Low-Effect Habitat Conservation Plan

for the Smith's Blue Butterfly and California Red-Legged Frog,

at the Post Ranch Inn

(APN 419-311-034)

in Big Sur, Monterey County, California

Prepared for:

Michael S. Freed, General Partner
Post Ranch L.P.
Highway 1, Big Sur, CA 93920

Prepared by:

Richard A. Arnold, Ph.D.
Entomological Consulting Services, Ltd.
104 Mountain View Court
Pleasant Hill, CA 94523
(925) 825-3784

John A. Gilchrist
John Gilchrist & Associates
226 Spring Street
Santa Cruz, CA 95060
(831) 429-4355

Mark Allaback
Biosearch Associates
PO Box 1220
Santa Cruz, CA 95061
(831) 662-3938

Jeff Norman
PO Box 15
Big Sur, CA 93920
(831) 667-2815

Draft 3.7 (USFWS Revision 8)
March 2006

EXECUTIVE SUMMARY

Post Ranch Inn is a premier resort complex set among the ridges of the rolling Santa Lucia Mountains at the edge of the Pacific Ocean in Big Sur (Monterey County), California. The Post Ranch L.P., a California limited partnership that operates the Post Ranch Inn, has applied for a permit pursuant to Section 10 (a)(1)(B) of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884) (ESA), as amended from the U.S. Fish and Wildlife Service (the Service) for the incidental take of the endangered Smith's blue butterfly (*Euphilotes enoptes smithi*) and the threatened California red-legged frog (*Rana aurora draytonii*). The potential taking would occur incidental to proposed expansion of the existing visitor-serving facilities at a 91.98-acre parcel (APN 419-311-034) owned by the Post Ranch L.P. Two adjacent parcels: APN 419-311-035 owned by the Sullivan Family, and APN 419-0311-036 owned by the Post family are part of a Monterey County Minor Subdivision but not part of this HCP. These three neighboring parcels are located in Big Sur (Monterey County), CA.

The HCP area or covered area includes a total of 91.98 acres. Within this area, 0.003 acre of Smith's blue butterfly (SBB) habitat (0.001 ac. of sagebrush scrub with seacliff buckwheat and 0.002 ac. of sagebrush scrub that could support buckwheat) will be lost. An additional 0.826 acre of California red-legged frog (CRLF) upland forest and scrub habitat (see Table 3) will be removed.

The proposed new facilities will include additional inn units, new yoga/spa buildings, a central services facility, employee housing and a maintenance/shop building. The total area for proposed expansion activities measures 3.06 acres, which includes new building footprints, new roads and parking, landscaping, and drainage and erosion control improvements. In addition 0.25 acre of scrub habitat may be impacted by fire clearance activities. Approximately 77% (2.35 acres) of areas proposed for expansion are located within existing developed or landscape areas.

Habitat types at Post Ranch Inn include a diverse range of forest, shrub, grassland and aquatic habitat types. Expansion activities and minimal removal of vegetation for fire clearance will result in the loss of 0.001 acres of California sagebrush scrub which support an estimated 10 individuals of seacliff buckwheat (*Eriogonum parvifolium*), the larval and primary adult food plant for the Smith's blue butterfly. Another 0.353 acres of California sagebrush scrub and California annual grassland which do not support seacliff buckwheat will also be affected by the project. Adults of the Smith's blue were most recently observed at the project site during a status survey for the butterfly that conducted in July 2000 and August 2001. Outside of the proposed construction site but elsewhere within the HCP boundaries at the Post Ranch Inn, an additional 137 resident seacliff buckwheat plants could be affected by fire management, weed control, and habitat management activities, although that number is expected to be much lower. Take limits are proposed as follows:

a) a maximum take limit of 15 seacliff buckwheat plants in the construction zone from construction-related impacts;
b) outside of the construction zone but elsewhere within the HCP boundaries, a maximum take limit of 10 buckwheat plants/year, or a maximum of 100 total buckwheats throughout the 20-year permit term may occur due to other activities such

as creation and maintenance of fire breaks, removal of exotic plants, and other habitat management or habitat restoration activities.

Also, expansion activities could impact the CRLF. CRLF breed in the pond near the center of the property. Breeding and juvenile frogs in the pond could be affected by adverse water quality changes, and frogs emerging from the pond to upland habitats could be killed by auto traffic in the vicinity.

As a result of these anticipated impacts, the Post Ranch Inn has applied for a Section 10 (a)(1)(B) permit and proposes to implement this HCP as described herein, which provides measures for minimizing and mitigating adverse effects on SBB and CRLF. Post Ranch L.P. Inn is requesting the Section 10 (a)(1)(B) permit be issued for a period of 20 years, with the possibility of renewal at the end of this term if the Inn is still operating.

This HCP summarizes the project and identifies the responsibilities of the Service, Post Ranch Inn and its successors and assigns, and the conservation easement holder. The biological goals of the HCP are:

1. Protect SBB and host plant seacliff buckwheat during construction, and replace SBB habitat impacted by construction and management activities at Post Ranch Inn.
2. Protect CRLF breeding habitat at the pond and enhance upland dispersal habitat at the Post Ranch Inn site.

To meet these goals, the following objectives are proposed:

a) replace the 0.003 acres of impacted California sagebrush scrub habitat (0.001 ac. Calif. sagebrush scrub with seacliff buckwheat) with 0.736 acres of restored California sagebrush scrub habitat elsewhere on the project site;
b) replace the impacted seacliff buckwheats providing foraging habitat for Smith's blue butterfly with 200 mature buckwheat plants in the restored California sagebrush scrub habitat and by supplementing low density portions of the site with additional buckwheat plants; and
c) permanently protect 36.1 acres of current and restored habitat for Smith's blue butterfly and California red-legged frog (including breeding, dispersal corridors, etc.) at the project site via a recorded conservation easement.
d) implement measures to reduce traffic on roads near the pond;
e) continue exotic species removal at the pond;
f) revegetate the pond perimeter with wetland species and pond weed for frog cover;
g) and, provide additional upland habitat for the red-legged frog by planting native upland species, including native shrubs in the unvegetated parking turnout area south of the pond.

This HCP also describes measures that will be implemented by Post Ranch Inn to minimize and mitigate the impacts of the project to the Smith's blue butterfly and its habitat, minimize and mitigate impacts to California red-legged frog, and to further the conservation of these species. These measures include:

a) having a biological monitor present during construction;
b) dust control during grading and construction;

c) fencing during grading and construction activities to protect butterfly and frog habitat;
d) restoration of disturbed areas on site to create/enhance California sagebrush scrub for the butterfly, and emergent wetland and native scrub habitat for frogs;
e) seed collection, propagation and outplanting of *E. parvifolium*;
f) eradication of various invasive plants;
g) eradication of bullfrogs and non-native fishes in the pond;
h) implementation of a shuttle system to reduce traffic near the pond;
i) staff and guest educational program to describe conservation strategies for the two listed species;
j) water quantity and quality enhancement measures for the pond;
k) placement of a conservation easement on 36.1 acres of habitat at the site;
l) post-construction monitoring for a period of at least 10 years or longer until habitat restoration goals are satisfactorily achieved.

The net effect of these measures is that 0.67 acres of California sagebrush scrub and 0.066 acres of California annual grassland habitats will be restored to benefit the endangered butterfly. A total of 15.4 acres will be protected in perpetuity for the butterfly. Also, 20.7 acres of wetland and upland habitats for the threatened frog will also be protected in perpetuity. A conservation easement will be recorded to insure the 36.1 acres of butterfly and frog habitat are protected. The HCP also describes measures to ensure that the elements of the HCP are implemented in a timely manner, funding sources for implementation of the HCP are assured, actions to be taken for changed circumstances and unforeseen events, alternatives considered, the permit amendment/renewal process, and other measures required by the Service.

TABLE OF CONTENTS

EXECUTIVE SUMMARY **i**

TABLE OF CONTENTS **iv**

LISTS OF TABLES AND FIGURES **viii**

1.0 INTRODUCTION **1**
- 1.1 Project Location 2
- 1.2 Project Site 2
- 1.3 History of the HCP Process 5
- 1.4 Definitions 8

2.0 PROJECT DESCRIPTION AND AREA **9**
- 2.1 Project Description 9
  - 2.1.1 Background--Existing Facilities 9
  - 2.1.2 Proposed New Facilities Covered under HCP 9
    - 2.1.2.1 Construction Staging and Timing 13
  - 2.1.3 Site Development Issues 14
    - 2.1.3.1 Grading and Erosion Control 14
    - 2.1.3.2 Drainage 14
    - 2.1.3.3 Wastewater Management 15
      - 2.1.3.3.1 Domestic Wastewater 15
    - 2.1.3.4 Internal Traffic & Shuttle Service 17
    - 2.1.3.5 Additional or Related Issues 18
- 2.2 Permit Holder/Permit Boundary 23
- 2.3 Zoning and Surrounding Land Uses 23

3.0 REGULATORY FRAMEWORK **26**
- 3.1 Federal Endangered Species Act 26
  - 3.1.1 Section 10 Permit Process & HCP Requirements 27
- 3.2 National Environmental Policy Act 29
- 3.3 California Coastal Act 30
- 3.4 California Department of Forestry and Fire Protection 30
- 3.5 Monterey County Regulations 30
  - 3.5.1 Previously Approved Coastal Development Permit 32
  - 3.5.2 CEQA Review 33
  - 3.5.3 County Approval of Post Ranch Inn Expansion Project 33

4.0 BIOLOGY **34**
- 4.1 Habitat Types 34
  - 4.1.1 Freshwater Marsh 36
  - 4.1.2 Freshwater Pond 36
  - 4.1.3 Sedge Seep 37
  - 4.1.4 Arroyo Willow Riparian Forest 37

4.1.5 Coast Live Oak Forest 38
4.1.6 California Sycamore Woodland 38
4.1.7 Redwood Forest 38
4.1.8 Coyote Brush Scrub 39
4.1.9 California Sagebrush Scrub 39
4.1.10 Coastal Terrace Prairie 39
4.1.11 California Oatgrass Bunchgrass Grassland 40
4.1.12 California Annual Grassland 40
4.1.13 Invasives and Disturbed Areas 40
4.2 Covered Species: Smith's Blue Butterfly 40
4.2.1. Conservation Status 40
4.2.2. Description and Taxonomy 41
4.2.3. Distribution and Habitats 42
4.2.4. Natural History 42
4.2.5. Occurrence at the Project Site and Vicinity 43
4.3 Covered Species: California Red-legged Frog 43
4.3.1. Conservation Status 43
4.3.2. Description and Taxonomy 44
4.3.3. Distribution and Habitats 45
4.3.4. Natural History 45
4.3.5. Occurrence at the Project Site 45
4.3.6. Occurrence in Site Vicinity 47

5.0 IMPACTS AND ENVIRONMENTAL COMPLIANCE 49
5.1 Impact Assessment 49
5.1.1 Temporary Impacts 49
5.1.1.1 During Construction 49
5.1.1.2 During Habitat Management 51
5.1.1.3 Impacts Due to Fire Clearance and Erosion 52
5.1.2 Permanent Impacts 52
5.1.2.1 Loss of Upland Habitat 54
5.1.2.2 Traffic Changes in Proximity to the Pond 54
5.1.2.3 Impacts from Existing Post Ranch Inn Operation 55
5.1.3 Permanent Indirect Impacts 55
5.2 Level of Incidental Take 55
5.3 Environmental Compliance (Internal Sec. 7 Assessment) 56
5.3.1. Direct and Indirect Effects 57
5.3.2. Cumulative Effects 57
5.3.3. Effects on Critical Habitat 59

6.0 TAKE OF THE COVERED SPECIES 60
6.1 Smith's Blue Butterfly 60
6.2 California Red-legged Frog 60

7.0 MINIMIZATION AND MITIGATION MEASURES 62
7.1 Biological Monitor 62

7.2 Delineation of Impact Area 63
7.3 Construction and Operational Requirements 63
7.4 Contractor and Employee Orientation 64
7.5 Public Education 64
7.6 Access to Project Site 65
7.7 Habitat Protection 65
7.7.1. Protection During Construction 65
7.7.2. Permanent Protection 67
7.8 Habitat Management and Enhancement 68
7.8.1 Performance and Success Criteria 68
7.8.2. Avoidance of Sensitive Habitat 70
7.8.3. Slope Stabilization 70
7.8.4. Control of Exotic Plants 70
7.8.5 Control of Exotic Animals at Pond 71
7.8.6. Habitat Restoration and Enhancement 74
7.8.7. Monitoring and Maintenance 77
7.8.8 Remedial Actions 79
7.8.9. Schedule for Implementation 79
7.9 Mitigation for Impacts Due to Fire Clearance and Erosion 80

8.0 PLAN IMPLEMENTATION 82
8.1 Biological Goals and Objectives 82
8.2 Conservation Easement 82
8.3 Identification of Project Representative 82
8.4 Identification of Biological Monitor 84
8.5 Responsibilities 84
8.6 Plan Duration 84
8.7 Reporting 84
8.7.1. Post-Construction Compliance Report 84
8.7.2 Annual Monitoring Reports 85
8.8 Funding
8.8.1 Funding for Planned Activities 85
8.8.2 Funding for Changed Circumstances 86
8.9 Adaptive Management 88
8.9.1 Procedures for Revising the Conservation Program 88
8.9.2 Adaptive Management for Covered Species in the HCP 89

9.0 CHANGED AND UNFORESEEN CIRCUMSTANCES 90
9.1 Changed Circumstances 90
9.1.1 Natural Hazards and Disasters 91
9.2 Unforeseen Circumstances 92

