas and Water Quality Protection Measures**

11. *In-channel work will occur during the dry summer-early fall time period when most streams have ceased flowing, with the possible exception of Pine Creek at the Bogard Barn Road site, which may still be flowing when construction is scheduled to take place. If needed, this stream will be diverted for a section of approximately 150 feet within the restoration site only while work is taking place. Cofferdams, pipes, and pumps would be used to temporarily divert water around the site until work has been completed. Seep water will be pumped out and redistributed through a sprinkler system in a nearby appropriate area away from stream channels to prevent discharge of wastewater into creek. Diversions will be removed following completion of construction activities. Disturbed areas will be pre-wet, and during removal of the cofferdams, flows will be restored to the natural stream course gradually to minimize turbidity and prevent discharge of construction-related sediments.*
12. *If diversion and dewatering are needed, native fish would be captured and relocated to suitable perennial habitat in Pine Creek. These actions would be coordinated between the Forest Service and the California Department of Fish and Wildlife.*
13. *If diversion and dewatering are needed, no in-channel work would be implemented if redds are present from the active railroad grade and upstream of the Bogard Barn until fry fully emerge or failure of redds is confirmed.*
14. *Soils will be dry at the 12-in. (15-bars of tension) depth along the temporary access routes that are not restoration project sites.*
15. *Equipment will cross stream channels when the streams are dry and at designated locations.*
16. *After work is completed, bare, recently-disturbed soils will be covered with coconut coir mats, weed-free straw or similar appropriate material to provide ground cover while vegetation is re-establishing.*
17. *Where available and feasible, sedge plugs or mats from existing on-site vegetation will be planted to facilitate recovery.*
18. *If banks need additional stabilization, rock armoring would be used for the sides and bottom of channels where in-channel waterholes are recontoured to prevent erosion. Rock materials will be sized to match substrate of morphologically similar channel segments above and below recontouring sites.*
19. *Where fill is needed, imported fill would be used as the base fill and top soil that was conserved during construction would be applied on top.*

### **Threatened, Endangered, or Sensitive (TES) Plant Species**

20. New occurrences of TES plant species discovered before or during ground-disturbing activities would be protected through flag-and-avoid methods.
21. Decommissioning of roads would avoid *all* occurrences of *Astragalus pulsiferae* var. *suksdorfii* to the extent practicable
22. No staging, parking, or blading will be done within any occurrence of *Astragalus pulsiferae* var. *suksdorfii*, nor will any fill be deposited in any of these occurrences.

### **Fuels**

23. *Non-merchantable trees that occur on restoration sites, associated borrow ditches, and access routes would be removed and material would be lopped and scattered.*
24. *Fire lines would be constructed for pile burning operations, except where existing roads, skid trails, or natural barriers would serve as control lines.*

## **Alternative 2: No Action**

Under the No Action alternative, the current LRMP, as amended, would continue to guide management within the project area. No actions would be initiated for improved watershed function and existing unauthorized routes and abandoned railroad grades would remain on the landscape. Existing dugout waterholes would remain in-stream. Current management practices such as road maintenance and fire suppression would continue.

## **Public Involvement**

The following list outlines the public involvement process for the Pine Creek Restoration Project:

- *The proposed actions were discussed and select sites visited with the Pine Creek Coordinated Resources Management Group, U.S. Fish and Wildlife Service, and members of the public on September 12, 2012.*
- The project has been listed in the Lassen National Forest Schedule of Proposed Actions (SOPA) since July 1, 2013.
- The project proposal was discussed with the Pine Creek Coordinated Resources Management Group on September 9, 2013.
- The project proposal was discussed with the range permittees from the area in November 2013.
- The project proposal was discussed with the Lahontan Water Quality Control Board in January 2014.

## **Scoping**

Scoping for this project was initiated on November 1, 2013. Individuals and groups that expressed interest in response to the SOPA were mailed a copy of the scoping document for this project. One individual/organization responded in writing. There were no issues or alternatives suggested from the public.

## **Decision to be Made**

The decision to be made is whether to implement Alternative 1, the Proposed Action, as described above, as modified to address any public comment issues or whether to continue management with Alternative 2, the No Action Alternative.

## Environmental Consequences

This section describes the environmental impacts of the alternatives in relation to whether there may be significant environmental effects as described in 40 CFR 1508.27. The following documents are summarized in this EA and are available upon request and are hereby incorporated by reference into this assessment:

- Management Indicator Species Report, Pine Creek Restoration Project; Rickman and Vandersall, (MIS Report)
- Biological Evaluation for the Pine Creek Restoration Project; Rickman (Terrestrial) and Vandersall (Aquatic), (BE)
- Pine Creek Restoration Project, Range Report; Pasero, (Range Report)
- Biological Evaluation and Assessment for R5 Forest Service Sensitive and Federally Listed Plant Species, Pine Creek Restoration Project; Lepley and Sanger, (Botany BE/BA)
- Pine Creek Restoration Project, Hydrology and Soils Report; Blaschak, (Hydrology Report)
- Cultural Resources Report, Pine Creek Restoration Project; Gudiño, (Cultural Report)
- Pine Creek Restoration Project, Transportation Report; Nagel, (Transportation Report)
- Noxious Weed Risk Assessment; Lepley and Sanger, (Noxious Weed Risk Assessment)
- Pine Creek Restoration Project, Fuels; Chuck Lewis (Letter to the file)
- Pine Creek Restoration Project, Recreation; KC Pasero (Letter to the file)

Further analysis and conclusions about the potential effects are available in the above reports and other supporting documentation located in the project record. The following sections are discussions of resources that have relevance to a determination of significance. The cumulative effects boundary for was defined by each resource.

## Hydrology and Soils

### Alternative 1

#### Direct and Indirect Effects

The watershed improvements proposed under this alternative are in or near seasonal streams, meadows, or wet meadows and would require ground disturbing activities. The proposed action includes decommissioning and recontouring four waterholes in Pine Creek Valley, developing three off-channel livestock water sources, developing a new borrow pit, ripping and recontouring 1.2 miles of unauthorized routes, ripping and/or recontouring 1 mile total of previously decommissioned roads and abandoned railroad grades, and blocking borrow ditches adjacent to Pine Creek. A direct effect of these proposed activities would be a potential short-term increase in sedimentation for work done within or immediately adjacent to intermittent channels. This work would be done when most streams are not flowing, though

depending on the water year some base flows in Pine Creek may reach the Bogard Barn Road, and a short section of stream within the work site would be dewatered if this is the case. The proposed action includes activities that would reduce soil cover in some areas, most notably where recontouring of waterholes, abandoned railroads, and unauthorized transportation routes occur. These cover impacts would generally be short-term as soil cover is replenished by low-growing plants, and long-term cover would improve with reduced concentration of cattle in riparian areas. Project Integrated Design Features (IDFs) would ensure that adequate cover and other erosion prevention measures are in place. Sedimentation risk would be limited to the first spring runoff following implementation. With the implementation of Best Management Practices (BMPs) and IDFs, as listed in the Hydrology and Soils Report (project record), Alternative 1 should have no detectable adverse effect on water quality, and exposed soils would be protected. Water quality in Pine Creek would also improve over the long term by relocating watering holes off of streams, thus improving livestock distribution. This would reduce chronic sediment, nutrient, and pathogen sources that result from concentrated grazing in riparian areas. Slightly reducing road density by ripping and recontouring non-system, previously decommissioned routes and railroad grades would remove additional non-point sediment sources.

The proposed restoration actions would improve channel morphology and bank stability at project sites. Removal of in-channel waterholes and re-location of water sources would disperse livestock away from channels to allow for vegetative recovery and reduce trampling, thereby improving bank stability. Floodplain function would improve through the recontouring of old roads and railroad grades with elevated beds that impede meandering and constrict flows.

Alternative 1 proposes the establishment of a new borrow pit for an economical and local source of fill material for restoration projects. This action would remove up to 2.5 acres of productive soil for an extended period of time. This loss of acreage is more than offset by the decommissioning of 2.2 miles (approximately 7 acres) of unauthorized routes and abandoned railroad grades and would result in a long-term net gain in soil productivity. The borrow pit would be located on an upland sagebrush flat away from stream channels and outside of Riparian Conservation Areas (RCAs), and BMPs would be in place to ensure adequate protection of streams and riparian areas.

There would be local long-term beneficial effects to hydrologic and soils resources with regard to improved soil moisture, improved long-term ground cover, reduced stream flow diversions, and enhanced riparian meadows in portions of Burgess Meadow and Pine Creek Valley by blocking borrow ditches and the splitter structure on the mainstem of Pine Creek.

### **Cumulative Effects**

The boundary used to determine cumulative effects was the Bogard Flat 7<sup>th</sup> field subwatershed. This alternative would treat a very small percentage of the subwatershed (less than 1 percent). The project area encompasses both the Bogard Flat and Burgess subwatersheds, but because of the limited proposed activity taking place in the Burgess subwatershed (3.3 acres total), the cumulative effects analysis area for both alternatives is constrained to Bogard Flat, where the majority of actions would take place.

Cumulative effects are the direct and indirect effects that result from the proposed action or alternatives when added to other past, ongoing, and reasonable foreseeable future actions in the project subwatershed. Other previous activities include grazing, several past watershed improvement activities, limited timber harvest, road and railroad construction. The actions proposed under this alternative are very small relative to the subwatershed. Thus, the cumulative watershed effects resulting from those activities would be negligible. However, the proposed restoration activities would trend watershed conditions toward improved hydrologic functions, including more natural flow paths, increased connectivity, better water quality, and meadow function.

## **Alternative 2**

### **Direct and Indirect Effects**

Under this alternative, only ongoing and foreseeable future management activities would take place within the subwatersheds, including grazing at waterhole sites. There would be no watershed improvements implemented under this alternative, thus there would be no ground disturbing activities in RCAs or the associated risk of short-term sedimentation. There would be no long-term beneficial effects to hydrologic or soils resources associated with the watershed improvements and route decommissioning. There would be no long term improvement in soil moisture or cover in riparian areas. Areas identified in need of watershed improvement would continue to concentrate or impede hydrologic flow patterns.

### **Cumulative Effects**

There would be no beneficial cumulative effects from meadow enhancements, water impoundment removal, or road decommissions that would help improve hydrologic functions through restoration, better infiltration, and decreased runoff and sedimentation from roads. Negative cumulative effects from concentrated grazing in streamside riparian areas would continue, including chronic sedimentation and bank instability. Railroad grades and road beds that constrict Pine Creek and divert flows into borrow ditches would remain on the landscape, as would non-system routes that contribute to road density and sediment sources. There would be no facilitated trends toward improving hydrologic flow paths, connectivity, or meadow functions to trend the subwatershed towards improved water and soil quality.

## **Air Quality**

### **Alternative 1**

#### **Direct, Indirect and Cumulative Effects**

Burning the slash from tree removal sites has the potential to impact air quality. In accordance with Title 17 of the California Code of Regulations, a smoke management plan would be required and would be submitted and approved by the Lassen County Air Pollution Control District (LCAPCD) prior to any prescribed fire ignitions that are part of Alternative 1. Adherence to the smoke management plan (SMP) for pile burning would decrease the chance of negative impacts to communities and other smoke sensitive areas. It would also help to ensure that emissions from pile burning would not violate the National

Ambient Air Quality (NAAQ) emission standards. Burning only occurs when atmospheric conditions are conducive to good smoke dispersion and that the cumulative effects of all prescribed burning remain at levels that are within the provisions of the Clean Air Act. Fugitive dust from operations would be mitigated by standard contract requirements for road watering or other dust abatement techniques.

## **Alternative 2**

### **Direct, Indirect and Cumulative Effects**

Alternative 2 would create no short-term impacts from smoke to the local areas because pile burning would not be needed.

## **Management Indicator Species (MIS), Terrestrial and Aquatic**

The Pacific tree frog is the only MIS whose habitat would be either directly or indirectly affected by the Pine Creek Restoration Project.

The Pacific tree frog (now known as the Pacific chorus frog) was selected as an MIS for wet meadow habitat in the Sierra Nevada. Analysis for this species focuses on four habitat factors that affect wet meadows: (1) Acres of wet meadow habitat, (2) Acres with changes in California Wildlife Habitat Relationships (CWHR) herbaceous height classes, (3) Acres with changes in CWHR herbaceous ground cover classes and (4) Changes in meadow hydrology.

## **Alternative 1**

### **Direct, Indirect and Cumulative Effects**

There would be no change to CWHR height class on the approximately 950 acres of wet meadow in the Pine Creek Restoration Project. For Alternative 1, there are negligible short-term reductions in cover class on approximately 10 acres from project activities with a possible long term improvement of cover class in up to 1.5 acres. Contouring of waterholes and abandoned railroad grades could add approximately .6 acres of wet-meadow, offset by up to .25 acres loss on marginal wet meadows. There are potential long term benefits in hydrology to approximately 148 acres of wet meadows from road, railroad and waterhole recontouring and decommissioning. Considering the approximately 61,000 acres of wet meadow on USFS lands and small changes to habitat factors on limited acres, Alternative 1 would not alter the existing trend in the habitat, nor will it lead to a change in the distribution of Pacific tree frogs across the Sierra Nevada bioregion.

## **Alternative 2**

### **Direct, Indirect and Cumulative Effects**

Due to a lack of direct effects to habitat factors of analysis for the MIS habitats and species analyzed for this project, Alternative 2 would continue long-term trends within the project area, and would not alter the existing trend in the analyzed habitats nor would it lead to a change in the distribution across the Sierra Nevada bioregion for Pacific tree frog.

## **Threatened, Endangered, and Sensitive (TES) Wildlife Species, Terrestrial and Aquatic**

### **Alternative 1**

Due to the project area being outside the range of the species, or due to the lack of suitable habitat or habitat components in the project area, it was determined the action alternatives would have no effect on the following Federally Listed threatened or endangered species or their critical habitat: gray wolf, northern spotted owl, valley elderberry beetle, Central Valley steelhead DPS, Central Valley chinook salmon ESU, Delta smelt, winter-run chinook salmon ESU, California red-legged frog, Shasta crayfish, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and giant garter snake.

Due to the project area being outside the range of the species, or due to the lack of suitable habitat or habitat components in the project area, it was determined that Alternative 1 would have no effect on the following Forest Service Sensitive species: Northern bald eagle, California wolverine, American marten, Pacific fisher, Sierra Nevada red fox, Townsend's big-eared bat, pallid bat, fringed myotis, great gray owl, willow flycatcher, greater sandhill crane, yellow rail, northern goshawk, California spotted owl, Shasta hesperian snail, western bumblebee, foothill yellow-legged frog, Sierra Nevada yellow-legged frog, Cascade frog, northwestern pond turtle, California floater, Great Basin rams-horn, scalloped juga, topaz juga, montane peaclam, nugget pebblesnail, black juga, kneecap lanx, Goose Lake redband trout, hardhead, and Pacific lamprey. Sensitive species analyzed in detail for the Pine Creek was Eagle Lake rainbow trout. A summary of the analysis of effects of the project for this species is given below:

### **Direct, Indirect and Cumulative Effects - Eagle Lake Rainbow Trout**

Pine Creek provides primarily migration habitat necessary for ELRT. The potential direct effects to ELRT are negligible due to implementation of project integrated design features. Small long-term benefits to ELRT migratory habitat are expected from Alternative 1.

Increased sediment production reaching Pine Creek would be limited and short-term with the implementation of project integrated design features (which include BMPs) within the RCAs, the flat topography of Pine Creek in the area, and the small area treated within the Pine Creek watershed compared to subwatershed size. The potential sedimentation risk from this project would not increase the cumulative risk from sedimentation to Pine Creek. There is also a low chance of long-term benefits to the sediment balance in Pine Creek as a result of railroad road and waterhole recontouring. This potential project effect is expected to contribute to the decreased cumulative risk from sedimentation to Pine Creek in the long term. There is a moderately-low chance for increased habitat connectivity as a result of this project. Both the recontouring of transportation routes and the barrier reinforcements are designed to allow Pine Creek to more naturally flow through Pine Creek Valley. These actions could alleviate pinch points for flow which could decrease bottlenecks for fish passage under higher flow conditions. When combined with past restoration projects alternative one would contribute to the overall increased habitat connectivity.

**Determination:** Implementation of Alternative 1 may affect individuals of Eagle Lake rainbow trout, but were not likely to result in a trend towards federal listing or loss of species viability.

## **Alternative 2**

### **Direct, Indirect and Cumulative Effects**

Current trends would continue under Alternative 2. No projects would be implemented and habitat improvements would not occur and Eagle Lake rainbow trout would not benefit from this alternative.

Analyses of direct, indirect, and cumulative effects indicated that Alternative 2 of the Pine Creek Restoration Project would have no effect on Eagle Lake rainbow trout.

## **Range**

### **Alternative 1**

#### **Direct**

Due to the small acreage of the proposed action in relation to the large areas encompassed by the three allotments in which activities would occur under Alternative 1, implementation of the proposed action would have no direct effects to the rangeland resource or livestock management.

#### **Indirect**

There would be indirect effects of implementing the proposed action to both the rangeland resource and livestock management. Removal of the man-made barriers to the natural flow patterns of Pine Creek would improve species composition and condition of riparian and meadow vegetation and improve soil moisture retention. Removal of in-stream dug-out waterholes and construction of replacement water sources would encourage more grazing of upland vegetation away from riparian areas, making better use of the rangeland resource overall and distributing livestock across more of the rangeland.

#### **Cumulative Effects**

Long-term cumulative effects would be the benefit from the naturally functioning flows of Pine Creek, including better hydrologic condition of the creek system, improved riparian vegetation adjacent to the stream channels as well as associated meadow vegetation, and better distribution of livestock grazing throughout the riparian and meadow areas as well as the upland rangelands.

### **Alternative 2**

#### **Direct, Indirect and Cumulative Effects**

There would be no direct, indirect or cumulative effects to the rangeland resource by the No Action alternative. Livestock operations would continue as described in the respective environmental documents and current Term Grazing Permits.

The implementation of Alternative 2 would not change current conditions of the rangeland resource or livestock management. There would be the lost opportunity to begin riparian and watershed improvements that could have long-term benefits to the watershed, riparian and rangeland conditions associated with Pine Creek Valley.

## **Silviculture**

Silviculture resources in the context of this report refer to the coniferous tree component on the landscape. Because of the limited extent in which silviculture resources are affected, this analysis does not examine the social and economic environments.

### **Alternative 1**

#### **Direct Effects**

Direct effects are limited to the removal of trees in and around restoration sites. All but two sites have scattered non-merchantable incidental trees that would also be removed from existing borrow pit sites, Railroad 2, and access roads. The material from these trees would be lopped and scattered. Bogard Barn road and the Crater borrow pit have the highest density of trees. Trees occurring on the elevated road bed on the Bogard Barn Road and the Crater borrow pit would be removed, bole, stump and roots and piled in designated locations. In total 77 trees would be removed from the Bogard Barn Road with 39 trees over 10" dbh. 463 trees would be removed from the Crater borrow pit location with 142 trees over 10" dbh. Tree removal does include trees as great as 24" DBH. Some resulting root wads may be utilized as a source of fill in the recontouring activities.

#### **Indirect Effects**

Proposed treatments could enhance silviculture resource values indirectly. The combined activities of recontouring railroads, roads, and waterholes would improve soil moisture availability that would indirectly have a positive effect on tree growth and vigor on adjacent forested lands.

#### **Cumulative Effects**

The cumulative effects analysis boundary for silviculture resources is within the scope of the treatment areas since the existing vegetative conditions in these areas are the result of past management activities of railroad, road, and borrow ditch construction in and around wetlands, stream corridors, lakes, seeps, springs, and wet meadows. These disturbances in the project areas led to the currently existing conifer component. The cumulative effects analysis for silviculture resources considers impacts of the alternatives when combined with the past, present, and foreseeable future actions and events. A temporal scope was also selected in determining cumulative effects, because impacts to the currently existing silviculture resources in these areas can accumulate over time from different activities or events.

The proposed action would benefit the silviculture resource by reversing the negative impact from past practices. The proposed watershed improvement activities would restore ecosystem functions and services on the landscape, including adjacent forested lands.

## Alternative 2

### Direct and Indirect Effects

No adverse or beneficial effects from project related activities would occur to silviculture resources as a result of implementing this alternative. Under the No Action alternative, actions related to silviculture resources within the Pine Creek Restoration Project that would restore ecosystem functions and services on the landscape, including adjacent forested lands, would not occur.

### Cumulative Effects

Without management intervention, there is concern that damage created from past construction projects could continue to degrade the watersheds and the associated ecosystems. The conifers would continue to establish and grow, worsening the impact on the watershed.

## Threatened, Endangered, and Sensitive (TES) Plant Species

### Alternative 1

There are currently three occurrences of the TES species *Astragalus pulsiferae* var. *suksdorfii* known from the Pine Creek project area. Occurrence #1A is a substantial area between Railroad 2 and the southern foot of Crater Mt., and #1B is a small patch on the south side of Road 32N07, about 500 yards east of #1A. Occurrence #14A is three patches of plants south of Railroad 2 and Waterhole 2—the two closest patches are about 300 yards from the waterhole. (Occurrence #1 is north of Pine Creek, and Occurrence #14 is south of Pine Creek.) Occurrence #16 is in two patches between 100 and 350 yards south of Waterhole 1.

Also occurring within the area are three plant species listed as noxious weeds by the California Department of Food and Agriculture (CDFA). Diffuse knapweed (*Centaurea diffusa*) is a CDFA A-listed species with high priority for treatment, and dyer's woad (*Isatis tinctoria*) and perennial pepperweed (*Lepidium latifolium*) are both B-listed species with moderate priority for treatment. See the Pine Creek project Noxious Weed Risk Assessment for detailed information on weed locations and implications of the project for noxious weed risk.

### Direct Effects

Direct effects involve physical damage to plants or their habitat, including the crushing, breaking, or removal of individual plants and the disturbance or compaction of the soil around plants. Such damage can not only kill plants but remove their capacity to contribute to the resident seed bank. Implementation of the Pine Creek project may have some effects on *Astragalus pulsiferae* var. *suksdorfii* Occurrence #1A, near Railroad 2. The portion of the railroad grade to be removed lies southeast of the occurrence and so would have no effect on the plants, but the movement of equipment to the grade removal area (as well as Waterhole 2 just beyond it) and the decommissioning of three nearby unauthorized routes may kill or damage some plants. Occurrence #1B lies near one of these routes but on the opposite side of Road 32N07; therefore, it is unlikely to be affected. However, considerable portions of the other two routes to

be decommissioned intersect Occurrence #1A. The occurrence is flagged, and Integrated Design Features for the project call for avoidance of the occurrence to the extent practicable and for no staging, parking, blading, or filling to occur within the occurrence. Damage to *Astragalus pulsiferae* plants, if any, should therefore be very limited. Moreover, the occurrence is large both in area (about 12 acres) and plant numbers, and the prime habitat is in the open flat away from the routes. Part of Occurrence #14A also lies near Railroad 2/Waterhole 2, but is well south of Pine Creek and out of reach of direct effects from project activities.

Direct effects may also occur to Occurrence #16, which is located a short way south of Waterhole 1. As with Occurrence #1A, the waterhole work itself will have no effect on the *Astragalus pulsiferae* occurrence, but access to the waterhole will be through or very near part of the occurrence. Access will simply involve tracked equipment driving to and from the waterhole that is to be recontoured. The occurrence will be flagged for avoidance. If there are undiscovered outlier plants, they may be damaged by passage of the tracked equipment, but effects, if any, should be minimal and incidental.

Additional suitable habitat for *Astragalus pulsiferae* var. *suksdorfii* probably exists in the vicinity of proposed work areas for the Pine Creek project. There is considerable likelihood that more occurrences will be found in Pine Creek Valley at large, but all of the Pine Creek project areas were intensively surveyed and no additional *A. pulsiferae* occurrences were found.

In summary, any direct effects on *Astragalus pulsiferae* var. *suksdorfii* with implementation of the Pine Creek project would be minimal and well within the management guidelines, which permit disturbance to 50 percent of plants in occurrences greater than one acre.

### **Indirect Effects**

There may be indirect effects to all three occurrences of *Astragalus pulsiferae* var. *suksdorfii* from the Pine Creek project. Indirect effects primarily relate to changes in a species' habitat, such as changes in vegetation structure or an increased risk of noxious weed invasion. Indirect effects can be beneficial, neutral, or harmful.

The recontouring of railroad grades and waterholes under the Pine Creek project is intended to better retain high water flows and distribute water and sediments across the valley floor more naturally. The restoration of more natural water and sedimentation regimes in the valley may alter hydrologic conditions within *A. pulsiferae* habitat at all three of the occurrences in the project area. The occurrence locations, however, are outside of the valley's central drainage corridor. The occurrences likely pre-existed roads, railroads, and waterholes, and the species is probably well adapted to the naturally fluctuating hydrologic conditions in the valley. Changes in the structure of *A. pulsiferae* habitat are more likely to result from the decommissioning of unauthorized routes. If anything, soil conditions in the beds of these routes would likely show less compaction after project implementation and would gradually approach the soil condition of adjacent habitats, therefore offering more habitat for *A. pulsiferae* to occupy.

Another indirect effect of the proposed action is a potential increase in noxious weeds or other undesirable non-native species as a result of project activities. At this time there are no known occurrences of noxious weeds that are near known *Astragalus pulsiferae* occurrences within the Pine Creek project area. Along Highway 44, there are occurrences of *Centaurea diffusa* (diffuse knapweed) and *Isatis tinctoria* (dyer's woad) between the Bogard Barn area and Waterhole #1. However, weeds have not been seen along this part of the highway since 2006, and the occurrences are likely extirpated. The Pine Creek Noxious Weed Risk Assessment completed for this project determined an overall low to moderate risk of potential weed spread with the implementation of the proposed action. The standard practices of equipment cleaning and other Integrated Design Features greatly reduce the potential for project-related noxious weed spread. As there are no occurrences near *Astragalus pulsiferae* var. *suksdorfii* in the project area, the risk of noxious weed impacts to the species is low.

### **Cumulative Effects**

The project area was chosen as the cumulative effects analysis area for *Astragalus pulsiferae* var. *suksdorfii* because the historical range and specific habitat requirements are unknown for this species, and it is assumed that if the Pine Creek project would not affect the viability of the species within the project area, it would not affect the viability outside of the project area.

Vegetation management, livestock grazing, and road maintenance are activities that could affect *Astragalus pulsiferae* var. *suksdorfii* in the project area and add cumulatively to the effects of the project itself. Vegetation management projects on the Eagle Lake Ranger District have been surveyed to similar standards as the Pine Creek Restoration project, and known occurrences of Sensitive plant species for which viability was a concern have either been avoided by project activities or protected by Integrated Design Features that minimized impacts. Livestock grazing within the Upper Pine Creek Allotment could affect individuals of *Astragalus pulsiferae* var. *suksdorfii*, but substantial livestock usage has not been reported at the *A. pulsiferae* sites, except perhaps where Occurrence #1A straddles Road 32N07. Due to the small stature of the plants and the sparse vegetative cover in their dry habitat, cattle likely do not graze them much or spend much time in their habitat. Road maintenance activities could also have some effects on occurrences that, like Occurrence #1A in the Pine Creek project, approach or straddle roadways. The core of Occurrence #1A is well away from the road it straddles; that said, the fact that *A. pulsiferae* can be found in old landings, skid trails, and system roads speaks to its preference for low-competition, open habitats and its capability to withstand a moderate amount of disturbance. Woodcutting and hunting or other recreational activities may affect *A. pulsiferae* plants by trampling but only to a very limited and incidental degree.

There are therefore few impacts that would add cumulatively to impacts from the proposed action. Occurrence #16 has by estimate only about 180 plants, but they are well scattered and the site is remote and unforested—appreciable impacts here from the proposed action or other activities are unlikely. The situation at Occurrences #14A is very similar. Occurrence #1A is perhaps more vulnerable, but it covers a large area and supports many thousands of individual plants. Furthermore, *A. pulsiferae* var. *suksdorfii*

has been known to colonize disturbed soils at landings and along skid trails and to resprout from subsurface root crowns following low-intensity burns. Overall, any effects from the implementation of the proposed action, including cumulative effects, would be well within the current management guidelines for this species, which specify that 50 percent of any occurrence larger than one acre may be disturbed by project activities.

**Determination:** Implementation of the Proposed Action may have some effects on three occurrences of *Astragalus pulsiferae* var. *suksdorfii* in upper Pine Creek Valley. Movement of heavy vehicles to project area sites and along Forest Service roads may harm some individual *A. pulsiferae* plants, but the effects would be very limited and incidental. The decommissioning of unauthorized routes in one of the occurrences may also harm some plants but would ultimately create added or improved habitat for the species. Therefore, it was determined that the implementation of the Proposed Action of the Pine Creek Restoration Project may affect some individuals or habitat of *Astragalus pulsiferae* var. *suksdorfii* but would not likely result in a trend toward federal listing of the species as Threatened or Endangered or in a loss of viability for the species.

## **Alternative 2**

### **Direct Effects**

There would be no direct effects on *Astragalus pulsiferae* var. *suksdorfii* from the No Action alternative other than those associated with current ongoing actions.

### **Indirect Effects**

Indirect effects of the No Action alternative on *Astragalus pulsiferae* var. *suksdorfii* would be those associated with potential livestock travel to the waterholes near the three *A. pulsiferae* var. *suksdorfii* occurrences, if the waterholes continue to exist and attract concentrated use by cattle. Cattle passing through the occurrences could trample some plants or even graze a few, but little or no usage of the occurrences by cattle has been observed. Therefore, the No Action alternative would be less favorable for *Astragalus pulsiferae* than the Proposed Action, but the difference is likely to be only minor.

### **Cumulative Effects**

Cumulative effects from past, ongoing, and foreseeable future actions would be the same as those addressed under Alternative 1.

## **Cultural Resources**

### **Alternative 1**

#### **Direct Effects**

Ground-disturbing activities associated with this alternative have the potential to disturb or destroy cultural resources. Proposed treatments such as road/railroad grade recontouring, filling of borrow ditches, decommissioning of unauthorized routes via ripping and or recontouring, filling and recontouring dugout waterholes and borrow pits, may damage or destroy historic and prehistoric archaeological sites. Increased traffic, use, and maintenance of roads could possibly affect cultural resources that are bisected by roads.

Standard Resource Protection Measures (SRPM) as defined in the Regional Programmatic Agreement and Interim Protocol would be employed as integrated design features and applied to all cultural resources within the area of potential effects (APE).

Out of the seven identified properties within the Pine Creek Restoration Project Area boundary, two historic properties are directly within proposed treatment areas; some sites are located in more than one treatment area. One site is located in an area proposed for recontouring of a railroad grade, filling of borrow ditches, filling and recontouring of a waterhole and placement of a new waterhole.

The railroad grades in Pine Creek Valley were associated with the Red River Lumber Company and Fruit Growers Supply Company. The railroad grades were determined not eligible for inclusion on the National Register of Historic Places (SHPO 1998). Thus the railroad grades are no longer managed and protected from project activities. The borrow ditches associated with the railroad grades are also no longer managed nor protected from project activities. The waterhole was placed in recent times and does not contribute to the historic integrity of the site. The placement of new waterhole has the potential to have an adverse impact to the site.

In order to avoid adverse impacts to the site, all work should be primarily contained to the railroad grades, borrow ditches, waterhole, and identified access routes. If heavy machinery is needed to implement restoration treatments through the site, access may be granted by an archaeologist through areas free of cultural resources and if ground disturbance is kept to a minimum. Eliminating railroad grades could also reduce the probability of off-highway vehicle (OHV) travel on them and consequently through the site. The removal of the waterhole could be beneficial to the site since cattle would no longer walk through the site to access it. Fewer cattle on the site would decrease the potential for trampling, cattle trails and wallowing. Before the location for a new waterhole is finalized, it must be first approved that it is located outside of a historic property and in an area that would not attract or at the least minimize cattle through a site.

A second site is bisected by a road proposed for recontouring and returning to grade. In order to avoid any adverse impacts to the site, no recontouring will take place in the section of the road that bisects the site. Recontouring the road leading up to the site could have a beneficial impact to the site in the long run.

While the road is currently not a forest system road, it can still potentially be accessed by off highway vehicles. Recontouring the road will decrease the probability of OHV impacts to the site.

Four sites are located within 100 meters of waterholes proposed for filling and recontouring. Even though the waterholes are not located in the sites, the sites could potentially be adversely impacted if equipment is driven through the site. The equipment must travel around the site or stay on Forest Systems roads to reach the waterholes. Eliminating the waterholes would have a beneficial impact to the site since cattle would no longer go through the site to access the waterhole.

One site is located just outside of an area proposed for road recontouring and filling of borrow ditches. The equipment must travel around the site or stay on Forest Systems roads to reach the road and borrow ditches to avoid adverse equipment impact to the site.

**Determination:** Provided integrated design features are employed for archaeological sites and features, there would be no adverse effects to cultural resources resulting from proposed treatments within the project area.

### **Indirect Effects**

Some of the treatments could enhance cultural resource values, even if they do not directly affect the landscape within the site boundary. Removal of waterholes in areas of historic logging camps and other associated historic logging features could enhance the historic character of the resource by restoring its original landscape context. Proposed treatments adjacent to prehistoric sites would enhance cultural resource values and the prehistoric context of these resources.

### **Cumulative Effects**

The cumulative effects analysis boundary for cultural resources is the treatment areas with a 100 meter buffer around them. The geographic scope of the cumulative effects analysis boundary was selected because impacts to cultural resources accumulate at the specific location of cultural resources, irrespective of actions in surrounding areas. Archaeological sites are stationary resources, which are protected from all project (current or future) related activities until eligibility to the National Register of Historic Places has been determined. Generally, archaeological sites are not influenced by actions taken outside their boundary since this is addressed and mitigated during project planning and integrated design features. A temporal scope was also selected in determining cumulative effects, because impacts to cultural resources at a given location can accumulate over time from different activities or events.

The cumulative effects analysis for cultural resources considers impacts of the alternatives when combined with the past, present, and foreseeable future actions and events prior to the 1974 Forest and Rangeland Renewable Resources Planning Act and the archaeological protection laws of the mid 1970s, effects to cultural resources were not considered during project planning or implementation.

Consequently, cumulative impacts of varying degrees occurred within the project area from various land management activities including primarily logging, road construction, and grazing. Natural environmental processes and unrestricted land uses have also contributed to effects to cultural resources within the Pine

Creek Restoration Project Area. These include: dispersed recreation, OHV uses, user created roads and trails, wildfires, erosion, and exposure to the elements.

Activities associated with this alternative would comply with the National Historic Preservation Act (NHPA) of 1966, as amended and implementing regulations 36 CFR 800. Tribal communities would continue to be consulted for any concerns regarding this project. Protection of cultural resources would also comply with the Regional Programmatic Agreement as referenced above. SRPM as outlined in the Regional PA would be followed throughout the duration of project activities. Provided that SRPMs are applied, all project impacts would avoid historic properties. Following such protective measures, no adverse effects to the known sites are anticipated.

**Determination:** The proposed action would reduce the risk of impacts to cultural resources by reducing the risk of impacts by cattle and OHV use on the sites. The alternative should, therefore, have an overall beneficial effect to cultural resources.