10.0 PERMIT AMENDMENT/RENEWAL PROCESS 94
10.1 Major Amendments to the Permit 94
10.2 Minor Amendments to the HCP 94
10.3 Permit Renewal 94

10.4 Permit Transfer 95

11.0 ALTERNATIVES CONSIDERED 96
11.1 Alternative 1: No-Action 96
11.2 Alternative 2: Redesigned Project (reduced take) 96
11.3 Alternative 3: Proposed Action (permit issuance) 97

12.0 HABITAT CONSERVATION PLAN PREPARERS 98

13.0 REFERENCES 99

APPENDICIES

APPENDIX A: Smith's Blue Butterfly Survey Report

APPENDIX B: California Red-Legged Frog Survey Report
Timeline of Observations of Red-legged Frog, Bullfrogs and Bullfrog Eradication Efforts

APPENDIX C: Post Ranch Inn Grading & Erosion Control Plan Sheets

APPENDIX D: Conservation Easement

APPENDIX E: Draft Irrevocable "Standby" Letter of Credit

TABLES AND FIGURES

TABLES

Page #

1. Water quality performance of bio-retention systems 15
2. Construction disturbance areas 22
3. Acreage estimates (existing and impacted), map codes, and conservation information for the plant communities at Post Ranch Inn 35
4. Results of California Red-legged Frog surveys at Post Ranch Inn 46
5. Acreage estimates (existing, total impact, restored, and protected) and map codes for the plant communities at Post Ranch Inn 58
6. Estimated costs for Planned Habitat Conservation Plan Implementation 87
7. Annual costs per year 88

FIGURES

1. Regional location map of the Post Ranch Inn project site 3
2. Portion of Pfeiffer Point 7.5' USGS topographic map illustrating boundaries of the project site and the three parcels that comprise the greater project vicinity 4
3. Existing site conditions 6
4. Vegetation map for the project site 7
5. Site development plan and impact areas 10
6. Conceptual drainage plan and wastewater layout 16
7. Portions of site over 30% slope and protected easements 19
8. Landscape and habitat restoration plan 21
9. Zoning map 25
10. Smith's blue butterfly restoration areas 53
11. California red-legged frog breeding pond and habitat enhancement areas 76
12. Conservation easement areas 83

1.0 INTRODUCTION

This Low-effect Habitat Conservation Plan (HCP) for the proposed expansion of the Post Ranch Inn, in Big Sur, Monterey County, California, has been prepared pursuant to the requirements of Section 10(a) of the Federal Endangered Species Act (ESA). The HCP is intended to provide the basis for issuance of a Section 10(a)(1)(B) permit to the Post Ranch L.P., to authorize incidental take (see Chapter 6.0) of the endangered Smith's blue butterfly (*Euphilotes enoptes smithi*) and the threatened California red-legged frog (*Rana aurora draytonii*), that could potentially result from development activities of the proposed project, as well as vegetation removal for creation of fire breaks, exotic plant removal, habitat management, and visitor-serving activities. The U.S. Fish and Wildlife Service (hereafter referred to as "the Service") has concluded that the site provides habitat for both species. Post Ranch L.P. requests a permit for 20 years commencing on the date of permit approval. Although the Service at the time of this submittal (January 2006) has yet to complete its evaluation of whether this HCP qualifies as a low-effect HCP, the applicant believes that this HCP satisfies the qualifications of a low-effect, and has proposed it as such to the Service for review.

This HCP provides an assessment of the existing habitat on the site relative to Smith's blue butterfly (SBB) and California red-legged frog (CRLF), evaluates the effects of the proposed development and other activities on both species, and presents a mitigation plan to offset habitat losses and/or direct harm to these species that could result from development of new facilities on the property.

The biological goals of this HCP are:

1. Protect SBB and host plant seacliff buckwheat during construction, and replace SBB habitat impacted by construction and management activities at Post Ranch Inn.
2. Protect CRLF breeding habitat at the pond and enhance upland dispersal habitat at the Post Ranch Inn site.

The following objectives will implement these goals:

a) replace 0.001 acres of coastal sage scrub habitat with seacliff buckwheat impacted by the project with 0.736 acres of restored California sagebrush scrub and annual grassland with buckwheat to benefit the SBB;
b) replace the impacted seacliff buckwheat plants, which provide foraging habitat for the SBB, with 200 mature buckwheat plants in the restored California sagebrush scrub habitat;
c) revegetate the pond and pond perimeter with wetland species and pond weed for frog cover;
d) provide additional upland habitat for CRLF by planting native upland shrub and trees, including native shrubs in the unvegetated parking turnout south of the pond.
e) improve habitat values for the CRLF by control/eradication of exotic species at the pond, and enhancing portions of the Post Ranch Inn that are used for dispersal;
f) protect CRLF migrating to and from the pond by implementing a year-round shuttle service to reduce current traffic on roads in the immediate vicinity of the pond; and

g) protect 36.1 acres of the 91.98-acre site in perpetuity through a conservation easement that includes 15.4 acres of existing California sagebrush scrub habitat, as well as the restored acreage for SBB, plus 20.7 acres of upland and aquatic habitat for CRLF.

1.1 PROJECT LOCATION

The 91.98-acre Post Ranch Inn site is located in Big Sur, a community along the Pacific Coast that lies approximately one mile south of Pfeiffer Big Sur State Park in Monterey County between Highway 1 and the Pacific Ocean (Figure 1). The project site includes an existing parcel (APN 419-311-034), located within the Pfeiffer Point 7.5' U.S. Geological Survey (USGS) topographic quadrangle, and spans the southwestern portion of Section 32, Township 19 S Range 2 E, plus the northwestern portion of Section 5, T 20 S, R 2 E of the Mt. Diablo Meridian. Two additional properties, parcels 419-311-035 and 410-311-036, lie southwest of the Post Ranch Inn site and were included in a Monterey County lot line adjustment to accommodate Post Ranch Inn development. A fourth parcel (Parcel D) has been approved by the Monterey County and will be created after filing of the Final Minor Subdivision Map.

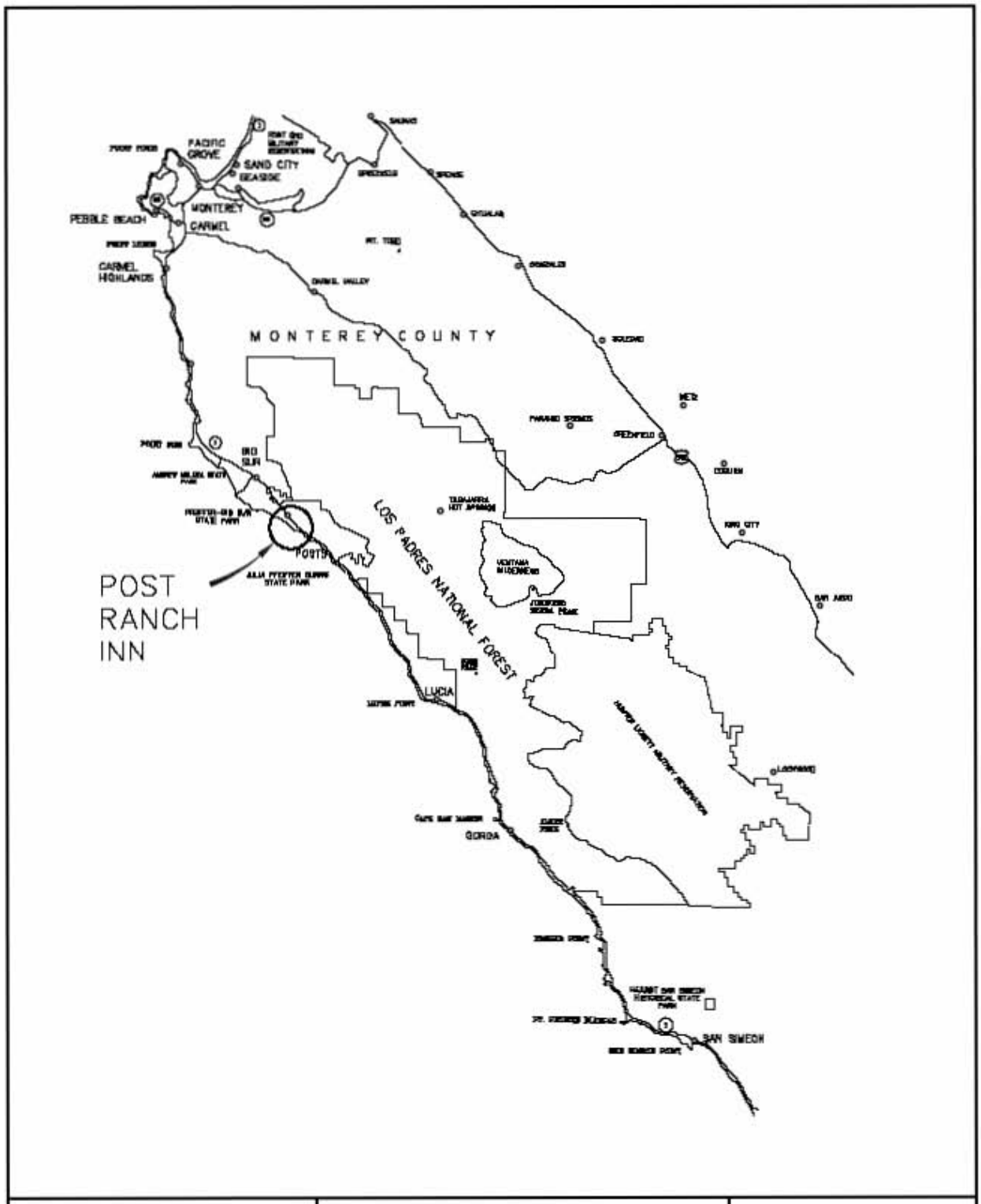
Figure 2, which is adapted from the Pfeiffer Point USGS topographic map, illustrates the location and boundaries of the HCP project site, as well as the parcels that comprise the greater project vicinity. The Post Ranch Inn HCP parcel and the adjoining non-HCP properties are also shown on Figure 7. These parcels are:

a) Parcel A (APN 419-311-034), which is the 96.8-acre site that was developed in 1990 as a visitor-serving inn, is owned by Post Ranch L.P., a California limited partnership. Mr. Michael Freed is the managing partner of this partnership, and Mr. Dan Priano is the general manager. A lot line adjustment has been approved by the County as part of this project that reduced this parcel to 91.98 acres.
b) Parcel B (APN 419-311-035) measures 12.396 acres and is owned by Mark Patrick Sullivan and Karen Elaine Sullivan, Trustees of The Sullivan Family Trust dated November 4, 1994. This parcel is 12.1 acres after the lot line adjustment.
c) Parcel C (APN 419-311-036) measures 12.628 acres and is owned by Joseph W. Post and Luci Lee Post, as Trustees of the Bill and Luci Post Trust, under Declaration of Trust dated July 14, 1992. The lot line adjustment reduces this parcel to 11.56 acres.
d) A new residential Parcel D measuring 5.52 acres has been created as part of this project.

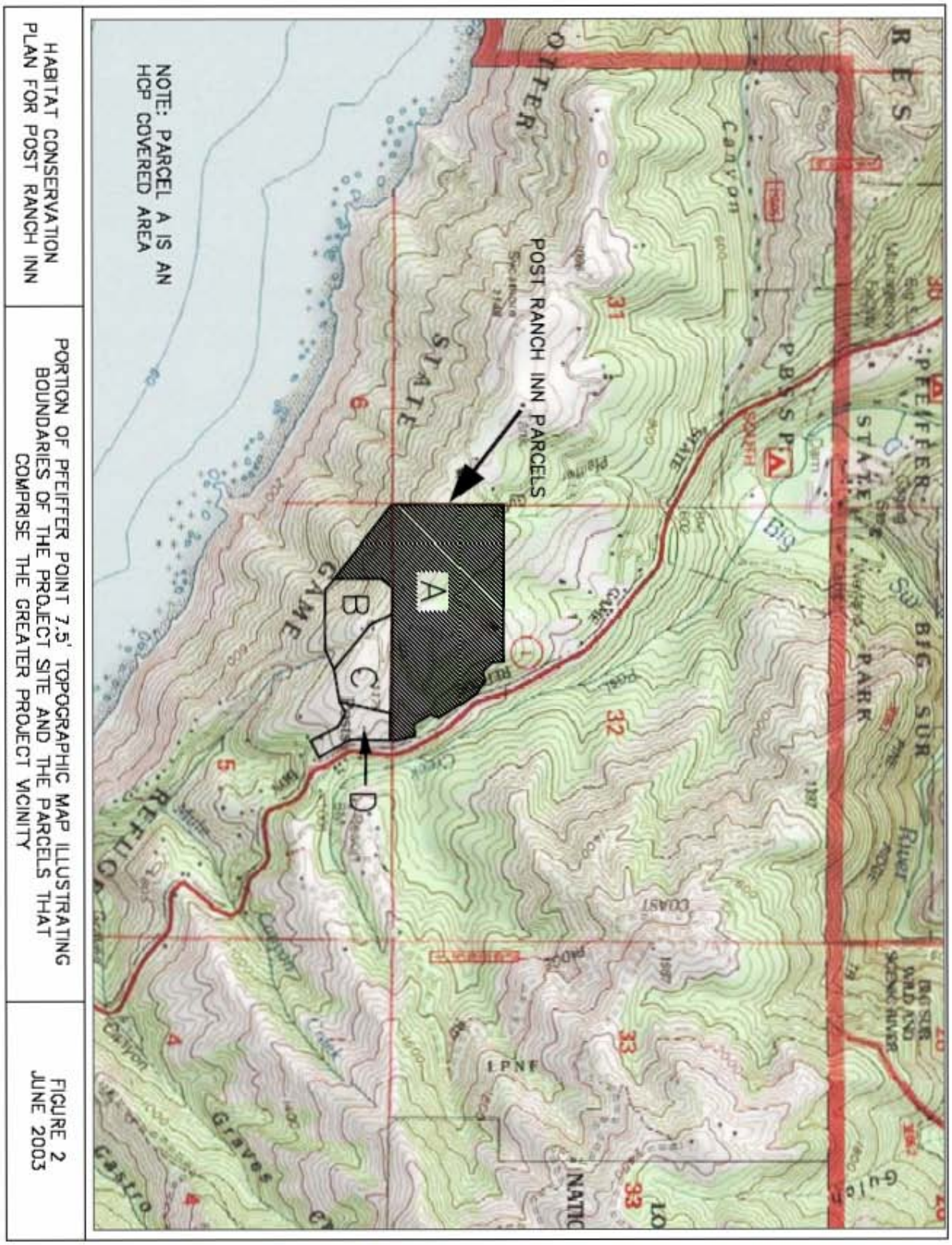
Parcel A, the 91.98 Post Ranch Inn site, is the only property that will be covered by this HCP. The other properties are identified because they are part of the Monterey County permit approval process, and some management recommendations (i.e. exotic species removal) may extend to these properties on an as-needed basis.