## **Alternative 2**

### **Direct and Indirect Effects**

No adverse effects from project related activities would occur to cultural resource sites as a result of implementing this alternative. The risk of potential damage from cattle or OHV use on fragile cultural resources is greater should the “No Action” alternative be selected due to roads, borrow pits and waterholes staying in place. Effects to known cultural resources could potentially occur from cattle and OHV use. Under the “No Action” alternative, cultural resources within the Pine Creek Restoration Project Area would most likely suffer from neglect and natural deterioration resulting in potential loss of valuable data. This option would not provide opportunities for study and interpretation.

### **Cumulative Effects**

Without management intervention there is a concern that damage from cattle and OHV use could occur. Cultural resources within the Pine Creek Restoration Project Area have features, structures, artifacts that could be damaged or destroyed by cattle or OHV use. The effects of cattle on the sites could result in trampling, wallowing, and destroying individual artifacts and partial or complete destruction of features. The effects of OHV use could result in user created roads on the site and lead to destroying individual artifacts and partial or complete destruction of features.

## **Transportation**

### **Alternative 1**

#### **Direct Effects**

The goal of transportation management is to provide a safe and efficient transportation system. There are no direct effects to the system from this action as all roads proposed for decommissioning are not considered part of the system. In the short term there would be a direct effect of increasing traffic due to

the movement of equipment, materials and personnel into and out of the project area. Increasing traffic can impact the safety of the public and employees using the roads in the area. Traffic management measures would minimize these impacts. With the use of standard safety provisions for traffic control, effects would be negligible.

### **Indirect Effects**

Indirectly, progress would be made in effectively managing the Forest Transportation System. There would be a decision on unauthorized routes that exist within the project area that are currently prohibited from wheeled motor-vehicle use.

### **Cumulative Effects**

Cumulatively, road density would be reduced with the decommissioning of the unauthorized routes. Recontouring these roads would eliminate their adverse impact on the landscape

## **Alternative 2**

### **Direct, Indirect and Cumulative Effects**

Under this Alternative, no treatments would be performed and the existing road system within the project area would remain as is. There would be no direct or cumulative effects. Unauthorized routes within the analysis area would remain on the landscape.

## **Recreation and Visual Resources**

### **Alternative 1**

#### **Direct, Indirect and Cumulative Effects**

With the implementation of the standard safety procedures, there would be minimal effects (direct, indirect, or cumulative) to recreation or public safety under Alternative 1. Actions proposed would result in minimal effects (direct, indirect, or cumulative) to the visual resources, including of the positive effect from the restoration of a more natural landscape.

### **Alternative 2**

#### **Direct, Indirect and Cumulative Effects**

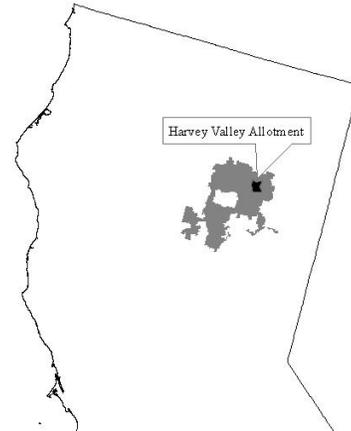
As no action would occur, there would be no effects (direct, indirect, or cumulative) to recreation or public safety. There would be no effects (direct, indirect, or cumulative) to the visual resources.

**ENVIRONMENTAL ASSESSMENT**  
**USDA Forest Service**  
**HARVEY VALLEY ALLOTMENT**  
**GRAZING MANAGEMENT PROJECT**

Eagle Lake Ranger District; Lassen National Forest  
Lassen County, California

## Introduction

The Harvey Valley Allotment is located in the north central area of the Eagle Lake Ranger District, bounded by Harvey Mountain on the north, Logan Mountain to the east, Crater Mountain on the south and Cone Mountain to the west (see attached map). The allotment encompasses 33,072 acres, of which 640 acres are privately owned. Approximately 29,559 acres are suitable range, comprised of meadow areas (~4,684 acres) interspersed in stands of open timber



dominated by ponderosa pine. Livestock grazing has occurred on this allotment since the early 1900's and serves as summer range for the ranch operation. The existing Term Grazing Permit was issued for a term of ten years from 2011-2020. By permittee agreement, the allotment is currently in a "rest" status. The permittee has agreed to rest the allotment for five years (2011 through 2015) during which time the Forest Service will complete this analysis, including required resource surveys, and identify and implement resource improvement projects. The typical grazing season is from June through September by approximately 700 cow/calf pairs.

Under the terms of Section 504(a) of the 1995 Rescission Act (Public Law 104-19), a schedule for completion of grazing Allotment Management Plans (AMPs), including National Environmental Policy Act (NEPA) analysis was developed. The Lassen National Forest (LNF) has implemented, with several revisions, the schedule for completing NEPA documentation to analyze the effects of grazing on all allotments prior to issuing grazing permits. The Harvey Valley Allotment is scheduled for completion in 2013.

It is Forest Service policy to make forage available to qualified livestock operators from lands suitable for grazing consistent with land management plans (36 CFR 222.2 (c)). This allotment contains lands identified as suitable for domestic cattle grazing that meets the goals, objectives, standards, and guidelines as described in the Lassen National Forest Land and Resource

Management Plan (LRMP, 1993), as amended by the Sierra Nevada Forest Plan Amendments (SNFPA, 2004).

It is also Forest Service policy to continue contributions to the economic and social well-being of people by providing opportunities for economic diversity and by promoting stability for communities that depend on range resources for their livelihood (FSM 2202.1).

## **Purpose of and Need for Action**

The purpose of this document is to analyze a new Allotment Management Plan (AMP) for the Harvey Valley Allotment that would be used to direct livestock management for the next 10 years. Development of the Harvey Valley AMP would ensure rangelands on the Lassen National Forest are sustained in a healthy condition that provides forage for livestock and wildlife, as well as maintains other resource values.

Opportunities also exist within the allotment area to improve watershed conditions. These opportunities include projects in meadows, aspen communities, roads and stream channels that would improve resource conditions while the allotment is rested from grazing, and would result in higher quality habitat when grazing commences.

### Allotment Management Plan

Development of an Allotment Management Plan (AMP) for the Harvey Valley Allotment is necessary to guide management of grazing as well as document how other resource management (i.e. cultural resources, wildlife, watershed, aspen) would be integrated into the AMP. Additionally, analysis of the grazing management is necessary to comply with the 1995 Rescission Act (Public Law 104-19) and to ensure resource conditions on the allotment continue to be maintained and/or improved.

Maintenance of existing rangeland improvements is needed to keep them in serviceable and functioning condition. Additional structural and non-structural rangeland improvements are needed to improve meadow, aspen, and hydrologic conditions, which would enhance overall resource conditions of the allotment.

### Meadow

Meadow ecosystems occupy a relatively large portion of the Harvey Valley allotment and provide many ecological services (e.g. moderation of flows by storing water in soils, extending late season flows, and providing habitat for arthropods and wildlife) as well as natural openings in areas dominated by coniferous forests. Over the last century, changes in climate, cessation of

historical sheep grazing, and long-term suppression of wildfire has facilitated conifer encroachment into meadows and non-forested valley areas.

Lodgepole and ponderosa pine, are the dominate conifer species encroaching into non-forested areas on the Eagle Lake Ranger District and the Harvey Valley Allotment. Once trees establish, they can grow rapidly, reducing light and modifying the physical, chemical, and biological properties of the soil as well as causing a decline in cover and richness of meadow species. In addition, conifer encroachment reduces the area occupied by meadow communities.

Because conifer encroachment has reduced the size and function of meadows in the Harvey Valley allotment, there is a need to implement meadow enhancement projects designed to meet the following objectives: 1) remove conifers that have encroached into the meadow, 2) increase the area occupied by meadow communities, 3) increase the richness and abundance of meadow understory vegetation and enhance ecological services and functions provided by meadows, and 4) restore the process of fire to maintain and enhance meadow conditions.

#### Aspen

As in many western landscapes, aspen communities in the Eagle Lake Ranger District are steadily being replaced by conifers due to changes in fire regimes and grazing pressure. A pronounced lack of aspen stand recruitment and establishment has been observed on the district over the past several decades. Several aspen stands in the Harvey Valley Allotment, totaling about 1.5 acres, have been identified for removal of encroaching conifers that are causing a decline in productivity and vigor of the aspen. Because aspen communities provide important ecological services, there is a need to implement restoration treatments that create the proper growth environment (increasing light), provide protection from excessive herbivory, and stimulate hormonal growth. Restoration treatments designed to enhance aspen regeneration should improve ecological services and functions provided by functioning aspen communities.

#### Watershed

Various alterations (old ditches, stock ponds, decommissioned roads, a decommissioned bridge, and culverts) occur within meadows throughout the Harvey Valley Allotment that have degraded watershed conditions by changing surface and ground water flow patterns. These alterations have resulted in stream channel down-cutting, channeling of water flow, changes in soil moisture levels and changes in meadow vegetation. There is a need to restore or improve natural water flow through these meadows which would improve soil moisture and its water holding capacity, and extend flows further into the summer, as well as complement proposed meadow enhancement projects by providing better conditions for meadow vegetation.

### Reduction of Activity-created Fuels

Surface, ladder and canopy fuels contribute to fire hazard across the landscape. Vegetation treatments such as conifer removal along meadow edges or in aspen stands create increased surface fuels that could result in higher fire hazard conditions. Vegetation treatments such as these are in part, intended to help restore the landscape's resilience to fire and to keep fires that do occur less intense. When fuels from vegetation treatments are not treated, e.g. with prescribed fire, the vegetation treatments may be less beneficial because when an uncontrolled fire occurs, there would be higher fuel accumulations available to carry the fire, possibly resulting in more intense and damaging conditions. There is a need to treat fuels created by vegetation treatments with prescribed fire to minimize fuel accumulations.

Restoration of vegetative diversity and hydrologic condition of meadows would improve diversity across the landscape, and albeit in a relatively small area in the big picture, these areas would be more resilient to disturbances, including fire, drought, and climate change.

## **Public Involvement**

In 2010, District Range personnel began conversations with the permittee about up-coming analysis of their allotments. Due to concerns about the large area involved requiring resource surveys, the lack of personnel to complete them quickly, and the ability of the permittee to fully stock the allotment upon re-issuance of the Term Grazing Permit, discussions began about a possible period of non-use. The Harvey Valley Allotment project was originally published in the Schedule of Proposed Actions (SOPA) on January 1, 2011. Analysis was originally to be completed in 2011, but delays in other projects resulted in analysis and decision being moved to 2013. Scoping letters were mailed to the permittee, three other individuals, two tribal groups, two environmental groups and the Lassen County Fish and Game Commission.

The scoping period began on February 17, 2012 and comments were requested by March 21, 2012. Comments were received from Lahontan Regional Water Quality Control Board, Western Watersheds Project, the permittee and two other individuals. Verbal comments were recorded on March 5 and March 23, 2012 from adjacent allotment permittees. These comments focused on maintenance of and need for boundary fences.

On February 28, 2012, Range Specialist, KC Pasero, met with the permittee to discuss the proposed action, specifically questions they had about the proposed removal of the waterhole in Little Harvey Valley, the fence along Pine Creek, and proposed changes to the fences and corral at Dixie Valley Spring.

No issues were raised during the scoping period that would necessitate development of additional alternatives to the proposed action. The analysis of the public comments is contained in the document titled, "Harvey Valley Allotment Grazing Management Project Public Scoping and Comment Period Issue Analysis and Alternative Development" (located in the Harvey Valley Allotment Grazing Management Project record, ELRD office).

### **Issues**

The Forest Service separates issues into two groups: significant and non-significant issues. Significant issues are defined as directly or indirectly caused by implementing the proposed action. Non-significant issues are identified as: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Code of Federal Regulations (40 CFR Part 1501.7(3)) of The Council on Environmental Quality's (CEQ) NEPA regulations requires us to, "Identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review..." No significant issues were identified for the Harvey Valley Allotment Grazing Management Project from the public scoping comments. Treatment of the two issues raised in scoping with an explanation as to why they were not considered significant is contained in the project record (Harvey Valley Allotment Grazing Management Project Public Scoping and Comment Period Issue Analysis and Alternative Development).

### **Alternatives Considered but Eliminated from Detailed Study**

In addition to the three alternatives analyzed in detail for this project, alternatives suggested during the scoping process were also considered. Alternatives not considered in detail may include, but are not limited to, those that fail to meet the purpose and need, are technologically infeasible or illegal, or would result in unreasonable environmental harm. Descriptions of alternatives considered from scoping and the reasons for their elimination from detailed study are contained in the document titled, "Harvey Valley Allotment Grazing Management Project Public Scoping and Comment Period Issue Analysis and Alternative Development" (located in the Harvey Valley Allotment Grazing Management Project record, ELRD office).

### **Decision to be Made**

The Eagle Lake District Ranger on the Lassen National Forest is the deciding official for this proposed action. Considering the purpose and need, the deciding official would review the proposed action and alternatives developed in response to issues raised by the public.

The responsible official would decide whether or not to authorize livestock grazing on the Harvey Valley Allotment either as described in the proposed action, in its current manner (no action) or

in another manner that would meet the identified purpose of and need for this decision. As required, a “No Grazing” Alternative is part of the analysis. The decision would also include whether or not to implement some or all of the resource improvement projects identified in the proposed action.

These management activities were developed to implement and be consistent with the Forest’s 1993 Land and Resource Management Plan (LRMP), as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) FEIS, FSEIS and Records of Decision (2004). The proposed action has been determined to be in conformance with this plan as required by regulations (36 CFR 222.1 et. seq.).

### **Where**

The Project area encompasses the allotment boundary for the Harvey Valley Allotment, on the Eagle Lake Ranger District of the Lassen National Forest. Livestock management activities would take place within the capable and suitable rangelands of the allotment. The attached map shows the allotment boundary.

### **When**

The Forest Service expects to conclude its review and analysis, and issue a decision on this proposal by the end of January 2013. Livestock management activities authorized under the decision would be implemented during the 2013 grazing season and continue until the end of the Term Grazing Permit, 2020. Implementation of other resource improvement projects could begin as early as the summer of 2013.

## **Alternatives**

### **Alternative 1 - Proposed Action**

The Eagle Lake Ranger District, Lassen National Forest proposes to develop a new Allotment Management Plan (AMP) for cattle grazing on the Harvey Valley Allotment. Analysis would include rest from livestock grazing through the 2015 grazing season, would identify projects for resource restoration and development, such as watershed, meadow and aspen restoration, and include an implementation schedule for completing surveys and identified project work. When five years rest is complete, livestock grazing would be re-introduced at approximately 1/3 the permitted Animal Unit Months (AUMs) for the first year. (An AUM is defined as the amount of forage consumed by one cow/calf pair during a one month period. An AUM equals approximately 1,000 lbs. of forage.) When monitoring indicates livestock management is meeting standards, and resource objectives are being met, annually authorized AUMs would be incrementally increased to the full permitted number of AUMs. The Proposed Action includes the following actions.

### **Grazing Authorization Criteria**

The Non-use Agreement includes total non-use on the Harvey Valley Allotment for resource restoration and development beginning in 2011 and ending after the 2015 season. The Forest Service would not fill in behind this agreement during the five year period. During this non-use period, a schedule of resource improvement projects would be implemented. Projects include: aspen treatments, meadow enhancement, Cultural Resource surveys, watershed improvements, underburning and structural range improvements (fences and water developments). Projects may be jointly implemented by the Forest Service and the Permittee. Proposed projects, necessary resource surveys and structural improvements would be planned for completion prior to the end of the non-use period, dependant on funding and resource availability. A proposed implementation schedule would be defined in the Harvey Valley Allotment Management Plan (AMP).

An Allotment Management Plan (AMP) would be developed based on the decisions from this Environmental Assessment (EA). The AMP contains the pertinent livestock management direction deemed necessary to implement a NEPA decision. An AMP is defined in the Federal Land Policy Management Act (FLPMA), as a document prepared in consultation with permittees who are authorized to graze livestock on public land and prescribes:

- (1) the manner and extent to which livestock operations will be conducted in order to meet multiple use-sustained yield and other objectives;
- (2) the range improvements to be installed and maintained; and
- (3) such other provisions relating to livestock grazing and other objectives found by the Secretary of Agriculture to be consistent with the provisions of FLPMA.

The AMP would include the project implementation schedule, the livestock management strategy (numbers, dates, rotation) after non-use, range improvement responsibilities, and standards for grazing utilization. The Allotment Management Plan, when finalized, would become part of the Terms and Conditions of the Term Grazing Permit.

### **Variable Numbers and Seasons**

This is a variable term grazing permit with an on-off provision. Variable numbers, type of livestock (cow/calf, yearlings, dry cows) and periods of use are specified in the management plan(s) or annual instructions for each allotment. The on-off provision refers to the private lands within the allotment boundary (640 acres) for which the grazing management has been waived to the Forest Service to administer. Administration of this permit provides for the following:

- 1) Variable management operations may occur on a year-by-year basis.

- 2) Livestock numbers may vary as long as the actual use on the National Forest administered lands does not exceed grazing utilization standards (described below) or the authorized total of 2,555 AUMs on the Harvey Valley Allotment.
- 3) The typical season of use is approximately June 20 through September 15 (approximately 12 weeks).
- 4) Scheduled rest can be applied in the grazing strategy without being considered non-use for personal convenience.
- 5) Billing shall be for each year's authorized use as identified in the Annual Operating Instructions.

### **Herd Movement**

The Harvey Valley Allotment would be managed under a three pasture rotation system. On a typical year, cattle would enter the Harvey Valley Allotment about June 20<sup>th</sup> and graze the Logan Unit (southwest of Little Harvey Mountain) first. By July 20<sup>th</sup> the herd would be moved north into the Burgess Unit (east side of the allotment) where they would remain until about August 20<sup>th</sup>. Livestock would finish the rotation in the White Horse Unit (west side of the allotment) and be removed from the allotment about September 15. Actual dates may vary slightly from year to year based on resource conditions (i.e. range readiness, water availability, forage), but the amount of time in the allotment would be maintained.

### **Grazing Utilization Standards**

The following grazing use standards apply to the overall rangelands within the allotment. Site specific standards for key areas are identified in the table that follows. Utilization monitoring may occur at any location within the allotment, would be conducted at least once during the use period (within the pasture or unit) and again at the end of the grazing season. Key areas are chosen to be representative of a larger area or are areas of special interest or concern. At least a portion of the key areas would be monitored annually.

Interagency Technical References, as identified in the R-5 Rangeland Analysis and Planning Guide, provide the monitoring methodologies that would be used when conducting utilization monitoring. References used would include Interagency Technical Reference (ITR) 1734-3 Utilization Studies and Residual Measurements, and ITR 1734-4 Sampling Vegetation Attributes.

Uplands: Allow up to 50 percent utilization of perennial rangeland vegetation that is in at least fair condition with stable trend and not associated with riparian zones. Allow 0-40 percent on perennial vegetation where rangeland condition is in less than fair condition or has a downward trend. Utilization is based upon current annual year's growth (actual percent by weight).

Limit browsing to no more than 20 percent of the annual leader growth of browse species (bitterbrush) or hardwood (aspen, cottonwoods, etc) seedlings and advanced regeneration.

Riparian Areas: Allow 40 percent utilization of riparian herbaceous vegetation for riparian zones in good condition. Utilization may exceed 40 percent when intensive systems such as rest-rotation or deferred rotation are used, and meadows are maintained in late seral status and meadow-associated species are not being impacted. For streamside zones in poor condition, utilization may be 0-25 percent until restored to fair condition. Maintain or increase ground cover in all riparian areas regardless of condition.

Stubble Height - Leave 4-6 inches on streamside vegetative biomass at the end of the grazing season. This standard may be modified depending upon stream condition and grazing system.

Bank Stability - Apply management strategies to achieve at least 80 percent of naturally occurring streambank stability.

Limit browsing to no more than 20 percent of the annual leader growth of mature riparian shrubs, and no more than 20 percent of individual seedlings. Remove stock from any area of an allotment when browsing indicates a change in livestock preference from grazing herbaceous vegetation to browsing woody riparian vegetation.

Site-specific Riparian Utilization Standards: Prior to livestock returning to the allotment, the ecological status of key areas monitored for grazing utilization would be verified using direction in regional range handbooks, including ecological scorecards and plant lists. The following site-specific standards reflect current conditions that indicate good condition. If meadow ecological status is determined to be moving in a downward trend, the allowable use standards below would be adjusted and livestock management would be modified, including but not limited to extending the period of rest from grazing in site-specific areas.

<b>Key Areas</b>	<b>Location</b>	<b>Allowable Use</b>
Aspen Flat	T33N, R8E, NW ¼, SE ¼, Sec.8	40% herbaceous 20% browse on aspen
Lost Spring	T33N, R8E, SW ¼, SW ¼, Sec. 20	40% utilization
Dixie Spring (below corral)	T33N R8E NE1/4 NW1/4 Sec Sec. 3	40% utilization
Dry Lake Orcuttia (White Horse Unit)	T32N, R8E, NW ¼ SE ¼ Sec. 4	0% trampling before seed set; ≤ 15% trampling after seed set; 25% herbaceous utilization.
White Horse Reservoir	T32N R8E SE1/4 NE1/4 Sec.4	40% utilization

Lyons Spring	T32N R8E NE1/4 NW1/4 Sec. 3	40% utilization 20% browse aspen
Barrell Reservoir	T33N R9E NE1/4 NE1/4 Sec. 7	40% utilization
Squaw Valley	T3N R9E NE1/4 SE1/4 Sec. 20	40% utilization
Shoestring Draw	T33N R9E W1/2 SW1/4 Sec. 30	40% utilization
Below Burgess Spring Exclosure	T32N R8E SW1/4 SW1/4 Sec. 25	40% utilization
Little Harvey Valley	T 32N R9E SW1/4 NE1/4 Sec. 5	40% utilization 20% browse aspen
Lyons Headquarters	T32N R8E NW1/4 NW1/4 Sec. 2	40 % utilization 20% browse aspen
Harvey Station	T33N R8E SW1/4 SW1/4 Sec 36	40% utilization 20% browse aspen
Pine Creek Reach 11	T32N R9E W1/2 SW1/4 Sec. 9	40% utilization, 20% browse on aspen
Pine Creek Reach 12	T32N R9E W1/2 SW1/4 Sec.4	Exclosure, No Grazing Allowed
Pine Creek Reach 13	T32N R9E NW1/4 SW1/4 Sec.4	40% utilization
Pine Creek Reach 14	T32N R9E N1/2 Sec.4	Exclosure, No Grazing Allowed

### **Livestock Management**

1. Livestock entry onto the allotment or into a specific pasture will be based on range readiness, indicated by soil and vegetation conditions. Soil must be firm enough that livestock will not cause trampling damage to soil and vegetation. Perennial plants must have reached the defined stage of growth that under a specific management plan will not cause long lasting damage. (R5 Rangeland Analysis and Planning Guide)
2. No salting or livestock supplement stations would be placed within 1/4 mile of water developments, streams, or other riparian areas.
3. Salt blocks and staging or gathering areas would be located outside of known archaeological sites, known Threatened, Endangered or Sensitive (TES) plant or Special Interest Plant populations, and known weed sites.
4. The permittee would be authorized to use Off Highway Vehicles (OHV) off of designated routes, trails, or OHV use areas to conduct permitted activities, including removal of dead livestock and/or construction and maintenance of range improvements. Cross-country travel in the performance of these responsibilities would be reviewed and approved annually in the Annual Operating Instructions. Wet or sensitive areas would be avoided, use would be a route with the least impact, and “Tread Lightly” guidelines would be practiced. The permittee is responsible for abiding by all state OHV safety regulations as they apply to implements of husbandry.

5. All fences which would have livestock against them at turn-out must be maintained to standards prior to livestock entering the allotment. Maintenance responsibility and standards are included in Part 3 of the Term Grazing Permit.

## **Resource Improvement Projects**

### Meadow Enhancement

Most meadows in the project area have varying degrees of conifer encroachment into the meadow. Treatment would include hand-thinning of all conifers in areas having meadow vegetation communities. Hand treatments would include felling trees up to 20 inches dbh (diameter at breast height), lopping and scattering, and/or piling and later burning. The primary areas to be treated for meadow enhancement include Squaw Valley, Shoestring Draw, Burgess Meadow, Harvey Valley, Little Harvey Valley, and Logan Spring.

### Prescribed Fire

Prescribed fire would be applied as a follow-up treatment to the meadow enhancement work described above. Pile-burning (approximately 173 acres) would occur in areas where a high-density of trees were hand-thinned for meadow enhancement. Prescribed fire would also be used to underburn meadow areas (approximately 1,757 acres) to remove accumulated herbaceous vegetation and improve vigor of meadow species. Additionally, where underburning is applied in adjacent timber stands, prescribed fire would be allowed to creep or back into meadow areas (approximately 1,121 acres). Areas considered for prescribed fire include Squaw Valley, Shoestring Draw, Burgess Meadow, Harvey Valley, and Little Harvey Valley.

### Aspen

Several aspen stands, totaling about 1.5 acres, have been identified for removal of encroaching conifers that are causing a decline in productivity and vigor of the aspen. Treatment would include hand-thinning of conifers from within the aspen stand, and within a 25- to 50-foot buffer, depending on the site. Hand treatments would include felling trees up to 20 inches dbh, lopping and scattering, and/or piling and later burning. Emphasis would be placed on opening sunlight to the aspen stands from the east, south, and west. Aspen treatments would be applied to one small stand and two small patches north and one small patch south of Logan Spring. If monitoring indicates the need, treated stands would be fenced to protect young aspen from browsing by livestock until they are established. Three very small aspen patches in Shoestring Draw would be fenced to protect the regeneration from browsing.

### Watershed Improvement

Old ditches, stock ponds, decommissioned roads, and culverts have contributed to watershed degradation within several meadows due to changes in surface and ground water flow patterns. This has resulted in stream channel down-cutting, and changes in meadow vegetation. Several

locations have been identified for proposed improvement work. The numbered items below correspond with the numbered items on the map legend under Watershed Improvements.

1. Old decommissioned roads in Harvey Valley and Burgess Meadow have become lower than the surrounding meadows and are collecting and channeling water flow. It is proposed to place straw wattles or similar low-stature grade control structures in the old road tread to slow flow velocity, allow sediment to build back toward meadow level and restore the natural flow of water across the area.
2. The old Harvey Valley Road traversed west to east from White Horse Well across Harvey Valley, Burgess Meadow and Little Harvey Valley to Little Harvey Mountain. It was decommissioned in the mid-1980s, but still impedes natural water flow at the northern end of Little Harvey Valley. An old culvert also exists where the road reaches the eastern edge of the valley. To improve natural water flow in the upper end of the meadow, it is proposed to remove the culvert and re-contour the old road bed to match the grade of the surrounding area.
3. The waterhole at the lower end of Little Harvey Valley has caused drying of the meadow directly below it by channeling the overflow water into a down-cutting channel, resulting in a change from wet meadow species to dry species including sagebrush. To improve the water storage capacity of the meadow and its ability to distribute flood flows, it is proposed to decommission the waterhole. The waterhole would be filled in with the existing fill-material on site and be re-contoured to best match the grade of the surrounding meadow. A small waterhole would be dug adjacent to the meadow edge to explore if sub-surface water might fill an alternative water source without impacting the primary meadow flow.

An unauthorized route crossing the meadow between this waterhole and Forest Road 33N47 is also impeding natural water flow patterns within the meadow. Approximately 250 yards of this unauthorized route would be ripped and then reseeded with native seed if necessary. The route would be re-contoured to match the grade of the surrounding area and decommissioned where it intersects with authorized routes to prevent future use.

4. An old waterhole in Shoestring Draw has become an unreliable water source and restricts natural flow of water to the meadow. The berm created when the waterhole was dug out would be pushed back into the hole and the site re-contoured to facilitate the natural spread and flow of water.

A borrow pit exists approximately ¼ mile from the above waterhole and provides a reliable source of water for livestock. This water source would be fenced and a solar-powered, submersible pump and a trough would be installed. The trough would be located so that an overflow pipe would return water to the waterhole by gravity feed.

5. Dixie Spring Corral and Spring Development

The existing corral facility at Dixie Spring has historic value and is no longer used for sorting, branding, or shipping large numbers of cattle as it was in the past. A variety of division fences extend from the corral to create small holding fields. Materials include barbed wire, woven wire, wooden and metal posts. Most of the division fences no longer serve the purpose they were originally installed for. Dixie Spring itself is partially fenced and was developed previously with a headbox and pipe, but the development does not currently include a water trough for livestock to water. The stream channel from the spring is currently accessible to livestock.

The proposal would include maintaining the existing corral in its historic character. The woven wire and barbed wire fences that connect to the corral on the southeast below the spring would be removed. A new corral would be built approximately 100 yards to the north of the existing corral where it would be outside the meadow edge. It would be accessible from the existing road and within proximity of the spring so water could be piped to a trough at the corral. The spring would be completely fenced. Using the existing headbox, water would be piped under the road to the new corral facility with an overflow return pipe back to the spring. The pipe would have a shut-off valve so flow to the trough could be shut off when it was not needed for livestock use.

6. The concrete bridge in the previously decommissioned Forest Road 33N47 spans the tributaries from Shoestring Draw and Little Harvey Valley that flow into Pine Creek. The road was decommissioned in the mid-1980s, but the approaches to the bridge and the bridge itself still channelize the creek, resulting in disconnecting the creek from its floodplain, changes to soil moisture levels and meadow vegetation composition. The bridge and its associated check dam would be removed. The large boulders previously used to armor the buttresses would be used to create a more “natural” check dam within the current stream channel. The road-base material used to create the approaches to the bridge would be pushed into the adjacent borrow ditches to re-contour the area to best match the grade of the surrounding meadow. Decommission activities would extend approximately 100 yards east and 150 yards west of the existing bridge site.

### Rangeland Structural Improvements

1. Little Harvey Drift Fence

An existing fence constructed to exclude livestock from a previously treated aspen stand at the far western edge of Little Harvey Valley was located too close to the stream channel. As the stream channel has cut into the adjacent meadow, a portion of the fence is now on the streambank and may be adding to bank instability. It is proposed to relocate this section of fence away from the stream channel, possibly to the north edge of the meadow to avoid creating a trailing corridor between the fence and more stable uplands.

2. Pine Creek Connector Fence

The Logan Enclosures (2) along Pine Creek were originally constructed as part of the Pine Creek Restoration Project (1994) specifically located to aid in restoration of certain stream reaches. A gap was left between the two enclosures to allow for livestock movement. This proposal would build a fence connecting the west side of the two enclosures, providing additional protection to Pine Creek as well as creating a small pasture that could be utilized in a future rotation grazing strategy.

3. Logan “Well” Protection Fence

The site known as Logan Well is a constructed hole in the vicinity of Logan Spring. The old structure has collapsed into the hole and it no longer functions as a “well”. The site most likely has historic value, but is a safety hazard for wildlife, livestock and people. A small enclosure fence would be constructed around the site to prevent animals or people from falling into the “well” and to maintain whatever value may remain.

4. Necessary repairs to all existing rangeland fences would be completed during the period of non-use. Fences would be maintained to standards as described in the Term Grazing Permit prior to livestock returning to the allotment.

### **Integrated Design Features**

Integrated design features (IDFs) are a type of mitigation measure, along with Standards and Guidelines and Best Management Practices (BMPs) that are implemented to avoid, minimize, reduce or eliminate negative effects to project area resources. The IDFs listed below would be implemented as part of the proposed action, when appropriate. Those that are implemented through livestock management actions would become part of the Allotment Management Plan and permittee responsibility. The others, such as surveys, noxious weed treatments, new site monitoring, etc. would be Forest Service responsibility for implementation.

### Botany

1. Any new Threatened, Endangered or Sensitive (TES) plant occurrences discovered after project implementation would be monitored for effects by livestock. If monitoring indicates effects from livestock activities, then adjustments would be made to alleviate continued effects.
2. Slender Orcutt grass (*Orcuttia tenuis*, federally-listed threatened) has been identified at one location southwest of White Horse Reservoir. The following standards would be applied to vernal pool areas which have known slender Orcutt grass occurrences.
  - Limit trampling in unfenced slender Orcutt grass occurrences to 0 percent before seed set and 15 percent after seed set.
  - Limit utilization of riparian herbaceous vegetation to 25 percent.
  - Place salt at least ¼ mile from known occurrences.
3. Prescribed fire would not be ignited or forced through low sage plant communities, although fire would be allowed to back into these areas.
4. Prescribed fire would not be allowed to burn through the known occurrence of *Eriogonum prociduum* (prostrate buckwheat) located near Harvey Valley.
5. All burn piles would be placed outside of known *Senecio hydrophiloides* (sweet marsh ragwort) occurrences in Shoestring Draw.

### Noxious Weeds

1. Known noxious weed infestations would be identified and mapped for this allotment. Identified noxious weed sites within or adjacent to the project area containing isolated patches with small plant numbers would be evaluated and treated according to the species present and project constraints.
2. Monitoring for implementation and effectiveness of weed treatments and control of new infestations would be conducted as soon as possible within the allotment.
3. If project implementation calls for hay or other feed, straw, and/or mulch, it would be certified weed-free. Seed mixes used for re-vegetation of disturbed sites would consist of locally adapted native plant materials to the extent practicable.

### Cultural Resources

1. Due to the size of the project area, funding and personnel constraints, cultural resource inventories would be completed over several field seasons. All necessary inventories would be completed during the non-use period, before livestock return to the allotment.
2. In areas not surveyed to modern standards, survey practices outlined in the Lassen National Forest Grazing-Heritage Resource Management Strategy (2008) would be used to identify archaeological sites and Traditional Cultural Properties. Consultation with groups (including the Pit River Tribe) with ties to the area would be used to help identify Traditional Cultural Properties.

3. Newly identified sites would be documented to modern standards, in site records that include information on whether range use of the sites has affected or is likely to affect site values.
4. Monitoring of previously known sites would be used to determine whether range use of these sites has affected or is likely to affect site values.
5. Eligible and potentially eligible (for listing in the National Register of Historic Places) sites would be protected using either (1) Standard Resource Protection Measures as defined in the Programmatic Agreement between the Forest Service (Region 5), California State Historic Preservation Officer (SHPO), and Advisory Council on Historic Preservation, or (2) other measures as identified and agreed to by the Forest Service and SHPO. Treatments discussed in the Region 5 Memorandum of Understanding for Range (Appendix C, Section V, Subsection D) would be applied as appropriate.
6. Any sites damaged by rangeland use or identified to have reasonably foreseeable damage, must be evaluated to assess the damage; evaluated in response to anticipated impacts; or Standard Protection Measures applied.
7. If applied protection measures prove inadequate or the project cannot be modified to protect all sites, potentially affected sites would be evaluated for National Register eligibility. Mitigation plans would be developed as appropriate.
8. If a site is identified after permit issuance, any rangeland use effects would be documented, with protection/evaluation/mitigation measures applied as appropriate.