1.2 PROJECT SITE

The project site consists of a northwestern to southeastern trending-ridge, whose peak elevation is approximately 1,200 feet, and steep side slopes that face the Pacific Ocean. Slopes on the eastern side of the ridge are gentler and the site's elevation gradually drops to about 800 feet at Highway One. The upper watersheds of two streams, Pfeiffer Gulch and Mule Canyon Creek, occupy the northern and southern portions of the property. Other aquatic features include



HABITAT CONSERVATION PLAN FOR POST RANCH INN	REGIONAL LOCATION OF POST RANCH INN PROJECT SITE	FIGURE 1 JUNE 2003


POST RANCH INN PARCELS
A
B
C
D
NOTE: PARCEL A IS AN HCP COVERED AREA
PORTION OF PFEIFFER POINT 7.5' TOPOGRAPHIC MAP ILLUSTRATING BOUNDARIES OF THE PROJECT SITE AND THE PARCELS THAT COMPRISE THE GREATER PROJECT VICINITY
HABITAT CONSERVATION PLAN FOR POST RANCH INN
FIGURE 2
JUNE 2003

a pond, three seeps, and several ephemeral drainages that flow into Post Creek east of Highway 1. Figure 3 shows existing facilities, roads and natural features at the Post Ranch Inn site.

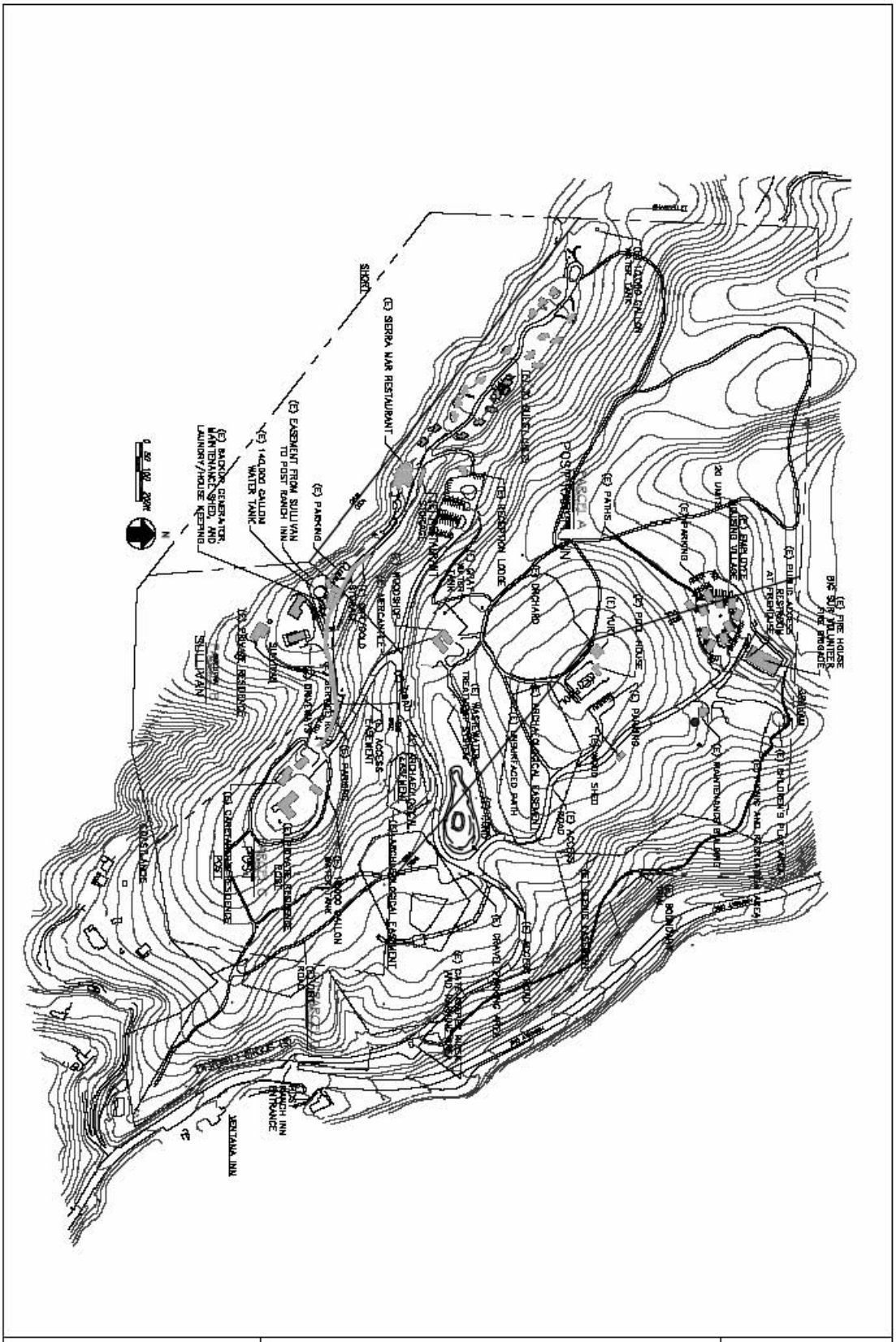
Thirteen plant communities are evident at the site, including California sagebrush scrub, coyote brush scrub, broom scrub, coastal terrace prairie, California oatgrass bunchgrass grassland, California annual grassland, sedge seep, freshwater marsh, pondweed with floating leaves wetland, arroyo willow riparian forest, California sycamore woodland, and coast live oak forest. A fourteenth designation consists of disturbed areas at the site, such as the existing roads, buildings, parking and landscaped areas. Figure 4 is a vegetation map of the property that was prepared by Jeff Norman (Norman 2001). In Chapter 4.1, the plant communities are discussed in more detail.

As illustrated in Figures 3 and 7, a Scenic Easement, measuring 5.98 acres, is located along the entire eastern border of the property adjacent to California State Highway 1. Three Archeological Easements, which in total measure 4.66 acres, are located near the central portion of Parcel A and the northern portion of Parcel C (Figures 3 &7). As explained in Chapter 3.5, the Scenic Easement as well as all of the Archeological Easements, were granted to the County of Monterey. The Archaeological and Scenic Easements, in part, overlap the proposed Conservation Easement (Figure 7). The Conservation Easement protects 30.12 acres of species habitat not already protected by the existing easements (see Section 7.7.2).

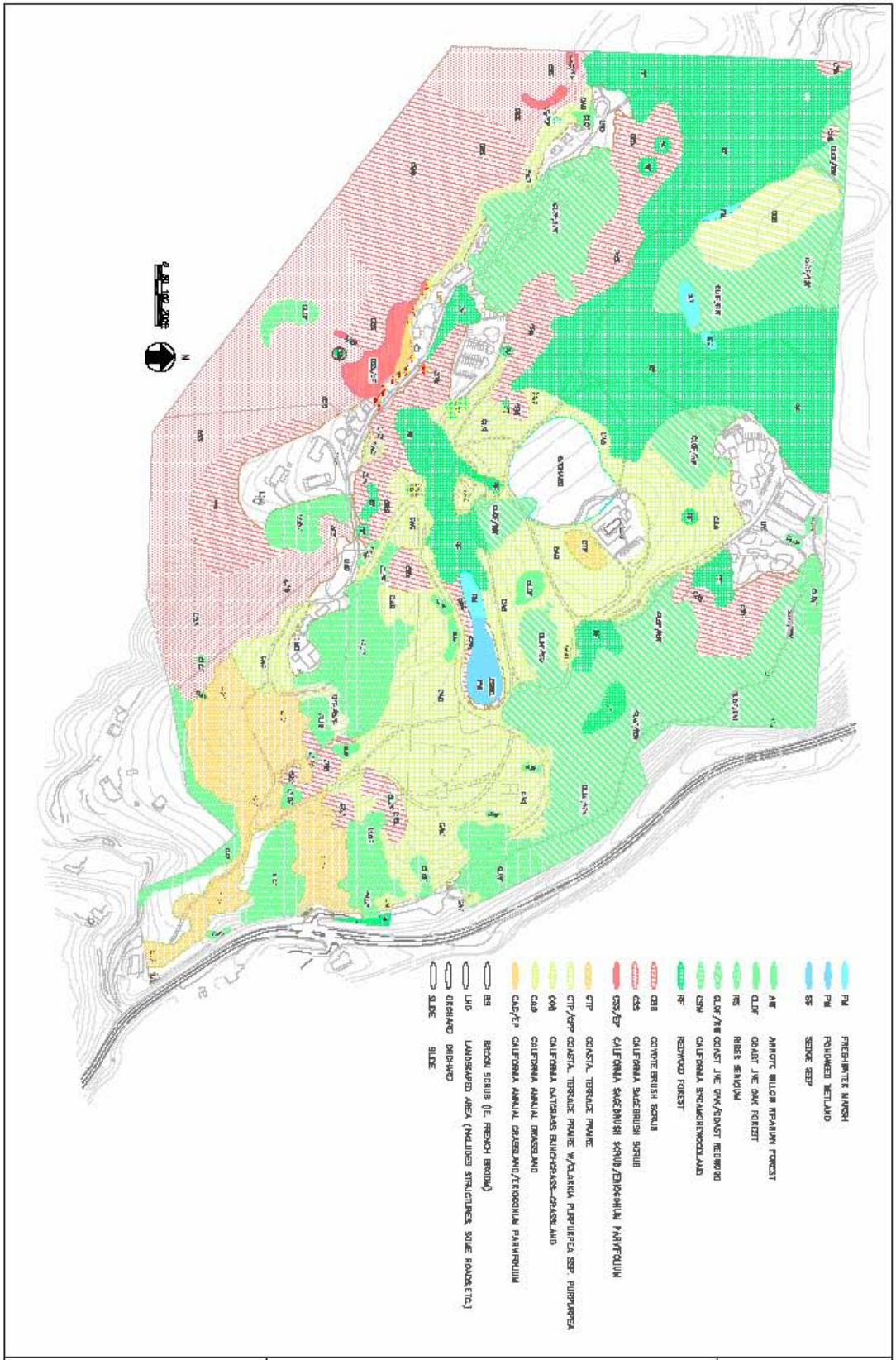
1.3 HISTORY OF THE HCP PROCESS

Dr. Richard Arnold, an entomologist familiar with the SBB, and botanist Jeff Norman, observed the butterfly at the Post Ranch Inn below the Sierra Mar Restaurant on July 22nd, 2000 (Arnold 2000, see Appendix A). As a result of this observation, a meeting with David Pereksta and Diane Pratt of the Ventura office of the Service occurred on August 24th to discuss the need for an HCP. Upon touring the site and learning more about the proposed project, Pereksta and Pratt recommended that the Post Ranch L.P. apply for a Section 10(a)(1)(B) incidental take permit, pursuant to provisions of the Endangered Species Act. This recommendation was based on the likelihood that take of SBB could occur through the loss of its food plants growing within that portion of the property proposed for development. However the Service acknowledged that the potential take would be limited and that substantial habitat would remain on undeveloped portions of the property. Thus a low-effect HCP was considered the appropriate instrument for securing the Section 10 permit.

In previous years, CRLF was observed at the pond (J. Norman, personal communication, 2001). During the August site review of the of the Post Ranch Inn grounds with the Service, CRLF was observed again at the pond. Subsequent surveys were performed by wildlife biologists Mark Allaback, David Laabs and Sara Higgins, of Biosearch Associates, to confirm the presence of a breeding population of the frog (Allaback 2001, see Appendix B). The findings of these surveys were provided to the Service, which recommended that a combined species low-effect HCP be prepared to support an incidental take permit for the proposed expansion of the Post Ranch Inn. Since 2001, additional pond surveys have been conducted by Allaback, Norman and Gilchrist documenting presence of CRLF and bullfrogs in the pond (Appendix B).



HABITAT CONSERVATION PLAN FOR POST RANCH INN	EXISTING SITE CONDITIONS	FIGURE 3 JUNE 2003



HABITAT CONSERVATION PLAN FOR POST RANCH INN	VEGETATION MAP FOR THE PROJECT SITE	FIGURE 4 JUNE 2003

1.4 DEFINITIONS

"Project site" is the entire 91.98-acre Post Ranch Inn site, and is also referred to synonymously as the "Post Ranch Inn site", "covered area" and the "HCP area". The project site and HCP area do not include the neighboring Post, Sullivan or Parcel D properties. The term "project vicinity" is used to describe these neighboring properties as well as other nearby properties adjacent to Post Ranch Inn. The "project impact area" and "project area" refer to the new Inn expansion project areas designated on the Figure 5 Site Plan.

2.0 PROJECT DESCRIPTION AND AREA

2.1 PROJECT DESCRIPTION

2.1.1 Background--Existing Facilities

The 96.8-acre site (now 91.98 acres) was developed as a visitor-serving inn in 1990. Facilities on the property include 30 guest units, a reception lodge, an 84-seat restaurant, a volunteer firehouse, 20 units of employee housing, a workshop, a pool-spa and mercantile building. Access roads, parking, and other service facilities have also been provided to support the inn and restaurant. Existing site facilities are shown on Figure 3.

2.1.2 Proposed New Facilities Covered Under HCP

Several new facilities are proposed as part of the expansion project. The proposed locations of the new facilities are shown on the site development plan, Figure 5, and include:

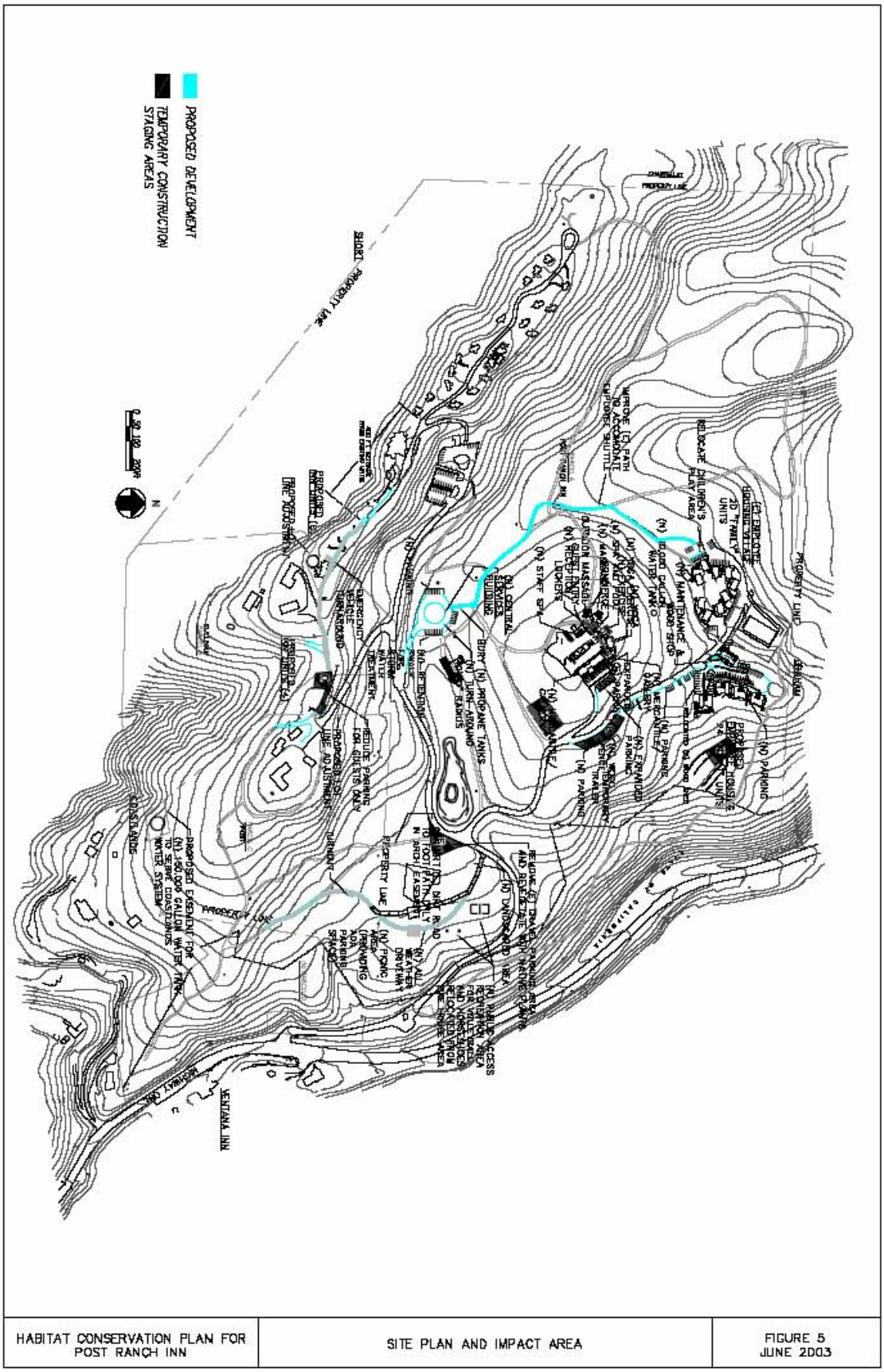
a) INN UNITS

A total of 10 new units are proposed. There will be a mix of one and two-story units. Each unit will be approximately 600 ft^2.

- **One-story Cliff Units (Ocean-facing units)**
  The maximum height of these one-story units is 10 feet above existing grade and they are partially earth sheltered to further minimize their visual presence. Exterior materials include concrete, glue-laminated beams, steel, insulated glass and steel frame windows. The construction disturbance zone will include the building footprint, adjacent paved and landscaped areas, and a maximum of 10 feet into native vegetation. The buildings will be located just above a very steep (75-90% slope) coastal bluff. A deck will be cantilevered approximately 8 feet out over the slope. Construction fencing will be placed adjacent to the building where necessary to protect natural habitat, including areas with seacliff buckwheat.

- **Two-Story Coast Units**
  The maximum height of the two-story units is 20 feet. These units are typically cut into a sloping site to provide a split level entrance into the upper and lower levels. As a result, height from average natural grade is typically lower than the overall height, approximately 17 feet. Major materials include concrete slabs on grade, concrete exterior walls, insulated glass and steel frame windows. The construction disturbance envelope will include the building footprint, adjacent paved and landscaped areas, and a maximum of 10 feet into native vegetation. Construction fencing will be placed 10 feet from the building where necessary to protect natural habitat.

- **One-Story Peak Units (Mountain facing)**
  The floor to ceiling height of these units is 10 feet, however they are proposed to be largely subterranean. Maximum height from average natural grade will typically be 5 feet. Major materials include concrete walls, glue-laminated beams, insulated glass, sod roof and waterproof system. The construction disturbance area will include the


PROPOSED DEVELOPMENT
TEMPORARY CONSTRUCTION STAGING AREAS
SOUTH PROPERTY LINE
PROPERTY LINE
PROPOSED EASEMENT FOR (N) 150,000 GALLON WATER TANK TO SERVE COASTLANDS
COASTLANDS
SECTAVAN INN
(N) PARKING
PROPOSED HOUSING UNITS
PROPOSED HOUSING UNITS
(N) PARKING
(N) PARKING
(N) PARKING

building footprint, adjacent paved and landscaped areas, and a maximum of 10 feet into native vegetation. The buildings will be located just above the steep (greater than 30%) slope. A deck will be cantilevered approximately 6 to 8 feet out over the slope. Construction fencing will be placed 10 feet from the building where necessary to protect natural habitat. Construction staging will occur within existing paved areas adjacent to units under construction. Larger quantities of material will be stockpiled in the existing paved parking area at the east ridge. Construction of the ridge inn units will occur during the winter low-occupancy season insofar as possible.

b) PAVING

Some of the existing paving on the ridge will be removed to accommodate new guest units where the employee parking areas are located. The ridge road will be narrowed and used only for guest arrival/departure shuttle vehicles and supply stocking. Deliveries for outside vendors will be taken to a new central receiving facility, and the laundry will be relocated to this area (see below).

Open space is the predominant land use on the property and represents approximately 93.5% of the total land area. Under the proposed improvement plan open space will remain the predominant land use and will be reduced by approximately one percent, but will still represent approximately 92.4% of the total land area on the property. The amount of impervious surfaces will increase by approximately 1.47 acres, while the amount of semi impervious surfaces is expected to decrease by approximately 0.1 acres (Fall Creek Engineering, 2001).

c) POOL AREA

The area where the current pool, pool structures and yurt are situated will be redeveloped. The pool itself will remain, the yurt and other structures will be demolished, and new buildings constructed in these locations. A yoga room, exercise room, specialized spa treatment rooms and a gift shop/gallery are proposed to be located in new buildings as described below (Mercantile/Gallery and Yoga/Exercise/Spa.). The existing parking area will be expanded from 10 spaces to 20, plus one handicapped space.

Because the proposal is to build several structures, and expanded parking all in close proximity to one another, it is reasonable to assume a construction disturbance to the entire knoll where the pool is currently located. This would include the area around the existing pool and an area to the north and west, as well as the current parking area and the proposed expansion area to the north of it. Further disturbance will result from infrastructure tie-in.

d) MERCANTILE GALLERY

This structure is intended to be open to guests and a restricted number of day visitors who are on site, generally on foot, participating in the limited "public access" provisions of the Post Ranch Inn coastal development permit. The Post Ranch Inn property is accessed only by a single private driveway controlled by a gatekeeper kiosk, and is not freely open to the general public. The Mercantile/Gallery will display and sell art and clothing items and will also serve as an interpretive center for local history, biology, archaeology and other features. It will be located near the pool, but sited in a fashion that does not compromise the privacy of registered guests who are swimming or sunning. The footprint will be 2,550 ft.^{2}, including a 400 ft.^{2} sculpture

garden at the entry. The maximum height of this building will be 17 feet. Major materials include, concrete with fly ash content, certified redwood, glue-laminated beams, insulated glass and corten steel.

e) YOGA/EXERCISE/SPA BUILDINGS

Seven new modular buildings, including a spa, men's and women's locker room, message rooms, exercise and yoga rooms, having a combined 5,064 ft.^{2} footprint and approximately 11.5 ft. high will replace an existing building and yurt. Major construction materials include concrete slab on grade, certified redwood, membrane roofing, redwood trellising and native climbing plants.

f) CENTRAL SERVICES/SHIPPING AND RECEIVING

A new central service area is proposed to replace facilities now scattered throughout the property. This new facility should allow for a reduced impact on the landscape and reduced on-site transit along with better coordination between the different departments.

The proposed location for this structure and attendant roadways/turnarounds is where the two Quonset huts currently exist, approximately 500 feet west of the pond. Specific facilities that will be housed in this location include: housekeeping and laundry, reservation and general offices, storage with a cold receiving area for the restaurant, and an employee lounge.

The total footprint for this structure will be 3,150 ft.^{2}. It will be a two-story building with a flat roof and a maximum height of 29 feet. It should have virtually no visual impact as it is sited in a hollow and surrounded by trees. A driveway and parking lot will encircle the building to allow for trucks to turn around and exit up the single-lane, existing roadway without having to maneuver in the limited space that naturally exists. The construction disturbance area will include most of the existing level area in this location, as the building pad and road system is prepared.

The proposed site plan includes drainage improvements that will direct sheet flow to a multi-cell bio-retention swale that will detain and treat runoff before the water enters the existing wetland and pond. The bio-retention swale is designed to capture and immobilize sediment, hydro-carbons, oil and grease, and metals that may accumulate in the parking and driveway areas. Maintenance shops and storage will be located elsewhere to reduce the potential for hazardous materials to infiltrate the seasonal wetland and pond areas, and associated CRLF habitat. Major materials for this structure include concrete slab on grade, prefabricated steel frames, certified and recycled redwood, steel frame windows, and membrane roofing.

g) EMPLOYEE HOUSING AND PARKING

Employee housing is planned for the east side of the road that serves the volunteer fire station and current housing. Four identical two-story buildings will each contain four units each measuring 1626 ft.^{2}. The maximum building height will be 22.5 ft., and the total footprint for this facility will be 6504 ft.^{2}. The buildings will be modular units constructed off-site and installed on concrete foundations. Exterior siding will be redwood.

Parking for the new employee units will be both head-in along the existing road (1,500 ft.^{2} paved), and within an improved lot on the level area above the fire station (7,500 ft.^{2} paved). Additionally, parking will be added in the area of the existing wood shed, which will be relocated to near the new staff housing. This parking will be screened from view by a redwood wall and climbing vegetation. Paving will cover approximately 8,500 ft.^{2} between this screen wall and the existing tree canopy.

The construction disturbance area for the development of the employee housing, parking and maintenance facilities (see below) will include the entire level area southeast of the fire station. This is bordered on the north and south by 30%+ slope areas, on the west by the existing road, and on the east by the proposed conservation easement.

h) MAINTENANCE/SHOP BUILDING

This new, two-story building has a 1,400 ft.^{2} footprint. It is located adjacent to the existing road and near the proposed employee housing. Construction on this building began in fall 2004 and was completed in 2005.

i) PARCEL D ACCESS ROAD, PICNIC AREA AND TRAILS

An access road will be constructed to Parcel D and new picnic facilities and associated parking installed to the east of the access road on Post Ranch Inn property. The portion of the access road within Post Ranch Inn property will be 12' wide, with little grading required as it follows existing contours. It will be surfaced with 4" of base rock and compacted. Maximum use of this access road is 1-2 car trips per day. The picnic parking will be similarly surfaced, occupy 600 square feet, and consist of 5 spaces including one handicapped space. The picnic facilities will consist of a picnic table, horseshoe and volleyball areas within existing annual grassland (no surfacing) and occupy an area of about 2,840 square feet. The picnic area is expected to be used occasionally by employees during warmer months primarily on weekends. Little or no use is expected during inclement weather. Approximately 1.25 miles of trails are also on the Post Ranch Inn property and are used for passive recreation by guests. CRLF may also be subject to trampling by pedestrians using the trails. The greatest possibility of take would occur on the trail immediately north of the pond.