### Wildlife

1. Fences would be designed, built, and maintained to prevent barriers to wildlife movement and possible injury or death from impact or entanglement. Standards include smooth bottom wire and maximum height and spacing requirements.
2. All associated activities addressed in this proposed action (such as hand-thinning, burning, and watershed improvement projects) would adhere to established Limited Operating Periods, as appropriate. Such projects may also need surveys for wildlife species of concern prior to operations.
3. If Forest Service Sensitive species are located within the allotment area during the permit period, adjustments will be made in the Annual Operating Instructions to mitigate effects to that species and/or its habitat. Adjustments may include altering the timing of grazing, reducing livestock utilization levels, or adhering to limited operating periods for actions such as hand-thinning and prescribed burning to reduce potential for disturbance.
4. Livestock losses resulting from Federally-listed canid predators would be tolerated by the permittee. Any proposed mitigations to such livestock depredation would be fully coordinated with the USFWS in its regulatory capacity.

Hydrology and Aquatics

Best Management Practices (BMPs) would be implemented to meet water quality standards.

The BMPs applicable to range management include:

- BMP 8.1 (range analysis, management planning and permit administration to safeguard water quality under perpetual production and forage harvest by livestock),
- BMP 8.2 (controlled livestock numbers and season of use to safeguard water quality under perpetual production and forage harvest by livestock), and
- BMP 8.3 (Rangeland Improvements).

The following IDF's would also be implemented to protect hydrologic and aquatic resources.

1. Where needed, temporary fence would be constructed around watershed improvement projects to protect and facilitate healing until channels and banks achieve good condition.
2. Any spring or water development would be designed in such a way that the water source would not be dewatered by the delivery of water to the off-site trough.
3. Screening devices would be used for water drafting pumps, including those utilized for off-site watering. Pumps with low entry velocity would be used to minimize removal of aquatic species, including amphibian egg masses and tadpoles, from aquatic habitats.
4. Soils must be dry at the 12-inch depth (15 bars of tension) before heavy equipment could be operated within the Riparian Conservation Areas (RCA). RCA widths in areas where heavy equipment would be needed for proposed watershed improvements, rangeland structural improvements and road decommissioning are described in the table below.

<b>RCA Category</b>	<b>RCA Width</b>	<b>Mechanical Treatment Locations</b>
Special Aquatic Features (wet meadows, springs, vernal pools)	300'	Portions of Harvey Valley, Burgess Meadow, Little Harvey Valley and Shoestring Draw; Dixie Springs
Seasonally flowing streams	150'	Little Harvey Valley tributaries

5. Design prescribed fire treatments to minimize disturbance of ground cover and riparian vegetation in RCAs.

Fire and Fuels

1. Fire lines would be constructed for prescribed fire operations, except where existing roads, skid trails, or natural barriers would serve as control lines. Hand lines would not be constructed within Riparian Conservation Areas (RCA) and meadow areas where graminoid and forb indicator species of a wet site are present (e.g., *Juncus balticus* or *Polygonum bistortoides*).
2. Pile burning and ignition for underburning would not occur within meadow areas where graminoid and forb indicator species of a wet site are present (e.g., *Juncus balticus* or

- Polygonum bistortoides*); however, fire used in adjacent treatment units would be allowed to back into portions of these meadows.
3. Where riparian communities are established, disturbance to riparian vegetation would be minimized and sufficient ground cover would be retained by conducting prescribed fire in a manner which limits the intensity of fire.
  4. Hand piling of burn piles would not occur within the inner 30 feet of seasonal RCAs or 50 feet of perennial RCAs. Burn piles would be located outside any identified sensitive areas.

## **Alternative 2 – Previous Management**

The Previous Management Alternative would authorize livestock grazing the same as under the Term Grazing Permit issued November 2, 2001 which expired December 31, 2010. Annual Operating Plans implemented the Terms and Conditions of the Permit and the standards and guides for livestock management as identified in the Permit. No resource improvement projects, including meadow enhancement, prescribed fire, aspen treatments, watershed improvements or rangeland structural improvements, would occur under Alternative 2.

### **Grazing Authorization Criteria**

Grazing management would implement a deferred rotation system using 3 pastures in the Harvey Valley Allotment. A total of 515 cow/calf pairs would be permitted on the Harvey Valley Allotment from June 1 through October 31 for a total of 3,420 AUMs. However, as implemented through Annual Operating Plans during the period of this permit, livestock numbers would be variable and season of use adjusted, as long as total AUMs were not exceeded. Typical use was 700 cow/calf pairs for approximately 75 days.

### **Herd Movement**

Livestock would graze the Harvey Valley Allotment from about June 1 to August 15, annually. On a typical year, cattle would graze the Logan Unit (southwest of Little Harvey Mountain) first. In late June, the herd would be moved north into the Burgess Unit (east side of the allotment) where they would remain until about mid-July. Livestock would finish the rotation in the White Horse Unit (west side of the allotment) about August 15.

Typical Rotation: (approximate dates)

Logan Unit	June 1 through June 20
Burgess Unit	June 21 through July 15
White Horse Unit	July 16 through August 15

**Grazing Utilization Standards**

The following standards are those established in the Lassen National Forest Land and Resource Management Plan (LNF LRMP, 1993), as amended by the Sierra Nevada Forest Plan Amendment Final EIS and Record of Decision (SNFPA ROD, 2001).

Uplands: Allow 50 percent utilization of perennial rangeland vegetation that is in at least fair condition with stable trend and not associated with riparian zones. Decrease utilization to 0-49% on perennial vegetation where rangeland condition is in less than fair condition or has a downward trend. Utilization is based upon current annual year's growth (actual percent by weight).

Riparian Areas: Allow 45 percent utilization of riparian herbaceous vegetation for riparian areas in good condition (utilization may exceed 45% when intensive systems are used to restore riparian areas to good condition or to maintain riparian zones already in good condition). For riparian areas in poor condition, utilization may be 0-25 percent until restored to fair condition. Maintain or increase ground cover in all riparian areas regardless of condition.

Retain 4-6 inches on streamside vegetative biomass at end of the grazing season. This standard may be modified depending upon stream condition and grazing system.

Apply management strategies to achieve at least 80 percent of naturally occurring streambank stability. Stability would be measured in linear feet by stream reach.

Other riparian areas include areas such as wetlands, meadows, and lakeshores. These areas would be treated as special situations. Desired future condition would be described for each of these areas. Management standards would be designed to achieve these desired conditions.

Site-specific Riparian Utilization Standards: The following site-specific standards reflect current conditions that indicate good condition.

<b>Key Areas</b>	<b>Location</b>	<b>Allowable Use</b>
Aspen Flat	T33N, R8E, NW ¼, SE ¼, Sec.8	45% herbaceous 20% browse on aspen
Lost Spring	T33N, R8E, SW ¼, SW ¼, Sec. 20	45% utilization
Dixie Spring (below corral)	T33N R8E NE1/4 NW1/4 Sec. 3	45% utilization
White Horse Reservoir	T32N R8E SE1/4 NE1/4 Sec.4	45% utilization
Lyons Spring	T32N R8E NE1/4 NW1/4 Sec. 3	45% utilization, 6" stubble 20% browse aspen

Barrell Reservoir	T33N R9E NE1/4 NE1/4 Sec. 7	45% utilization
Squaw Valley	T33N R9E NE1/4 SE1/4 Sec. 20	45% utilization
Shoestring Draw	T33N R9E W1/2 SW1/4 Sec. 30	45% utilization
Below Burgess Spring Exclosure	T33N R8E SW1/4 SW1/4 Sec. 25	45% utilization
Little Harvey Valley	T 32N R9E SW1/4 NE1/4 Sec. 5	45% utilization, 6" stubble 20% browse aspen
Lyons Headquarters	T32N R8E NW1/4 NW1/4 Sec. 2	45 % utilization 20% browse aspen
Harvey Station	T33N R8E SW1/4 SW1/4 Sec 36	45% utilization 20% browse aspen
Pine Creek Reach 11	T32N R9E W1/2 SW1/4 Sec. 9	45% utilization, 20% browse on aspen
Pine Creek Reach 12	T32N R9E W1/2 SW1/4 Sec.4	Exclosure, No Grazing Allowed
Pine Creek Reach 13	T32N R9E NW1/4 SW1/4 Sec.4	45% utilization
Pine Creek Reach 14	T32N R9E N1/2 Sec.4	Exclosure, No Grazing Allowed

### **Livestock Management**

1. Allow no salting or livestock supplement stations within 1/4 mile of water developments, streams, or other riparian areas.
2. All fences which would have livestock against them at turn-out must be maintained to standards prior to livestock entering the allotment. Maintenance responsibility and standards are included in Part 3 of the Term Grazing Permit.
3. It is the permittee's responsibility to monitor vegetation use and assure that livestock use does not exceed the standards identified above.

### **LRMP Standards & Guidelines**

The following resource management standards and guidelines from the Lassen National Forest Land and Resource Management Plan (LRMP) would continue to be implemented as part of Alternative 2. They are similar to the IDFs as identified in Alternative 1, but were part of management based on implementation of the LRMP, not grazing-specific direction.

### Cultural Resources

1. In areas not surveyed to modern standards, survey practices outlined in the Lassen National Forest Grazing-Heritage Resource Management Strategy (2008) would be used to identify archaeological sites and Traditional Cultural Properties. Consultation with groups (including the Pit River Tribe) with ties to the area would be used to help identify Traditional Cultural Properties.

2. Newly identified sites would be documented to modern standards, in site records that include information on whether range use of the sites has affected or is likely to affect site values.
3. Monitoring of previously known sites would be used to determine whether range use of these sites has affected or is likely to affect site values.
4. Eligible and potentially eligible (for listing in the National Register of Historic Places) sites would be protected using either (1) Standard Resource Protection Measures as defined in the Programmatic Agreement between the Forest Service (Region 5), California State Historic Preservation Officer (SHPO), and Advisory Council on Historic Preservation, or (2) other measures as identified and agreed to by the Forest Service and SHPO. Treatments discussed in the Region 5 Memorandum of Understanding for Range (Appendix C, Section V, Subsection D) would be applied as appropriate.
5. Any sites damaged by rangeland use or identified to have reasonably foreseeable damage, must be evaluated to assess the damage; evaluated in response to anticipated impacts; or Standard Protection Measures applied.
6. If a site is identified after permit issuance, any rangeland use effects would be documented, with protection/evaluation/mitigation measures applied as appropriate.

#### Wildlife

1. Fences would be designed, built, and maintained to prevent barriers to wildlife movement and possible injury or death from impact or entanglement. Standards include smooth bottom wire and maximum height and spacing requirements.

#### Hydrology and Aquatics

Best Management Practices (BMPs) would be implemented to meet water quality standards. The BMPs applicable to range management include:

- BMP 8.1 (range analysis, management planning and permit administration to safeguard water quality under perpetual production and forage harvest by livestock),
- BMP 8.2 (controlled livestock numbers and season of use to safeguard water quality under perpetual production and forage harvest by livestock), and
- BMP 8.3 (Rangeland Improvements).

#### **Alternative 3 - No Grazing**

Livestock would no longer be authorized to graze the allotment. The Term Grazing Permit would be cancelled. Resource improvement projects, including meadow enhancement, prescribed fire, aspen, watershed improvement and rangeland structural improvements, would not be implemented under Alternative 3. Structural rangeland improvements would not be maintained. Boundary fences would be re-assigned to adjacent permittees for maintenance.

## Environmental Consequences

### Comparison of Effects by Alternative

Item to Compare	Alternative 1 - Proposed Action	Alternative 2 - Previous Mgmt.	Alternative 3 - No Grazing
Rangeland Resource	5-year Non-use Agreement followed by light grazing and incremental increase over duration of permit, until 2020. Meadow enhancement, underburning and watershed improvements to enhance health, vigor and diversity of vegetative communities.	Some rest during analysis; no additional rest or incremental increase. Full numbers when livestock return. No benefit from vegetation and watershed improvement projects. Rangelands would be maintained in current condition.	Rangeland vegetation would not be grazed by livestock. Vigor of perennial grasses would improve, but over time could become decadent. No benefit from watershed improvement projects.
Livestock Management	5-years non-use. Maintenance of range improvements required, but time to bring all improvements to standard prior to livestock returning. Time commitment to familiarize new herd to allotment, distribute livestock into desired areas, and monitor conditions. Relatively less time spent as routine becomes familiar. Success meeting standards and objectives likely with incremental introduction of livestock to allotment.	Large initial time commitment to ensure standards and objectives are met with full numbers. No opportunity to familiarize fewer numbers that would then teach new animals as they are added. Immediate need to have all range improvements maintained to standards before livestock return to the allotment. Success meeting standards and objectives possible, but would require constant monitoring of livestock distribution and utilization levels.	Permittees would no longer have summer grazing which is a large portion of the overall operation. Would require use of home pastures or private leases for summer range. Range improvements would not be maintained. No time commitment to management of the allotment.
Vernal Pool Habitat ( <i>Orcuttia tenuis</i> )	Minor direct effects from trampling, waste deposition and soil compaction. Beneficial indirect effects due to 5-years of non-use and new grazing standards.	Greater effects from trampling and waste deposition, due to earlier grazing times and lack of trampling standard.	Livestock impacts to vernal pool habitat would no longer occur.
Sensitive Plants	No Effects to the known population of <i>Eriogonum prociduum</i>	No Effects to the known population of <i>Eriogonum prociduum</i>	No Effects to the known population of <i>E. prociduum</i>

Noxious Weeds	Little potential for weed spread.	Little potential for weed spread.	No direct, indirect or cumulative effects.
Cultural Resources	Opportunity for additional survey and monitoring during non-use period. Site protection measures, surveys and monitoring would be used to prevent impacts to sites from range use. Would provide opportunity to include sites w/i fences for other resource protection. Potential for impacts from hand-thinning and underburning activities.	Site protection measures would be used to prevent further impacts to known sites from range use. No opportunity to survey or monitor sites before grazing resumes. No opportunity to protect sites w/i fences for other resource protection. No potential impacts from hand-thinning or underburning activities.	The potential for direct and cumulative impacts from range use would be removed.
Wildlife	No T&E terrestrial or aquatic species impacts. Meadow and watershed projects would improve habitat for some prey species for Forest Service Sensitive wildlife species. Vegetation treatments would improve understory diversity and associated habitats.	No T&E terrestrial or aquatic species impacts. Meadow habitats would be maintained. Vegetation treatments would not occur thus changes in understory vegetation would not be expected. Conifer encroachment in meadows would continue.	No TES terrestrial or aquatic species impacts. Conifer encroachment in meadows would continue. Meadow habitats would not be grazed annually.
Hydrology	Watershed improvement projects would provide potential long-term improvement in natural flow patterns, recovery of hydrologic function, soil moisture, and associated vegetation in meadows. Rest would allow time for banks to further stabilize and develop filtering vegetation to decrease potential sedimentation.	No watershed improvement projects would occur to improve hydrologic function in meadows. Conifer encroachment would continue; drying meadow edges. No rest period from grazing, therefore shorter recovery period for stabilizing banks and decreasing potential sedimentation.	No watershed improvement projects would occur to improve hydrologic function in meadows. Conifer encroachment would continue; drying meadow edges. Soils, streambank vegetation, bank stability would not be impacted by annual grazing. Increased vegetative cover would improve infiltration and soil moisture for longer periods.

Fuels	Fuel treatments would add diversity across the landscape with lower stand densities, reduced surface and ladder fuel loading, and reduced crown fuels, thus potentially reducing the growth of large fires. Aid in the reintroduction of fire to the landscape under more moderate weather conditions. Increased ability of fire suppression personnel to safely and effectively limit the size of wildland fires.	No fuel treatments would occur. Densification of stands, and surface, ladder and canopy fuel loading throughout the project area would continue to increase. Anticipated fire behavior and effects would become more severe. Wildland fires would have the potential to be both large in size and damaging to the ecosystem well beyond the scope of what occurred historically.	No fuel treatments would occur. Densification of stands, and surface, ladder and canopy fuel loading throughout the project area would continue to increase. Anticipated fire behavior and effects would become more severe. Wildland fires would have the potential to be both large in size and damaging to the ecosystem well beyond the scope of what occurred historically.
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### Environmental Effects of Other Resources

A summary of direct, indirect and cumulative effects for each resource by alternative is shown below. The following documents are incorporated by reference into this assessment and are summarized throughout this section.

- Biological Assessment for Threatened and Endangered Plants for the Harvey Valley Allotment Grazing Management Project; A. Sanger, April 11, 2012
- Supplemental Biological Assessment Effects Report for the Harvey Valley Allotment Grazing Management Project; A. Sanger, January 22, 2013
- Biological Evaluation for Forest Service Sensitive Plant Species, Harvey Valley Allotment Grazing Management Project; D. Lepley and A. Sanger, January 11, 2013
- Harvey Valley Allotment Grazing Management Project, Noxious Weed Risk Assessment; D. Lepley and A. Sanger, January 11, 2013
- Invasive Species Effects Report, Harvey Valley Grazing Management Project; A. Sanger, January 18, 2013
- Cultural Resources Report, Harvey Valley Allotment; R. Gudino, March 6, 2012
- Biological Evaluation for the Livestock Grazing Management Project, Harvey Valley Allotment; T. Rickman and K. Vandersall, March 23, 2012
- Management Indicator Species Report, Harvey Valley Allotment Project; T. Rickman and K. Vandersall, March 23, 2012
- Harvey Valley Allotment Grazing Management Project, Hydrology Report; A. Villalovos, March 27, 2012
- Harvey Valley Allotment Grazing Management Project, Report for Fire and Fuels; C. Lewis, March 20, 2012
- Harvey Valley Allotment Grazing Management Project, Range Report; K. Pasero, January 25, 2013

## **RANGELANDS**

### ALTERNATIVE 1

#### Direct Effects

The proposed action would provide five years of no grazing followed by several years of gradually increased grazing use. The period of non-use would provide rest to rangeland vegetation from livestock grazing. Herbaceous vegetation would produce foliage, flower, and set seed annually, completing the full life cycle which helps keep plants healthy and vigorous.

When livestock grazing resumes, it would initially be at reduced from current (Alt. 2) numbers and Animal Unit Months (AUMs). The proposed grazing rotation would begin in mid-June and end in mid-September. Each of three pastures would be grazed for approximately one month. Grazing use would be expected to be light for the first few years and use would be spread over each pasture, resulting in plants being grazed either early summer, mid-summer or late summer. Not all plants would be grazed in any one pasture and the rotation would allow regrowth on those that were grazed. Grazing intensity would be light, resulting in plants not being grazed more than once during the season, which again allows completion of the annual life cycle, preparation for the dormant season, and storage of sufficient root reserves for the beginning of the next season.

Livestock numbers and AUMs would increase when monitoring shows use standards and resource objectives are being met. The reduced amount of use would allow for lighter overall grazing pressure on all rangeland areas including riparian and uplands. Fewer livestock numbers would be easier to control and manage, especially animals that are unfamiliar with the allotment. Small groups could be moved and scattered into new locations more often to ensure use levels are kept within appropriate limits. As livestock numbers and AUMs are increased, utilization standards are designed to maintain healthy and vigorous plants. Thus, even as livestock numbers are returned to full permitted levels, healthy and productive rangeland vegetation would be maintained.

During the non-use period, removal of conifers from meadow areas would help to maintain meadow type vegetation communities which are part of primary rangelands. Post treatment burning would also minimize the accumulation of large debris within meadow areas and is useful in removing accumulations of dead herbaceous material which can inhibit new herbaceous plant growth. Maintenance of meadow vegetation would improve overall rangeland conditions within the allotment.

#### Indirect Effects

Proposed actions to treat aspen stands would indirectly improve rangeland by improving health and vigor of the stands, in turn improving the vegetative and biotic diversity associated with

them. The total area to be treated is small, but would contribute to continued improvement and existence of aspen communities in general.

Watershed improvement projects would indirectly affect rangeland conditions by improving water flow across meadows where old roads, stock ponds, and non-functioning structures have caused natural flows to be diverted or interrupted. Removing these man-made structures and re-contouring meadow areas would re-establish more natural water flows, help to maintain soil moisture levels, improve meadow vegetation, and provide water for longer periods within the watershed. Improving water flow across meadows would contribute to the diversity of vegetation across the landscape.

Changes to the Dixie Spring corral and spring development would benefit rangelands by moving a livestock handling facility out of a meadow area into the adjacent upland. Use of the facility would shift livestock gathering, crowding, and sorting out of the more sensitive meadow soils. The new location of the facility would also direct livestock trailing during gathering into upland areas versus across the meadow. The improved spring development would protect the spring and its immediate channel from direct use by livestock, thus improving water quality and habitat for possible aquatic macro-invertebrates. The trough would provide an alternate, fresh, water source in the upland that would direct livestock away from using the spring area itself or its outflow channel. The shut-off would allow filling of the trough only when needed and the overflow would ensure excess water was returned to the spring.

The proposed fences would all help in controlling livestock movement and managing the grazing rotation as described, resulting in continued improvement of the rangeland resource.

#### Cumulative Effects

Cumulatively, the proposed action would give the rangeland some beneficial rest from livestock grazing while implementing additional resource improvement projects that would enhance overall vegetative diversity, health and watershed conditions within the allotment. Past and on-going timber projects adjacent to proposed meadow and aspen treatments have or will treat stands with underburning, but would not extend the benefits of low intensity fire into the edges or meadows.

The proposed action would connect the treatments and provide a continuum across vegetation types that would further improve the area's ability to withstand natural wildfire and possibly lessen the risk of catastrophic fires.

The proposed watershed improvement projects could contribute, although in a relatively small way, to improving conditions in Pine Creek. Any improvement in the holding capacity of

meadow or wetland systems along the tributaries to Pine Creek would have the potential to improve conditions downstream.

## ALTERNATIVE 2

### Direct Effects

Alternative 2 would maintain the rangelands in their current condition. The allotment would be grazed for approximately three months in the spring and summer by the full permitted numbers. The allotment would have received some rest from livestock grazing during the analysis process, but when livestock grazing resumes it would be at full numbers. Thus, there would be no period of lighter grazing levels by fewer animals as with Alternative 1. Rangeland vegetation would be utilized at appropriate levels and grazing would be spread over the entire area. Utilization standards would most likely be reached across the entire allotment, versus there being an initial period of light grazing overall, as with Alternative 1.

### Indirect Effects

The additional resource projects proposed in Alternative 1 and the overall resource improvement expected by implementing them would not occur. Alternative 2 would not treat the aspen stands. These stands would continue to be shaded by encroaching conifers, affecting their health and vigor. The changes that usually occur in the plant and biotic diversity within hardwood stands when encroaching conifers are removed would not be evident.

Under Alternative 2, hand-thinning and underburning would not occur along the meadow edges and fire would not be allowed to burn into the meadows. Conifers would continue to increase where meadow edges have become drier and no longer support typical wet meadow vegetation.

Also, watershed improvements would not occur under Alternative 2. Old road beds would continue to channel water or interfere with the natural flow through the meadow areas. Existing water holes would be left as is without developing alternative water sources that could improve wet meadow conditions and vegetation communities.

Alternative 2 does not include changes to the Dixie Spring Corral facility and the spring would not occur. Livestock would continue to have access to part of the spring area and its immediate channel for watering. The corral would not be relocated from the meadow to the adjacent upland.

### Cumulative Effects

Grazing would continue to contribute to cumulative effects within Harvey Valley. Rangelands would not receive the overall benefit of additional years of rest from livestock grazing. Alternative 2 would not provide the additional benefit of low intensity fire along edges and in the meadows to extend the benefits from underburning projects in adjacent timber stands. The hand-

thinning would not occur, thus even though adjacent treatments would help minimize risk of a large fire, untreated areas along the meadow edges (hand-thinned or burned) could potentially provide additional fuel and affect fire behavior. The potential benefits downstream from watershed improvement projects would not occur.

### ALTERNATIVE 3

#### Direct Effects

Alternative 3 would discontinue livestock grazing on the Harvey Valley Allotment. Rangeland vegetation would not be grazed annually by livestock. Herbaceous vegetation would complete full life cycles, producing leaves, setting seed and replacing root reserves each year. No grazing would be similar to the non-use period of Alternative 1 extended over an indefinite time period. Eventually, some meadow areas may become matted with dead, residual matter from previous years that would need to be removed or broken down, by some manner, to allow new vegetation to grow through.

#### Indirect Effects

Similar to Alternative 2, Alternative 3 would not result in the implementation of resource improvement projects, such as watershed and aspen stand improvement. Additionally, discontinuing grazing could include possible changes in fire behavior. From one perspective, the un-grazed rangeland vegetation could provide fine fuels to carry fire and mimic more natural, fast-burning, low intensity fires. On the other hand, un-grazed rangeland vegetation may provide fuels that would continue to carry a fire compared to grazed vegetation that would slow the advancement of a fire considerably due to less fuel to burn. However, without some pre-treatment of existing fuels, a natural fire could be more intense than desirable.

#### Cumulative Effects

Livestock grazing would not contribute to cumulative effects of Alternative 3. In the short term, cumulative effects would be least under Alternative 3. However, the benefits of the proposed improvement projects under Alternative 1 would not be realized.

## **LIVESTOCK MANAGEMENT**

### ALTERNATIVE 1

#### Direct Effects

The proposed action would directly affect livestock management with the 5 years non-use followed by incremental increases in numbers. Five years of non-use requires the permittee to either have somewhere else for their livestock to graze for the months they would otherwise graze the Forest Service allotment, or to reduce the number of animals in their operation until the

allotment is available again to graze. This could be both beneficial and detrimental to their livestock management by changing their income and expenses for the operation.

Livestock management on the allotment would not occur during the non-use period, but the proposed action includes improving and maintaining existing structural range improvements such as fences. This does add expense to the permittee's operation in man hours and materials, with no immediate returns from grazing livestock and raising calves for sale. When grazing resumes on the allotment, livestock management would initially require intensive oversight of where cattle are congregating, moving small groups into desirable areas, habituating livestock to the grazing rotation and monitoring use levels to ensure requirements are not exceeded. During this time, maintenance of range improvements would continue, which would add man hours to the expense of operating on a National Forest allotment. When full permitted numbers graze the allotment, careful monitoring of grazing use would be necessary and livestock moved or distributed to ensure standards are not exceeded. Initially, this would require more man-hours and equipment time in vehicle use, horses, etc. adding to the cost of operating on the allotment. As this becomes more routine, operating on the allotment would probably become more efficient and require relatively less time.

#### Indirect Effects

The proposed action includes numerous vegetation improvement projects, prescribed fire, watershed improvements, and structural range improvements. Projects such as these typically require adjustments in livestock management within the allotment where they occur.

Implementation of prescribed fire often results in the need to rest the burned area from livestock grazing to allow for re-establishment of herbaceous vegetation. The proposed watershed improvements typically would also require some adjustment to the grazing rotation strategy to keep livestock from interfering with equipment operations. Aspen treatments usually require temporary fencing to prevent browsing of new sprouts before they can establish. The proposed action includes five years of rest so these improvement projects would be completed before livestock return to the allotment, thus avoiding additional impacts to livestock management once grazing resumes on the allotment.

#### Cumulative Effects

Cumulative effects to livestock management would initially be small in the amount of time necessary to maintain the allotment, (fence maintenance/improvement). As livestock are re-introduced to the allotment, new animals would need closer attention to familiarize them with the country, train them to the routine for gathering and moving between pastures, and in time spent monitoring conditions to keep livestock distributed throughout each pasture. As livestock numbers increase to full permitted levels, the time spent managing the distribution and movement

of livestock may decrease slightly or remain constant, but there would be considerable time spent monitoring resource conditions to make sure standards and objectives are met.

However, resource improvement projects would be implemented before grazing resumes so as to have the least impact on livestock management and structural improvements would be in place and functional.

## ALTERNATIVE 2

### Direct Effects

Grazing would resume at full permitted numbers. Livestock management would continue as in the past, rotating livestock through the three units of the allotment from early to late summer. Structural rangeland improvements such as the fences and changes to water holes would not occur. The improvements at Dixie Spring Corral would not occur. Livestock management in these areas would continue to require more careful attention by the permittee to meet standards with the full numbers. With a completely new herd of cattle, this would require constant observations resulting in greater man hours.

### Indirect Effects

Alternative 2 would require the maintenance of structural range improvements, such as fences, prior to livestock grazing the allotment. Resource and structural improvement projects would not occur, so there would be no impact or adjustments to livestock management necessary to implement them.

### Cumulative Effects

Cumulative effects to livestock management of Alternative 2 would be minimal. Once livestock become accustomed to the allotment again, overall time spent would remain constant.

## ALTERNATIVE 3

### Direct Effects

Alternative 3 would directly affect livestock management by completely eliminating grazing from the allotment. The Term Grazing Permit would be cancelled. The permittee would not have this source of summer feed for his livestock herd, resulting in the need to secure other summer range, most likely more costly private lands out of the area. Potentially, the local ranching facility would be sold and may not continue to be operated as a livestock operation. Often, this results in large open areas being subdivided, leading to development, less habitat for wildlife and less open space.

### Indirect Effects

Livestock management on adjacent grazing allotments would be indirectly affected by Alternative 3. Boundary fences between the Harvey Valley allotment and adjacent grazed allotments would still require maintenance. Fences assigned to the Harvey Valley allotment permittee would need to be re-assigned to adjacent permittees. Since boundaries are not entirely fenced, there is also the possibility for livestock to stray onto the un-grazed allotment which would require that permittees from adjacent allotments check for strays outside their usual area. Allotment permittees spend time on the allotment monitoring their livestock and forage conditions, maintaining improvements, distributing salt and checking water sources. They also observe wildlife, forest visitors, and problems or issues that may occur. When grazing is removed from an area, a regular presence is removed. Thus, the opportunity for illegal activities, resource damage, or unauthorized uses increases and such occurrences would potentially go unnoticed for a longer period when the regular presence of livestock managers is removed.

### Cumulative Effects

Grazing is an appropriate and authorized use of rangelands. Alternative 3 would remove a long-term use of the area by removing grazing from the allotment. The local ranching operation would be negatively affected both economically and operationally, which in turn would negatively affect other ranching operations and the associated community.

## **BOTANY**

### **Federally Listed Plant Species**

Currently, there is one known occurrence of the federally-listed plant species *Orcuttia tenuis* (slender Orcutt grass) found within the Harvey Valley Allotment. The Dry Lake pool and associated *Orcuttia tenuis* occurrence are part of a small wetland complex that consists of two wet depressions known as the Dry Lakes. The northern pool is approximately 2.75 acres and contains the known occurrence of *Orcuttia tenuis*. This pool is found within the 1,670 acre Dry Lake designated critical habitat unit. The entire unit is found within the Harvey Valley Allotment.

### ALTERNATIVE 1

#### Direct Effects to Individuals

Direct effects to individuals of *Orcuttia tenuis* can occur within the Harvey Valley Allotment project when plants are trampled, have waste deposited on them, or are pulled up or grazed by livestock. Each of these activities could directly injure or kill plants and thus eliminate those plants' contribution to the seed bank. Seed set is vital for *Orcuttia tenuis* since, as an annual, it depends on reserves in the soil seed bank for the population's continued survival. Replenishing seeds into the seed bank is critical to the continued viability of the species. The effect on the

viability of an occurrence depends on the number of plants that successfully produce seeds each year.

Overall, the effect of cattle grazing on *Orcuttia tenuis* plants is most likely minor, due to the elimination of grazing within the Dry Lake vernal pool during seed set, and cattle preference for more succulent, greener vegetation compared to the awned and bitter-glandular *Orcuttia tenuis* plants. While grazing impacts have been recorded in the past within the Dry Lake vernal pool, cattle seem to focus on the more palatable species, such as *Muhlenbergia*, which is common around the edge of the vernal pool (Table 1). In addition, under the Proposed Action cattle would not be moved into the White Horse Unit, where the Dry Lake vernal pool is found, until late August, ensuring that grazing would only occur after the plants have set seed. Trampling at this stage would have no effect, and plants uprooted after seed maturity could still contribute to the seed bank unless these plants blow into upland areas. In addition, these plants are known to have a very bitter taste even when dry, which is most likely why they are dropped soon after they are picked up by livestock (USFWS 2005). As a result, past monitoring has indicated that the largest impact to the plants comes from trampling, and not direct grazing, most likely due to the shorter stature and unpalatability of *Orcuttia* plants (Table 1).

**Table 1: Dry Lake Vernal Pool Monitoring**

Date Monitored	Numbers	Impacts	Comments
8/10/1994	~100,000	No evidence of grazing impacts	
8/10/1995	~100,000	Light trampling g and pull-ups noted	Most impacts found on <i>Muhlenbergia</i>
8/12/1997	Similar to previous	<10% trampling after plants had dried	Most impacts found on <i>Muhlenbergia</i>
9/14/1998	~100,000	No evidence of grazing impacts	
7/18/2000	Similar to previous	No evidence of grazing impacts	
6/6/2001	0	Light trampling	Very Dry Year
6/25/2002	~1,000's	No evidence of grazing impacts	
8/24/2009	~9,000	Some cow punches SW end of pool	

Source: USDA Forest Service 2012

Finally, waste deposition is another localized direct effect, both during and after seed set (USFWS 2005). Cow pies on top of *Orcuttia tenuis* plants or potential habitat are likely to eliminate plants in the immediate area, due to seeds or plants being buried and altering the clay soil characteristics required by *Orcuttia tenuis*. However, this is probably a minor impact across the occurrence.

Overall, there would be some direct impacts to individual *Orcuttia tenuis* plants by the implementation of the Harvey Valley Allotment Project. However, these should be minor due to the timing of grazing on the vernal pool.

#### Direct Effects to Critical Habitat

Direct impacts to critical habitat could occur with continued grazing within upland areas around the Dry Lake vernal pool. A 300 foot zone was used to represent the critical habitat zone around this pool for analysis purposes. This area is believed to be the area of potential watershed needed to contribute to the health of the pool and needs of the species within the larger critical habitat boundary. The pool and associated upland areas of critical habitat within the 300 foot buffer would receive some direct impacts from continued grazing with the implementation of the proposed action, which would include trampling and associated soil compaction. Overall, impacts to PCEs within the Dry Lake Critical Habitat Unit are expected to be transitory and minor since cattle would only be placed in this unit when the soils are dry. While some trampling may occur, compaction is expected to be minor.

#### Indirect Effects to Individuals and Critical Habitat

Negative indirect effects are most likely to occur from an increase in sedimentation or noxious weeds as a result of continued grazing within the vernal pool and associated critical habitat. However, *Orcuttia tenuis* and its associated critical habitat would also receive a benefit from the proposed five years of non-use and phased reintroduction of grazing, as well as the implementation of the grazing standards for the Dry Lake vernal pool.

Increased sedimentation could occur as the result of accelerated erosion, due to vegetation removal and disturbing of soil crusts from grazing activities. A heavy sediment load into the vernal pool could degrade habitat by burying seeds too deep to germinate or making the pool too shallow to support *Orcuttia* plants. This may be possible, but is unlikely to cause detrimental effects, since the topography around Dry Lake is extremely flat, giving little potential for soil to move into these areas from grazing in the uplands. As a result, the pool likely collects water from only the immediate run-off area, where precipitation comes mainly in the form of snow and tends to melt at a relatively slow rate, allowing infiltration. In addition, the volcanic, clay soils are fairly stable, and are not classified as highly or moderately erosive. As a result, erosion from upslope, steeper, forested areas is unlikely to have any effect, since these do not exist anywhere near the pools within the allotment.