2.1.2.1 Construction Staging and Timing

Because the project involves relocating inn operations and functions into already developed areas and demolition of structures presently in use, the construction will necessarily be done in phases. Construction on the new maintenance building began in fall 2004 and was completed and occupied in early fall 2005. Once the support facilities at the top of the hill are moved, construction of the guest inn units will begin, with timing projected to be early spring 2006. In the following phase, scheduled for summer 2007, the employee housing and new spa structures will be constructed with the existing swimming pool remaining in place. Completion of the Central Services building at the former quonset location will occur in the last phase. Construction staging areas are shown on Figure 5 with area estimates indicated in Table 2 and plant communities impacted in Table 3. Staging will include construction materials storage, equipment storage and construction worker parking. A temporary mobile home that serves as the construction manager's office is also located near the existing wood shed on the east side of the

employee housing access road. The mobile home will be removed and all areas impacted by mobile home or construction staging revegetated at the end of construction.

2.1.3 Site Development Issues

2.1.3.1 Grading and Erosion Control

The proposed expansion plan at the Post Ranch Inn will involve constructing several new buildings, walkways and parking areas. The proposed development plans will also involve realignment and potential widening of some existing roadways. The development plan does not propose to construct any new roads to serve the inn or associated facilities; however a new all weather driveway will be graded and surfaced with oil and gravel to provide access to Parcel D. This road will circle (avoid) an archaeological site and then join an existing unpaved trail to new Parcel D (Figure 5). The project will also eliminate approximately 15,000 $ft.^2$ of road and parking located on the west ridge of the property. All of these project components will require grading and erosion control measures.

A preliminary grading and erosion control plan (Appendix C) has been developed showing areas to be graded and approximate cut/fill volumes. Grading is limited to the new inn units, employee housing, central services and pool-yoga complex. Based on the issues related to sensitive species, slope stability, and continued operation of the Inn during project construction, it is anticipated that excavated material from graded areas will be temporarily stockpiled in a staging area. Any excess material will be taken off site to an approved fill area. To avoid any potential sensitive species areas, the staging area(s) will be identified by the project manager and selected after the sites have been reviewed and approved by the project biologist(s). An important aspect of site grading will be to stage the work in a manner that provides for a good coordination of stockpiling and off-site removal of material to assure that the stockpiled material does not cause environmental problems.

During the construction phase of the project, conventional and temporary erosion control measures (such as the use of erosion control blankets, silt curtains, temporary seeding and mulching) will be installed before October 15 in graded or bare soil areas vulnerable to erosion. An erosion control plan has been prepared and approved by Monterey County (Fall Creek Engineering 2001). The project manager will be required to maintain the erosion control measures through the rainy season.

After the buildings, walkways, parking areas and other structural elements have been constructed, the surrounding areas will be stabilized with long-term erosion control measures that may include slope stabilization (e.g. retaining walls), drainage improvements, and revegetation with native plantings.

2.1.3.2 Drainage

The proposed project will increase the amount of impervious surface area on the site. Coupled with the increased amount of impervious surface is the amount of surface water runoff from the site. To address and mitigate potential long-term water quality and erosion impacts resulting from storm water runoff from the site, a hydrology and drainage improvement plan was prepared for the overall site, including the proposed project expansion areas (Fall Creek

Engineering 2001) (Figure 6). The hydrology and drainage improvement plan quantifies runoff and drainage features under existing and redeveloped conditions, assesses potential impacts to water quality, and presents site specific designs for storm water control and treatment systems for the developed areas. The overall goal of the hydrology and drainage plan is to retain and treat all site runoff, and to reduce the overall volume of runoff leaving the site.

The most significant potential source of contaminated runoff will be from the parking areas and roadways on the property. Runoff from parking areas typically contains oil, grease trace metals and other pollutants related to automobiles. To mitigate water quality impacts from the new or expanded parking areas, bio-retention systems will be installed to retain and treat runoff. Bio-retention utilizes soils and both woody and herbaceous plants to removal pollutants from storm water runoff. Runoff is conveyed as sheet flow to a treatment area, which consists of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants (Figure 6). Bio-retention removes storm water pollutants through physical and biological processes, including adsorption, filtration, plant uptake, microbial activity, decomposition, sedimentation and volatization. Reported performance of the bio-retention systems is summarized below in Table 1.

Table 1. Water Quality Performance of Bio-retention Systems (U.S. Environmental Protection Agency, 1999)

Pollutant	Removal Rate
Total Phosphorus	70% - 83%
Metals (Cu, Zn, Pb)	93% - 98%
Total Kjeldalh Nitrogen (TKN)	68% - 80%
Total Suspended Solids	90%
Oil, Total Petroleum, Hydrocarbons, and other organics	90%
Bacteria	90%

Runoff from roofs and walkways will be directed to landscaped areas and detained on site. Drainage from the new central services shipping and receiving facility will be routed into a multi-cell bio-retention filter, and then through the seasonal wetland before it enters the pond. The seasonal wetland above the pond will provide additional filtration/removal of nutrients and contaminants. Runoff from the expanded parking areas in the pool area and the staff parking lots will also be directed into bioretention swales.

2.1.3.3 Wastewater Management

2.1.3.3.1 Domestic Wastewater

Currently, the Post Ranch Inn operates four on-site wastewater systems to treat sanitary sewage. Three of the systems are conventional septic systems, including septic tanks and leachfields for subsurface disposal. The fourth and largest system includes an enhanced

HABITAT CONSERVATION PLAN FOR POST RANCH INN	CONCEPTUAL DRAINAGE AND SEPTIC SYSTEM LAYOUT	FIGURE 6 JUNE 2003

treatment unit, which consists of a fixed-activated sludge treatment (FAST) system. The FAST unit currently treats the highest volume of wastewater on the property, approximately 6,000 gallons per day. At this time treated effluent is pumped to existing leachfields for subsurface disposal. The Inn also operates a separate graywater system to treat wastewater from the central laundry. Treated graywater is discharged to a subsurface drip system that is used to irrigate fruit trees in the orchard. The Inn will maintain the existing subsurface irrigation system to the orchard so that treated effluent can continue be discharged to the orchard

Presently, treated domestic wastewater effluent is pumped to leachfields for subsurface disposal. However, as part of the proposed development plan, all of the domestic wastewater will be treated to a tertiary level and the treated effluent will be reused for landscape irrigation supply. Treated effluent will be pumped to irrigation zones using subsurface, shallow drip lines and emitters to distribute treated effluent to landscaped areas in various parts of the ranch property.

The proposed improvements will include connecting the existing and new employee housing septic systems and a new central laundry facility to the main central septic system. The FAST unit system will be replaced with an advanced two-stage biological trickling filter system. The main septic system will be upgraded by removing the FAST treatment units from an existing underground 10,000 gallon tank, and retrofitting the tank to be a recirculation tank. A second 10,000 gallon underground tank, a biological trickling filter system and a small filtration and disinfection system will also be installed as part of the treatment system improvements. Treated wastewater will be pumped to a new 20,000 gallon storage/contact tank, which will have a small booster pump system that will convey treated effluent to a subsurface drip irrigation system to irrigate ornamental landscaping. The tank will also be connected to pressure dosed leachfields as an alternative mode of disposal.

The new 10,000 gallon underground tank will be located adjacent to the existing 10,000 gallon tank. The trickling filter system will be placed on the north slope uphill from the two 10,000 gallons tanks. The filtration, disinfection and new 20,000 gallon storage tank will be located on the ridge west of the spa/pool area and over 300 feet from the pond. Figure 5 shows the location of the wastewater system (near the proposed Central Services), and Figure 6 indicates the system layout. The footprint of the central wastewater facilities is 712 ft^2 including 512 ft^2 of underground tanks that will be revegetated and 47 ft^2 of existing facilities.

2.1.3.4 Internal Traffic and Shuttle Service

Employees currently drive from employee housing to the service area on the ridge. The route taken is along an existing access road that joins the main access at the pond, then turns southwest to join a road up the ridge. Guests arrive on the main access from Highway 1 and take the main road to the reception lodge (Figure 3). Both routes pass by the pond, and therefore have the potential to result in take of CRLF when frogs are migrating in or out of the pond.

The proposed project will increase guest units from 30 to 40, and the number of employee housing units from 20 to 36. The new employee units will have a smaller floor area and are planned to house adults without children. Employees with families will live in the

existing units. The Inn expansion will increase the number of guests and employees on the site. However, only 32% of existing employees are able to be housed on-site. While the expansion will increase the number of employees from 155 to 177, expanded housing will allow 68% of future staff to live on-site.

The proposed project will also relocate the employee and food services on the ridge to a new central services facility west of the pond (Figure 5). Conversion of an existing trail to a new unpaved road between the employee housing and central services (Figure 5), and implementation of a small van shuttle service on this road, reduces total daily traffic passing by the pond by 41 %, from 329 vehicles/day to 193 vehicles/day, even with increased numbers of employees and guests associated with the new project (Higgins Assoc. 2001). This mitigation measure will reduce potential take of CRLF over present conditions.

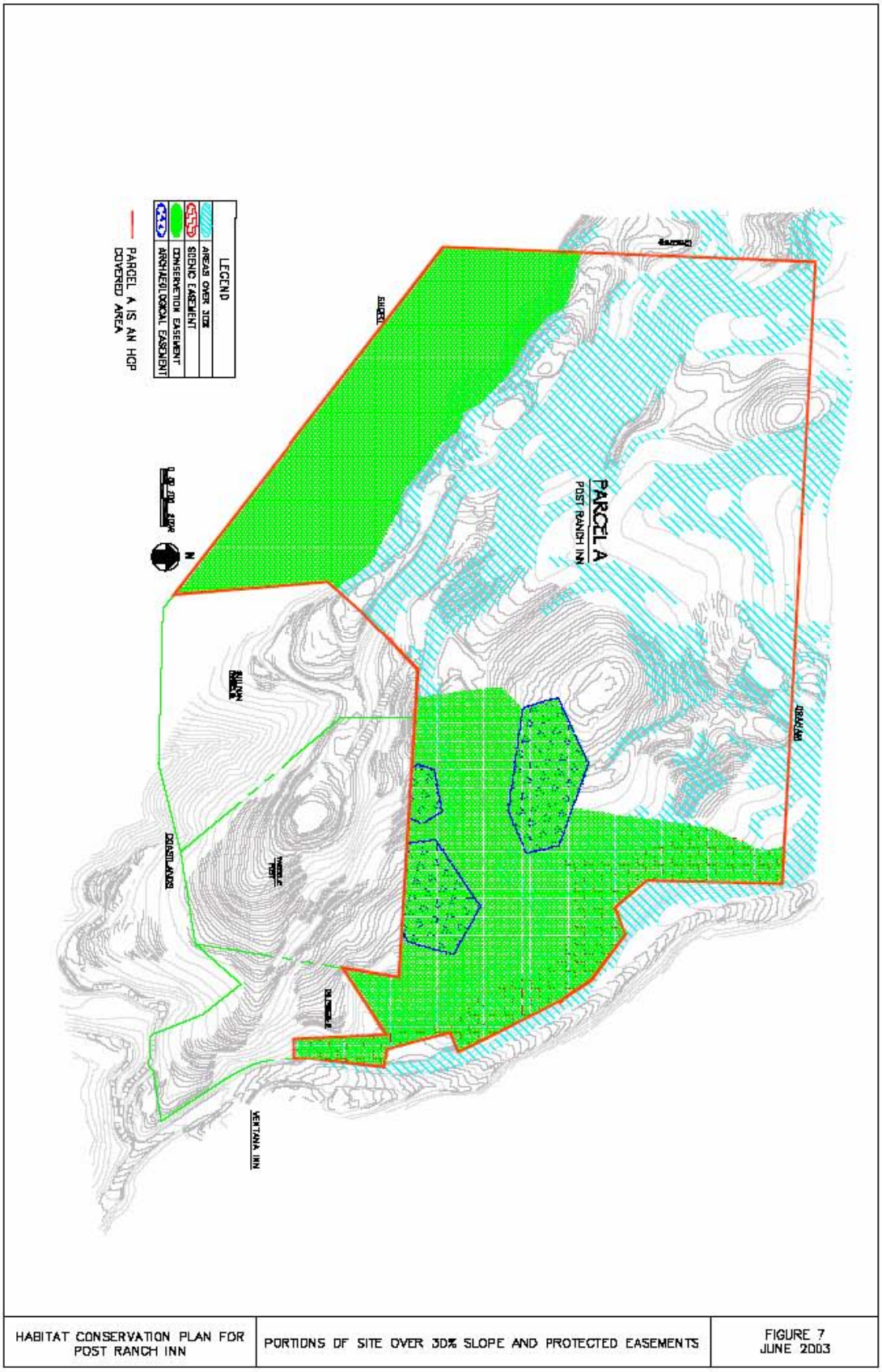
The informal gravel parking area just south of the pond and ridge access road will be removed and revegetated with native shrubs and groundcover. Access road width will be reduced to 16 feet. These measures will also reduce the possibility of inadvertent take of CRLF from autos in the parking area, and provide additional upland habitat for frogs near the pond.

2.1.3.5 Additional or Related Issues

Inherent characteristics of the Post Ranch Inn limit where the proposed new facilities and associated improvements to the property can be located. For example, approximately 12% of the site has slopes of 30% or greater, upon which development cannot occur (Figure 7). In addition, scenic easements and archaeological easements restrict development that can occur in these areas (Figure 7). These three constraints account for about 25% of the property. Thus, for the purposes of the take permit, the locations of buildings and associated drainage and erosion control improvements are illustrated in Figure 5 as the site plan.

The areas that would be graded for construction and where drainage improvements for erosion control and other facilities would be installed are collectively referred to as the "building footprint" or “impact area” or “work area” and are illustrated in Figure 5. All of the aforementioned site improvements will occur within the impact area. In addition, landscaping and fire clearance activities within the impact area will be done in a manner that does not require any vegetation clearing outside of the impact area. Thus, all construction activities that would require alteration or removal of vegetation are expected to occur within the boundaries of the impact area. Habitat management (e.g. invasive plant removal, revegetation) would also occur outside the impact area.

The project also includes future maintenance and repair of drainage and erosion control facilities, potential fire clearance activity, and potential slope repair due to erosion damage. Regarding fire clearance activity, the building footprint has been designed such that, with reasonable placement, size, and building materials for the structure, Post Ranch Inn should be able to get insurance without further vegetation clearance beyond that provided for in the HCP. Although it is anticipated that these activities will be confined to the identified impact area, this HCP provides a mitigation and monitoring mechanism for future impacts specific to these activities, as described in Chapters 7 and 8.


PARCEL A
POST RANCH INN
LEGEND
AREAS OVER 30%
SIGNS EASEMENT
CONSERVATION EASEMENT
ARCHAEOLOGICAL EASEMENT
PARCEL A IS AN HCP COVERED AREA
N
VENTANA INN
HABITAT CONSERVATION PLAN FOR POST RANCH INN
PORTIONS OF SITE OVER 30% SLOPE AND PROTECTED EASEMENTS
FIGURE 7
JUNE 2003

A preliminary landscape and habitat restoration plan (Figure 8) has been prepared and approved by Monterey County. All landscaping will be restricted to the impact areas. The plant pallette uses only species native to the Big Sur coast. Trees are only proposed east of the ridge to prevent shading of areas where seacliff buckwheat now grows or is planted as part of the restoration efforts. A large seacliff buckwheat restoration area is located on the ridge west of the north inn units. Two other buckwheat restoration areas are located northwest and southwest of the Sierra Mar restaurant (Figure 10).

Altogether, new site improvements will disturb approximately 3.06 acres at the site of which 0.712 acre is native or non-native plant communities, and 2.35 acres are developed areas, orchard and landscaping (Table 3). Construction staging will disturb an additional 0.473 acre of native/non-native plant communities and 0.131 acre of improved and unimproved parking. Table 2 lists existing and proposed areas of roads, parking, buildings, landscaping, native vegetation and landscaping, and wastewater facilities for each improvement areas. The table also lists temporary construction staging areas and acreages. In each area, where ground disturbance does not result in a permanent structure, new native landscaping will be installed and maintained. Native landscaping will also be installed in areas where structures are placed underground, such as septic leach fields or underground septic treatment tanks. Native revegetation as indicated on Figure 8 extends beyond the construction areas, in many areas replacing annual grassland with shrub or oak woodland, providing some additional upland habitat for CRLF.

Construction of the ocean-facing guest units will disturb 0.001 acre that support buckwheat-dominated California annual grassland and California sagebrush scrub habitat. Approximately 223 individual plants of *Eriogonum parvifolium*, were counted within the impact area although less than 10% of these are expected to be impacted during construction. Although this plant is considered to be suitable habitat for the SBB, some of the plants counted were seedlings or senescent individuals that provided minimal habitat for SBB. An additional 137 seacliff buckwheats grow in other portions of the Post Ranch Inn (i.e., outside of the project impact area) but it is expected that only a small portion will be affected by selected vegetation removal for fire concerns, weed control, or other habitat management activities.

Several measures will be employed before, during, and after construction activities to minimize and mitigate any adverse impacts to the SBB and CRLF and their habitat at the project site. Each of the following measures is discussed in greater detail in Chapter 7.0, Minimization and Mitigation Measures:

1) Before any grading activities occur temporary fencing and signs will be erected to limit where grading equipment and construction equipment can move on the site;
2) Pre-construction survey will be conducted for CRLF for all Post Ranch Inn construction including the Parcel D access road;
3) A construction worker education program will be conducted;
4) A service-approved biological monitor will be on site to supervise initial grading activities, and on site monthly and on-call during other construction to insure listed species' construction guidelines are followed, and the on-site construction manager will be trained in species issues, monitor contractor activities on a daily basis, and communicate with the biological monitor when any biotic issues arise.

HABITAT CONSERVATION PLAN FOR POST RANCH INN	LANDSCAPE AND HABITAT RESTORATION PLAN	FIGURE 8 JUNE 2003

Table 2. Construction Disturbance Areas

Project Facility	Type of Improvement	Existing Area (ft^2)	Proposed Area (ft^2)	Total Grading /Disturbance Envelope (ft^2)[1]
Guest Units	Pavement	24,447	10,371	32,375
	Buildings	2320	5253	
	Landscape	3119	16,751	
	Native Vegetation	2489	[2]	
Central Services	Pavement	7934	11,231	17,895
	Buildings	2398	3679	
	Landscape	3530	2985	
	Native Vegetation	4033	[2]	
Employee Housing	Pavement, Disturbed	29,601	5981	39,560
	Buildings	687	7872	
	Landscape	1100	22,700	
	Native Vegetation	8172	[2]	
	Septic & Leachfield (to be revegetated)	-	3007	
Spa/Pool/Mercantile	Pavement, Disturbed	6730	11,132	39,859
	Buildings	2287	7238	
	Landscape	18,161	21,489	
	Native Vegetation	12,681	[2]	
Miscellaneous—Central Wastewater & Picnic	Pavement	-	600	4119
	Buildings—Shed, filters (to remain)	47	903	
	Underground facilities (to be reveg.)	384	816	
	Landscape	-	(816)	
	Native Vegetation	3950	[2]	
	Picnic Facilities		1800	
Temporary Construction Staging (to be revegetated)	A		8555	
	B		5600	
	Temp Trailer	1368		
	C	5000		
	D		6324	
	E		5700	

[1]Grading/ disturbance envelope includes areas where only vegetation is removed or disturbed by construction
[2]New landscaping will use only native vegetation, therefore native plant communities will be established in these areas (Fig. 8). Landscape plan proposes landscaping beyond disturbance envelope.

5) Appropriate dust control measures, such as periodically wetting down the graded areas, will be used as necessary during grading of the areas for building footprints and in other portions of the impact area during construction, landscaping, or any other activities that generate dust.

6) In order to minimize effects on CRLFs, construction within 300 feet of the pond will occur between May 15 and August 31; to minimize effects on SBB, construction of ocean-facing Inn units will occur over 300 feet from seacliff buckwheat plants, or outside the flight season (6/15-9/15) unless otherwise authorized by the consulting entomologist after a review of SBB flight activity.
7) Exotic thistles, French broom, Cape ivy and other invasive plants will be removed throughout the entire project site;
8) Appropriate weed control measures will be employed to prevent establishment of weeds or other invasives at locations disturbed by grading and construction activities;
9) Revegetation of pond and adjacent areas will occur to restore habitat for CRLF;
10) Seeding, propagation and outplanting of buckwheat plants will occur to restore habitat for the SBB;
11) A Post Ranch Inn employee and public education program on CRLF and SBB will be implemented; and
12) A conservation easement on 36.1 acres of the project site will be established to protect all habitats within the easement boundary, in perpetuity.

2.2 PERMIT HOLDER/PERMIT BOUNDARY

The Post Ranch L.P. will be the holder of the Section 10 permit. Mr. Michael S. Freed is the general partner and can be contacted via mail at Post Ranch L.P., PO Box 219, Big Sur, CA 93920, or phone at (831) 667-2200. Mr. Dan Priano is general manager and can be contacted via mail at Post Ranch Inn, P.O. Box 219, Big Sur, CA 93920, or via telephone at (831) 667-2200, or via fax at (831) 667-2824. Mr. Freed and Mr. Priano will also serve as contacts for the Sullivan family and Post family, as needed. Additional contact persons will be reported to the Service as necessary. In the event of sale of the property, the permittee would need to meet the regulations as defined in the 50 CFR Section 13.25 (64 FR 32711, June 17, 1999, as amended 64 FR 52676, Sept. 30, 1999). Transfer of the permit shall be governed by the Service's regulations in force at the time.

The permit boundary is the 91.98-acre Post Ranch Inn property that occurred with the approval of the lot line adjustment and land division by Monterey County. These boundaries are illustrated in Figure 5.

2.3 ZONING AND SURROUNDING LAND USES

The attached portion of the zoning map for the County of Monterey's (Figure 9) illustrates the zoning designations for the Post Ranch Inn and surrounding properties. There are four zoning district classifications in this area:

NOTE: In all cases "/40" indicates 40 acre minimum lot sizes for proposed new parcels and "(CZ)" indicates "Coastal Zone."

RDR/40 (CZ) **Rural Density Residential**

This district contains relatively small lots (from less than 1 acre), mostly with existing residences. The stated purpose is

> "...to provide a district to accommodate rural density and intensity uses in the rural and suburban areas of the County of Monterey where adequate services and facilities exist or

> may be developed to support such development. It is intended within this Chapter to require adequate on-site facilities and amenities to assure proper, usable and livable development while allowing sufficient design flexibility to provide such development..."
>
> [CIP, 20.16.010]

WSC/40 (CZ) **Watershed and Scenic Conservation**

This district contains generally larger lots with more remote single-family residences. The stated purpose is

> "...to provide a district to allow development in the more remote or mountainous areas in the Coastal Zone while protecting the significant and substantial resources of those areas. Of specific concern are the highly sensitive resources inherent in such areas such as viewshed, watershed, plant and wildlife habitat, streams and riparian corridors. The purpose of this chapter is to be carried out by allowing only such development that can be achieved without adverse effect and which will be subordinate to the resources of the particular site and area..."
>
> [CIP, 20.17.010]

VSC (CZ) **Visitor Serving Commercial**

This district contains most of the resort and business activity in Big Sur. The stated purpose is

> "...to provide a district to establish areas necessary to service the needs of visitors and the traveling public to Monterey County..."
>
> [CIP, 20.22.010]

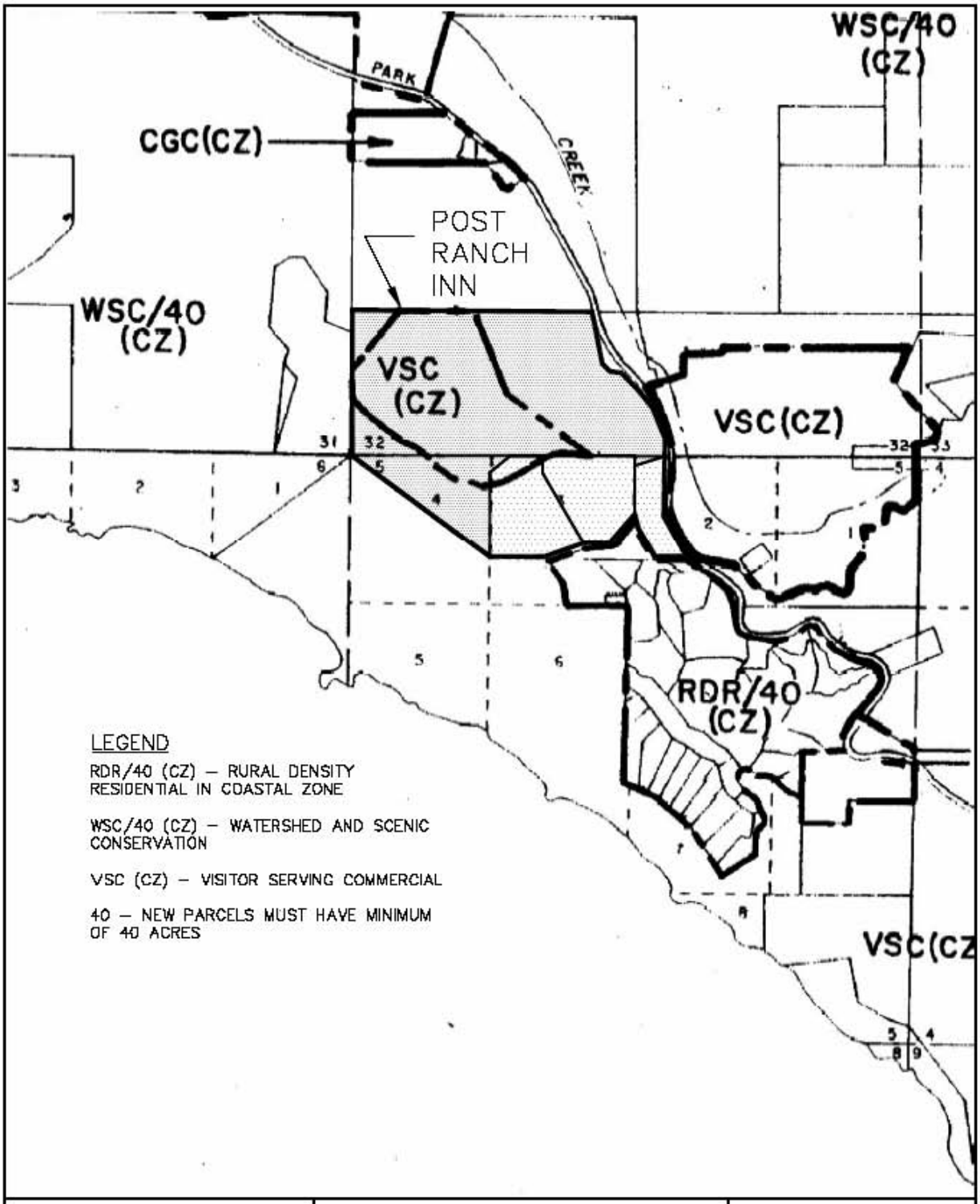
CGC (CZ) **Coastal General Commercial**

A relatively rare zoning district, the stated purpose is

> "...to provide a zoning district to accommodate and maintain a broad range of commercial uses suitable for the convenience visitors and nearby residential areas..."
>
> [CIP, 20.18.010]

The Post Ranch Inn property contains both WSC and VSC zoning districts. The boundaries of each district are not precisely defined; one must scale them off the attached zoning map (Figure 9). This should not be a matter of concern, as the resource protection policies are regulated regardless of zoning district boundaries.