Another potential negative indirect effect is the potential to increase noxious weeds or other undesirable non-native species in the pool as a result of continued grazing activities within the allotment. At this time there are very few known CDFG listed noxious weed species within the allotment, and all known occurrences are treated annually (USDA Forest Service 2012). So while there is always the potential for weed species to invade these areas, chances are low, due to the lack of established weed occurrences within allotment. The Noxious Weed Risk Assessment for the Harvey Valley Allotment, Grazing Management Project determined that there is a low

potential for weed spread with the implementation of the proposed action. In addition, Integrated Design Features implemented as part of the proposed action and ongoing monitoring within the pool should also reduce the potential for weeds to become established within these areas.

Finally, *Orcuttia tenuis* plants and critical habitat would also receive a beneficial effect from the implementation of the Proposed Action, since proposed grazing standards would decrease the annual impacts to grazed pools as compared to the current grazing standards (Table 2).

Currently, there is no trampling or stubble height standard and the allowable use is much greater within the Dry Lake vernal pool than what is currently proposed under the Proposed Action. In addition, the Proposed Action includes a five-year non-use agreement, where the allotment would be rested from grazing until 2015 to implement resource improvement projects. At the end of the non-use period, grazing would be incrementally reintroduced into the allotment but would not exceed the currently permitted numbers. Therefore, no grazing impacts would occur within the Dry Lake pool or its associated critical habitat during the non-use period and over the 10 year life of the permit, grazing impacts on the pool and associated critical habitat would be much reduced from the current standards.

**Table 2: Comparison of existing and proposed grazing standards for Dry Lake.**

Grazing Standards	Allowable Use	Stubble Height
Current Grazing Standards	No more than 20% bank alteration 45% herbaceous utilization	None
Proposed Grazing Standards	25% use of riparian vegetation 0% trampling before seed set < 15% trampling after seed set	None

### Cumulative Effects

A cumulative effect can result from the incremental impact of the proposed action when added to the effects of past, present, and reasonably foreseeable future actions regardless of what agency or persons undertakes such actions (40 CFR §1508.7). The project area was chosen as the cumulative effects analysis area for *Orcuttia tenuis* because actions outside the project boundary would not affect the viability of the species within the project area.

### **Past**

By examining current inventories of *Orcuttia tenuis* we capture the aggregate impact of past human actions and natural events that have led to their current distribution within the project area (CEQ 2005). For annuals associated with vernal wet areas, occurrence numbers may fluctuate greatly from year to year depending on inter-annual variation in precipitation and snow pack. Thus, past climate patterns can contribute cumulatively to the distribution and abundance of this species within the project area. Overall, all past activities are considered part of the existing

conditions because the existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment and might contribute to cumulative effects. By looking at current conditions, we are sure to capture all the residual effects of past human actions and natural events, regardless of which particular action or event contributed to those effects.

### **Ongoing Actions**

Ongoing actions within or adjacent to the known occurrence and designated critical habitat within the project area include personal use woodcutting and recreation activities (PORFFA, Harvey Valley Allotment project record), however, these are scattered across the project area and contribute only minor impacts that could add cumulatively to the proposed action.

### **Foreseeable Future Actions**

There are currently no known foreseeable future projects within or adjacent to the Dry Lake vernal pool or designated critical habitat within the project area (PORFFA, Harvey Valley Allotment project record). As a result, there would be no effects from future actions which would add cumulative to those from the Proposed Action.

In summary, there are few additional effects to *Orcuttia tenuis* or its designated critical habitat from ongoing actions and none from foreseeable future actions that would add cumulatively to impacts from the proposed action. Proposed grazing standards would ensure that plants are not grazed prior to seed set and only during times when soils are dry.

## **ALTERNATIVE 2**

### **Direct Effects to Individuals and Critical Habitat**

With the implementation of Alternative 2, current levels of direct effects to *Orcuttia tenuis* plants and critical habitat would continue. Since individual plants are too small to be grazed and most likely unpalatable, direct effects would include trampling and deposition of animal waste onto individual plants and compaction of the soils due to earlier grazing times within the White Horse Unit. Unlike Alternative 1, there would continue to be no trampling standard and the allowable use would be greater under current management (Table 2). In addition, since livestock would be moved into the White Horse Unit in mid-July, there is the potential for plants to be impacted during seed set. Past monitoring of the pool however, has shown very little past impacts from livestock activity to the pool or individuals (Biological Assessment for the Harvey Valley Allotment project record). Therefore, while overall effects to individual plants, the Dry Lake vernal pool and associated critical habitat are few under Alternative 2, they would be greater than those proposed under Alternative 1.

#### Indirect Effects to Individuals and Critical Habitat

Indirect effects for Alternative 2 which include the potential to increase sedimentation and noxious weed species into the pool should be similar to those described in Alternative 1. Regardless the changes in grazing standards within the Dry Lake vernal pool there is still only a minor chance of sediment moving into this system, due to the lack of topography around the pool. In addition, regardless of alternative chosen there are very few noxious weed occurrences within the allotment and these would continue to be annually treated, so the potential for weed seeds to be transported to areas within and adjacent to Dry Lake is similar to Alternative 1.

#### Cumulative Effects to Individuals and Critical Habitat

Cumulative effects for past, ongoing and foreseeable future actions for Alternative 2 would be identical to those previously discussed within Alternative 1. Current impacts to *Orcuttia tenuis* and its associated critical habitat would continue and these impacts would add cumulatively to past, ongoing and future actions discussed within the project area. As compared to Alternative 1 however, direct and indirect effects from the implementation of Alternative 2 are greater, since the grazing standards in the pool would remain at current levels.

### ALTERNATIVE 3

#### Direct and Indirect Effects to Individuals and Critical Habitat

The No Grazing Alternative would eliminate all potential negative direct and indirect effects associated with grazing activities to *Orcuttia tenuis* individuals, as well as the Dry Lake vernal pool and associated critical habitat that could occur with the implementation of either Alternative 1 or Alternative 2. Negative effects from trampling, direct grazing, soil compaction and waste deposition would cease and the threat of increased sedimentation into the pools would be eliminated. Noxious weeds could still invade the pools under the No Grazing Alternative, but since periodic monitoring of the pool would continue regardless of alternative chosen, new occurrences would likely be found and treated before they became established. Overall, the no grazing alternative would provide only beneficial effects to *Orcuttia tenuis*, the Dry Lake vernal pool and critical habitat, since grazing would no longer occur within the allotment.

#### Cumulative Effects to Individuals and Critical Habitat

Cumulative effects for past, ongoing and foreseeable future actions for Alternative 3 would be identical to those previously discussed within Alternative 1, except that there would be only beneficial effects from the No Grazing Alternative to add. Current impacts to *Orcuttia tenuis* and its associated critical habitat would cease, and only occasional impacts from recreation and woodcutting may occur within the area of Dry Lake.

### Determinations

While the Harvey Valley Allotment Project would have some negative direct and indirect effects to *Orcuttia tenuis* and its associated critical habitat, this species would also benefit from proposed changes to grazing standards within the Dry Lake *Orcuttia* pool, as well as the proposed 5 years of non-use. Therefore, it has been determined that Alternative 1 of the Harvey Valley Allotment, Grazing Management Project may affect but is not likely to adversely affect *Orcuttia tenuis* or its designated critical habitat within the project area.

It is also determined that Alternative 2 of the Harvey Valley Grazing Management Project may affect, but is not likely to adversely affect *Orcuttia tenuis* or its designated critical habitat within the project area.

This determination was based on the following reasons:

- Past livestock use has shown only minor impacts to the pool and individuals.
- Indirect effects from potential sedimentation and the increase in noxious weeds is minor.

### **Sensitive Plant Species**

Surveys have found only one occurrence of a Sensitive plant species within the project area. *Eriogonum prociduum*, prostrate buckwheat, occurs in a shallow, rocky side-basin along the western margin of Harvey Valley, about a mile north-northeast of White Horse Reservoir. The occurrence consists of about 200 individuals.

### ALTERNATIVE 1

#### Direct Effects

With the implementation of Integrated Design Features, there would be no direct effects to *Eriogonum prociduum* from the Harvey Valley Allotment Project. The Harvey Valley occurrence is not within any treatment area and it is separated from the nearest underburn area by the corridor of Aspen Creek. The habitat at the occurrence is so rocky and sparsely vegetated that it is unlikely to support a fire, but if fire were to approach the site an Integrated Design Feature for the project specifies that fire would not be allowed to burn through it.

Trampling or consumption of *Eriogonum prociduum* by livestock is also not a risk. No evidence of livestock traffic has been noted within the occurrence, and the site offers little in the way of shade or forage to attract livestock away from the neighboring meadows and riparian corridors. *Eriogonum prociduum*, in particular, is a low-growing perennial that is unlikely to attract grazing by livestock.

### Indirect Effects

Indirect effects primarily relate to changes in a species' habitat, such as changes to the structure or patterns of competition within a vegetative community or an increased risk of noxious weed invasion. Such effects can be beneficial, neutral, or harmful.

Since the site where *Eriogonum prociduum* occurs would not be allowed to burn and does not experience grazing or traffic by livestock, the plant community there is unlikely to change. Furthermore, the habitat around the occurrence is very dry and sparsely vegetated, and most weeds would not prosper there. The nearest weed occurrence is almost a mile away and is treated regularly. The Harvey Valley Allotment Noxious Weed Risk Assessment (hereby incorporated by reference) completed for this project determined an overall low risk of potential weed spread with the implementation of the proposed action. The standard practices of equipment cleaning and other Integrated Design Features greatly reduce the potential for project-related noxious weed spread. The risk of noxious weed impacts to *Eriogonum prociduum* is also low.

With the implementation of Integrated Design Features there would be no indirect effects on *Eriogonum prociduum* from the Harvey Valley Allotment Project.

### Cumulative Effects

Since there are no direct or indirect effects from the implementation of Alternative 1, there would be no cumulative effects.

## ALTERNATIVE 2

### Direct, Indirect, and Cumulative Effects

Alternative 2 calls for the continuance of previous grazing management, which is similar to the grazing management under Alternative 1 after five years rest and the phased reintroduction of grazing. Alternative 2 does not include underburning or any of the other rangeland improvement activities planned under Alternative 1 - it guides only grazing management. Since grazing impacts are not likely for *Eriogonum prociduum*, the implementation of Alternative 2 will therefore have no direct, indirect, or cumulative effects on this species.

## ALTERNATIVE 3

### Direct, Indirect, and Cumulative Effects

Alternative 3 calls for the cancellation of grazing permits in the Harvey Valley Allotment project area. Since livestock do not use the *Eriogonum prociduum* site, this alternative, too, would have no direct, indirect, or cumulative effects on *Eriogonum prociduum*.

### Determinations

It has been determined that neither Alternative 1 nor Alternative 2 of the Harvey Valley Allotment Grazing Management Project would have any effect on *Eriogonum prociduum*.

This determination is based upon:

- The absence of livestock use of the *Eriogonum prociduum* site and the site's protection from underburning under project Integrated Design Features (Alternative 1).

### **Noxious Weed Species**

Two noxious weed species occur within or adjacent to the Harvey Valley Allotment; one A-listed species, assigned a high priority for control on the Lassen National Forest, spotted knapweed (*Centaurea maculosa*) and one B-listed species, with moderate priority for control on the Forest, perennial pepperweed (*Lepidium latifolium*).

Spotted knapweed (*Centaurea maculosa*) occurs at three places in the country west and south of Harvey Mountain summit. An occurrence at the junction of Roads 33N83 and 35N04 (LNF #10) has been treated on numerous occasions since its discovery in 1998. In 2012, 16 plants were treated at this location. Another occurrence lies about a half-mile to the southeast (LNF #31), where knapweed plants have sporadically been found scattered along a quarter-mile stretch of the south side of Road 33N83. Four plants were removed here in 2006, five in 2009, and two in 2010. None have been found since. South of Harvey Mountain, one knapweed plant was removed at Burgess Spring (LNF #11) in 1998. No knapweed plants have been seen at this site since.

Perennial pepperweed (*Lepidium latifolium*) occurs at the eastern foot of Cone Mountain along road 35N04 (LNF #25). Plants have been found here in small numbers (less than 30) since 2001. Eleven plants were removed in 2011.

### ALTERNATIVE 1

#### Direct and Indirect Effects

Alternative 1 has little potential to increase or spread noxious weed species within the project area. While cattle can potentially spread these species in their hooves, hair or feces, neither species are preferred forage for cattle (Wood 1998; Graham and Johnson 2004) and the likelihood of livestock finding and consuming the few plants found within the allotment is very low. In addition, all of these occurrences are visited and treated annually, most often prior to flowering, making the chances of cattle dispersing seeds unlikely. Therefore, there is very little potential for cattle to increase or spread these species within the allotment, and the risk from direct cattle grazing is low for Alternative 1.

Since none of the other actions proposed in Alternative 1, such as watershed improvement, prescribed burning or aspen enhancement projects are found within known locations of these species, there are no associated direct or indirect effects or risk of noxious weed spread from these actions. There is, however, the potential for cattle to bring in weeds from outside the allotment. Monitoring and treatment of known occurrences within the allotment will help to ensure that current infestations are eradicated and future surveys will ensure that any new occurrences are treated immediately, as part of the ongoing noxious weed program on the forest. No new weed infestations have been found within the allotment since 2006 despite various surveys associated with other projects (Noxious Weed Risk Assessment, Harvey Valley Allotment project record), so cattle do not seem to be contributing to the spread of weeds. In addition, the Noxious Weed Risk Assessment for this project determined that there is an overall low potential for weed spread for the Harvey Valley Grazing Management Project.

#### Cumulative Effects

The cumulative effects analysis area for noxious weeds is the Harvey Valley Allotment boundary. This area was chosen because past, ongoing, and future activities within this area have the potential to contribute to the spread of noxious weeds into areas not previously infested. Prior to 1989, botanical surveys for Lassen National Forest projects were not conducted as intensively as project surveys are today, due to the lack of a Forest Botanist. Since this time, however, all past and future projects within the allotment including all vegetation, watershed, and wildlife habitat improvement projects were surveyed to similar standards by botany personnel (PORFFA, Harvey Valley Allotment project record). While many of these past and future projects can contribute to weed spread through potential opening of the canopy and ground disturbing activities, recent surveys have shown that this has not occurred, since only two new weed infestations have been found since 1998 (US Forest Service 2013). Currently all known occurrences within the project area are associated with roads, meaning that vehicles are most likely the primary vectors within the project area. In addition, ongoing actions such as woodcutting and recreation activities are scattered across the allotment and contribute only minor potential cumulative effects. With such few known weed occurrences in the allotment it can be assumed that there are few effects from past, ongoing or future projects on noxious weed risk or spread that will add cumulatively to the impacts caused from the implementation of Alternative 1.

#### ALTERNATIVE 2

##### Direct and Indirect Effects

Direct and indirect effects of Alternative 2 would be the same as Alternative 1 above.

##### Cumulative Effects

Cumulative effects of Alternative 2 would be the same as Alternative 1 above.

### ALTERNATIVE 3

#### Direct and Indirect Effects

With the No Action Alternative the current grazing permit would be cancelled and grazing would cease within the Allotment. As a result, there would be no potential for cattle to act as vectors and spread seeds within the hair, hoofs or feces and there would be no potential for cattle to import weed seeds from infestations that occur outside the allotment. Known weed sites would continue to be treated within the allotment as part of the ongoing Noxious Weed program on the forest. Therefore, there would be no effects from the implementation of Alternative 3 to noxious weed risk or spread.

#### Cumulative Effects

Since there are no direct and indirect effects associated with the implementation of Alternative 3, cumulative effects are not an issue.

### **CULTURAL RESOURCES**

The Harvey Valley Allotment encompasses 33,072 acres of which 27,505 acres were previously surveyed for cultural resources (primarily timber sales). Those surveys identified 104 properties within the Harvey Valley Allotment, 55 are located within primary range and 49 are located within secondary range. Twenty-two of these sites were monitored in 2011 and monitoring forms were prepared and placed with the site records. Surveys were completed on 856 acres in 2011 and an additional 2,829 acres in 2012. Thirteen new sites were identified and recorded. Currently, approximately 1,521 acres in primary and secondary range use areas need to be surveyed, most of which had very old records that do not meet current standards and were selected for re-survey. The remaining acres would be surveyed prior to livestock returning to the allotment.

### ALTERNATIVE 1

#### Direct Effects

The 104 known properties, as well as any new properties identified within the Harvey Valley Allotment could be possibly impacted by this alternative. However, Standard Resource Protection Measures (SRPM) as defined in the Regional Programmatic Agreement and Interim Protocol would be employed as integrated design features and applied to all cultural resources within the allotment.

Alternative 1 would rest the allotment from livestock grazing through the 2015 grazing season. This rest period would be beneficial since it would allow time for additional cultural resource surveys and site monitoring to be conducted prior to livestock returning to the allotment. Any additional sites identified through surveys would be inspected for livestock disturbances and have

SRPMs applied where necessary to protect them from further damage when grazing resumes. Monitoring would also occur on known sites to determine if rangeland activities are causing adverse effects. Existing site records would also be used to determine potential or existing effects from livestock. In addition, salt blocks and staging or gathering areas would be located outside of known cultural resources.

Thirty-one sites are located in proposed areas of hand-thinning and prescribed fire, and twenty-seven sites are located in areas proposed for meadow underburn. Hand-thinning treatments have the potential to adversely impact cultural resources. Lopping and scattering, and/ or piling and later burning must not occur within archaeological sites. Trees and branches must be hand carried and not dragged through any site. Also, increased foot traffic may have an adverse impact on some sites. Historic sites with large concentrations of glass fragments would not benefit from increased foot traffic since it may be stepped on and broken even further.

Underburning may have adverse impacts to cultural resources. Historic sites with wooden artifacts would be excluded from any underburning activities. Underburning may be allowed in sites that have previously burned over by moderate to high intensity fire.

With the direction from a cultural specialist, some treatments described above may occur within some sites. These treatments could benefit the site by reducing fuel accumulations and reducing the risk of a high intensity fire occurring in the site. Treatments restricted to outside of archaeological sites would be beneficial in a similar fashion, since the risk of high intensity fire to cultural resources would be diminished by reducing fuels around the site. Reducing fuel accumulations within and outside of sites would have positive effects, as long as SRPMs are in place to avoid adverse impacts.

Proposed areas for fencing would benefit cultural resources if impacts to sites from livestock have been documented. If the fencing could be constructed to include the site as well as the aspen stand, both resources would benefit greatly. Fencing must not have any ground disturbance impacts on the cultural resources.

#### Indirect Effects

In addition to directly affecting the location and physical features of cultural resources, ground-disturbing activities can indirectly affect the integrity i.e. the feeling or setting of the resource. This can occur even if activities are not conducted inside the resource boundaries. The importance of a cultural resource may be encompassed in its setting and landscape associations as much as with its physical features. When the integrity of cultural resources becomes compromised, it affects the sites' qualities for being eligible to the National Register of Historic Places.

The proposed project could also benefit cultural resources by providing opportunities for study, through site monitoring, thereby adding to knowledge of past human behavior and the trend of human-environment interactions and settlement and subsistence practices. This information can contribute to our understanding of cultural adaptations within the environment and provides opportunities for protection and interpretation of cultural resources for the public.

No other indirect effects (e.g. erosion) are likely to occur to known cultural resources as a result of range activities. There is the potential that sites (Unanticipated Discoveries) do exist that are currently obscured by vegetative cover. Unanticipated Discoveries are to be mitigated using the terms of the Interim Protocol.

### Cumulative Effects

The cumulative effects analysis boundary for cultural resources is the Harvey Valley Allotment boundary. The geographic scope of the cumulative effects analysis boundary was selected because impacts to cultural resources accumulate at the specific location of cultural resources, irrespective of actions in surrounding areas. Archaeological sites are stationary resources, which are protected from all range and range-related activities (current or future) until eligibility to the National Register of Historic Places has been determined. Generally, archaeological sites are not influenced by actions taken outside their boundary since this is addressed and mitigated during project planning and integrated design features. A temporal scope was also selected in determining cumulative effects, because impacts to cultural resources at a given location can accumulate over time from different activities or events.

The cumulative effects analysis for cultural resources considers impacts of the alternatives when combined with the past, present, and foreseeable future actions and events. Prior to the 1974 Forest and Rangeland Renewable Resources Planning Act and the archaeological protection laws of the mid 1970's, effects to cultural resources were not considered during project planning or implementation. Consequently, cumulative impacts of varying degrees occurred within the project area from various land management activities including primarily logging, road construction, and grazing. Natural environmental processes and unrestricted land uses have also contributed to effects to cultural resources within the Harvey Valley Allotment. These include: dispersed recreation, OHV uses, user created roads and trails, wildfires, erosion, and exposure to the elements.

Cultural resources have been protected using "flag and avoid" as protection measures during all projects subsequent to 1970s legislation. Monitoring during the 2011 field season indicated livestock impacts to some of the sites. Continued monitoring would be necessary to document any adverse cumulative effects to cultural resources resulting from the proposed activities

associated with the Harvey Valley Allotment. When monitoring indicates, necessary SRPMs would be identified and applied to further protect cultural sites.

## ALTERNATIVE 2

### Direct, Indirect and Cumulative Effects

Under this alternative, grazing would continue as it occurred under the Term Grazing Permit. Livestock would immediately return to the allotment in full numbers, no five-year rest period would be in place. Also, this alternative would not implement the Rangeland Improvements and Development proposed in Alternative 1.

Standard Resource Protection Measures (SRPM) and site monitoring would be employed as integrated design features and applied to all cultural resources within the Harvey Valley Allotment. Integrated design features are employed for archaeological sites and features and are supposed to identify and eliminate effects to cultural resources.

Aside from the possible damage caused by livestock affecting the integrity of a resource, no other indirect effects are anticipated to occur within the Harvey Valley Allotment. Monitoring of the sites might contribute to our knowledge of the sites within the allotment and lead to further research. Unanticipated discoveries of cultural resources might still take place in un-surveyed as well as in previously surveyed areas. Unanticipated discoveries are to be mitigated using the terms of the Interim Protocol.

## ALTERNATIVE 3

### Direct, Indirect and Cumulative Effects

Livestock would no longer be authorized to graze the allotment. The Term Grazing Permit would be cancelled. Resource improvement projects would not be implemented. Structural rangeland improvements would not be maintained. Boundary fences would be re-assigned to adjacent permittees for maintenance. No direct effects from range-related activities would occur to cultural resource sites as a result of implementing this alternative. The risk of potential wild land fire and damage to fragile cultural resources would be minimal due to the sparse vegetation associated with most of the sites in the allotment. This option would not provide opportunities for site monitoring or study and interpretation.

In terms of potential effects to cultural resources, Alternative 3 would have no impacts on cultural resources, but it would also not provide opportunities for site monitoring or study and interpretation. Between Alternatives 1 and 2, Alternative 1 would allow for cultural resource surveys to be completed before livestock are allowed back on the allotment. Alternative 1 would also allow for monitoring of cultural resources and implementation of additional SRPMs to eliminate adverse actions by livestock. Alternative 2 would release livestock back onto the

allotment without any rest period and before the completion of cultural resource surveys. Under Alternative 2, grazing would immediately continue in areas that have not been surveyed for cultural resources, increasing the likelihood of effects on cultural resources.

## **WILDLIFE**

Threatened, Endangered and Sensitive (TES) wildlife and aquatic species considered for analysis of effects were determined based on review of the U.S. Fish and Wildlife Service species list (website accessed on 12 March, 2012), and on review of the USDA Forest Service Sensitive species list for Region 5.

### **Threatened or Endangered Species**

No Federally Listed threatened or endangered species required analyzing for this project. Due to the project area being outside the range of the species, or due to the lack of suitable habitat or habitat components in the project area, the action alternatives would have no effect on the following Federally Listed threatened or endangered species or their critical habitat: northern spotted owl, valley elderberry beetle, Central Valley steelhead distinct population segment (DPS), Central Valley chinook salmon evolutionary significant unit (ESU), Delta smelt, Winter-run chinook salmon ESU, California red-legged frog, Shasta crayfish, conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, giant garter snake.

In early January 2012, the first gray wolf (federally-listed, threatened) in 80 years was documented in California. OR-7 is an individual wolf that has moved over a very wide area during the last year, at times near or along the periphery of the Harvey Valley Allotment area. OR-7 moved into the landscape of the Lassen National Forest where there is a long history of on-going grazing. It is not a new use being proposed for this landscape. Also, OR-7 does not appear to be using the project area. There is no den site or rendezvous sites within or near the allotment area. OR-7 is a lone male wolf, with no evidence of female wolves or other conspecifics in the Lassen area. Due to the lack of effects to this individual and to wolves in general, a full analysis of direct, indirect or cumulative effects to gray wolves was not included.

### **Sensitive Species**

Due to the project area being outside the range of the species, or due to the lack of suitable habitat or habitat components in the project area, the action alternatives would have no effect on the following Forest Service Sensitive species: California wolverine, American marten, Pacific fisher, Sierra Nevada red fox, Townsend's big-eared bat, California spotted owl, Swainson's hawk, great gray owl, willow flycatcher, foothill yellow-legged frog, mountain yellow-legged frog, Cascades frog, northwestern pond turtle, California floater, Great Basin rams-horn,

scalloped juga, topaz juga, montane peaclam, nugget pebblesnail, Central Valley fall/late-fall chinook salmon ESUs.

Terrestrial sensitive species analyzed in detail were northern bald eagle, northern goshawk, greater sandhill crane, pallid bat and western red bat. The only aquatic species analyzed was the Eagle Lake rainbow trout, because the project area contains a portion of the migration corridor for spawning (Pine Creek).

Summaries of the analyses of effects for these species are given below.

### **Northern bald eagle**

#### ALTERNATIVE 1

##### Direct and Indirect Effects

The potential effect of livestock grazing to bald eagle habitat is primarily grazing-induced changes to prey habitat, which in this case is waterfowl habitat. Grazing can affect nesting habitat by reducing the amount of residual vegetation under which waterfowl can find cover for nesting. Livestock may also trample waterfowl nests and their eggs.

Available water is generally in the form of man-made stockponds and reservoirs. Outside of these artificial ponds there is limited brood habitat due to the lack of persistent water within the surrounding meadow systems. The primary rangeland areas of this allotment provide only marginal habitat for waterfowl, so while grazing may reduce nesting cover, this likely is not a large negative factor for waterfowl in this area.

The Little Harvey Valley bald eagle nest was discovered in 2001, when the allotment was actively grazed. The bald eagles initiated territory establishment during the active grazing period for this allotment. During the recent period of no grazing (2009-2011), nesting success did not increase. Due to the marginal value of waterfowl nesting in the area and that eagles came into the allotment when it was actively being grazed, and the fact that an absence of grazing has not lead to increased eagle nesting or productivity, the degree of annual grazing that would be permitted under this alternative does not seem to directly impact bald eagle nesting activity or success. Watershed improvement projects that would increase wet meadow habitat may increase waterfowl habitat and attract more waterfowl to the area. Hand-thinning and prescribed burning would serve to restore the historical extent of meadow and valley ecosystems, and increase understory production. Since bald eagles do not typically forage within forested habitats, helping to restore the extent and productivity of these areas would likely confer a small benefit to bald eagle foraging habitat.

### Cumulative Effects

The cumulative effects analysis area was kept at the allotment boundaries and not extended further due to the negligible direct and indirect effects of this and the other alternatives. While a primary foraging site for the resident pair of eagles is in Pine Creek Valley outside the allotment boundaries, the cumulative effects area was not extended to cover that area due to lack of other proposed actions on the District that would alter the habitat status within that area.

Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinnings from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result there should be an increase in grasses and other understory vegetation in these thinned areas. An increase in this forage, especially when adjacent to primary range, should provide a greater amount of livestock forage within the allotment, and may serve to reduce the degree of grazing within waterfowl habitat. The numbers of bald eagles that nest on FS lands has increased since the 1970s, during which time this allotment was actively grazed. Given the increase in eagles during this same period, and given the design features of this proposed action that would reduce grazing or continue grazing similar to historical levels, there should be no measurable cumulative effects to bald eagles or their habitat as a result of this proposed action.

The effects of the proposed actions would have slight to negligible effects to the habitat of bald eagles and their prey. Therefore, it was determined that the proposed activities within Alternative 1 of the Harvey Valley Allotment Project may affect individuals of northern bald eagles, but are not likely to result in a trend towards federal listing or loss of species viability.

## ALTERNATIVE 2

### Direct and Indirect Effects

The standards and guidelines under which grazing levels would be managed are less strict under Alternative 2 versus Alternative 1. However, effects of grazing itself would generally be the same as Alternative 1. This alternative does not include the included actions as described under Alternative 1, such as hand-thinning, underburning and watershed treatments.

As stated under Alternative 1, livestock grazing in this allotment likely does not cause a large negative effect to waterfowl reproductive habitat due to the limited amount of open water habitat in the allotment area. So while grazing may reduce nesting cover by reducing the height and density of residual vegetation, this likely is not a large negative factor for this area.

### Cumulative Effects

Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinning from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result there should be an increase in grasses and other understory vegetation in these thinned areas. An increase in this forage, especially when adjacent to primary range, should provide a greater amount of livestock forage within the allotment, and may serve to reduce the degree of grazing within waterfowl habitat. Grazing within Harvey and Little Harvey Valleys has been on-going since the late 1880s. Under this alternative, annual grazing would continue, under the same standards and guidelines that have been in place since 2004.

The effects of this alternative would have slight to negligible effects to the habitat of bald eagles and their prey. The primary action is to re-authorize and continue grazing within this allotment, a practice that has been on-going in the area for over 100 years. There is no evidence that this century's old land use has been contributing to a trend towards listing or a loss of viability of this species on the Forest. Therefore, it was determined that the proposed activities within Alternative 2 of the Harvey Valley Allotment Project may affect individuals of northern bald eagles, but are not likely to result in a trend towards federal listing or loss of species viability.

### ALTERNATIVE 3

#### Direct, Indirect and Cumulative Effects

No grazing or any of the other actions proposed in Alternative 1 would take place under this alternative. Vegetative trends, such as conifer encroachment into meadow and valleys, would continue unchecked. Hydrological effects of past actions such as stockpond creation and road building that have caused drying of meadows and in-channel down-cutting would also continue. Both of those trends would result in slight negative trends in the quality of bald eagle foraging habitat.

Meadow and valley vegetation would not be subject to annual decreases in height and/or abundance as a result of annual grazing. As such, no annual decrease in residual vegetation would occur, and there would be no potential for trampling of waterfowl nests. This would result in enhanced bald eagle foraging habitat. However, in this allotment area due to the marginal nature of waterfowl nesting habitat, this would not confer a large benefit to bald eagles or their prey. For instance, in the last two years of no grazing, no increase in bald eagle nesting ability was observed.

## **Northern goshawk**

### ALTERNATIVE 1

#### Direct and Indirect Effects

There would be no effects to goshawk nesting habitat as a result of this alternative. Effects of livestock grazing on goshawk habitat are a result of grazing-induced changes to the habitat of goshawk prey, primarily small mammals and birds (ground squirrels, robins, etc.). Preferred habitat is for large tree open-canopied stands that would potentially contain a productive understory layer of grasses and shrubs, which could be diminished by livestock grazing.

Relatively few of these stands exist within the allotment and current understory development within goshawk foraging habitat throughout the allotment is sufficiently sparse that livestock are not attracted into these forested stands in any numbers. Foraging goshawks would cover much wider areas, including dense forested stands and uplands distant from primary range in which livestock would not be expected to graze. Therefore, for most prey habitat, livestock grazing within this allotment would not present a large negative affect.

The watershed improvement projects would likely have little effect on goshawk prey habitat, being mostly located within or on the margins of large, non-forested valleys and not impacting forested habitat. Hand-thinning would occur along the margins and within non-forested valleys and meadows, removing smaller diameter conifers historically non-forested areas into which they have encroached. This activity would likely have little immediate affect to goshawk habitat, but would help maintain these meadow-forest edge habitats in a healthier condition, possibly enhancing habitat for some prey species. By removing smaller diameter trees, the ability of goshawks to forage within this edge habitat may be improved by eliminating near-ground obstacles to flight.

Similarly, this alterative would authorize fencing and removal of smaller diameter conifers from aspen stands that would serve to restore not just the aspen, but the associated plant community. Providing healthy aspen communities would benefit goshawk prey items such as woodpeckers, and thus would represent a positive benefit to goshawk foraging habitat.

#### Cumulative Effects

The goshawk cumulative effects analysis area was retained at the Harvey Valley Allotment boundary. The cumulative effects analysis area was not extended beyond the allotment boundaries because the primary range (where most of the projects would occur) is in the interior of the allotment and isn't shared with neighboring allotments, and because of the negligible direct and indirect effects of the actions proposed.

Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinning from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result there should be an increase in grasses and other understory vegetation in these thinned areas. An increase in this forage when adjacent to primary range should provide a greater amount of livestock forage within the allotment.

The actions proposed under Alternative 1 would have little direct, indirect or cumulative effects to this species or its habitat. The primary action relative to goshawk habitat is to re-authorize and continue grazing within this allotment, a practice that has been on-going in the area for over 100 years. There is no evidence that this century's old land use has been contributing to a trend towards listing or a loss of viability of this species on the Forest. Therefore, it was determined that the proposed activities within Alternative 1 of the Harvey Valley Allotment Project may affect individuals of northern goshawks, but are not likely to result in a trend towards federal listing or loss of species viability.

## ALTERNATIVE 2

### Direct and Indirect Effects

The primary difference between Alternative 2 and Alternative 1 is that the proposed projects in Alternative 1 would not occur under Alternative 2. Alternative 2 would only authorize livestock grazing. Because the standards and guidelines by which grazing would be administered under this alternative are the same as under Alternative 1, the effects of this practice on goshawk habitat would be the same as discussed under Alternative 1.

Aspen stands would not be treated, so as the overstory stems further decline and die, these stands could be lost from the landscape due to the lack of successful regeneration. This would represent a negative effect on goshawk prey habitat, especially woodpecker species. However, these stands are extremely small, and even their complete loss would likely not measurably affect goshawk suitability across the District or Forest.

### Cumulative Effects

Cumulative effects would be the same as under Alternative 1. The actions proposed under Alternative 2 would have little direct, indirect or cumulative effects to this species or its habitat, with the exception of continued degradation of a number of small aspen stands. The primary action is to re-authorize and continue grazing within this allotment. There is no evidence that this century's old land use has been contributing to a trend towards listing or a loss of viability of this species on the Forest. Therefore, it was determined that the proposed activities within Alternative

2 of the Harvey Valley Allotment Project may affect individuals of northern goshawks, but are not likely to result in a trend towards federal listing or loss of species viability.

### ALTERNATIVE 3

#### Direct and Indirect Effects

There would be no direct effects to current habitat conditions as a result of this alternative. Indirect effects include a continuation of current vegetative trends across the analysis area. As a result, conifers would continue to increase in density along the margins of the meadows and valleys within the allotment, in time reducing the extent of these features. The effects of past activities such as road building and stockpond creation, that treatments within Alternative 1 would help address, would continue, including channel down-cutting and drying of meadow areas.

Due to lack of annual grazing, no annual reductions in vegetative height or density would result. This would confer a slight benefit to goshawk foraging habitat within the allotment area and provide additional herbaceous cover and food for small mammals. However, because goshawks are not likely to forage in the interior of the large valleys that make up the bulk of the primary range in this allotment, this enhancement would likely be slight for this species and its primary prey species.