In general, existing uses near the Post Ranch Inn are: small parcel residential to the southeast (Coastlands); open space and visitor serving resort to the east (Ventana Inn); large parcel residential to the north and west (Rancho Rico); open space to the south and southwest, and; commercial/visitor serving in the CGC area to the north (post office, gas station, restaurants, shops.) Further north is Pfeiffer Big Sur State Park, with Los Padres National Forest further east.



HABITAT CONSERVATION PLAN FOR POST RANCH INN	ZONING MAP	FIGURE 9 JUNE 2003

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL ENDANDERED SPECIES ACT OF 1973

The Endangered Species Act of 1973 as amended (ESA), 15 United States Code (U.S.C.) Section 1531 *et seq*., provides for the protection and conservation of various species of fish, wildlife, and plants that have been listed as threatened or endangered. Section 9 of the ESA prohibits the "take" of any fish or wildlife species that is listed as endangered under the ESA unless such take is otherwise specifically authorized pursuant to either Section 7 or Section 10(a)(l)(B) of the ESA. Pursuant to the implementing regulations of the ESA, the take of fish or wildlife species listed as threatened is also prohibited unless otherwise authorized by the Service.

"Take" as defined by the ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" is further defined to mean an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding or sheltering (50 CFR 17.3).

Activities otherwise prohibited under ESA Section 9 and subject to the civil and criminal enforcement provisions under ESA Section 11 may be authorized under ESA Section 7 for actions by Federal agencies and under ESA Section 10 for non-Federal entities. In the 1982 amendments to the ESA, Congress established a provision in Section 10 (a) (1) (B) that allows for the incidental take of endangered and threatened species of wildlife by non-Federal entities. Incidental take is defined by the ESA as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. The 10(a)(1)(B) provisions establish a mechanism for authorizing incidental take of federally-listed species. However, in order to receive an incidental take permit, the permit applicant must submit a Habitat Conservation Plan (HCP) which describes, among other things, the effects of the taking and the measures the applicant will implement to mitigate for these effects. The Service and the National Marine Fisheries Service (NMFS) have joint authority under the ESA for administering the incidental take program. NMFS has jurisdiction for ocean and anadromous fish species while the Service has jurisdiction for all other fish and wildlife species.

The Service has established a special category of low-effect HCPs for projects involving minor or negligible impacts on federally-listed, proposed, or candidate species and their habitats covered under the HCP; and minor or negligible effects on other environmental values or resources (U.S. Fish & Wildlife Service and National Marine Fisheries Service 1996). Low-effect HCPs and their associated incidental take permits are expected to have a minor or negligible effect, individually and cumulatively, on the species covered in the HCP. The determination of whether a HCP qualifies for the low-effect category must be based on anticipated impacts prior to implementation of the mitigation plan. This category is intended for projects with inherently low impacts, not for projects with significant potential impacts that are subsequently reduced through mitigation programs.

Section 7 of the Endangered Species Act requires all Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any

species listed under the ESA or result in the destruction or adverse modification of its habitat. The issuance of an incidental take permit is an authorization for take by a Federal agency; in conjunction with issuing a permit, the Service must conduct an internal Section 7 consultation on the listed species. The internal consultation is conducted after an HCP is developed by a non-Federal entity (e.g., the Post Ranch L.P.) and submitted for formal processing and review. Provisions of Sections 7 and 10 of the ESA are similar, but Section 7 requires a Federal nexus and a Federal agency holds the responsibility of minimizing impacts and reporting to the Service. Section 10 provides a mechanism for non-Federal entities to have incidental take of federally listed species that may result from them conducting otherwise lawful activities. Non-Federal entities are responsible for minimizing and mitigating the effects of their actions and reporting to the service. The internal consultation results in a Biological Opinion prepared by the Service regarding whether implementation of the HCP will result in jeopardy to any listed species or adversely modify critical habitat.

3.1.1. Section 10 Permit Process and HCP Requirements.

The Section 10 process for obtaining an incidental take permit has three primary phases:

1) the HCP development phase;
2) the formal permit processing phase; and
3) the post-issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, mitigate for, and minimize impacts;
- funding that will be made available to undertake such measures;
- procedures to deal with unforeseen circumstances;
- alternative actions considered that would not result in take; and
- additional measures the Service may require as necessary or appropriate for purposes of the plan.

As discussed above, the Service has established a special category of HCP, called a low-effect HCP, for projects with relatively minor or negligible impacts. A low-effect HCP is defined as having:

- minor or negligible effects on federally listed, proposed, or candidate species and their habitats that are covered under the HCP; and

- minor or negligible effects on other environmental resources.

The impacts are assessed on both a project and cumulative basis. Implementation of low-effect HCPs and their associated incidental take permits, despite authorization of some small level of incidental take, individually and cumulatively have a minor or negligible effect on the species covered in the HCP. The determination of whether an HCP qualifies for the low-effect category is based on the anticipated impacts of the project prior to implementation of the mitigation plan. The purpose of the low-effect HCP is to expedite handling of HCPs for activities with inherently low impacts; it is not intended for projects with significant potential impacts that are subsequently reduced through mitigation programs. Environmental compliance under the National Environmental Protection Act (NEPA) for low-effect HCPs is achieved via a categorical exclusion because the actions authorized by an incidental take permit do not individually or cumulatively have a significant effect on the natural and human environment.

Based on Service's published criteria for determining whether a low-effect HCP is appropriate, the applicant believes this HCP meets the qualifications of a low-effect HCP and proposes it as such to the Service for review. As is explained in Section 5.0 below, before mitigation, the impacts on the SBB will be negligible – mainly in the form of the potential disturbance of 0.001 acre that support buckwheat-dominated California annual grassland and California sagebrush scrub habitat; and before mitigation, the impacts on the CRLF will range from beneficial to negligible, because an element of the proposed project is to reduce daily traffic passing by the pond through a new shuttle service. Furthermore, the proposed project is also designed to have minor or negligible effects on other natural and human environmental values and resources.

The HCP development phase concludes and the permit-processing phase begins when a complete application package is submitted to the appropriate permit-issuing office of Service. The complete application package for a low-effect HCP consists of:

1) an HCP;
2) a completed permit application; and
3) a $100 permit fee from the applicant.

The Service must publish a Notice of Availability (NOA) of a Permit Application in the Federal Register; prepare a Section 7 Biological Opinion; prepare a Set of Findings that evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below); and prepare an Environmental Action Statement, a brief document that serves as the Service's record of compliance with NEPA for categorically excluded actions (see below). An implementing agreement is not required for a low-effect HCP. A Section 10 incidental take permit is granted upon determination by Service that all requirements for permit issuance have been met. Statutory criteria for issuance of the permit are as follows:

- the taking will be incidental;

- the impacts of incidental take will be minimized and mitigated to the maximum extent

practicable;

- adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided;

- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;

- the applicant will provide additional measures that Service requires as being necessary or appropriate; and

- the Service has received assurances, as may be required, that the HCP will be implemented.

After receipt of a complete application, the Service's target process time for a low-effect HCP and permit application is less than 3 months. This schedule includes the Federal Register notification and public comment.

During the post-issuance phase, the permittee and other responsible entities implement the HCP and the Service monitors the permittee's compliance with the HCP and the long-term progress and success of the HCP. The public is notified of permit issuance through publication in the Federal Register.

3.2 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

The National Environmental Policy Act of 1969, as amended (NEPA), requires that Federal agencies analyze and disclose the environmental impacts of their proposed actions (i.e., issuance of an incidental take permit) and include public participation in the planning and implementation of their actions. Issuance of an incidental take permit by the Service is a Federal action subject to NEPA compliance. Although Section 10 and NEPA requirements overlap considerably, the scope of NEPA also considers the impacts of the action on non-biological resources such as water quality, air quality, and cultural resources. Depending on the scope and impact of the HCP, NEPA requirements can be satisfied by one of the following documents or actions:

1) preparation of an environmental impact statement (generally prepared for high-effect HCPs);

2) preparation of an Environmental Assessment (generally prepared for moderate-effect HCPs); or

3) a categorical exclusion (allowed for low-effect HCPs).

The NEPA process helps Federal agencies make informed decisions with respect to the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions. Low-effect HCPs, as defined in the Service's (1996) Habitat Conservation Planning Handbook, are

categorically excluded under NEPA, as defined by the Department of Interior Manual 516DM2, Appendix 1, and Manual 516DM6, Appendix 1.

3.3 CALIFORNIA COASTAL ACT

The California Coastal Act of 1976 requires each local government lying within the coastal zone to prepare a Local Coastal Program (LCP) which identifies specific coastal resources and methods of environmental protection. Monterey County has adopted, and the California Coastal Commission has certified, the Monterey County Local Coastal Program.

The Monterey County LCP consists of several area land use plans (including the *Big Sur Coast Land Use Plan*) and the *Monterey County Coastal Implementation Plan* (CIP). Under an agreement with the Coastal Commission, Monterey County is the lead land use permitting agency for coastal development permit applications. In general, most permit applications would only be considered by the Coastal Commission upon appeal of a Monterey County decision.

3.4 CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

California Department of Forestry and Fire Protection (CDF) is the jurisdiction responsible for review of fire protection measures for development and building permit applications in Big Sur. CDF contracts with a private business, Carmel Fire Protection Associates, to conduct plan checks and inspections.

Public Resources Code 4291 requires homeowners living in or adjacent to forest or brush-covered lands to maintain a firebreak of not less than 30 feet on all sides around all structures, or to the property line, whichever is nearer. In addition, the applicable local ordinance is Monterey County Ordinance No. 3600, *Wildlife Protection Standards in Conjunction with Building, Construction and Development in State Responsibility Areas*. The fire clearance requirement is to remove flammable vegetation from within 30 feet of structures, and to limb trees 6 feet up from the ground. There is a provision in the ordinance that environmentally sensitive areas may require alternative fire protection, to be determined by CDF and the Monterey County Director of Planning and Building Inspection.

3.5 MONTEREY COUNTY REGULATIONS

The *Big Sur Coast Land Use Plan* (LUP) was adopted by Monterey County in 1985 and certified by the California Coastal Commission in 1986. It is the primary component of the certified Monterey County Local Coastal Program (LCP). The implementing ordinance is the *Monterey County Coastal Implementation Plan* (CIP). Part 1 and Part 3 of the CIP are of particular importance in Big Sur. Part 1 is *Title 20*, the zoning ordinance for the Coastal Zone of Monterey County, as revised, certified by the Coastal Commission, and adopted in 1995. Part 3 of the CIP, *Regulations for Development in the Big Sur Coast Land Use Plan*, contains regulations specific to Big Sur. In case of conflict, the LUP supercedes the CIP. Development permit applications are submitted to the Monterey County Planning and Building Inspection Department. Only upon appeal of a Monterey County decision do they come before the Coastal Commission.

The Big Sur LUP is considered by many to be a model for coastal protection. The basic goal of the LUP is:

"...To preserve for posterity the incomparable beauty of the Big Sur country, its special cultural and natural resources, its landforms and seascapes and inspirational vistas. To this end, all development must harmonize with and be subordinate to the wild and natural character of the land..."

[LUP, 2.1 *Philosophy & Goals*]

The first of five LUP basic objectives and policies deals with natural resources:
"...The overall direction for the future of the Big Sur coast is based around the theme of preserving the outstanding natural environment. The County's objective is to develop and effectively carry out a constantly improving system for managing man's use of the natural resources of the Big Sur coast for the long-term benefit of both visitors and residents.

The County's basic policy is to take a strong and active role in the stewardship and safeguarding of Big Sur's irreplaceable natural resources. Where there are conflicts, protection of these national resources is the primary objective with definite precedence over land use development..."

[LUP, 2.1.1]

Concerning resource management of environmentally sensitive habitats, the LUP says:
"...Development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures, shall not be permitted in the environmentally sensitive habitat areas if it results in any potential disruption of habitat value. To approve development within any of these habitats the County must find that disruption of a habitat caused by the development is not significant..."

[LUP, 3.3.2.1]

"...Where private or public development is proposed, in documented or expected locations of environmentally sensitive habitats, field surveys by qualified individuals or agencies shall be made in order to determine precise locations of the habitat and to recommend mitigating measures to ensure its protection..."

[LUP, 3.3.2.2]

"...The County shall require deed restrictions or dedications of permanent conservation easements in environmentally sensitive habitats when new development is proposed on parcels containing such habitats. Where development has already occurred in areas supporting sensitive habitat, property owners should be encouraged to voluntarily establish conservation easements or deed restrictions..."

[LUP, 3.3.2.3]

"...For developments approved within environmentally sensitive habitats, the removal of indigenous vegetation and land disturbance (grading, excavation, paving, etc.) associated with the development shall be limited to that needed for the structural improvements themselves. The guiding philosophy shall be to limit the area of disturbance, to maximize the maintenance of the natural topography of the site, and to favor structural designs which achieve these goals..."