Without browsing of aspen sprouts by livestock, aspen and the associated plant community would improve in health and diversity. This would benefit goshawks by perpetuating these areas into the future, and providing high valued habitat for woodpeckers and other avian species that serve as goshawk prey.

#### Cumulative Effects

A number of future thinning projects to create fuel breaks would likely take place within the allotment boundaries and several have occurred in the past. This alternative would not add cumulatively to these projects since neither grazing nor the lack of grazing would influence tree growth and the return of sufficient canopy cover within these thinned stands.

Cumulatively, future fuel break projects, along with past fuel break activities, would serve to reduce the risk and size of wildfires. This would help protect goshawk nesting habitat within the allotment area.

Due to long-term changes in habitat conditions, it is determined that the proposed activities within Alternative 3 of the Harvey Valley Allotment Project may affect individuals of northern goshawk, but are not likely to result in a trend towards federal listing or loss of species viability.

## **Greater Sandhill Crane**

### ALTERNATIVE 1

#### Direct and Indirect Effects

Potential effects of cattle grazing to greater sandhill cranes include possible reductions in small mammal prey abundance, loss of residual vegetation important for hiding cover of young cranes, and potential nest abandonment and trampling of young (Littlefield and Ivey 1994).

Potential for nest abandonment is highest early in the nesting season during incubation, especially at high stocking rates. Sandhill crane eggs on the Eagle Lake RD generally hatch by early June. Given the turn-out dates for this allotment, nest abandonment is not likely to occur as a result this project.

Potential trampling of young is highest when young are less than 5-6 weeks of age, and is also highest for cattle herds containing yearlings versus cow/calf pairs (Gary Ivey, personal communication, Carrol Littlefield, personal communication). Since cattle typically would not enter the allotment until late June and the allotment would be grazed by cow-calf pairs, some potential for trampling of young may exist, but this potential is less than if the allotment was grazed by yearlings and if turn-out was in early June.

Residual vegetation for hiding cover is important for young cranes. Residual vegetation may be most important for concealment until young are approximately 10-12" tall, and the denser and more matted the vegetation the better for concealment. The proposed utilization levels of 40% in riparian areas would leave 60% of annual growth available for cover; therefore some levels of hiding cover would remain. The numbers of cranes on the district have increased since surveys in 1930, and may have increased since the 1980s, during which time livestock grazing was occurring at higher utilization levels than the proposed action. Therefore, while grazing may reduce concealment cover, such grazing does not appear to be leading to decreases of this species across the District or Forest.

Other associated projects like the aspen treatments, hand-thinning and prescribed fire would provide some benefit to this species' habitat by reducing the amount of conifer encroachment into crane habitat, and by promoting the diversity and abundance of understory vegetation and prey habitat. The removal of the waterhole in Little Harvey Valley would help restore the hydrology to the sandhill crane nesting area in Little Harvey Valley. The waterhole has caused drying of the meadow directly below it by channeling the overflow water into a down-cutting channel, resulting in a change from wet meadow species to dry species including sagebrush. Instead of being exposed to the surface in a pond, which does not enhance crane habitat, water would instead be spread over the wet meadow area surrounding the existing pond. Removal of this waterhole would also prevent the ability of livestock to concentrate around this site as in the past,

possibly reducing the utilization of forage near this waterhole. This action would serve to increase the overall amount of crane habitat by restoring and increasing marsh-like habitat in Little Harvey Valley, and reducing grazing within this crane nesting area.

### Cumulative Effects

The cumulative effects analysis area was kept at the allotment boundary because the primary areas of crane habitat correspond with areas of primary range which are enclosed within the allotment and are not shared with or extend into other allotments.

Several proposed treatments (hand-thinning, prescribed fire, aspen treatments, waterhole removal) address cumulative effects arising from long-term management actions, including fire suppression and creation of cattle watering areas, which have influenced long-term vegetative trends in the allotment area. In addition, within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinning from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result of these actions, there should be an increase in grasses and other understory vegetation in these thinned areas. An increase in this forage, especially when adjacent to primary range, should provide a greater amount of livestock forage within the allotment and may serve to reduce the degree of grazing within sandhill crane habitat.

Past and future thinning operations have and would feasibly occur within the allotment area. These projects have had minor effects to sandhill crane habitat, primarily by slightly increasing foraging habitat when they have occurred along the margins of non-forested valleys. These projects, and the proposed hand-thinning and prescribed fire treatments, would combine to marginally improve sandhill crane foraging habitat within the allotment area.

The proposed livestock grazing would likely reduce concealing cover for sandhill crane young, but other actions (removal of the waterhole, hand-thinning, etc.) would provide some benefit to crane habitat, especially within Little Harvey Valley where the primary crane nesting area occurs within the allotment. Therefore, it was determined that the proposed activities within Alternative 1 of the Harvey Valley Allotment Project may affect individuals of sandhill cranes, but are not likely to result in a trend towards federal listing or loss of species viability.

## ALTERNATIVE 2

### Direct and Indirect Effects

Because the standards and guidelines under which grazing levels would be managed are the same under Alternative 1 as under this alternative, effects of grazing itself would also be the same.

However, this alternative does not include the additional actions as described under Alternative 1, such as hand-thinning, underburning and watershed treatments.

Effects of grazing on sandhill crane habitat are as described under Alternative 1. Annual grazing as proposed within the allotment would reduce, to some extent, residual nesting cover and thus concealment cover for young sandhill cranes, and there would be some potential for the trampling of young cranes very early in the grazing season. However, the proposed utilization levels of 45% in riparian areas would leave 55% of annual growth available for cover; therefore some levels of hiding cover would remain. The numbers of cranes on the district have increased since surveys in 1930, and may have increased since the 1980s, during which time livestock grazing was occurring at higher utilization levels than with this alternative. Therefore, while grazing may reduce concealment cover, such grazing does not appear to be leading to decreases of this species across the District or Forest.

#### Cumulative Effects

Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinning from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result of these actions, there should be an increase in grasses and other understory vegetation in these thinned areas. An increase in this forage, especially when adjacent to primary range, should provide a greater amount of livestock forage within the allotment and may serve to reduce the degree of grazing within sandhill crane habitat.

The livestock grazing proposed under Alternative 2 would result in some negative effects to sandhill crane habitat, primarily by reducing residual cover for young. There is no evidence that grazing has contributed to a current trend towards listing or a loss of viability of sandhill cranes on the Forest, and crane numbers have apparently increased on the District while grazing was on-going. Therefore, it was determined that the proposed activities within Alternative 2 of the Harvey Valley Allotment Project may affect individuals of sandhill cranes, but are not likely to result in a trend towards federal listing or loss of species viability.

### ALTERNATIVE 3

#### Direct and Indirect Effects

No livestock grazing and none of the associated activities as described under Alternative 1 would take place within the allotment area. As a result, annual vegetative growth would grow unchecked by annual grazing and there would be no annual decreases in concealment cover for sandhill crane young. The potential for young to be trampled by livestock would be eliminated.

Long-term vegetative trends would continue without the prescribed burning and hand-thinning proposed by Alternative 1. Left unchecked, these vegetative trends would in time gradually reduce the amount of sandhill crane habitat as forests continued to encroach into the open habitat inhabited by cranes. Hydrological issues caused by past road building and stockpond creation would also continue. Therefore, there would be long term negative aspects of this alternative to crane habitat, as well as short-term and long-term benefits due to the lack of annual grazing.

#### Cumulative Effects

Past and future projects within the allotment area include forest thinning operations, primarily to create fuel breaks. These past projects would reduce the potential for widespread loss of forest due to wildfire. However, this reduction in fire risk within forested landscapes would likely confer little cumulative effects to this species' habitat, which is generally non-forested and for which nesting habitat would typically be too wet to carry fire.

Due to long-term changes in habitat conditions, it was determined that Alternative 3 of the Harvey Valley Allotment Project may affect individuals of sandhill cranes, but is not likely to result in a trend towards federal listing or loss of species viability.

#### **Pallid bat**

##### ALTERNATIVE 1

#### Direct and Indirect Effects

Pallid bats feed mostly by gleaning large terrestrial arthropods (e.g. scorpions, crickets, grasshoppers and beetles) from the ground. Livestock grazing could affect bats if grazing resulted in altered plant species composition and abundance, degradation of riparian habitats, or changes in abundance of prey items (Chung-MacCoubrey 1996). Grazing and other disturbances may favor grasshopper species, which could in turn increase numbers of one type of prey for pallid bats. However, "...there is an insufficient number of studies to provide a comprehensive overview of the effects of grazing and fire suppression on arthropod community composition, structure and distribution" (Chung-MacCoubrey 1996). Since grazing has not been identified as a significant management issue for this species, and because grazing utilization would remain at moderate or less rates, effects of the proposed grazing should not be a concern for this species.

Periodic disturbance, either from grazing or prescribed fire which reduces height or density of vegetation, may enhance the structure of foraging habitat for pallid bats by reducing clutter through which foraging, echolocating bats require to detect and acquire terrestrial insects.

Associated actions like the hand-thinning and prescribed burning should improve foraging habitat for this species by restoring meadow edges and improving vegetative diversity in the treated

areas. The aspen treatments should also benefit this species. Fencing and removing conifers from these aspen stands would allow them to successfully regenerate, and, in time, would insure a greater number of larger-diameter aspen than currently exist, which would provide potential maternity roost trees.

#### Cumulative Effects

The Harvey Valley Allotment Project area boundary was considered sufficient as a cumulative effects analysis area for pallid bats.

The proposed treatments would help check long-term vegetative trends in the treatment areas, including decreasing conifer densities within degraded aspen communities and meadow margins. Excessive shading by conifers and excessive utilization by livestock has reduced the number of large stems in aspen stands by preventing successful regeneration to replace mature stems as they die. The proposed treatments would allow successful aspen regeneration and would ensure perpetuation of aspen in this area. The proposed aspen treatments should improve potential habitat by thinning conifers from the aspen while retaining large diameter conifer trees and by increasing the number of aspen stems large enough in diameter to serve as potential roost trees. Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinning from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result of these actions, there should be an increase in grasses and other understory vegetation in the thinned areas. An increase in this forage, especially when adjacent to primary range, should provide a greater amount of livestock forage within the allotment and may serve to slightly reduce the degree of grazing within primary range areas.

Overall, the project would provide long-term benefits to the habitat for pallid bats. Therefore, it was determined that the proposed activities within Alternative 1 of the Harvey Valley Allotment Project may affect individuals of pallid bats, but are not likely to result in a trend towards federal listing or loss of species viability.

## ALTERNATIVE 2

#### Direct and Indirect Effects

This alternative would continue the long-term management situation within the allotment area. Past grazing within this allotment has resulted in heavy browsing of aspen that occur near or within primary range areas. Existing, unfenced aspen would remain at risk of loss from competition from encroaching conifers and little regeneration is likely in the absence of suitable regeneration conditions. Ecological services provided by aspen communities which include

biodiversity, forage, habitat, understory plant communities and conservation of riparian soil would continue to be reduced as this aspen component decreases on the landscape. The general effects of livestock grazing on the habitat for this species are the same as described under Alternative 1.

#### Cumulative Effects

Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinning s from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result of these actions, there should be an increase in grasses and other understory vegetation in these thinned areas. This should over time increase foraging habitat for pallid bats within the allotment area.

This alternative would have little effect to pallid bat habitat, with the primary effect being one of continued degradation of some aspen stands. Therefore, it was determined that the proposed activities within Alternative 2 of the Harvey Valley Allotment Project may affect individuals of pallid bats, but are not likely to result in a trend towards federal listing or loss of species viability.

### ALTERNATIVE 3

#### Direct and Indirect Effects

Little immediate change would likely occur in the existing habitat values for this species, with the exception that at-risk aspen stands within or near primary range would benefit by a cessation of livestock grazing and would be able to regenerate successfully. Outside of timber harvest areas, long-term vegetative trends would continue, including the densification of forests and reductions within those stands of understory vegetation. Aspen stands would be able to regenerate due to lack of browsing by livestock, but some stands would still be heavily encroached by conifers. Because livestock grazing has not been identified as a management action of concern for pallid bats and because livestock grazing may serve to benefit this species by reducing the amount of near-ground clutter, there may be little overall differences to pallid bat habitat under this alternative relative to Alternative 1.

#### Cumulative Effects

Thinning operations to create fuel breaks have and feasibly would take place in the allotment in the future. These projects would reduce the risk of extensive wildfire within the allotment. While wildfire burned areas may enhance foraging habitat for this species by promoting understory vegetation and less clutter for foraging, as burned trees topple, near-ground clutter would increase and the numbers of potential roost trees would decline. Wildfires of smaller

extent, as would be promoted by the fuel breaks, would likely provide better overall habitat conditions for this species.

### **Western red bat**

#### ALTERNATIVE 1

##### Direct and Indirect Effects

The primary effects of Alternative 1 to this species' habitat are limited largely to aspen treatments. This species roosts within the foliage of riparian hardwood trees, which in the project area is restricted to aspen and a few cottonwood trees.

There are typically few large aspen stems located within the aspen units proposed for treatment due to past mortality of the large stems and lack of replacement trees due to a long history of browsing of aspen regeneration. By removing the conifers and fencing to prevent browsing by livestock, and deer if necessary, a large-tree aspen component should be recruited within the aspen stands. Therefore, these treatments would increase the number of larger diameter aspen trees and greater crown volume that would provide additional foliage for roosting. Some disturbance to roosting individuals within aspen stands may occur during project implementation. However, such disturbance would be of a short-term nature and it is unlikely all aspen treatments would be implemented at the same time, plus additional aspen stands are located in other areas within the Harvey Valley Allotment Project area. Thus non-disturbed aspen stands would be available for roosting during implementation.

The removal of conifers in the aspen and fencing should serve to increase understory vegetation within these areas. An increase in understory vegetation should also increase the amount and diversity of larval food plants for moths as well as increase the diversity and abundance of other insects, possibly leading to greater food sources for this insectivorous species.

##### Cumulative Effects

The proposed treatments would help check long-term vegetative trends in the treatment areas, including decreasing conifer densities within degraded aspen communities and meadow margins. Excessive shading by conifers and excessive utilization by livestock has reduced the number of large stems in the aspen stands by preventing regeneration from successfully replacing mature stems as they die. The proposed treatments would allow the aspen regeneration to successfully replace larger aspen trees as they die and ensure perpetuation of aspen in this area. This project would provide long-term benefits to the habitat for this species.

Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under

other NEPA documents are implemented. These treatments, generally thinning from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result of these actions, there should be an increase in grasses and other understory vegetation in the thinned areas. An increase in this forage, especially when adjacent to primary range, should provide a greater amount of livestock forage within the allotment and may serve to slightly reduce the degree of grazing within primary range areas. Such a result would benefit the prey habitat for this bat species.

The primary effects of Alternative 1 to this species' habitat are limited largely to aspen treatments in the form of enhanced foraging habitat due to the increase in the amount and diversity of larval food plants for moths as well as the increase in diversity and abundance of other insects that may result from hand-thinning, prescribed fire and rest from grazing. These actions involve long-term enhancement of habitat, except for some slight potential for disturbance to individuals. Therefore, it was determined that the proposed activities within Alternative 1 of the Harvey Valley Allotment Project may affect individuals of western red bats, but are not likely to result in a trend towards federal listing or loss of species viability.

## ALTERNATIVE 2

### Direct and Indirect Effects

This alternative would not enhance the aspen stands within the Harvey Valley Allotment Project. Existing, unfenced aspen would remain at risk of loss from competition from encroaching conifers and browsing. Little regeneration is likely in the absence of suitable regeneration conditions. The aspen stands near or within primary range areas could in time be lost from the landscape, reducing the total number of aspen stands offering roosting habitat for this bat species. However, the aspen stands in question are small and few in number. Because over 700 aspen stands totaling over 3700 acres exist on the Eagle Lake RD, total loss of these few stands would not be a tremendous loss of habitat for the western red bat on the District. Activities designed to remove encroaching conifers from meadow and valley margins in riparian areas, as well as prescribed burning, would not occur. The vegetative trends within these edge habitats would continue to increase forest extent, density and canopy cover, resulting in the continued decline in foraging habitat for this species

### Cumulative Effects

Within the allotment area, silvicultural and fuels-reduction treatments including the construction of Defensible Fuels Profile Zones have and will continue to occur as projects authorized under other NEPA documents are implemented. These treatments, generally thinning from below, serve to open forested canopies that have closed due to long-term vegetative trends resulting from a long history of livestock grazing and fire suppression. As a result of these actions, there should be an increase in grasses and other understory vegetation in these thinned areas. An increase in

this forage, especially when adjacent to primary range, should provide a greater amount of livestock forage within the allotment, and may serve to slightly reduce the degree of grazing within primary range areas. This result would provide some benefit to prey habitat.

This alternative would have little immediate effect to this species or its habitat, and would have long-term negative effects due to continued degradation of aspen stands. Therefore, it was determined that the proposed activities within Alternative 2 of the Harvey Valley Allotment Project may affect individuals of western red bats, but are not likely to result in a trend towards federal listing or loss of species viability.

### ALTERNATIVE 3

#### Direct and Indirect Effects

The no action alternative would continue the status quo for this species and its habitat. Little immediate change would likely occur in the existing habitat values for this species. Vegetative trends would continue, including continued densification of forests and reductions in understory vegetation, which would continue to reduce potential foraging values for this species.

Aspen stands located within or near primary range areas would be able to regenerate due to lack of browsing by livestock. However, some of these same aspen stands would still be heavily encroached by conifers. Ecological services provided by aspen communities which include biodiversity, forage, habitat, understory plant communities and conservation of riparian soil would continue to be degraded if excessive conifers were not removed.

#### Cumulative Effects

Thinning operations to create fuel breaks have occurred, and would feasibly occur in the future, within the allotment area. These thinnings would serve to incrementally increase foraging habitat for this species by thinning forests and increasing understory vegetation. Past aspen enhancement treatments have removed conifers and fenced stands from livestock. These treated aspen stands would continue to be free of excessive browsing and conifer encroachment into the future, providing enhanced roosting habitat for this species as the numbers of overstory aspen increase.

Due to long-term changes in habitat conditions, it was determined that the proposed activities within Alternative 3 of the Harvey Valley Allotment Project may affect individuals of western red bats, but are not likely to result in a trend towards federal listing or loss of species viability.

## **Eagle Lake Rainbow trout**

### ALTERNATIVE 1

#### Direct and Indirect Effects

Direct effects to Eagle Lake trout from implementation of this alternative are unlikely due to timing of streamflow and cattle utilization of the allotment. In very wet years cattle use of the Logan unit could overlap the end of the Pine Creek flow period. However flows would be so low that migrating trout are unlikely to be present and would likely be unable to out-migrate whether cattle were present or not.

Potential indirect effects to Eagle Lake rainbow trout habitat that could occur from the proposed action are changes in: flow duration and intensity, water quality, habitat connectivity (lack of insurmountable passage barriers) and resting habitat for migrating fish (i.e. pools). Potential changes may affect habitat quality, but not quantity.

The implementation of the proposed action is not anticipated to result in measurable changes to streamflow in Pine Creek. The two watershed improvement projects on the portion of Harvey Valley that feeds into Pine Creek are expected have only localized effects in improving the associated wet meadows. It is possible that flow effects could extend downstream to Pine Creek, but given the small nature of the changes relative to the flow of Pine Creek, such changes would likely be immeasurable.

Changes in water quality can occur both from chemical contamination and activities affecting water temperature. No chemical contamination is expected from the proposed action. The two watershed improvement projects on the eastern side of Harvey Valley are meant to restore more natural hydrological conditions to that portion of the valley. These projects would decrease ponding and increase surface flows of this tributary to Pine Creek, potentially bringing the water temperature of the tributary to a more historical value, but would have little potential to affect temperature in Pine Creek itself.

The project does not propose any new crossings on Pine Creek, therefore connectivity for Eagle Lake rainbow trout would not be affected. The project does not propose to alter Pine Creek channel morphology directly so no direct changes to resting habitat would occur. In the short-term the non-use period is expected to reduce potential sedimentation to Pine Creek. There is a moderately low potential for localized increases in sediment due to crossing of Pine Creek when grazing returns in 2016 and potential cattle watering in wet years when grazing resumes. Sedimentation could lead to degradation of pool habitat through fine deposits lessening quality of pools. This might reduce resting habitat quality but not quantity. Sedimentation is likely to be concentrated in accessible pool areas. This is because the pools are the area most likely to still

hold water during the grazing period. A new enclosure fence between the existing enclosures could reduce some sedimentation on Forest Service lands, though the area is rocky and less susceptible to ponding. Cattle would still have access to Pine Creek on private lands within the allotment to the south of the existing and proposed fences. Portions of this stretch are rocky; however there are small sections that appear more meadow-like and may attract cattle. In these sections sedimentation would be anticipated to resume when grazing resumes in 2016.

#### Cumulative Effects

The cumulative effects analysis area for the Eagle Lake rainbow trout is the Squaw Valley-Pine Creek sixth field subwatershed, the subwatershed the project is within that has the potential to affect the migration up Pine Creek. The Cone-Crater timber project has been completed and the Champs timber project is ongoing within this subwatershed. A 20% change in basal area over the entire watershed is generally considered to be necessary for measurable (statistically significant) changes to occur for the watershed (Bosh and Hewlett 1982, Sahin and Hall 1996, Stednick 1996). These projects were or are partial treatments over only a part of the landscape. For example, the Champs project was modeled to reduce overall basal area by an average of seven percent across smaller 7<sup>th</sup> field subwatersheds, well below the 20% threshold. Therefore the timber projects would have negligible effects on stream flow and the cumulative effect to stream flow from Alternative 1 would still be below the measurable threshold.

Since there are no direct or indirect effects to chemical contamination or habitat connectivity from Alternative 1 there would be no cumulative effects. For water temperature, the past Cone-Crater project may decrease shading to tributaries of Pine Creek. Given the meadow nature of the tributaries to Pine Creek, temperature increases from these projects is not anticipated to be measurable. Cumulatively there is a minimal risk of increasing temperatures that Eagle Lake rainbow trout would experience while in the migration corridor.

For sedimentation the Champs ongoing project could cumulatively affect sedimentation on waters that flow into Pine Creek within the cumulative effects area. This project was determined to have short-term risks of sedimentation followed by potential for long-term reductions due to increased stream bank stability. When combined with Alternative 1, sedimentation risks and benefits from the projects are likely to cancel each other out and remain near historic levels.

For the Eagle Lake rainbow trout in Pine Creek, it is determined that Alternative 1 may impact individuals, but is not likely to cause a trend toward federal listing or a loss of viability of this species.

## ALTERNATIVE 2

### Direct and Indirect Effects

As with Alternative 1, this alternative would likely not result in direct effects to the Eagle Lake rainbow trout. Under this alternative there would be no effects to streamflow, chemical water quality, water temperature or habitat connectivity since there would be no projects implemented that affect these elements.

For the resting habitat element the historical grazing alternative does not propose to alter Pine Creek channel morphology directly so no direct changes to resting habitat would occur. There is a continued moderate potential for localized increases in sediment due to crossing of Pine Creek in all years and potential cattle watering in wet years. Sedimentation could lead to degradation of pool habitat though fine deposits lessening quality of pools. This might reduce resting habitat quality but not quantity. Sedimentation is likely to be concentrated in accessible pool areas. This is because the pools are the area most likely to still hold water during the grazing period.

### Cumulative Effects

Since there are no direct or indirect effects to streamflow, chemical water quality, water temperature or habitat connectivity from Alternative 2, there would be no cumulative effects to these habitat elements. For sedimentation the Champs ongoing project is the timber project that cumulatively could affect sedimentation into Pine Creek within the cumulative effects area. This project was determined to have short-term risks of sedimentation followed by potential for long-term reductions due to increased stream bank stability. When combined with the historical grazing alternative these cumulative effects are so small they do not affect the overall moderate potential for ongoing localized sedimentation of resting habitat.

For the Eagle Lake rainbow trout in Pine Creek, it was determined that Alternative 2 may impact individuals, but is not likely to cause a trend toward federal listing or a loss of viability of this species.

## ALTERNATIVE 3

### Direct and Indirect Effects

As with Alternative 1, this alternative would likely not result in direct effects to the Eagle Lake rainbow trout. Under this alternative there would be no effects to streamflow, chemical water quality, water temperature or habitat connectivity since there would be no projects implemented that affect these elements. For the resting habitat element, this alternative does not propose to alter Pine Creek channel morphology, so no changes to resting habitat would occur. Ceasing grazing would result in a moderate localized reduction in the risk of sedimentation to Pine creek due to stopping potential cattle crossing and watering in the project area.

### Cumulative Effects

Since there are no direct or indirect effects to streamflow, chemical water quality, water temperature or habitat connectivity from Alternative 3 there would be no cumulative effects to these habitat elements. For sedimentation, the Champs ongoing project is the timber project that cumulatively could affect sedimentation into Pine Creek within the cumulative effects area. This project was determined to have short-term risks of sedimentation followed by potential for long-term reductions due to increased stream bank stability. When combined with the no grazing alternative, these cumulative effects are so small they do not affect the overall moderate potential for localized reduction of sedimentation of resting habitat.

For the Eagle Lake rainbow trout in Pine Creek, it was determined that Alternative 3 may impact individuals, but is not likely to cause a trend toward federal listing or a loss of viability of this species.

### **Management Indicator Species**

Management Indicator Species (MIS) for the Lassen NF are identified in the 2007 Sierra Nevada Forests Management Indicator Species (SNF MIS) Amendment (USDA Forest Service 2007a). The habitats and ecosystem components and associated MIS analyzed for the project were selected based on whether or not the habitat of the MIS would be directly or indirectly affected by the Harvey Valley Allotment Project. The MIS analyzed for this project are aquatic macro invertebrates and the Pacific tree frog. The habitats of these MIS (Riverine/Lacustrine and Wet Meadow, respectively) are present in the project area and may be affected by project activities.

### **Riverine/Lacustrine Habitat (Aquatic macro invertebrates)**

Aquatic or Benthic macro invertebrates (BMI) were selected as the MIS for riverine and lacustrine habitat in the Sierra Nevada. They have been demonstrated to be very useful as indicators of water quality and aquatic habitat condition. Habitat factors include flow, sedimentation and water surface shade. Perennial waters in the project area include several springs and spring complexes. Under the MIS amendment lacustrine water does not include artificial water catchment or storage areas such as man-made stock ponds, so they were not included in the analysis.

## ALTERNATIVE 1

### Direct and Indirect Effects

For most of the perennial waters in the project area there would be no effect of the proposed action to flows. The exception is Dixie Springs where the installation of an offsite trough could reduce the flow available downstream of the spring when they are filled and when the trough is being utilized by livestock. This reduction in flow is expected to be minor and intermittent. The off-site water development, located in Shoestring Draw would not affect flow since it is a borrow

pit and cattle utilization is not expected to overlap with the seasonal flows that fill this impoundment.

The sedimentation of perennial waters within the project area would be reduced from the pre-2010 levels under the proposed action. Cattle watering historically caused sedimentation of most of the perennial waters within the allotment. The five year rest period would reduce sedimentation of perennial waters within the project area. Sedimentation to some perennial waters would have long term reductions. The offsite water development at Dixie Spring would protect approximately 0.1 miles of the small stream that persists below the springhead at Dixie Springs. Because of recent vegetative changes at the springs near Little Harvey Valley these springs may experience a moderate to high increase in sedimentation when cattle begin utilizing the area again. These areas had dead and down trees that inhibited much access to the water before harvest began in 2008. Material left down most likely still impeded some access. As this material decomposes cattle may utilize the streams, increasing sedimentation.

Shade changes from the proposed action would be limited to a short-term increase in surface shade on spring runs during the five year rest period. The exception would be a long-term surface shade increase at Dixie Springs. Most of the perennial springs within the project area are in or directly adjacent to meadows. Since the meadows would not receive grazing pressure the small springs are likely to be overgrown with meadow vegetation during the rest period. This change is likely limited to the rest period since the springs are likely to be utilized for watering after the rest period. The short perennial stream associated with Dixie Springs would likely experience a long-term increase in surface shade due to the fencing and an increase in herbaceous vegetation growth along the spring run and adjacent to the spring.

#### Cumulative Effects

The perennial waters in the project area consist of perennial springs. Since these waters are most influenced by local conditions the cumulative effects area for Lacustrine/Riverine Habitat is the project boundary for the Harvey Valley Allotment project. Past, current and reasonably foreseeable activities within the analysis area that have the potential to influence perennial water habitat include livestock grazing, past timber sales, DFPZ Projects, wildfire including wildfire suppression activities and recreation. Of these activities, past and ongoing timber harvest near springs has had the most effects.

Cumulatively the perennial water flows within the Harvey Valley Allotment area may increase despite the slight risk of long-term periodic decreases in flow at one spring. When combined with the changes outlined in the direct and indirect effects of this alternative, effects of sedimentation to perennial waters is likely to remain the same though distribution of sedimentation may change across the allotment. Cumulatively, there is a short-term increase in

water surface shade, followed by a slight risk of reduced water surface for the perennial waters within the Harvey Valley Allotment.

Given the small number of perennial waters in the project area and the small changes to habitat factors expected under the proposed action the Harvey Valley Allotment project would not alter the existing trend in the habitat or aquatic macro invertebrates across the Sierra Nevada bioregion.

## ALTERNATIVE 2

### Direct and Indirect Effects

Under the historical grazing alternative there would be no changes to flow in the project area. Due a recent harvest reducing the recruitment of downed timber that limits access to the springs in the Little Harvey Valley vicinity there is a moderate to high risk of long-term increases in sedimentation to these springs. Since these springs are only a portion of the perennial waters in the project area the overall long-term risk of sedimentation increases is moderately low. Water surface shade would continue to be reduced by the end of growing seasons on unfenced spring runs.

### Cumulative Effects

Since there are no direct or indirect effects to flow or water surface shade from the historical grazing alternative there are no cumulative effects to these habitat factors. As in the proposed action, past timber harvest has had negligible effects to sedimentation and ongoing implementation of the Champs project could have a short-term low risk of increasing sediment to two springs due to proximity of operations to upstream seasonal waterways. These risks are small and local enough that cumulatively the risk of sedimentation to project perennial waters is still moderately low.

Given the small number of perennial waters in the project area and the small changes to habitat factors expected under the historical grazing alternative the Harvey Valley Allotment project would not alter the existing trend in the habitat or aquatic macro invertebrates across the Sierra Nevada bioregion.

## ALTERNATIVE 3

### Direct and Indirect Effects

Flow in perennial habitat is not expected to be affected by implementation of this alternative. Under this alternative lacustrine/riverine habitat is likely to have a high chance of decreases in sedimentation due to the removal of grazing and watering pressure along their banks. Water surface shade would also have a moderate chance of increasing in spring associated riverine habitat. This is because the riverine habitat consists of small springs in which high herbaceous

growth can increase shading. Under this alternative the herbaceous cover height in the spring areas is likely to increase. Overall the chance of increased water surface shade is high due to the small widths of riverine habitat in the project area.

#### Cumulative Effects

Since there are no direct or indirect effects to flow from the no grazing alternative, there would not be cumulative effects to this habitat factor. As in the proposed action, past timber harvest has had negligible effects to sedimentation and ongoing implementation of the Champs project could have a short-term low risk of increasing sediment to two springs due to proximity of operations to upstream seasonal waterways. These risks are small and local enough that cumulatively the chance of decreased sedimentation is still high. Water surface shade to the spring complex in Lyons Headquarters area was reduced by implementation of the Lyons timber sale. This reduction in overstory vegetation is likely to result in an increase in understory vegetation which could compensate for the overstory shade reduction. Despite this short-term reduction in shade from the Lyons sale, the chance of increased water surface shade is still high for this habitat since the two projects overlap only a small portion of the project habitat.

Alternative 3 would be expected to decrease sedimentation to all perennial waters and increase shading in springs due to the lack of cattle watering and grazing pressure. However even this alternative would not alter the existing trend in the habitat or aquatic macro invertebrates across the Sierra Nevada bioregion due to the relative lack of perennial waters in the project area.

#### **Wet Meadows (Pacific Tree Frog)**

The Pacific tree frog was selected as an MIS for wet meadow habitat in the Sierra Nevada. This broadly distributed species requires standing water for breeding and tadpole development. Changes in herbaceous vegetation height and cover classes and meadow hydrology are habitat factors analyzed for this MIS. The wet meadow habitat in the project area consists of stringer meadows and depressional meadows. The wet meadows within the Harvey Valley Allotment project area have moderate to dense herbaceous ground cover and were generally grazed to short herbaceous (<12") height class annually. Meadows are generally dry by the end of the growing season, with the exception of some of the stringer meadows associated with the larger springs.

#### ALTERNATIVE 1

##### Direct and Indirect Effects

The proposed action would increase acres of wet meadow by at least 0.4 acres due to the restoration of a man-made reservoir back to the grade of the surrounding seasonally wet meadow. There is a low likelihood that other watershed improvement projects would add additional acres of seasonal wetland.

Under the proposed action changes to ground cover may increase in the short-term, though not enough to change ground cover class. Since three more years of rest are expected under this alternative the meadows would have increased cover until grazing resumes in 2016. Ground cover in wet meadows is expected to remain unchanged from the 2015 levels because of the grazing standard of 40% (by weight) utilization with no change in ground cover.

Alternative 1 would result in a mixture of short and high herbaceous vegetation based on vegetative height potential and moisture. The exception may be when the meadow underburns occur. After grazing resumes, the herbaceous heights for most of the wet meadows would be expected to gradually return to short herbaceous height due to grazing at allowable levels. The exceptions would be the previously fenced 54 acres along Burgess Spring and Pine Creek and within the new enclosure at Dixie Springs. The new enclosure would include approximately 3 acres of wet meadow, allowing that acreage to remain in the high herbaceous category.

The proposed action includes watershed improvements and road removal that would improve hydrology on approximately 21 acres of wetlands. Improved hydrology comes from removing water impoundments such as dug out waterholes and road borrow ditches. For approximately 3 acres of wetland the improvement comes from fencing the spring and a portion of the associated wet meadow, allowing the perennial stream channel to heal from over-broadening. The changes to the edges of wet meadows in the Little Harvey Valley area from previous timber harvest may allow some spring tributaries to become accessible to cattle over time. This may lead to some local negative hydrology changes, affecting up to 2 acres of wet meadow.

### Cumulative Effects

Cumulative effects considered in this analysis are those within the boundaries of the allotment since the wet meadows utilized in this project and most of their contributing waters fall within the project boundary. Past, current and reasonably foreseeable activities within the analysis area that have the potential to influence wet meadow habitat include livestock grazing, past timber sales, DFPZ Projects, wildfire including wildfire suppression activities and recreation. Roads facilitating the above activities and timber harvest on wetland edges have had and may continue to have the most impact on wet meadows.

Roads have been built through several wet meadows, altering hydrology of wet meadows both upstream and downstream of the crossings. Upstream, the meadows usually back-up water, creating wetter areas and ponding. Downstream of the roads, the meadows are dried by the lack of flow paths through the roads. Older road decommissions sometimes failed to correct the hydrological issues though they generally helped with vegetation density and height class. The most problematic road decommissions would be addressed under the proposed action to correct hydrology issues. In the project area there are approximately 1.5 miles of system and non-system

roads that enter wet meadows. Though some of these roads seem to have little effect on the wet meadow due to disuse, many others continue to impact the wet meadows they enter. Because these roads and routes tend to access the smaller wet meadows in the project area, the changes to hydrology caused by them is moderately low. Since they cover a very small area, the impact to vegetative density and height classes is negligible.

Given effects from past and ongoing activities the cumulative effect to wet meadow acres is a negligible increase. Cumulative effects to vegetative density class would be negligible because of the small chances of increases in density compared to those needed to change density class.

Cumulative effects to vegetative height class would be an increase in percentage of high vegetative class code during years of rest from grazing, but returning to previous levels as cattle are returned to the allotment. For changes to meadow hydrology there is a minimal improvement in meadow hydrology as a result of this alternative, based on the improvement of approximately 21 acres from the proposed action and less than 5 acres from past and ongoing road changes.

## ALTERNATIVE 2

### Direct and Indirect Effects

Under this alternative there are no anticipated changes to habitat factors from pre-2010 condition. No changes to wet meadow acreage would occur. Herbaceous vegetation density class would be expected to remain unchanged due to the regional guidelines to not reduce density. Herbaceous height class would remain in the low category except within exclosures. The changes to the edges of wet meadows in the Little Harvey Valley area from previous timber harvest may allow some spring tributaries to become accessible to cattle over time. This may lead to some local negative hydrology changes, affecting up to 2 acres of wet meadow.

### Cumulative Effects

The cumulative effects area and actions of interest would be the same as for Alternative 1. There would be no cumulative effects to wet meadow acreage or herbaceous cover class since this alternative does not affect these habitat factors. Cumulative changes to herbaceous density would be negligible due to the very small window of non-use and the lack of improvement projects. Considering both the healing of unclassified routes and the potential long-term negative change on approximately 2 acres from this alternative the benefits and risks would balance resulting in no changes to hydrology.

## ALTERNATIVE 3

### Direct, Indirect and Cumulative Effects

Under this alternative acres of wet meadow would remain unchanged. Herbaceous density class would be expected to remain unchanged in the short term though there may be a small long term

increase in acres in high vegetative density class as wet meadows continue to heal from historical grazing impacts. Herbaceous height class would be expected to increase to the vegetative potential of the area. This could result in a moderately high potential for herbaceous height to increase to high herbaceous height class on at least ½ of the 1480 acres. Changes to hydrology could occur on approximately 15 acres of wet meadow as Dixie, Cone, White Horse and other smaller spring runs recover from over broadening from cattle utilization. This would be unlikely to affect trends at the bioregional scale.

## **HYDROLOGY**

### ALTERNATIVE 1

#### Direct and Indirect Effects

Livestock grazing has the potential to directly affect channel morphology, water quality, and riparian areas. Livestock could also alter plant cover and compact soils resulting in reduced infiltration and increased runoff. This could indirectly cause increases in stream flows. Utilization standards under Alternative 1 would meet the standards and guidelines for Riparian Conservation Areas (SNFPA ROD 2004) and should not place undue stress on stream and riparian areas. Livestock can affect water quality by introducing excess sediment, nutrients and pathogens. The proposed fencing, water developments and livestock management strategies under this alternative would reduce livestock access to some of the surface waters in the allotment. Additionally, Best Management Practices (BMPs) would be implemented to meet water quality standards. Based on the implementation of utilization standards and BMPs no substantial negative effects to stream flow, channel morphology, water quality or riparian areas, wetlands and water bodies are expected from the proposed livestock grazing. There would be a beneficial effect to maintaining or improving water quality as a result of the proposed fencing and water development at Dixie Spring. The proposed 5-year non-use period and subsequent gradual reintroduction to full permitted numbers would have a beneficial indirect effect on recovery of infiltration and stream channel stability.

Alternative 1 proposes to hand-thin conifers up to 20 inches in diameter at breast height (dbh) that are encroaching along meadow edges and aspen stands. This proposed vegetation treatment would have no adverse effect on hydrologic resources. Long-term beneficial effects of this alternative may include an increase in the quantity and duration of soil water availability in meadow edge areas resulting in improved meadow function.

Prescribed fire is proposed as a follow up treatment to the meadow enhancement described above. Burning can remove ground cover and create areas of hydrophobic soil conditions, leading to accelerated runoff and potentially increased stream flows. Best Management Practices (WQMH USDA FS 2011) and Integrated Design Features (IDFs) as described in the Proposed Action

would be implemented to address these possible effects; thus, no adverse effects are expected to occur within riparian areas, wetlands and water bodies as a consequence of prescribed burning.

The watershed improvements proposed under this alternative are in or near meadows, wet meadows or springs and would require ground disturbing activities. The proposed action includes decommissioning and re-contouring two waterholes (Shoestring Draw and Little Harvey Valley), developing an off-site watering trough at Dixie Spring, ripping an unauthorized route and an old decommissioned road in Little Harvey Valley, and removing a bridge along a decommissioned road and filling in the adjacent borrow ditches at the outlet of Little Harvey Valley. A direct effect of these proposed activities would be a short-term increase in sedimentation. This would be minimized by implementing BMPs and IDFs to protect Riparian Conservation Areas (RCA) as described in the EA and Hydrology Report (project record), consequently no long-term adverse effects are expected. There would be local long-term beneficial effects to hydrologic resources with regard to improved soil moisture and enhanced riparian meadows in portions of Little Harvey Valley, maintained or improved water quality at Dixie Spring, and improved floodplain function near the outlet of Little Harvey Valley.

#### Cumulative Effects

The cumulative effects analysis area for all alternatives is the primary 7<sup>th</sup> field sub-watersheds encompassing the Harvey Valley Allotment. Cumulative effects are the direct and indirect effects that result from the proposed action or alternatives when added to other past, ongoing, and reasonable foreseeable future actions in the project sub-watersheds. Other previous activities include timber harvests, road construction, fire and fuels maintenance and wildfires. Cumulative watershed effects (CWE) are discussed in terms of the Equivalent Roaded Acre (ERA) percent and the Threshold of Concern (TOC). The TOC for all sub-watersheds is 15 percent. The two most recent management activities that would affect the sub-watersheds in the Harvey Valley Allotment are the Champs Project and the Cone Crater Project. All ERA values for those projects were below the TOC for the sub-watersheds encompassing the Harvey Valley Allotment. ERA values calculated for the 2009 Prison Fire in the Harvey Valley Allotment were also below TOC. These ERA values included ongoing grazing as part of the cumulative watershed effects. Since none of the ERA percentage values exceed the TOC, detrimental cumulative watershed effects are not anticipated by the proposed livestock grazing under this alternative.

The proposed activities other than livestock grazing under this alternative are very small relative to the sub-watersheds. Thus, there would be negligible cumulative watershed effects resulting from those activities. However, the watershed improvements would trend watershed conditions toward improved hydrologic functions.

## ALTERNATIVE 2

### Direct and Indirect Effects

Livestock grazing under this alternative would have the same effects as Alternative 1 with regard to utilization standards and implementation of BMPs. No substantial negative effects to stream flow, channel morphology, water quality or riparian areas, wetlands and water bodies are expected from the proposed livestock grazing.

Under Alternative 2 there would not be a 5-year period of non-use and livestock grazing would resume sooner than under Alternative 1. Additionally, grazing would resume at full permitted numbers rather than gradually increasing numbers as in Alternative 1. This would have the effect of a shorter recovery period for infiltration and stream channel stability. Also, no fencing or off-site water developments would be implemented, thus the Dixie Spring area would continue to be at risk for degradation due to cattle access.

There would be no thinning of encroaching conifers along meadow edges or in aspen stands and no follow-up prescribed burning. This would have the effect of continued conifer encroachment and associated drying along meadow edges and potential loss of riparian areas.

There would be no watershed improvements implemented under this alternative, thus there would be no ground disturbing activities in Riparian Conservation Areas or the associated risk of short-term sedimentation. There would be no long-term beneficial effects to hydrologic resources associated with the watershed improvements. Areas identified in need of watershed improvement would continue to concentrate or impede hydrologic flow patterns.

### Cumulative Effects

The cumulative watershed effects for this alternative are the same as for Alternative 1. However, under this alternative watershed conditions would be maintained or trend more slowly towards improved hydrologic functions than Alternative 1.

## ALTERNATIVE 3

### Direct and Indirect Effects

Under this alternative ground cover would increase and there would be no ongoing soil compaction associated with livestock grazing. This would have the effect of increasing infiltration and reducing runoff at a faster rate than under Alternatives 1 or 2. Thus, decreased peak flows and longer duration base flows would be expected as watershed conditions recover over the long-term. Streambank stability would be expected to increase and channels may trend towards narrower and deeper. Water quality concerns associated with livestock would be reduced and eliminated over time.

As with Alternative 2 there would be no thinning of encroaching conifers along meadow edges or in aspen stands and no follow-up prescribed burning. Also, no watershed improvements would be implemented under this alternative. Thus, the effects discussed for these under Alternative 2 also apply to Alternative 3.

#### Cumulative Effects

The cumulative watershed effects for this alternative are slightly lower than Alternatives 1 and 2. Under this alternative the sub-watersheds would have lower continual impacts and would trend towards improved hydrologic functions more quickly than under Alternatives 1 or 2.

### **FUELS**

#### ALTERNATIVE 1

##### Direct and Indirect Effects

The thinning and prescribed fire treatments under Alternative 1 would have the effect of reducing the surface, ladder, and canopy fuel loadings. These reductions would result in lower flame lengths and canopy bulk densities, and increased canopy base heights. Combined, these changes would result in reduced first order fire effects and reduced potential for transition of a surface fire to a passive or active crown fire. A more detailed explanation of these indicators is found in the project record in the Fire and Fuels Report, hereby incorporated by reference.

##### Cumulative Effects

The Fire and Fuels cumulative effects analysis area for the Harvey Valley Allotment project includes the area within the project boundary. The existing fuels conditions and resulting predicted fire behavior are the result of past management practices that include grazing and fire suppression. These activities have resulted in a range of fuel loadings and have created the existing fire and fuel conditions within the project area.

Cumulatively under Alternative 1, the proposed treatments would change the stand and meadow vegetation structures when compared to areas not proposed for treatment within the project area. These differences in structure would contribute to landscape-level diversity by creating areas of lower stand densities, reduced surface and ladder fuel loading, and reduced crown fuels. The diversity in forest structure created by these treatments and their spatial arrangement across the landscape may greatly reduce the growth of large fires.

The combined effects of these treatments would increase the ability of fire suppression personnel to both safely and effectively limit the size of wildland fires while allowing for the reintroduction of fire to these areas under more moderate weather conditions. Suppression efficiency would be improved within the project area by creating an environment where wildfires would burn at lower

intensities and where firefighting production rates would be increased. The treatments from Alternative 1 would connect to other similar district project treatments that have been completed and others that are planned. This interconnection would increase the effectiveness of the Defensible Fuel Profile Zone (DFPZ) network due to increased acreage treated and it would minimize the ability of a fire to flank the treatment areas. The DFPZ network and adjacent treatments would provide a safer and more efficient environment for fire crews to stop large wildland fires from potentially destroying private property, communities, watersheds, and wildlife.

## ALTERNATIVE 2

### Direct and Indirect Effects

The proposed Meadow Enhancement, Prescribed Fire and Aspen treatments for the Harvey Valley Allotment Project would not be implemented under Alternative 2 and therefore, there would be no direct effects associated with these treatments. The direct effects of grazing would be the reduction of herbaceous vegetation throughout the project area.

An indirect effect of the reduced herbaceous vegetation would be a decreased potential for fires to spread from the meadows into the intervening forest. The absence of fuels treatments and prescribed fire would allow continued increases in the fuel loading across the project area. Down woody material would continue to accumulate at a rate that is greater than decomposition.

Absence of thinning would allow continued in-growth of ladder fuels. As stands become denser with understory in-growth and surface fuel loads increase, anticipated fire behavior and effects would become more severe. Across the project landscape, Condition Class would remain in a state (Condition Class 3) that could allow the loss of key ecosystem components in the event of a large wildland fire.

### Cumulative Effects

Under Alternative 2, densification of stands, and surface, ladder and canopy fuel loading throughout the project area would continue to increase. Lives, property, and natural resources in and around the Harvey Valley project area would continue to be at risk from wildland fires that have the potential to be both large in size and damaging to the ecosystem well beyond the scope of what occurred in this area historically. Fire Regime Condition Classes would remain at their current levels. In the event of a wildland fire in the project area, under existing fuel conditions and 90<sup>th</sup> percentile fire weather, large-scale loss of key ecosystem components could result.

Twenty years in the future, these conditions would be more pronounced without some type of fuels reduction treatment or other disturbance (wildland fire) that reduces fire hazard in the area.

### ALTERNATIVE 3

#### Direct and Indirect Effects

A direct effect associated with no grazing would be an increase in the herbaceous vegetation, both vertically and horizontally, throughout the project area.

An indirect effect of the increased herbaceous vegetation growth would be an increased potential for fires to spread from the meadows into the intervening forest. The absence of fuels treatments and prescribed fire would allow continued increases in the fuel loading across the project area. Down woody material would continue to accumulate at a rate that is greater than decomposition. Absence of thinning within meadows and aspen would allow continued in-growth of ladder fuels. As stands become denser with understory in-growth and surface fuel loads increase, anticipated fire behavior and effects would become more severe. Across the project landscape, Condition Class would remain in a state (Condition Class 3) that could allow the loss of key ecosystem components in the event of a large wildland fire.

#### Cumulative Effects

Under Alternative 3, densification of stands, and surface, ladder and canopy fuel loading throughout the project area would continue to increase. Lives, property, and natural resources in and around the Harvey Valley project area would continue to be at risk from wildland fires that have the potential to be both large in size and damaging to the ecosystem well beyond the scope of what occurred in this area historically. Fire Regime Condition Classes would remain at their current levels. In the event of a wildland fire in the project area, under existing fuel conditions and 90<sup>th</sup> percentile fire weather, large-scale loss of key ecosystem components could result. Twenty years in the future, these conditions would be more pronounced without some type of fuels reduction treatment or other disturbance (wildland fire) that reduces fire hazard in the area.

## **AIR QUALITY**

### ALTERNATIVE 1

#### Direct and Indirect Effects

The project area lies within the Lassen County Air Pollution Control District (LCAPCD). In accordance with Title 17 of the California Code of Regulations, a smoke management plan would be submitted to and approved by the LCAPCD prior to any prescribed fire ignitions that are part of the proposed action. Adherence to the smoke management plan (SMP) for pile and understory burning would decrease the chance of negative impacts to communities and other smoke sensitive areas. It would also help to ensure that emissions from pile or understory burning would not violate the National Ambient Air Quality (NAAQ) emission standards. Since the proposed project area falls within a federal attainment area for air quality, no conformity determination is required.

Prescribed burning would only occur on 'permissive' burn days as defined by the California Air Quality Board (CARB). CARB makes daily determinations of smoke transport conditions and grants permission to burn only on days with adequate smoke transport and dispersal conditions. Short-term production of smoke and associated emissions would occur during prescribed burning in the project area. However, daily coordination among local fire management officials, adherence to the SMP, and the daily determination of smoke transport conditions by CARB would help to ensure that the smoke and related emissions for the proposed prescribed fire activities would stay within the standards of the Clean Air Act. The direct effects to air quality would be minimal and mitigated by following the guidance of the SMP and CARB.

Treatment of fuels under Alternative 1 would result in decreased smoke production and associated emissions in the event of a wildland fire. This decrease in emissions would help to reduce smoke related impacts to nearby communities. Short-term impacts from smoke and associated particulate matter from the proposed prescribed fire treatments, combined with emissions from other vegetation burning on public and private land, is possible. However, as discussed earlier, these possible impacts would be mitigated by adherence to the SMP and CARB. In addition to these safeguards, a daily Air Quality Conference Call is conducted during the prescribed fire season. They are attended by representatives of the Air Quality Management Districts, the California Air Resources Board, Geographical Area Coordination Center meteorologists and agencies that are conducting prescribed fire operations. These calls help ensure that burning only occurs when atmospheric conditions are conducive to good smoke dispersion and that the cumulative effects of all prescribed burning remain at levels that are within the provisions of the Clean Air Act.

#### Cumulative Effects

The cumulative effects analysis for Air Quality considers ongoing, proposed and reasonably foreseeable future actions. Impacts to air quality from prescribed underburning and machine pile burning in the project and adjacent areas, during the last five years have been minimal and no Notice of Violation of air quality standards has been issued on the Lassen National Forest during this period. Alternative 1 would not increase the amount of prescribed fire activities in the area above what has been implemented for the last five years and would not impact the air quality of the area, when combined with ongoing and reasonably foreseeable future actions, beyond what has occurred during this time.

#### ALTERNATIVE 2

##### Direct, Indirect and Cumulative Effects

This alternative would create no short-term impacts to the local areas from prescribed fire. However, the risk of a major air quality impact from a large wildland fire burning in the area

would be increased under Alternative 2. The amount of smoke created, in the event of a large wildland fire burning in the project area, would be increased for several reasons. There would be more acres burned in a shorter period of time, and the fire would burn under hotter and drier conditions, so the amount of fuel consumed would increase and fuels would burn that would otherwise have been removed under Alternative 1. Increased consumption of the canopy fuels, due to the more intense fire behavior, would also contribute to increased smoke production. Additionally, smoke impacts to local communities would be more severe in the event of a wildland fire due to the normal summertime inversions. Inversions cause smoke to linger near the surface in low-lying areas and can last for extended periods, especially during summertime conditions. Summertime inversions have negatively impacted the area during years when large wildland fires burned, including 1977, 1987, 1992, 1999 and 2007.

### ALTERNATIVE 3

#### Direct, Indirect and Cumulative Effects

This alternative would create no short-term impacts to the local areas from prescribed fire. However, the risk of a major air quality impact from a large wildland fire burning in the area would be increased under Alternative 3. The amount of smoke created, in the event of a large wildland fire burning in the project area, would be increased for several reasons. There would be more acres burned in a shorter period of time, and the fire would burn under hotter and drier conditions, so the amount of fuel consumed would increase and fuels would burn that would otherwise have been removed under Alternative 1. Increased consumption of the canopy fuels, due to the more intense fire behavior, would also contribute to increased smoke production. Additionally, smoke impacts to local communities would be more severe in the event of a wildland fire due to the normal summertime inversions. Inversions cause smoke to linger near the surface in low-lying areas and can last for extended periods, especially during summertime conditions. Summertime inversions have negatively impacted the area during years when large wildland fires burned, including 1977, 1987, 1992, 1999 and 2007.

## Agencies and Persons Consulted

Jeremiah Karuzas, US Fish and Wildlife Service, Biologist  
Pit River Tribe

Honorable Juan Venegas, Chairman  
Cathy Kindquist, Natural Resources Manager  
Marissa Fierro, Environmental Coordinator

Susanville Indian Rancheria

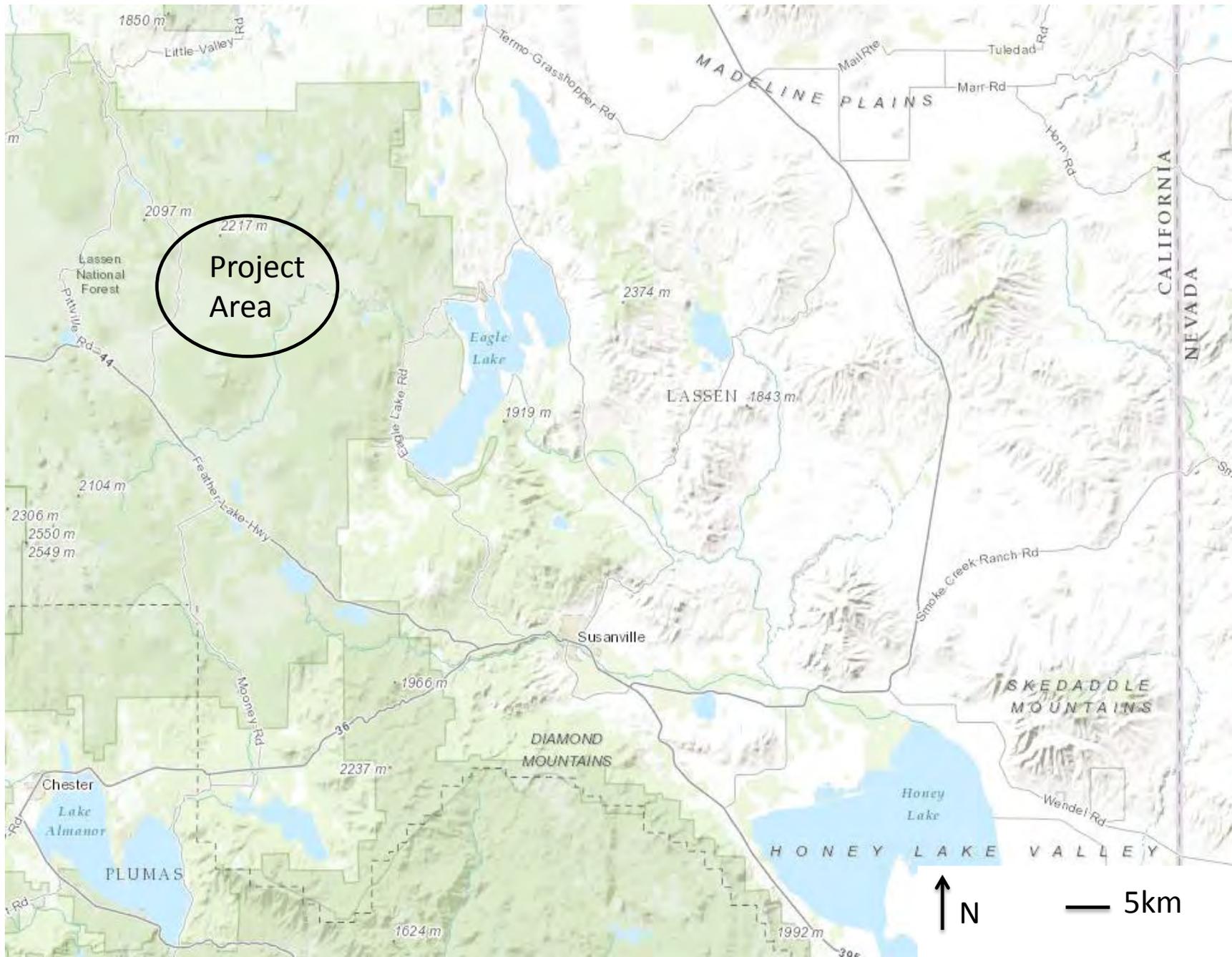
Honorable Stacy Dixon, Chairman  
Crista Stewart, Environmental Manager  
Melany Johnson, Tribal Historic Preservation Officer

Dixie Valley Ranch, permittee

Douglas Cushman, Lahontan Regional Water Quality Control Board

Michael J. Connor, PhD, Western Watersheds Project

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

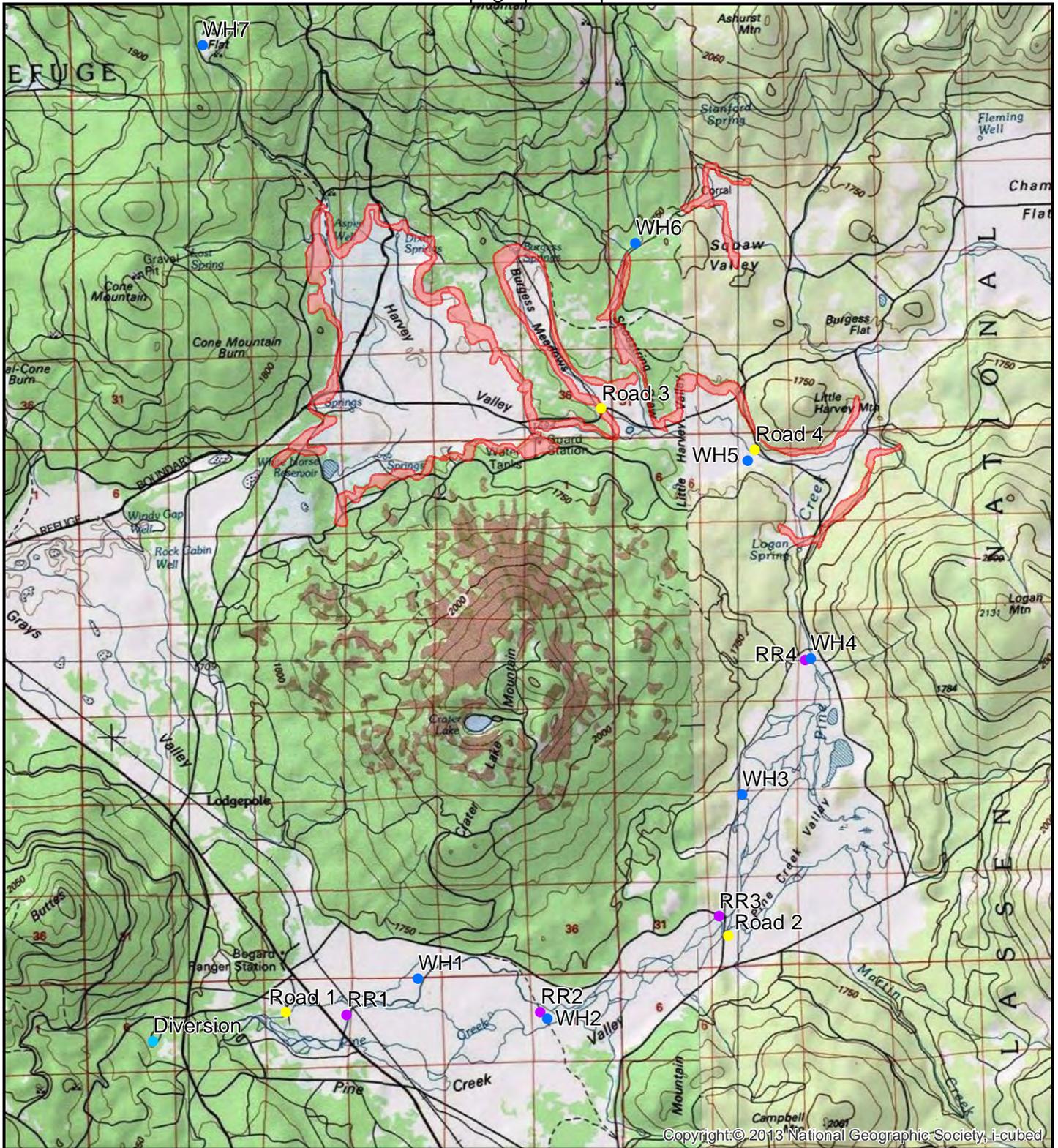


Project Location Map  
 Pine Creek Forest & Meadow Health Enhancement

**Parcel Map with County Assessor's Parcel Number(s)**

This map is not applicable to our project, as the project site is entirely within National Forest land boundaries.

Topographic Map



Copyright © 2013 National Geographic Society, i-cubed

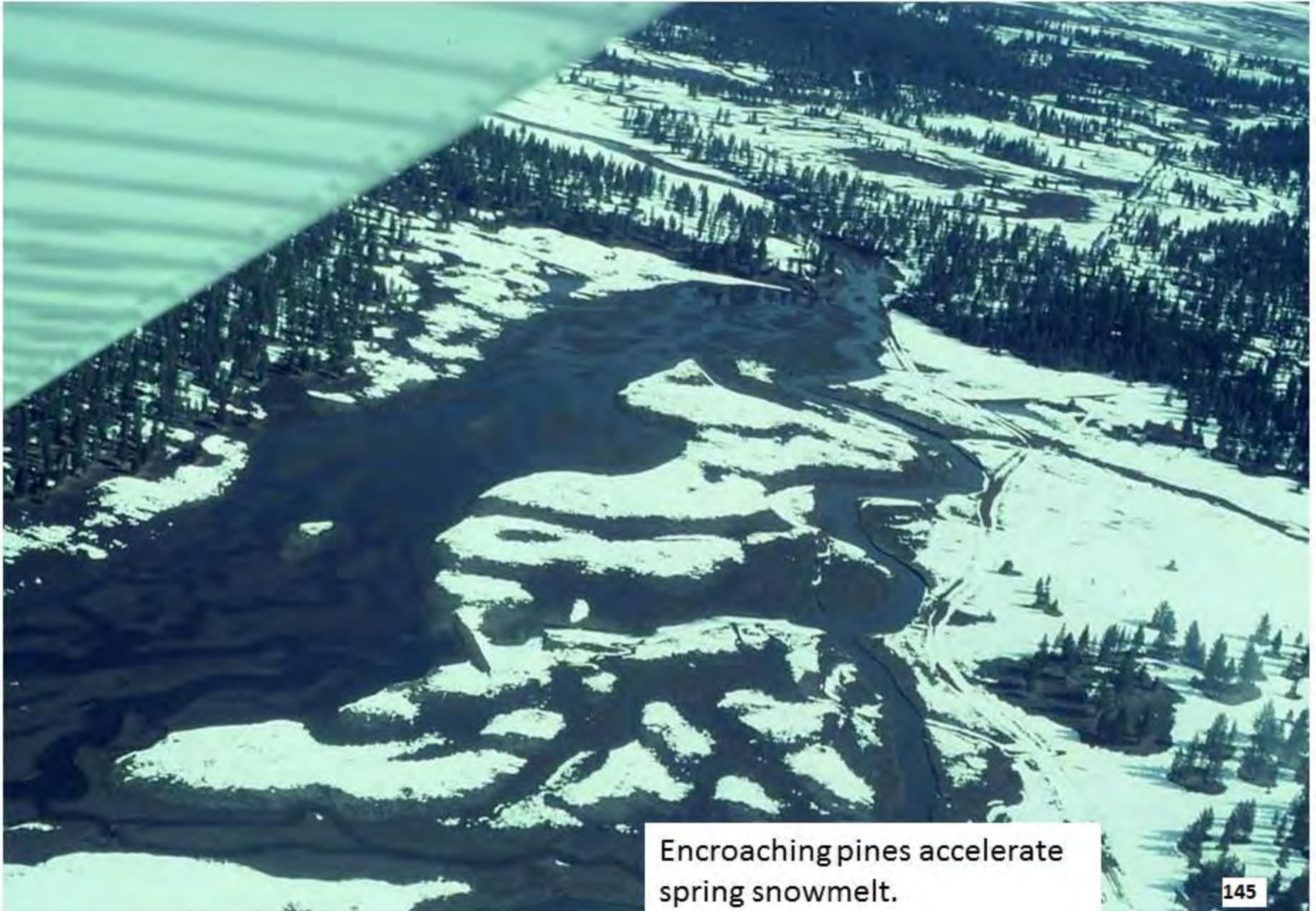


# Overview Map Pine Creek Restoration Project

0 0.30.6 1.2 1.8 2.4  
Miles

### Treatment Sites

- Diversion
- Railroad (RR)
- Road
- Watering Hole (WH)
- Conifer Thinning



Encroaching pines accelerate spring snowmelt.



Encroaching pines

In-channel Waterhole

2014



1941



Pine expansion and increasing density



February 24, 2016

Sierra Nevada Conservancy  
11521 Blocker Dr., Ste. 205  
Auburn, CA 95603

Dear Sierra Nevada Conservancy,

On behalf of the Lassen National Forest, I am writing to express support of the *Pine Creek Restoration Project*. Lassen National Forest manages the land on which the project will take place and will work with American Rivers to complete the following proposed activities: 1) remove instream water holes, railroad grades, and road beds to prevent diversion of high flows from Pine Creek; 2) remove encroaching conifers to improve soil moisture and decrease evapotranspiration from meadow edges, and 3) decommission the Bogard Springs diversion and converting the existing water right to dedicate a perennial water source to instream flow. The Lassen National Forest will grant American Rivers and the Sierra Nevada Conservancy access to the project site for 25 years, following completion of the proposed project activities.

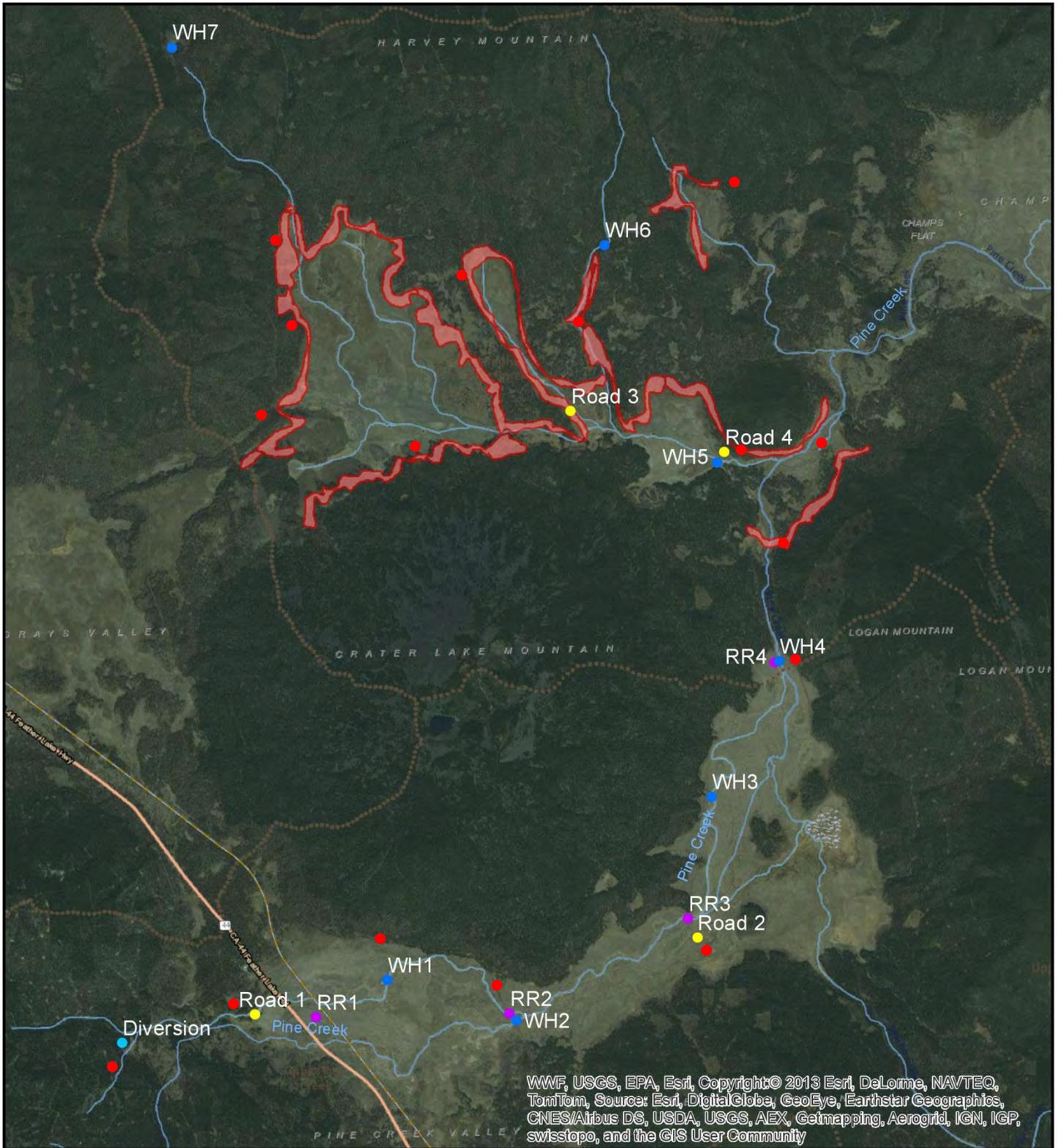
For many years, Lassen National Forest has played a key role in efforts to restore Pine Creek. Since 1987, the Pine Creek Coordinated Resource Management Planning Group (CRMP), which the Forest is a member of, has collaboratively advanced projects to improve the Pine Creek watershed, with a primary emphasis on restoring natural flows. Our agency is committed to integrating our work to achieve restoration objectives that maintain resilient land and water conditions through collaboration and partnerships. To date, the Forest Service has worked with our collaborators to: 1) prioritize meadows within the Pine Creek watershed for restoration treatments, 2) hold multiple meetings with internal managers and our community to gain support for Pine Creek and meadow restoration projects, 3) complete NEPA for projects with actions to improve watershed health, and 4) initiate surveys for heritage, hydrology, and wildlife to plan future meadow restoration projects.

We welcome the partnership with American Rivers to help move these projects forward so we can fulfill the NEPA process and implement important large-scale meadow and stream restoration actions within the Pine Creek watershed. We strongly encourage the Sierra Nevada Conservancy to support this worthwhile project.

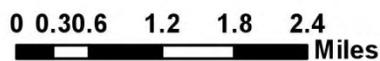
Sincerely,

Matthew Boisseau  
District Ranger  
Eagle Lake Ranger District  
Lassen National Forest





# Site Plan Pine Creek Restoration Project



## Treatment Sites

- Access Point
- Railroad (RR)
- Road
- Watering Hole (WH)
- Conifer Thinning

FS Agreement No. 13-PA-11132422-119  
Cooperator Agreement No. \_\_\_\_\_

**MASTER  
PARTICIPATING AGREEMENT  
Between  
AMERICAN RIVERS  
And The  
USDA, FOREST SERVICE  
WATERSHED, FISH, WILDLIFE, AIR & RARE PLANTS STAFF**

This MASTER PARTICIPATING AGREEMENT is hereby made and entered into by and between American Rivers, hereinafter referred to as "American Rivers," and the USDA, Forest Service, Watershed, Fish, Wildlife, Air & Rare Plants Staff hereinafter referred to as the "U.S. Forest Service," under the authority: Wyden Amendment (Section 323(a) of the Department of Interior and Related Agencies Appropriations Act, 1999, as included in Pub. L. 105-277, Div. A., Section 101(e), as amended by Public Law 109-54, Section 434, and the Omnibus Public Land Management Act, Pub. L 111-11, Sec. 3001.)

Background: Watershed protection was a central tenet underlying the establishment of the U.S. Forest Service as specified in the Organic Act of 1897 with the intention of forest reserves to "secure favorable conditions of water flows" among other criteria. The 193 million acres of forest and grasslands encompassing the National Forest System contain over 220,000 miles of fishable waters, over 4,900 miles of designated Wild and Scenic Rivers, and more than 5 million acres of lakes, reservoirs and wetlands, serve as the source of drinking water supply to nearly one-fifth of the United States population, and harbor many threatened, endangered, and economically valuable biota dependent on the health of these waterways. Annually, the U.S. Forest Service accomplishes thousands of miles of watershed restoration activities on streams and rivers within and adjacent to the National Forest System to address historic and more recent impacts from mining, road building, grazing, dam development, timber harvest, wildfire, and invasive species. A significant portion of this restoration activity is accomplished through collaboration with the agency's many federal, state, local, non-governmental and Tribal partners. As the U.S. Forest Service works to restore watershed function, safeguard downstream water supplies, and ensure resilience to climate change stressors, coordination with partners continues to increase in importance.

This national agreement provides an overarching framework to coordinate partnership work areas to achieve watershed restoration, protect river values, and enhance work across the National Forest System lands and on adjacent lands with willing partners under the authority of the Wyden Amendment (Section 323(a) of the Department of Interior and Related Agencies Appropriations Act, 1999, as included in Pub. L. 105-277, Div. A., Section 101(e), as amended by Public Law 109-54, Section 434, and the Omnibus Public Land Management Act, Pub. L 111-11, Sec. 3001.)

Title: American Rivers Watershed Restoration Partnership



## I. PURPOSE

The purpose of this agreement is to document the cooperation between the parties to achieve mutual goals in river protection and watershed restoration that benefit aquatic habitat, aquatic populations, water quality, ecological function, aquatic biodiversity, education and aquatic-based recreation in accordance with the following provisions and any incorporated Supplemental Project Agreement(s).

## II. STATEMENT OF MUTUAL BENEFITS AND INTERESTS:

It is mutually beneficial to enter into this agreement to establish a framework for the development of individual Supplemental Project Agreements (SPAs) for the parties to work together on projects to accomplish their mutual goals.

The U.S. Forest Service is a natural resource agency dedicated to caring for the land and serving people. More specifically, the agency strives to sustainably manage the Nation's watersheds, including rivers and their ecological integrity to provide myriad services to the American people on 193 million acres of forest, grasslands and waterways. Through federal law and regulations, the U.S. Forest Service has major responsibilities for the public's waterbodies, including protecting and restoring water quality, hydrologic and ecologic function, conserving aquatic biodiversity, and managing fish, wildlife and plant habitats that depend on healthy and naturally functioning waterways, adjacent riparian areas, and uplands. The agency accomplishes much of this work by initiating and developing cooperative agreements with effective and dedicated partners through its National Forest System, Research & Development, and State & Private Forestry deputy areas, and in particular the Watershed, Fish, Wildlife, Air & Rare Plants staff.

American Rivers is non-profit organization working to protect and restore the nation's rivers and streams in part through on-the-ground projects and connecting people with healthy waters through advocacy, education and recreation. Their program areas include Rivers and Global Warming, Restoring Rivers, Protecting Rivers, Clean Water, and Water Supply. American Rivers' high priority activities include:

- Aquatic organism passage through stream barrier removal and/or replacement,
- Dam removal or decommissioning,
- Meadow restoration and protection,
- Basin-level connectivity assessment and project prioritization,
- Flood preparedness planning and prioritization,
- Post-flood river assessment and response,
- Floodplain re-connectivity, restoration, and/or enhancement,
- Federal Energy Regulatory Commission (FERC) licensing, re-operation and implementation planning,
- Non-FERC-regulated dam modifications and re-operation,
- Headwaters restoration and protection,
- Blueways and water trails,



- Federal Wild & Scenic River management, outreach and public education,
- Forest management for source water areas and related public education and outreach efforts,
- Monitoring effectiveness of restoration and/or protection efforts using physical, chemical and biological parameters,
- Training opportunities on any listed activities
- Ecosystem service valuation of water resources

Additional activities of interest include:

- Addition of woody materials and other natural materials to the stream and/or floodplain,
- Habitat improvement through instream channel and/or streambank restoration,
- Fish passage (e.g., ladders, bypasses, rock ramps),
- Instream flow assessments and flow protection, restoration, management projects
- Upland riparian restoration, management and protection,
- Reducing impact of dirt roads on high-quality waters,
- Road decommissioning,
- Urban forestry,
- Stormwater management and green infrastructure practices,
- Educational outreach on any of the above.

The U.S. Forest Service is engaged in the majority of these listed activities, and a formal relationship with American Rivers through a Master Participating Agreement will facilitate partnership and implementation of these activities to the benefit of the FS and the public lands they manage. American Rivers possesses significant experience in contract management for dam removal, culvert replacement, stream and floodplain restoration, aquatic habitat enhancement, and other restoration activities that can help facilitate accelerated high-quality restoration on priority sites for the U.S. Forest Service.

Where appropriate, it is the desire of both parties to cooperate with one another, including exchange of personnel, funding, and other resources pertaining to watershed restoration and enhancement and the various actions listed above.

In consideration of the above premises, the parties agree as follows:

### III. AMERICAN RIVERS SHALL:

- A. LEGAL AUTHORITY. American Rivers shall have the legal authority to enter into this agreement, and the institutional, managerial, and financial capability to ensure proper planning, management, and completion of the project, which includes funds sufficient to pay the nonfederal share of project costs, when applicable.
- B. Meet at least annually, or as required, with representatives of the U.S. Forest Service Washington Office to plan and coordinate collaboration and negotiate guidelines for project proposals to meet the purposes of this Master Participating Agreement.



- C. Cooperate with the U.S. Forest Service in carrying out projects and other collaborations for which the parties may provide support. These projects will be identified and authorized under Supplemental Project Agreements negotiated, drafted and executed by the appropriate sponsoring U.S. Forest Service Unit.
- D. Report annually on the accomplishments of the Master Participating Agreement, including accomplishments from Supplemental Project Agreements executed at Regional or Forest levels. This report will be submitted to the U.S. Forest Service Director of Watershed, Fish, Wildlife, Air & Rare Plants, no later than March 15 of the subsequent year for which it covers.

**IV. THE U.S. FOREST SERVICE SHALL:**

- A. Meet annually or as needed with representatives of American Rivers to identify watersheds, Forests and/or specific projects that meet the purposes of the Master Participating Agreement.
- B. Cooperate with American Rivers in carrying out projects and efforts for which the parties may provide support. These projects will be identified and authorized under Supplemental Project Agreements negotiated, drafted and executed by the appropriate sponsoring U.S. Forest Service unit.
- C. Make available where appropriate expertise to help in design, implementation and/or monitoring of projects or efforts to achieve watershed restoration and education of the public about this work.
- D. Make National Forest System lands available for the furtherance of this partnership, subject to the National Environmental Policy Act and other applicable Federal law, regulations, forest plans and approval by the appropriate Forest Service official.

**V. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:**

- A. PRINCIPAL CONTACTS. Individuals listed below are authorized to act in their respective areas for matters related to this agreement.

**Principal Cooperator Contacts:**

<b>Cooperator Program Contact</b>	<b>Cooperator Administrative Contact</b>
Name: Chris Williams Address: 1101 14 <sup>th</sup> . St. NW Suite 1400 City, State, Zip: Washington, DC 20005-5637 Telephone: 202-347-7550 Email: cwilliams@americanrivers.org	Name: Jean Moyer Address: 1101 14 <sup>th</sup> . St NW Suite 1400 City, State, Zip: Washington, DC 20005-5637 Telephone: 202-347-7550 Email: jmoyer@americanrivers.org

**Principal U.S. Forest Service Contacts:**



U.S. Forest Service Program Manager Contact	U.S. Forest Service Administrative Contact
<p>Name: Nathaniel Gillespie            Address: USDA Forest Service, WFWARP staff, 201 14<sup>th</sup> Street, S.W.            City, State, Zip: Washington, DC 20250-1121            Telephone: 202-205-7827            FAX: 202-205-1599            Email: <a href="mailto:ngillespie@fs.fed.us">ngillespie@fs.fed.us</a></p>	<p>Name: Jennifer Geraci            Address: 2150 Centre Avenue, Building A, Suite 316            City, State, Zip: Fort Collins, CO 80526            Telephone: 970-295-5731            FAX:            Email: <a href="mailto:jgeraci@fs.fed.us">jgeraci@fs.fed.us</a></p>

- B. **AVAILABILITY FOR CONSULTATION.** Both parties will make themselves available at mutually agreeable times for continuing consultation to discuss the conditions covered by this agreement and agree to actions essential to fulfill its purposes.
- C. **SUPPLEMENTAL PROJECT AGREEMENTS (SPA).** Nothing in this agreement obligates either party to offer or accept any project proposals under this agreement. Any projects added to this agreement must be by mutual consent of the parties through a specific SPA.
- D. **ASSURANCE REGARDING FELONY CONVICTION OR TAX DELINQUENCY STATUS FOR CORPORATE ENTITIES.** This agreement is subject to the provisions contained in the Department of Interior, Environment, and Related Agencies Appropriations Act, 2012, P.L. No. 112-74, Division E, Section 433 and 434 regarding corporate felony convictions and corporate federal tax delinquencies. Accordingly, by entering into this agreement American Rivers acknowledges that it: 1) does not have a tax delinquency, meaning that it is not subject to any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, and (2) has not been convicted (or had an officer or agent acting on its behalf convicted) of a felony criminal violation under any Federal law within 24 months preceding the agreement, unless a suspending and debaring official of the United States Department of Agriculture has considered suspension or debarment is not necessary to protect the interests of the Government. If American Rivers fails to comply with these provisions, the U.S. Forest Service will annul this agreement and may recover any funds American Rivers has expended in violation of sections 433 and 434.
- E. **NOTICES.** Any communications affecting the operations covered by this agreement given by the U.S. Forest Service or American Rivers are sufficient only if in writing and delivered in person, mailed, or transmitted electronically by e-mail or fax, as follows:



To the U.S. Forest Service Program Manager, at the address specified in the agreement.

To American Rivers, at American Rivers' address shown in the agreement or such other address designated within the agreement.

Notices are effective when delivered in accordance with this provision, or on the effective date of the notice, whichever is later.

- F. PARTICIPATION IN SIMILAR ACTIVITIES. This agreement in no way restricts the U.S. Forest Service or American Rivers from participating in similar activities with other public or private agencies, organizations, and individuals.
- G. ENDORSEMENT. Any of American Rivers' contributions made under this agreement do not by direct reference or implication convey U.S. Forest Service endorsement of American Rivers' products or activities and does not by direct reference or implication convey the Cooperator's endorsement of the Forest Service's products or activities.
- H. USE OF U.S. FOREST SERVICE INSIGNIA. In order for American Rivers to use the U.S. Forest Service insignia on any published media, such as a Web page, printed publication, or audiovisual production, permission must be granted from the U.S. Forest Service's Office of Communications. A written request must be submitted and approval granted in writing by the Office of Communications (Washington Office) prior to use of the insignia.
- I. NON-FEDERAL STATUS FOR COOPERATOR PARTICIPANT LIABILITY. American Rivers agree(s) that any of their employees, volunteers, and program participants shall not be deemed to be Federal employees for any purposes including Chapter 171 of Title 28, United States Code (Federal Tort Claims Act) and Chapter 81 of Title 5, United States Code (OWCP), as American Rivers hereby willingly agree(s) to assume these responsibilities.
- Further, American Rivers shall provide any necessary training to American Rivers' employees, volunteers, and program participants to ensure that such personnel are capable of performing tasks to be completed. American Rivers shall also supervise and direct the work of its employees, volunteers, and participants performing under this agreement.
- J. MEMBERS OF U.S. CONGRESS. Pursuant to 41 U.S.C. 22, no United States member of, or United States delegate to, Congress shall be admitted to any share or part of this agreement, or benefits that may arise therefrom, either directly or indirectly.



- K. **NONDISCRIMINATION.** The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.
- L. **ELIGIBLE WORKERS.** American Rivers shall ensure that all employees complete the I-9 form to certify that they are eligible for lawful employment under the Immigration and Nationality Act (8 USC 1324a). American Rivers shall comply with regulations regarding certification and retention of the completed forms. These requirements also apply to any contract or SPA awarded under this agreement.
- M. **STANDARDS FOR FINANCIAL MANAGEMENT.**

**1. Financial Reporting**

American Rivers shall provide complete, accurate, and current financial disclosures of the project or program in accordance with any financial reporting requirements, as set forth in the financial provisions.

**2. Accounting Records**

American Rivers shall continuously maintain and update records identifying the source and use of funds. The records shall contain information pertaining to the agreement, authorizations, obligations, unobligated balances, assets, outlays, and income.

**3. Internal Control**

American Rivers shall maintain effective control over and accountability for all U.S. Forest Service funds, real property, and personal property assets. American Rivers shall keep effective internal controls to ensure that all United States Federal funds received are separately and properly allocated to the activities described in the agreement. American Rivers shall adequately safeguard all such property and shall ensure that it is used solely for authorized purposes.

**4. Source Documentation**



American Rivers shall support all accounting records with source documentation. These documentations include, but are not limited to, cancelled checks, paid bills, payrolls, contract and subgrant/contract documents, and so forth.

### **5. Advance Payments**

When applicable, American Rivers shall establish and maintain specific procedures to minimize the time elapsing between the advance of Federal funds and their subsequent disbursement. Any advance requested by American Rivers must be expended within 30 days of receipt.

## **N. PROGRAM INCOME – PARTNERSHIP AGREEMENTS.**

1. American Rivers shall apply the standards set forth in this Provision to account for program income earned under the agreement.
2. If any program income is generated as a result of this agreement, the income must be applied using the deduction alternative. The deduction alternative means that program income must be deducted from total allowable costs to determine the net allowable costs, unless otherwise approved by the signatory official. Program income must be used for current costs unless the Federal agency authorizes otherwise. Program income which American Rivers did not anticipate at the time of the award must be used to reduce the Federal agency and American Rivers' contributions rather than to increase the funds committed to the project.
3. Unless the terms and conditions of the agreement provide otherwise, American Rivers shall have no obligation to the U.S. Government regarding program income earned after the end of the project period.
4. Costs incident to the generation of program income may be deducted from gross income to determine program income, provided these costs have not been charged to the agreement and they comply with the Cost Principles, if applicable.
5. Unless the terms and conditions of the agreement provide otherwise, American Rivers shall have no obligation to the U.S. Government with respect to program income earned from license fees and royalties for copyrighted material, patents, patent applications, trademarks, and inventions produced under an agreement. However, Patent and Trademark Amendments (35 U.S.C. 18) apply to inventions made under an experimental, developmental, or research awards.

- O. **OVERPAYMENT.** Any funds paid to American Rivers in excess of the amount entitled under the terms and conditions of this agreement constitute a debt to the Federal Government. The following must also be considered as a debt or debts owed by American Rivers to the U.S. Forest Service:



- Any interest or other investment income earned on advances of agreement funds; or
- Any royalties or other special classes of program income which, under the provisions of the agreement, are required to be returned;

If this debt is not paid according to the terms of the bill for collection issued for the overpayment, the U.S. Forest Service may reduce the debt by:

1. Making an administrative offset against other requests for reimbursement.
2. Withholding advance payments otherwise due to American Rivers.
3. Taking other action permitted by statute (31 U.S.C. 3716 and 7 CFR, Part 3, Subpart B).

Except as otherwise provided by law, the U.S. Forest Service may charge interest on an overdue debt.

- P. AGREEMENT CLOSEOUT. American Rivers shall close out the agreement within 90 days after expiration or notice of termination.

Any unobligated balance of cash advanced to American Rivers must be immediately refunded to the U.S. Forest Service, including any interest earned in accordance with 7 CFR 3016.21, 7 CFR 3019.22, or other relevant law or regulation.

Within a maximum of 90 days following the date of expiration or termination of this agreement, all financial performance and related reports required by the terms of the agreement must be submitted to the U.S. Forest Service by American Rivers.

If this agreement is closed out without audit, the U.S. Forest Service reserves the right to disallow and recover an appropriate amount after fully considering any recommended disallowances resulting from an audit which may be conducted later.

- Q. PROGRAM PERFORMANCE REPORTS. American Rivers shall monitor the performance of the agreement activities to ensure that performance goals are being achieved.

Performance reports must contain information on the following:

- A comparison of actual accomplishments to the goals established for the period. Where the output of the project can be readily expressed in numbers, a computation of the cost per unit of output may be required if that information is useful.
- Reason(s) for delay if established goals were not met.
- Additional pertinent information including, when appropriate, analysis and explanation of cost overruns or high unit costs.



American Rivers shall submit annual performance reports to the U.S. Forest Service Program Manager. These reports are due 90 days after the reporting period. The final performance report must be submitted either with American Rivers' final payment request, or separately, but not later than 90 days from the expiration date of the agreement.

- R. RETENTION AND ACCESS REQUIREMENTS FOR RECORDS. American Rivers shall retain all records pertinent to this agreement for a period of no less than 3 years from the expiration or termination date. As used in this provision, "records" includes books, documents, accounting procedures and practice, and other data, regardless of the type or format. American Rivers shall provide access and the right to examine all records related to this agreement to the U.S. Forest Service Inspector General, or Comptroller General or their authorized representative.

If any litigation, claim, negotiation, audit, or other action involving the records has been started before the end of the 3-year period, the records must be kept until all issues are resolved, or until the end of the regular 3-year period, whichever is later.

Records for nonexpendable property acquired in whole or in part, with Federal funds must be retained for 3 years after its final disposition.

American Rivers shall provide access to any project site(s) to the U.S. Forest Service or any of their authorized representatives. The rights of access in this section shall not be limited to the required retention period but shall last as long as the records are kept.

- S. FREEDOM OF INFORMATION ACT (FOIA). Public access to agreement records must not be limited, except when such records must be kept confidential and would have been exempted from disclosure pursuant to Freedom of Information regulations (5 U.S.C. 552).
- T. TEXT MESSAGING WHILE DRIVING. In accordance with Executive Order (EO) 13513, "Federal Leadership on Reducing Text Messaging While Driving," any and all text messaging by Federal employees is banned: a) while driving a Government owned vehicle (GOV) or driving a privately owned vehicle (POV) while on official Government business; or b) using any electronic equipment supplied by the Government when driving any vehicle at any time. All cooperators, their employees, volunteers, and contractors are encouraged to adopt and enforce policies that ban text messaging when driving company owned, leased or rented vehicles, POVs or GOVs when driving while on official Government business or when performing any work for or on behalf of the Government.
- U. PUBLIC NOTICES. It is the U.S. Forest Service's policy to inform the public as fully as possible of its programs and activities. American Rivers is encouraged to give public notice of the receipt of this agreement and, from time to time, to announce



progress and accomplishments. Press releases or other public notices should include a statement substantially as follows:

"notices should include a statement substantially as follows:

"Watershed, Fish, Wildlife, Air & Rare Plants" of the U.S. Forest Service, Department of Agriculture's National Forest System works with partners to protect and restore watersheds."

American Rivers may call on the U.S. Forest Service's Office of Communication for advice regarding public notices. American Rivers is/are requested to provide copies of notices or announcements to the U.S. Forest Service Program Manager and to the U.S. Forest Service's Office of Communications as far in advance of release as possible.

- V. PURCHASE OF EQUIPMENT. U.S. Forest Service funds may be used by American Rivers to purchase equipment necessary to accomplish activities described in this agreement. The available funding is displayed in the financial plan. Title to the equipment rests with the U.S. Forest Service, but may be transferred to American Rivers on completion of the project, if appropriate.
- W. PROPERTY IMPROVEMENTS. Improvements placed by American Rivers on National Forest System land at the direction or with the approval of the U.S. Forest Service becomes the property of the United States. These improvements are subject to the same regulations and administration of the U.S. Forest Service as other National Forest improvements. No part of this agreement entitles American Rivers to any interest in the improvements, other than the right to use them under applicable U.S. Forest Service regulations.
- X. CONTRACT REQUIREMENTS. Any contract under this agreement must be awarded following American Rivers' established procurement procedures, to ensure free and open competition, and avoid any conflict of interest (or appearance of a conflict). American Rivers must maintain cost and price analysis documentation for potential U.S. Forest Service review. American Rivers is encouraged to utilize small businesses, minority-owned firms, and women's business enterprises.

Additionally, federal wage provisions (Davis-Bacon or Service Contract Act) are applicable to any contract developed and awarded under this agreement where all or part of the funding is provided with U.S. Forest Service funds. Davis-Bacon wage rates apply on all public works contracts in excess of \$2,000 and Service Contract Act wage provisions apply to service contracts in excess of \$2,500.

- Y. GOVERNMENT-FURNISHED PROPERTY. American Rivers may only use U.S. Forest Service property furnished under this agreement for performing tasks assigned in this agreement. American Rivers shall not modify, cannibalize, or make alterations to U.S. Forest Service property. A separate document, Form AD-107, must be



completed to document the loan of U.S. Forest Service property. The U.S. Forest Service shall retain title to all U.S. Forest Service-furnished property. Title to U.S. Forest Service property must not be affected by its incorporation into or attachment to any property not owned by the U.S. Forest Service, nor must the property become a fixture or lose its identity as personal property by being attached to any real property.

*Cooperator Liability for Government Property.*

1. Unless otherwise provided for in the agreement, American Rivers shall not be liable for loss, damage, destruction, or theft to the Government property furnished or acquired under this contract, except when any one of the following applies—
    - a. The risk is covered by insurance or American Rivers is otherwise reimbursed (to the extent of such insurance or reimbursement).
    - b. The loss, damage, destruction, or theft is the result of willful misconduct or lack of good faith on the part of American Rivers' managerial personnel. American Rivers's managerial personnel, in this clause, means American Rivers's directors, officers, managers, superintendents, or equivalent representatives who have supervision or direction of all or substantially all of American Rivers' business; all or substantially all of American Rivers' operation at any one plant or separate location; or a separate and complete major industrial operation.
  2. American Rivers shall take all reasonable actions necessary to protect the Government property from further loss, damage, destruction, or theft. American Rivers shall separate the damaged and undamaged Government property, place all the affected Government property in the best possible order, and take such other action as the Property Administrator directs.
  3. American Rivers shall do nothing to prejudice the Government's rights to recover against third parties for any loss, damage, destruction, or theft of Government property.
  4. Upon the request of the Grants & Agreements Specialist, American Rivers shall, at the Government's expense, furnish to the Government all reasonable assistance and cooperation, including the prosecution of suit and the execution of agreements of assignment in favor of the Government in obtaining recovery.
- Z. OFFSETS, CLAIMS and RIGHTS. Any and all activities entered into or approved by this agreement will create and support afforestation/ reforestation efforts within the National Forest System without generating carbon credits. The U.S. Forest Service does not make claims of permanence or any guarantees of carbon sequestration on lands reforested or afforested through partner assistance. The U.S. Forest Service will provide for long-term management of reforested and afforested lands, according to applicable Federal statute regulations and forest plans.
- AA. U.S. FOREST SERVICE ACKNOWLEDGED IN PUBLICATIONS, AUDIOVISUALS AND ELECTRONIC MEDIA. American Rivers shall



acknowledge U.S. Forest Service support in any publications, audiovisuals, and electronic media developed as a result of this agreement.

- BB. NONDISCRIMINATION STATEMENT – PRINTED, ELECTRONIC, OR AUDIOVISUAL MATERIAL. American Rivers shall include the following statement, in full, in any printed, audiovisual material, or electronic media for public distribution developed or printed with any Federal funding.

*"In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs.)"*

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer."

If the material is too small to permit the full statement to be included, the material must, at minimum, include the following statement, in print size no smaller than the text:

*"This institution is an equal opportunity provider."*

- CC. REMEDIES FOR COMPLIANCE RELATED ISSUES. If American Rivers materially fail(s) to comply with any term of the agreement, whether stated in a Federal statute or regulation, an assurance, or the agreement, the U.S. Forest Service may take one or more of the following actions:

1. Temporarily withhold cash payments pending correction of the deficiency by the American Rivers or more severe enforcement action by the U.S. Forest Service;
2. Disallow (that is, deny both use of funds and matching credit for) all or part of the cost of the activity or action not in compliance;
3. Wholly or partly suspend or terminate the current agreement for American Rivers' program;
4. Withhold further awards for the program, or
5. Take other remedies that may be legally available, including debarment procedures under 7 CFR part 3017.

American Rivers will have 7 business days written notice of the material failure to comply and 15 business days to cure or begin curing the defect.



DD. TERMINATION BY MUTUAL AGREEMENT. This agreement may be terminated, in whole or part, as follows:

1. When the U.S. Forest Service and American Rivers agree upon the termination conditions, including the effective date and, in the case of partial termination, the portion to be terminated.
2. By 30 days written notification by American Rivers to the U.S. Forest Service setting forth the reasons for termination, effective date, and in the case of partial termination, the portion to be terminated.

If, in the case of a partial termination, the U.S. Forest Services determines that the remaining portion of the agreement will not accomplish the purposes for which the agreement was made, the U.S. Forest Service may terminate the agreement in its entirety.

Upon termination of an agreement, American Rivers shall not incur any new obligations for the terminated portion of the agreement after the effective date, and shall cancel as many outstanding obligations as possible. The U.S. Forest Service shall allow full credit to American Rivers for the United States Federal share of the non-cancelable obligations properly incurred by American Rivers up to the effective date of the termination. Excess funds must be refunded within 60 days after the effective date of termination.

EE. ALTERNATE DISPUTE RESOLUTION – PARTNERSHIP AGREEMENT. In the event of any issue of controversy under this agreement, the parties may pursue Alternate Dispute Resolution procedures to voluntarily resolve those issues. These procedures may include, but are not limited to conciliation, facilitation, mediation, and fact finding.

FF. DEBARMENT AND SUSPENSION. American Rivers shall immediately inform the U.S. Forest Service if they or any of their principals are presently excluded, debarred, or suspended from entering into covered transactions with the federal government according to the terms of 2 CFR Part 180. Additionally, should American Rivers or any of their principals receive a transmittal letter or other official Federal notice of debarment or suspension, then they shall notify the U.S. Forest Service without undue delay. This applies whether the exclusion, debarment, or suspension is voluntary or involuntary.

GG. INTERNATIONAL TRAVEL. When U.S. Forest Service funds are used, and no Federal, statutory exceptions apply, American Rivers shall ensure that any air transportation of passengers and property is provided by a carrier holding a United States Government issued certificate in compliance with the International Air Transportation Fair Competitive Practices Act of 1974, 49 U.S.C. 40118 (Fly American Act).



- HH. COPYRIGHTING. American Rivers is granted sole and exclusive right to copyright any publications developed as a result of this agreement. This includes the right to publish and vend throughout the world in any language and in all media and forms, in whole or in part, for the full term of copyright and all renewals thereof in accordance with this agreement. However, the cooperators shall not sell, or grant copyrights to a third-party designee who intends to sell the document as a profit making venture.

No original text or graphics produced and submitted by the U.S. Forest Service shall be copyrighted. The U.S. Forest Service reserves a royalty-free, nonexclusive, and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use the work for federal government purposes. This right must be transferred to any sub-agreements or subcontracts.

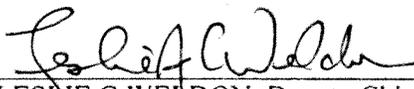
This provision includes:

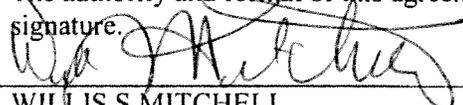
- The copyright in any work developed by American Rivers under this agreement.
  - Any right of copyright to which American Rivers purchase(s) ownership with any federal contributions.
- II. PUBLICATION SALE. American Rivers may sell any publication developed as a result of this agreement. The publication may be sold at fair market value, which is initially defined in this agreement to cover the costs of development, production, marketing, and distribution. After the costs of development and production have been recovered, fair market value is defined in this agreement to cover the costs of marketing, printing, and distribution only. Fair market value must exclude any in-kind or federal government contributions from the total costs of the project.
- JJ. TERMINATION FOR COLLECTION AGREEMENTS. Either party, in writing, may terminate this agreement in whole, or in part, at any time before the date of expiration. The U.S. Forest Service shall not incur any new obligations for the terminated portion of this agreement after the effective date of termination and shall cancel as many obligations as possible. Full credit must be allowed for U.S. Forest Service expenses and all non-cancelable obligations properly incurred up to the effective date of termination. Excess funds must be refunded within 60 days after the effective termination date.
- KK. MODIFICATIONS. Modifications within the scope of this agreement must be made by mutual consent of the parties, by the issuance of a written modification signed and dated by all properly authorized, signatory officials, prior to any changes being performed. Requests for modification should be made, in writing, at least 30 days prior to implementation of the requested change. The U.S. Forest Service is not obligated to fund any changes not properly approved in advance.
- LL. COMMENCEMENT/EXPIRATION DATE. This agreement is executed as of the date of the last signature and is effective through April 1, 2018 at which time it will expire, unless extended by an executed modification, signed and dated by all properly authorized, signatory officials.



MM. AUTHORIZED REPRESENTATIVES. By signature below, each party certifies that the individuals listed in this document as representatives of the individual parties are authorized to act in their respective areas for matters related to this agreement. In witness whereof, the parties hereto have executed this agreement as of the last date written below.

  
\_\_\_\_\_  
WILLIAM P. LEE, Chief Operating Officer  
American rivers Kristin M. May  
V.P., Finance & Administration  
3/29/13  
Date

  
\_\_\_\_\_  
LESLIE C WEIDON, Deputy Chief  
National Forest System  
U.S. Forest Service,  
4/3/2013  
Date

The authority and format of this agreement have been reviewed and approved for signature.  
  
\_\_\_\_\_  
WILLIS S MITCHELL  
U.S. Forest Service Grants Management Specialist  
3/19/13  
Date

Burden Statement

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0217. The time required to complete this information collection is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

## **LETTERS OF SUPPORT**

U.S. Forest Service – Lassen National Forest

Susanville Indian Rancheria

Assemblyman, First District, Brian Dahle

Trout Unlimited



February 24, 2016

Sierra Nevada Conservancy  
11521 Blocker Dr., Ste. 205  
Auburn, CA 95603

Dear Sierra Nevada Conservancy,

On behalf of the Lassen National Forest, I am writing to express support of the *Pine Creek Restoration Project*. Lassen National Forest manages the land on which the project will take place and will work with American Rivers to complete the following proposed activities: 1) remove instream water holes, railroad grades, and road beds to prevent diversion of high flows from Pine Creek; 2) remove encroaching conifers to improve soil moisture and decrease evapotranspiration from meadow edges, and 3) decommission the Bogard Springs diversion and converting the existing water right to dedicate a perennial water source to instream flow. The Lassen National Forest will grant American Rivers and the Sierra Nevada Conservancy access to the project site for 25 years, following completion of the proposed project activities.

For many years, Lassen National Forest has played a key role in efforts to restore Pine Creek. Since 1987, the Pine Creek Coordinated Resource Management Planning Group (CRMP), which the Forest is a member of, has collaboratively advanced projects to improve the Pine Creek watershed, with a primary emphasis on restoring natural flows. Our agency is committed to integrating our work to achieve restoration objectives that maintain resilient land and water conditions through collaboration and partnerships. To date, the Forest Service has worked with our collaborators to: 1) prioritize meadows within the Pine Creek watershed for restoration treatments, 2) hold multiple meetings with internal managers and our community to gain support for Pine Creek and meadow restoration projects, 3) complete NEPA for projects with actions to improve watershed health, and 4) initiate surveys for heritage, hydrology, and wildlife to plan future meadow restoration projects.

We welcome the partnership with American Rivers to help move these projects forward so we can fulfill the NEPA process and implement important large-scale meadow and stream restoration actions within the Pine Creek watershed. We strongly encourage the Sierra Nevada Conservancy to support this worthwhile project.

Sincerely,

Matthew Boisseau  
District Ranger  
Eagle Lake Ranger District  
Lassen National Forest





## SUSANVILLE INDIAN RANCHERIA

February 19, 2016

Sierra Nevada Conservancy  
11521 Blocker Drive, Suite 205  
Auburn , CA 95603

Dear Sierra Nevada Conservancy,

I am writing to express the Susanville Indian Rancheria (SIR) support of the Pine Creek Restoration Project. Since 1987, the Pine Creek Coordinated Resource Management Planning Group (CRMP) has collaboratively advanced projects to improve the Pine Creek watershed, with a primary emphasis on restoring natural flows. The SIR has a vested stake in restoring Pine Creek to benefit the Eagle Lake Rainbow Trout (*Oncorhynchus mykiss aquilarum*), a species endemic to Eagle Lake.

The Pine Creek Restoration Project was developed by the California Department of Fish and Wildlife with support of the CRMP and the project is identified in the 2015 *Conservation Strategy for the Eagle Lake Rainbow Trout*. The removal of instream water holes and railroad grades will prevent diversion of high flows from Pine Creek, and conifer removal and burning will decrease evapotranspiration from the meadow fringes. Together these efforts will improve forest health and enhance flows in Pine Creek, when they are most needed by Eagle Lake Rainbow Trout.

The project is supported by a strong collaboration with a proven track record of successful implementation, monitoring and adaptive management. We urge the Wildlife Conservation Board to support this worthwhile project.

Sincerely,

Brandon Guitierrez  
SIR Tribal Chairman

STATE CAPITOL  
P.O. BOX 942849  
SACRAMENTO, CA 94249-0001  
(916) 319-2001  
FAX (916) 319-2101

DISTRICT OFFICE  
280 HEMSTED DRIVE, SUITE 110  
REDDING, CA 96002  
(530) 223-6300  
FAX (530) 223-6737

E-MAIL  
Assemblymember.Dahle@assembly.ca.gov

# Assembly California Legislature



**BRIAN DAHLE**  
ASSEMBLYMAN, FIRST DISTRICT

COMMITTEES  
VICE CHAIR: ENVIRONMENTAL SAFETY  
AND TOXIC MATERIALS  
VICE CHAIR: NATURAL RESOURCES  
PRIVACY AND CONSUMER PROTECTION  
UTILITIES AND COMMERCE  
WATER, PARKS AND WILDLIFE

Sept. 17, 2015

John P. Donnelly, Executive Director  
Wildlife Conservation Board  
1700 9th Street, 4th Floor  
Sacramento, CA 95811

Dear Mr. Donnelly,

Thanks for the opportunity to offer my full support for the Pine Creek Restoration Project. Since 1987, the Pine Creek Coordinated Resource Management Planning Group has collaboratively advanced projects to improve the Pine Creek watershed, with a primary emphasis on restoring natural flows.

The Pine Creek Restoration Project was developed by the California Department of Fish and Wildlife with support of the Planning Group, and the project is identified in the 2015 "Conservation Strategy for the Eagle Lake Rainbow Trout." The removal of instream water holes and railroad grades will prevent diversion of high flows from Pine Creek, and conifer removal and burning will decrease evapotranspiration from the meadow fringes. In addition, the Lassen National Forest has identified the Bogard Springs diversion for decommissioning, with the intention of dedicating the water right to instream flow. Together these efforts will enhance flows in Pine Creek when they are most needed by Eagle Lake rainbow trout.

The project is supported by a strong collaboration with a proven track record. I urge the Wildlife Conservation Board to support this project and continue the restoration of the critical spawning stream for this rare and prized trout.

Sincerely,

A handwritten signature in blue ink that reads "Brian Dahle".

**BRIAN DAHLE**  
Assemblyman, 1<sup>st</sup> District



---

**David W. Lass**  
California Field Director

2/22/2016

Sierra Nevada Conservancy  
11521 Blocker Drive, Suite 205  
Auburn, CA 95603

Dear Sierra Nevada Conservancy,

I am writing to today as Trout Unlimited's California Field Director to express our support of American Rivers Pine Creek Restoration Project. Trout Unlimited is working collaboratively with American Rivers on various restoration projects in the Pine Creek watershed, and momentum is culminating into positive changes on the ground. Since 1987, the Pine Creek Coordinated Resource Management Planning Group (CRMP) has collaboratively advanced projects to improve the Pine Creek watershed, with a primary emphasis on restoring natural flows. Trout Unlimited is deeply interested in the restoration of the Eagle Lake watershed to rebuild healthy, self-sustaining populations of Eagle Lake rainbow trout - a rare and native California trout species.

The Pine Creek Restoration Project was developed by the California Department of Fish and Wildlife with support of the CRMP and the project is identified in the 2015 Conservation Strategy for the Eagle Lake Rainbow Trout. The removal of instream water holes and railroad grades will prevent diversion of high flows from Pine Creek, and conifer removal and burning will decrease evapotranspiration from the meadow fringes. Together these efforts will improve forest health and enhance flows in Pine Creek, when they are most needed by Eagle Lake Rainbow Trout.

The project is supported by a strong collaboration with a proven track record of successful implementation, monitoring and adaptive management. We urge the Sierra Nevada Conservancy to support this worthwhile project.

Thank you again. If I can ever be of assistance, please do not hesitate to contact me.

Sincerely,

David W. Lass



United States  
Department of  
Agriculture

Forest  
Service

Pacific  
Southwest  
Region

September  
2007

# Lassen Land and Resource Management Plan FY 2006 Monitoring Report

## Lassen National Forest



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

## Lassen Land and Resource Management Plan FY 2006 Monitoring Report

### **Monitoring Summary**

The Regional Forester signed the Record of Decision (ROD) and approved the Lassen National Forest (NF) Land and Resource Management Plan (LRMP) and Environmental Impact Statement (EIS) on January 11, 1993. In that decision, a commitment was made to conduct a monitoring and evaluation program. To date the following Monitoring & Evaluation Reports have been published by the Lassen National Forest:

- August 1997, comprising fiscal years 1993 through 1996
- July 1998, for fiscal year 1997
- July 1999, for fiscal year 1998
- September 2000 for fiscal year 1999

In addition, a Monitoring Report (accomplishment only) for FY 2005 was completed in September 2006.

The LRMP for the Lassen NF has been amended by three programmatic forest plan level decisions since its approval in 1993:

- The 1994 Northwest Forest Plan (NWFP) and RODs (2001, 2004, 2007)
- The Herger-Feinstein Quincy Library Group Forest Recovery Act (HFQLG) RODs (1999, 2003)
- The Sierra Nevada Forest Plan Amendment (SNFPA) RODs (2001, 2004)

Some LRMP monitoring has also been adjusted to reflect these strategies and changes in forest management. For example the wildlife monitoring plan objectives from the 1992 LRMP, Chapter 5, were amended to reflect changes from the 2004 SNFPA (refer to Chapter 1, Land and Resource Management Direction of the Lassen National Forest Management Indicator Species (MIS) Report (2006).

The Lassen NF is scheduled to begin Forest Plan Revision in Fiscal Year 2009. At this time the Forest will evaluate whether or not the assumptions used to develop its plan were correct. All the monitoring and evaluation information collected since the Plan's approval will be used for this plan revision effort.

### **Selected Monitoring Activities for FY 2006 Reporting**

The Lassen Land and Resource Management Plan (as amended) has 22 disciplines, ranging from air quality to wildlife, for monitoring with one to several individual monitoring items for each discipline. The emphasis of this report is on implementation and effectiveness monitoring of the LRMP during FY 2006. The monitoring activities documented here are not all inclusive of the monitoring which occurs on a yearly basis, but rather a representative set of LRMP monitoring. Disciplines selected to report on for FY 2006 are: *Air Quality, Cultural, Fire & Fuels, Fish, Forest Health, Range, Sensitive Plants, Soils, Timber, Water & Riparian Areas, and Wildlife.*

## **LRMP Monitoring Components**

### **Objectives**

Table 1, *Monitoring Objectives, Accomplishments and Results*, documents whether the objectives, as identified in the Lassen LRMP (as amended), were accomplished, to what extent, and what results were realized from the monitoring effort. The questions to be answered here are: Did we do what we said we would? What were the results? Were the results within the allowable standards set up in the LRMP?

### **Monitoring**

For the representative disciplines of this report, the specialists were asked to assess whether the monitoring as specified in the LRMP, as amended, was (1) accomplished in full, (2) accomplished in part (% accomplished if applicable), or (3) not accomplished.

### **Results**

Results for the 2006 LRMP monitoring activities are summarized using the following criteria to compare post-monitoring conditions to monitoring limits of variability established in Chapter 5 of the LRMP (see Table 1). (1) conditions within standards, (2) conditions within allowable variation for standards, (3) conditions below allowable standards and variations, (4) conditions indeterminable, and (5) conditions not reported (see Table 1).

### **Conclusions**

Table 2, *Monitoring Conclusions and Recommendations*, documents the specialist's conclusions for LRMP monitoring for their respective disciplines. An attempt was made to answer the questions: Is the monitoring outlined in the Lassen NF LRMP, as amended, effective, and are we using the right monitoring tools to properly assess potential effects to the Forest's management practices? These conclusions rely on the expertise of the specialists performing the monitoring and for the most part fall into three categories: (1) monitoring is effective, (2) monitoring is ineffective, and (3) monitoring is inconclusive. Conclusions for the LRMP monitoring of FY 2006 selected disciplines (omitting range and wildlife, analysis not available) were summarized for this report.

### **Recommendations**

Table 2, *Monitoring Conclusions and Recommendations*, documents the specialist's general recommendations for LRMP (as amended) monitoring for their disciplines (omitting range, analysis not available). The specialists analyzed the monitoring results and made recommendations as to how effective the LRMP monitoring plans are, and what changes to the monitoring plan might be needed if standards were not met. These recommendations rely heavily on the expertise of the specialists who performed the LRMP monitoring and for the most part fall into six categories: (1) continue current monitoring, (2) improve monitoring applications, (3) improve documentation, (4) amend prescriptions, (5) amend standards & guidelines, and (6) revise Forest Plan.

### **Air Quality:**

For air quality in FY 2006, the Monitoring objective was accomplished, and post-monitoring conditions were within standards. Monitoring objectives as designed in the Lassen NF LRMP were effective, and the recommendation is to continue current LRMP monitoring for compliance with local air quality regulations.

**Cultural:**

The monitoring objective for management of cultural resources was accomplished in part. Post-monitoring conditions for 55 sites (out of 61 monitored) were found to be within standards for management of cultural resources. However, conditions (inadvertent effects) at six sites (out of the 61) were below standard and are being investigated for illegal activity. FY 2006 monitoring objectives for management of cultural resources, as designed in the Lassen NF LRMP, were effective. It was determined that these monitoring applications are sufficient, but could be improved by increasing the number of monitoring events.

The monitoring objective was also accomplished in part for inventory and evaluation of cultural resources. Inventory (survey) efforts exceeded standards (32 sites added to inventory through survey efforts), but evaluations of cultural resources are being conducted below our LRMP standard. Monitoring objectives for inventory and evaluation of cultural resources were also determined to be effective. The recommendation is to continue current monitoring, but because inventory efforts are exceeding standards and guides, it is also recommended that the Standards and Guides and the Forest Plan be amended to meet current efforts for evaluations.

**Fire and Fuels:**

Monitoring objectives for wildland fire suppression, fuels treatments, and prescribed burns were accomplished, and post-monitoring conditions for all three were found to be within standards. FY 2006 monitoring objectives as designed in the Lassen NF LRMP were effective, and the recommendation is to continue current LRMP monitoring for wildland fire suppression, fuels treatments, and prescribed burns.

Monitoring data for fire intensity class (FIC) acres was collected using total acres burned rather than fire intensity class. Therefore, the objective for FIC acres was only accomplished in part (3 percent accomplished), and the post-monitoring conditions were indeterminable for FY 2006, making the monitoring objectives for burned acres by FIC inconclusive. It is recommended that improvements be made to the monitoring applications for FIC by monitoring for total acres burned rather than by Management Area (MA) and FIC.

**Fish:**

The monitoring objectives for anadromous fish were accomplished for FY 2006. Monitoring of habitat followed SNFPA PACFISH protocol developed by the Lassen NF for anadromous habitat on the forest. The results for the habitat component were indeterminable (analysis on monitoring not completed for FY 2006, but presumed to be within standards based on monitoring results of 10 prior years). Nearly 14 years of consecutive monitoring is now available to track trend in population of spring-run Chinook salmon, a Federally Listed species. The results for the population component showed conditions were within allowable variation for standards. For anadromous fish, FY 2006 monitoring was effective for both habitat and population, and it is recommended that current monitoring applications continue for both habitat and population.

The monitoring objectives for resident fish were accomplished in part for FY 2006. The results for the habitat component were indeterminable (analysis on monitoring not completed for FY 2006, but presumed to be within standards based on monitoring results of ~12 prior years). The results for the population component showed conditions were within standards at the sites sampled. The resident fish monitoring protocol was effective for habitat (the R-5 Stream Condition Inventory protocol is available and can be effectively used to track trend in condition of habitat). Population monitoring through the use of snorkeling techniques to determine presence or absence of species was also effective for resident fish. For resident fish habitat

monitoring, the recommendation is to continue current LRMP monitoring. When the Regional LRMP amendment for MIS is implemented, habitat monitoring requirements for rainbow trout should be re-evaluated at that time. For resident fish population monitoring it is recommended that current monitoring applications continue concurrent with habitat monitoring until amended by MIS implementation, and then re-evaluated at that time.

### **Forest Health:**

The monitoring objective for forest pest conditions was accomplished in FY 2006. Post-monitoring conditions were also within allowable variation for standards, but these monitoring results are most likely reflective of favorable precipitation conditions rather than past management practices. FY 2006 monitoring objectives as designed in the Lassen NF LRMP were effective, and it is recommended that the current LRMP monitoring for forest pest conditions continue. It is also recommended there be a reduction in stand density and stocking levels to reduce impacts of insects and diseases on forest stands in the future.

### **Range:**

For range, the objectives for FY 2006 LRMP monitoring were accomplished, and the post-monitoring conditions were within standards.

### **Sensitive Plants:**

The monitoring objective for FY 2006 was accomplished for sensitive plants, and the post-monitoring conditions were within standards. The monitoring objectives as designed in the Lassen NF LRMP were effective and it is recommended that current LRMP monitoring for sensitive plant populations continue.

### **Soils:**

The monitoring objective for soil productivity for FY 2006 was accomplished, and post-monitoring conditions were within standards. However, FY 2006 monitoring for soil productivity was inconclusive. More data is needed from the Long Term Soil Productivity Study. The recommendation is to improve monitoring applications for soil productivity. Decisions will need to be made on how to improve monitoring procedures for soil productivity following the Long Term Soil Productivity Study.

The monitoring objective for soil compaction for FY2006 was accomplished. Pre-and Post-monitoring conditions for soil compaction on several sites were found to be below allowable standards and variations. However, monitoring for soil compaction was also inconclusive. More data is needed to determine the true effect of soil compaction levels on sites which were found to be above acceptable levels. Legacy compaction is still apparent in current monitoring, but this level of compaction at these sites may not necessarily lead to a decrease in soil productivity. More data will need to be collected to determine if there are any effects from the measured compaction levels. It is recommended that improvements be made to the monitoring procedures for soil compaction and attempts at improving precision in the monitoring protocol are currently being made.

### **Timber:**

Monitoring objectives for timber sale volume (47% of MMBF/60% of MMCF) and regeneration acres (11%) were only accomplished in part for FY 2006. Post-monitoring conditions for timber sale volume (ASQ) and regeneration acres were below allowable standards and variations. FY 2006 monitoring objectives as designed in the Lassen NF LRMP for ASQ were inconclusive. It

was determined that the monitoring system is adequate, with poor results being attributed to minimal volume. Monitoring for regeneration acres was also inconclusive. It was determined that the monitoring system is adequate, with poor results being attributed to minimal acreage. For ASQ and regeneration acreages, it is recommended to keep current LRMP monitoring system in place, but amend standards and guidelines to increase timber sale volume and regeneration acreage.

Plantation stocking level monitoring objectives were exceeded by 197%, and post-monitoring conditions for plantation stocking levels exceeded minimal standards for FY 2006. Monitoring objectives as designed in the Lassen NF LRMP for plantation stocking levels were effective and the minimal standards were exceeded. It is recommended to continue current monitoring applications for plantation stocking levels.

### **Water and Riparian Areas:**

Water quality, watershed condition, cumulative watershed effects, riparian habitat monitoring, and Eagle Lake water quality monitoring objectives were all accomplished for FY 2006. Post-monitoring conditions were within standards set for water quality, watershed condition, cumulative watershed effects, Eagle Lake water quality, and riparian habitat. FY 2006 monitoring objectives for all five of these resources were effective, and it is recommended that current LRMP monitoring for water quality, watershed condition, cumulative watershed effects, and riparian habitat monitoring continue.

Eagle Lake water quality monitoring was suspended in FY 2007 and the California Dept. of Water Resources will be conducting sampling on a 5 year rotation from this point forward. Sampling data from the past 20 years indicated minimal change in water quality. Given this, monitoring has been scaled back for Eagle Lake water quality monitoring.

### **Wildlife:**

Overall monitoring objectives for the 12 species listed in Chapter 5 of the Lassen NF LRMP were accomplished in part (10 out of 12 species listed in Lassen NF LRMP), and post-monitoring conditions met standards for all wildlife species monitored. However, it is recommended that the LRMP monitoring be re-evaluated to improve monitoring applications and documentation. Establishing a geodatabase for each special status species (MIS) would help improve the accuracy in documentation and effectiveness of monitoring applications.

## **Status of FY07/FY08 Monitoring & Evaluation on the Lassen NF**

In preparation of the annual monitoring and evaluation report, depending on funding and personnel available, an IDT will need to be convened to analyze and evaluate the previous year's monitoring efforts. Recommendations could then be made to the Forest Supervisor if further monitoring or adjustment is needed, and a schedule to implement these recommendations proposed.

## **List of Preparers (Lassen National Forest)**

Allison Sanger	Forest Botanist
Christopher O'Brien	Heritage Program Manager
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Dave Evans	Forest Silviculturist
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Melanie McFarland	Forest Fisheries Biologist
Scott Tangenberg	Forest Hydrologist
Tom Frolli	Wildlife/Range/Fisheries/Botany Program Manager

## **Appendix**

### References

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### Tables

Table 1: *Monitoring Objectives, Accomplishments and Results*  
 Lassen National Forest Fiscal Year 2006  
 (see legend below)

Resource	Key	Objective	Accomplishment	Results
<b>Air Quality:</b>				
Compliance w/Local Air Quality Regulations	1-B	Assure that FS activities that could create air pollution (...and prescribed burning) comply w/all Regs & permit requirements of local air quality regulatory agencies	Accomplished in full	Conditions within standards
<b>Cultural:</b>				
Management of Cultural Resources	3-A	Ensure that cultural resources are protected during Forest management activities, and that Forest actions do not restrict traditional native American religious practices	Accomplished in part (61 sites were protected using SPMs; monitoring, however, showed six sites with inadvertent effects possibly as a result of illegal activity)	Conditions within standards for most sites  Conditions below allowable standards & variations for six sites (inadvertent effects to six sites being investigated to determine and correct cause)
Inventory & Evaluation of Cultural Resources	3-B	Assess the adequacy of the Forest cultural resource inventory and determine if cultural resource inventories and evaluations will be completed by the first decade. Assess if 20% of all cultural properties will be evaluated for eligibility to the NRHP by first decade.	Accomplished in part: Survey efforts exceeding standards  Evaluation efforts below LRMP standards, but just meeting RPA standards in agreed-upon 110 Plan)	Conditions within standards (32 sites added to inventory through survey efforts; inventory exceeding standards)  Conditions below allowable standards & variations (evaluations being conducted below LRMP standard)
<b>Fire &amp; Fuels:</b>				
Wildland fire suppression tactics & strategies	5-A	Assure that fire suppression actions are consistent w/Forest Plan Standards and Guides (S&Gs)	Accomplished in full	Conditions within standards
Burned Acreages by Fire intensity Class (FIC)	5-B	Compare the actual and predicted extent of wildfire acres.	Not accomplished (Total NFMAS – 5360 ac Total actual – 186 ac = 3% of predicted)	Conditions indeterminable (the monitoring data was collected using total acres burned, rather than fire intensity class)
Fuel Treatment and Prescribed Fire	5-C	Review prescribed burns and fuel treatments to determine if project objectives and Forest Plan Standards and Guidelines were met.	Accomplished in full	Conditions within standards
<b>Fish:</b>				
Anadromous Fish (Spring-run Chinook salmon)	7-A	<b>Habitat</b> - Determine habitat status and trend in relation to management activities.	Accomplished in full (5 miles of anadromous habitat monitored)	Conditions not yet analyzed for FY 2006 monitoring, but presumed within standards based on results from prior 10 year monitoring timeframe. Trend for 10 yrs of monitoring shows habitat conditions to be relatively stable.

Resource	Key	Objective	Accomplishment	Results
		<b>Population</b> - Determine relative distribution and abundance	Accomplished in full (37 miles of adult spring-run chinook salmon holding habitat surveyed and 37 miles of spawning habitat surveyed)	Conditions within allowable variation for standards (annual abundance estimates display a high level of fluctuation, but escapement trends have been positive since 1991)
Resident fish (rainbow trout)	7-A	<b>Habitat</b> - Determine habitat status and trend in relation to management activities.	Accomplished in part (number of sample units to be monitored annually is not defined, but 8 miles of stream condition were monitored)	Conditions not yet reported for FY 2006 monitoring, but presumed within standards based on results from prior ~12 years monitoring. Trend for 12 years of monitoring shows moderate habitat capability & an upward trend for key attributes.
		<b>Population</b> - Determine population distribution in medium to highly suitable streams	Accomplished in part (number of sample units to be monitored annually is not defined, but monitoring accomplished in conjunction with habitat monitoring noted above)	Conditions within standards at sites sampled
<b>Forest Health</b>				
Forest Pest Conditions	8-A	Detect and evaluate pest-related problems and damage through the Forest pest detection reporting process	Accomplished in full through Douglas-fir Tussock Moth (DFTM) surveys and aerial tree mortality surveys	Conditions within allowable variation for standards (results mostly reflect favorable precipitation conditions rather than past management practices)
<b>Range:</b>				
Range Utilization Studies	11-A	Review Ranger District programs to determine appropriate livestock grazing levels to maintain proper vegetative conditions.	A total of ten (10) allotment management plans (AMPs) were reviewed.	Exceeded minimum standard of six AMPs by four.
Rangeland Condition and Trend (C&T)	11-B	Determine if all rangelands are maintaining productivity, are in satisfactory or better condition, and have a static or improving trend in range condition.	A total of 18 C&T transects were read on nine allotments. Ten allotment NEPA assessments were reviewed.	Conditions within standards
<b>Sensitive Plants:</b>				
Sensitive Plant Populations	13 -A	Ensure habitat maintenance or improvement for Sensitive plants to avoid Federal listing as Threatened or Endangered species.	Accomplished in full	Conditions within standards
<b>Soils</b>				
Soil Productivity	14.A	Prevent irreversible loss of soil productivity by using erosion hazard information and by assessing the effects of management prescriptions and Forest projects on soil properties	Accomplished in full	Conditions within standards

Resource	Key	Objective	Accomplishment	Results
Soil Compaction	14.B	Determine soil compaction from timber harvesting, rangeland use, recreational activity, and other soil disturbing activities...	Accomplished in full	Conditions below allowable standards & variations (monitoring indicates compaction levels on several sites were above std. before operation and remained above std. after operations. This level of compaction may not lead to a decrease in productivity (per recent scientific findings). More data is needed to determine the true effect of this deviation)
<b>Timber</b>				
Timber Sale Volume	16-A	Evaluate timber sale volume for the Plan period in relation to the allowable sale quantity (ASQ)	Accomplished in part (output of 45 MMBF 47% of objective)  Accomplished in part (output of 9 MMCF 60% of objective)	Conditions below allowable standards & variations  Conditions below allowable standards & variations
Regeneration Acreages	16-B	Determine acreage of Forest's regeneration timber harvest in relation to HFQLG objectives	Accomplished in part (out put of 410 acres 11% of objective)	Conditions below allowable standards & variations
Plantation Stocking Level	16-C	Determine if tree stocking implantations meets minimum Regional standards and will assure regeneration of the forest within five years.	Accomplished in full (output of 9,255 acres 197% of objective)	Conditions within standards (exceeded minimal standards) 1 <sup>st</sup> yr: RF 102% survival JP 139% survival PP 157% survival 3 <sup>rd</sup> yr: PP 135% survival
<b>Water and Riparian Areas</b>				
Water Quality Management	19.A	Assess compliance with an effectiveness of BMP's for all management activities in a given watershed.	Accomplished in full	Conditions within standards
Significant Changes in Watershed Condition	19.B	Identify damaged watersheds or subbasins and needed improvements	Accomplished in full	Conditions within standards
Eagle Lake Water Quality	19.C	Detect any decreases in water quality compared to long-term average quality, particularly any adverse effects from National Forest lands.	Not accomplished	Conditions within standards (monitoring of Eagle Lake water quality was suspended this year and the California Dept. of Water Resources will be conducting sampling on a 5 year rotation from this point forward. Sampling data from the past 20 years indicated minimal change in water quality. Given this, monitoring has been scaled back)
Cumulative Watershed Effects	19.D	Identify cumulative impacts of proposed land disturbing activities in specific watersheds and impacted subbasins	Accomplished in full	Conditions within standards
Riparian Habitat	19.E	Assess riparian values, condition, and trend.	Accomplished in full	Conditions within standards

Resource	Key	Objective	Accomplishment	Results
<b>Wildlife:</b>				
Bald Eagle	22-A	Evaluate trends in habitat capability for both nesting and wintering birds.  Determine trends in the breeding population.	A summary of established territories 1994 thru 2005 was made in 2006.  A census was conducted and completed in 2006.	We are currently managing for 38 territories. The LRMP goal was for 21 territories.  The census count in 2005 was 71 individuals. Census count on ELRD was 42 individuals.
Northern spotted owl	22-B	Evaluate trends in habitat capability. Monitor habitat conservation area for habitat integrity.  Determine if Standards & Guides are being followed; verify if they are achieving the desired results and determine if underlying results are sound.	PNW-GTR-646 Habitat status and trend report was released in 11/2005.  Standards and Guides were followed.	No change in habitat capability acres.  2006 MIS Species Account report indicates that 3 known nesting sites have been inactive since 2001.
Peregrine falcon	22-C	Population monitoring using Distribution data. Determine distribution trends of breeding pairs at historical and potential nest sites.	Surveys conducted on ALRD. Survey data not summarized.	2006 MIS Species Account report indicates that known nesting sites have increased from 1 to 8 sites over the last 10 years.
CA Spotted owl	22-D	Ensure compliance of Forest projects with Regional spotted owl direction. Determine population and habitat condition trends in network Protected Activity Centers (PACs) and Spotted Owl Habitat Areas (SOHAs).  LNF will determine CSO distribution at the Forest scale and provide support to regional efforts at demographic population monitoring and cause and effect research.	Review was made of all district vegetation management projects in 2006.  Population and trend analysis was conducted by USFWS per 12 month finding.	2006 MIS Species Account report indicates that the forest has exceeded the LRMP goal of 40 territories with current 127 territories.  USFWS determined that LNF population is in a possible downward trend.
Northern goshawk	22-E	Determine habitat trends within designated goshawk habitat.  Determine population trends within designated goshawk habitat.	A summary of established territories for 1993 thru 2005 was made in 2006.  Surveys conducted on ALRD and ELRD.	2006 MIS Species Account report indicates that the forest has exceeded the LRMP goal of 113 territories with current 170 territories.  Summary of nest success for same period indicates an upward trend in population.

Resource	Key	Objective	Accomplishment	Results
marten & fisher	22-F	<p>Field verify the suitability of potential marten &amp; fisher habitat, and identify which areas are not currently suitable and plan for reaching suitability in the shortest possible time.</p> <p>The combination of population and habitat monitoring will help determine whether the conservation strategy is effective in increasing the marten population and in increasing the amount, quality and distribution of marten habitat.</p>	<p>Marten habitat suitability and predictive model development was started with support from PSW.</p> <p>Not accomplished (no surveys conducted by the Lassen NF in FY 2006. Pacific Southwest Research Station (PSW) conducts these surveys in conjunction with current year projects. None were done on the Lassen in FY 2006)</p>	<p>Secured funding for further development of habitat predictive model and re-initiation of carnivore surveys within PSW study area.</p> <p>Conditions not reported</p>
Black bear	22-G	<p>Assess changes in habitat capability as a result of management activities.</p> <p>Population monitoring using distribution data.</p>	<p>MIS report included Vegetation Change detection analysis &amp; snag/down woody material analysis.</p> <p>Survey data was summarized for HCRD from 1993 thru 2004. Fall surveys were initiated on ELRD &amp; ALRD.</p>	<p>Vegetation summary indicates slight increase in small diameter conifer types, net increase in shrubs and decrease in hardwoods.</p> <p>Population surveys indicate wide-spread distribution of black bears across forest and beyond normal range.</p>
Deer & Pronghorn	22-H	<p>Ensure that desired levels of habitat capability are provided.</p> <p>Monitor trend in population distribution within emphasized management areas.</p>	<p>MIS report included Vegetation Change detection analysis &amp; snag/down woody material analysis.</p> <p>Annual spring and fall deer surveys were conducted for California Department of Fish &amp; Game (CDFG) on each District.</p>	<p>Vegetation summary indicates, net decrease in hardwoods.</p> <p>Results are summarized by CDFG and currently unavailable for purposes of this report.</p>
Western gray squirrel	22-I	<p>Determine trends of selected habitat components, especially hardwoods.</p> <p>Population monitoring using distribution data</p>	<p>MIS report included vegetation change detection analysis &amp; snag/down woody material analysis.</p> <p>Survey routes were established on the HCRD.</p>	<p>Monitoring data had not yet been analyzed at the time of this report.</p>
Hairy & Pileated woodpecker	22-J	<p>Determine nesting habitat trends.</p> <p>Monitor change in species distribution.</p>	<p>MIS report included Vegetation Change detection analysis &amp; snag/down woody material analysis.</p> <p>Breeding bird surveys &amp; land bird surveys conducted on all three districts in 2006.</p> <p>Survey data was summarized for forest using Breeding Bird Surveys from 1966 to 2003.</p>	<p>Habitat is moderately abundant and increasing for both.</p> <p>Systematic surveys for species distribution are scheduled for 2007.</p> <p>FY 2006 Monitoring for these woodpecker species was accomplished in part.</p>

Resource	Key	Objective	Accomplishment	Results
Osprey	22-K	Ensure that adequate nesting habitat exists for osprey around Eagle Lake, Lake Almanor, Lake Britton, and other major water bodies.  Population monitoring using Distribution data. Determine distribution trends of nesting pairs.	Not accomplished	N/A
Waterfowl	22-L	Determine trends in amount of nesting habitat present in emphasized management areas.  Population monitoring using distribution data. Determine trend in distribution of nesting and brooding populations.	Not accomplished	N/A

Legend

**Key:** from Lassen *Land and Resource Management Plan (LRMP)*, as amended by HFQLG and SNFPA, Chapter 5 – Monitoring and Evaluation, Monitoring Plan by Resource

- HFQLG - Herger-Feinstein Quincy Library Group
- SNFPA - Sierra Forest Plan Amendment
- RF=red fir/JP=Jeffrey pine/PP=ponderosa pine
- SPM - Standard Protection Measures
- NRHP - National Register of Historic Places
- RPA – Regional Programmatic Agreement

Table 2: *Monitoring and Evaluation Conclusions and Recommendations*  
Lassen National Forest Fiscal Year 2006  
(see legend below)

Resource	Key	Conclusions	Recommendations
<b>Air Quality:</b>			
Compliance w/Local Air Quality Regs	1-B	Monitoring effective	Continue current monitoring
<b>Cultural:</b>			
Management of Cultural Resources	3-A	Monitoring effective (monitoring identified inadvertent effects were occurring)	Monitoring applications are sufficient, but could be improved by increasing the number of monitoring events.
Inventory & Evaluation of Cultural Resources	3-B	Monitoring effective	Continue current monitoring However, inventory efforts are exceeding standards and guides. Recommend amending Standards and Guides and Forest Plan to meet current efforts for evaluations.
<b>Fire &amp; Fuels:</b>			
Wildland fire suppression tactics & strategies	5-A	Monitoring effective	Continue current monitoring
Burned Acreages by Fire Intensity Class (FIC)	5-B	Monitoring inconclusive (monitoring data has been collected using total acres burned, rather than by FIC)	Improve monitoring applications (recommend monitoring for total acres burned, rather than by each Management Area (MA) and FIC.
Fuel Treatment and Prescribed Fire	5-C	Monitoring effective	Continue current monitoring
<b>Fish:</b>			
Anadromous Fish (Spring-run Chinook salmon)	7-A	<b>Habitat</b> – Monitoring effective Monitoring of habitat follows PACFISH protocol developed by LNF for anadromous habitat on the forest.  <b>Population</b> - Monitoring effective Nearly 14 consecutive years of data available to track trend in population of spring-run Chinook salmon, a federally listed species.	Continue current monitoring  Continue current monitoring
Resident fish (rainbow trout)	7-A	<b>Habitat</b> - Monitoring effective Monitoring Protocol Effective. R-5 Protocol (Stream Condition Inventory) is available and can be effectively used to track trend in condition of habitat.  <b>Population</b> - Monitoring effective Snorkeling techniques used to determine presence/absence of species is effective.	Continue current monitoring (LRMP is currently proposed for regional amendment for management indicator species (MIS). Monitoring requirement for rainbow trout habitat may change for this MIS. Re-evaluate at that time)  The value of the monitoring objective is questionable but data is inexpensive to obtain and can be conducted concurrent with habitat monitoring. Continue until amended by MIS decision and re-evaluate at that time
<b>Forest Health</b>			
Forest Pest Conditions	8-A	Monitoring effective	Continue current monitoring (reducing stand density and stocking levels is highly recommended to reduce impacts of insects and diseases on forest stands in the future)

Resource	Key	Conclusions	Recommendations
<b>Sensitive Plants:</b>			
Sensitive Plant Populations	13 -A	Monitoring effective	Continue current monitoring
<b>Soils</b>			
Soil Productivity	14.A	Monitoring inconclusive	Improve monitoring applications (As more data from the Long Term Soil Productivity Study becomes available, decisions can be made on how to improve monitoring procedures.)
Soil Compaction	14.B	Monitoring inconclusive	Improve monitoring applications (Attempts to improve the precision of monitoring data are being made. Legacy compaction is still apparent in current monitoring. Like the Soil Productivity section above, more data is needed to know if there are any effects of the measured compaction levels.)
<b>Timber</b>			
Timber Sale Volume	16-A	Monitoring inconclusive (monitoring system adequate, poor results due to minimal volume)	Continue current monitoring system, BUT amend standards & guides to increase timber sale volume.
Regeneration Acreages	16-B	Monitoring inconclusive (monitoring system adequate, poor results due to minimal acreage)	Continue current monitoring system, BUT amend standards & guides to increase regeneration acreage.
Plantation Stocking Level	16-C	Monitoring effective	Continue current monitoring
<b>Water and Riparian Areas</b>			
Water Quality Management	19.A	Monitoring effective	Continue current monitoring
Significant Changes in Watershed Condition	19.B	Monitoring effective	Continue current monitoring
Eagle Lake Water Quality	19.C	Monitoring effective	Forest Plan should be revised to change the frequency and intensity of monitoring given the observed lack of change in water quality parameters.
Cumulative Watershed Effects	19.D	Monitoring effective	Continue current monitoring
Riparian Habitat	19.E	Monitoring effective	Continue current monitoring

### Legend

**Resource:** from *Table 1: Monitoring Objectives, Accomplishments and Results*  
Lassen National Forest Fiscal Year 2006

**Key:** from *Table 1: Monitoring Objectives, Accomplishments and Results*  
Lassen National Forest Fiscal Year 2006

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