[LUP, 3.3.2.4]

"...The County shall require the use of appropriate native species in proposed landscaping..." [LUP, 3.3.2.9]

Coastal Development Permit applications submitted to Monterey County must be accompanied by technical reports prepared by County-approved consultants. Depending on the scope and location of a proposed project, the applicable studies may include: geologic report, geotechnical report, erosion control plan, biotic survey and impact/mitigation report, forest management plan (if trees are to be removed), archaeological report, hydrological report, water supply report, and wastewater treatment plan. The LUP, CIP and other County ordinances contain standards and report requirements. The County planners, based on the submitted plans and reports, determine whether the project is categorically exempt from environmental review or if, under State CEQA guidelines, an Initial Study is required.

3.5.1 Previously Approved Coastal Development Permit

On May 31, 1989, the Monterey County Planning Commission granted Coastal Development Permit No. PC-6336, which allowed the construction of the Post Ranch Inn. Planning Commission Resolution No. 89-176 included findings that: "...The Post Ranch Project will not have a significant visual impact...will not pose a significant adverse impact to environmentally sensitive habitat...will not pose significant adverse impacts to water resources...will not pose significant adverse impacts to archaeological resources...The Post Ranch project conforms to the policies and development standards regarding visitor-serving facilities, pursuant to Coastal Implementation Plan Section 20.145.140.B...The Post Ranch project is consistent with the Big Sur Coast Land Use Plan, Coastal Implementation Plan, and the California Coastal Act..." An Environmental Impact Report, dated May 1989, was prepared for the project by EMC Planning Group, Inc.

The scenic easement, containing 9.69 acres, shown on existing conditions map (Figure 3) was granted to the County of Monterey as a condition of approval of Coastal Development Permit No. PC-6336. The Conservation and Scenic Easement Deed was recorded April 17, 1991 in Reel 2630 at Page 1164, Office of Recorder, County of Monterey. The purpose of the easement is to prevent development in the "critical viewshed" (i.e. areas visible from Highway 1.) Within the easement no new structures are permitted, and no significant changes to landscape and topography are allowed, except for construction, alteration and relocation of private roads, and pedestrian and equestrian trails subject to the approval of Monterey County.

The archaeological easement areas shown on Figure 3 were also granted to the County of Monterey as a condition of approval of Coastal Development Permit No. PC-6336. The Archaeological Easement Deed was recorded April 17, 1991 in Reel 2630 at Page 1114, Office of the Recorder, County of Monterey. The terms of the deed do not prohibit development in the (4.66-acre) easements, but require that all proposed development and activities shall require assessment by a qualified archaeologist and implementation of mitigation as recommended by the archaeologist, as well as review by the Monterey County Planning and Building Inspection Department, prior to issuance of building or grading permits.

3.5.2 CEQA Review

The California Environmental Quality Act (CEQA) requires state and local agencies to evaluate the environmental implications of projects they construct or approve. In cases where Monterey County issues a development permit, they are the lead agency under CEQA and must carry out environmental review for the project. For discretionary projects which are not exempt from CEQA, the lead agency must prepare an Initial Study to determine whether to prepare a Negative Declaration, Mitigated Negative Declaration or Environmental Impact Report. An EIR was prepared for the original Post Ranch Inn development project in 1989. The present Post Ranch Inn expansion was reviewed by Monterey County Planning staff and an Initial Study was prepared. That Initial Study indicated that potential significant impacts could be mitigated to insignificant levels, and County staff recommended a Mitigated Negative Declaration be issued for the project. The Initial Study and Mitigated Negative Declaration was adopted by the County Planning Commission and then the County Board of Supervisors, on appeal. Final CEQA adoption by the Board of Supervisors occurred on June 25, 2002.

3.5.3 County Approval of Post Ranch Inn Expansion Project

The Monterey County Planning Commission approved a Coastal Development Permit and Design permit for the Minor Subdivision, Lot Line Adjustment and Inn Expansion including new employee housing on May 8, 2002. A neighbor appealed that approval to the Board of Supervisors. On June 25, 2002 the Board unanimously denied the appeal and approved the project. No further appeals were filed.

A Parcel Map (vol.21, p.119) was recorded with the County on December 29, 2004, finalizing the Minor Subdivision and Lot Line Adjustment. On October 4, 2004, the County issued a building permit for the Maintenance Building.

4.0 BIOLOGY

This chapter describes the existing biotic resources at the site where expansion of the Post Ranch Inn would occur, including an assessment of any additional special-status plant and animal species beyond the focus of this HCP. Habitat types (i.e., plant communities) are identified and their characteristic plants noted.

Two taxa addressed in this HCP and requested for coverage in its associated Section 10(a) (1) (B) permit are federally-listed species, Smith's blue butterfly and California red-legged frog. Both are known to occur on the site and will be directly affected by the project.

No other sensitive, threatened or endangered species would be affected by the proposed project. Sensitive species known from the site, previously observed, or which may occur are addressed under habitat types below.

4.1 HABITAT TYPES

Botanist Jeff Norman identified 13 plant communities at Post Ranch Inn (parcel A) and the neighboring parcels B, C, and D). Technical information below is taken from Norman's biotic report (2001). Figure 4 is a vegetation map of the entire site, including neighboring parcels B-D. Norman also recognized a couple of subcommunities, where food plants of the SBB are prevalent, where rare plants occur, or where the vegetation is best characterized as a mixture of two communities. Table 3 identifies all of these communities and their map symbols as used in Figure 4.

On the 91.98-acre Post Ranch Inn site, forest habitats, including arroyo willow riparian, coast live oak, redwood, and California sycamore woodland, cover approximately 41.43 acres. Scrub habitats, including coyote brush and California sagebrush cover approximately 21.8 acres. Grasslands, including coastal terrace prairie, California oatgrass bunchgrass, and annual grassland cover approximately 18.3 acres. Aquatic habitats, including the pond, freshwater marsh, and sedge seep cover approximately 1.02 acres. Disturbed or landscape areas, including broom scrub, existing developed site, roads, landscaping, orchard, and the landslide area cover approximately 9.45 acres. As detailed in Table 3, five of the plant communities that occur at Post Ranch Inn are considered rare by the California Department of Fish & Game (CDFG 2000).

A host food plant for SBB, seacliff buckwheat (*Eriogonum parvifolium*), grows in the California sagebrush scrub and California annual grassland communities. It occurs on a west-facing slope, on approximately 0.97 acres at the Post Ranch Inn as illustrated in Figure 4.

Botanical surveys of the site, conducted by Jeff Norman (2001), did not yield any Federal or state-listed plant species. Norman observed a couple of locally rare plants, notably Santa Lucia gooseberry (*Ribes sericeum*), *Grindelia camporum* var. *bracteosum*, and *Clarkia purpurea* ssp. *purpurea*. *Ribes sericeum* is recognized by the California Native Plant Society as a List 4 taxon. Plant species on the CNPS List 4 are those with limited distribution, and the CNPS considers this category as a "watch list" (California Native Plant Society 1994). The *Grindelia* has not previously been recorded from Monterey County and the *Clarkia* was believed to be extinct.

Table 3. Acreage estimates (existing, impacted), map codes, and conservation information for the plant communities at the Post Ranch Inn.						
Plant Community	**Map Abbreviation**	**Conservation Status**	**Acreages**			
			Existing	**Impacted by:**		
				Project Improve.	**Const. Staging**	**Fire Mgnt.**
Aquatic Habitats						
Freshwater Marsh	FM	none	0.249	0	0	0
Freshwater Pond	PW	CDFG Rare and Habitat for CRLF	0.537	0	0	0
Sedge Seep	SS	none	0.234	0	0	0
Aquatic Subtotal			**1.02**	**0**	**0**	**0**
Forest Habitats						
Arroyo Willow Riparian Forest	AW	CDFG Rare	0.067	0	0	0
Coast Live Oak Forest	CLOF	None	3.454	0.067	0.005	0.00
Ribes sericeum	RS	CDFG Rare, CNPS List 4	0.001	0	0	0
Coast Live Oak Forest with Coast Redwood	CLOF/RW	None	17.966	0.023	0.096	0.0
California Sycamore Woodland	CSW	CDFG Rare	0.021	0	0	0
Coast Redwood Forest	RF	CDFG Rare	19.918	0.131	0	0.0
Forests Subtotal			**41.427**	**0.221**	**0.101**	**0.0**
Scrub Habitats						
Coyote Brush Scrub	CBS	None	12.955	0.136	0.115	0.25
California Sagebrush Scrub	CSS	None	7.967	0.002	0	0.0
California Sagebrush Scrub with *Eriogonum parvifolium*	CSS/EP	Habitat for SBB	0.882	0.001	0	0.00
Scrub Totals			**21.804**	**0.139**	**0.115**	**0.25**
Grassland Habitats						
Coastal Terrace Prairie	CTP	None	0.467	0.0	0	0
Coastal Terrace Prairie with *Clarkia purpurea* ssp. *purpurea*	CTP/CPP	None	0	0	0	0
California Oatgrass bunchgrass	COB	CDFG Rare	2.038	0	0	0

California Annual Grassland	CAG	None	15.680	0.352	0.257	0.0
California Annual Grassland with *Eriogonum parvifolium*	CAG/EP	None/ Habitat for SBB	0.089	0	0	0
Grassland Total			**18.274**	**0.352**	**0.257**	**0.0**
Invasives and Disturbed Habitats						
Broom Scrub (*Genista*)	BS	Non/Invasive	0.016	0.00	0	0
Landscaped Area, including structures, some roads, etc.	LND	N/A	7.292	2.35	0.131	1.22
Orchard	Orchard	N/A	2.096	0.00	0	0.00
Slide	Slide	N/A	0.051	0	0	0
Invasives and Disturbed Subtotal			**9.455**	**2.35**	**0.131**	**1.22**
Grand Totals			**91.98**	**3.062**	**0.604**	**1.47**

4.1.1 Freshwater Marsh

The freshwater marsh lies west (upstream) of the pond. This habitat, which is inundated during the wet season, is co-dominated by swamp smartweed (*Polygonum amphibium* var. *emersum*) and water smartweed (*P. punctatum*). Other wetland obligates found here were giant horse-tail (*Equisetum telmateia* ssp. *braunii*), western goldenrod (*Euthamia occidentalis*), round-leaved hoita (*Hoita orbicularis*), tall cyperus (*Cyperus eragrostis*), and five *Juncus* taxa: common rush (*J. effusus* var. *brunneus*), common rush (*J. e.* var. *pacificus*), sickle-leaved rush (*J. falcatus*), spreading rush (*J. patens*), and brown-headed rush (*J. phaeocephalus* var. *phaeocephalus*).

4.1.2 Freshwater Pond

This habitat is also referred to as Pondweed with Floating Leaves Wetland, since it is dominated by long-leaved pondweed (*Potamogeton nodosus*) during spring and summer months. Also present is fennel-leaved pondweed (*P. pectinatus*), California tule (*Scirpus californicus*), pale spike-rush (*Eleocharis macrostachya*), California willow-herb (*Epilobium ciliatum* ssp. *watsonii),* California willow-herb (*E. c.* ssp. *ciliatum*), tall cyperus (*Cyperus eragrostis*), western goldenrod (*Euthamia occidentalis*), common rush (*Juncus effusus* var. *brunneus*), and common rush (*J. e.* var. *pacificus*).

The pond supports a breeding population of the federally-listed threatened CRLF. Two California Special Concern Species have been reported from the pond in the past: western pond turtle (*Clemmys marmorata*), and wood stork (*Mycteria americana*). This community is considered rare by the California Department of Fish & Game (CDFG). Because the pond is essential habitat for these sensitive species, the following additional information is presented.

The permanent pond is located north of the access road to the Post Ranch Inn office in an unnamed tributary to Post Creek. The pond is approximately 300 feet long and varies in width

from 30 - 100 feet with relatively steep side slopes and a maximum depth of approximately 8 feet. It is constructed in a swale with an easterly aspect approximately 1,040 feet above sea level. The perennial pond is formed by an earthen berm that also supports a paved road, and is recharged by springs in the pond and adjacent wetland, as well as local surface runoff. A stand-pipe is present near the berm that is accessed by a wooden catwalk. The stand-pipe allows excess water from the pond to flow into a culvert under the access road/dam and into the unnamed tributary. This tributary drainage flows into Post Creek east of Highway 1.

Much of the perimeter of the pond, as well as a small island (ca. 20 x 30 feet in size), has been landscaped with native and non-native plants. Small patches of native *Scirpus* and a few exotic willow trees are present near the pond inlet. Floating algae covered much of the surface area of the pond in October 2000, while emergent vegetation less than 18 inches high was present within 3-5 feet of the east and north banks. Very similar conditions were noted in late summer- fall 2001 and 2002. A constructed seasonal wetland area is situated immediately west of the pond. Native wetland species are established in an area that covers approximately 0.25 acres. The wetland dries during the summer and fall. The ephemeral stream channel below the pond is dry except during storm events and pond overflow periods.

The uplands that surround the pond consist primarily of non-native grassland, oak woodland, redwood forest, mixed woodland and scrub habitats. The grassland immediately to the north of the pond is regularly mowed, although grass height appears to be kept relatively high. The remainder of the grassland is ungrazed. The live-oak woodland to the north of the pond is relatively open canopied and supports little understory. The mixed woodland in the drainage east of the pond is relatively closed canopied, consisting of California bay-laurel, tan oak and maple, with an understory of native species including California blackberry and bracken fern. A paved access road to the Post Ranch Inn office passes along the east and south edge of the pond. At the east end of the pond, the paved entrance road branches. One fork along the south side of the pond leads to the reception lodge and guest inn units to the west, while the other road traverses the eastern edge of the pond to employee housing and the volunteer fire station to the north. A pedestrian nature trail is located above the north edge of the pond, with a bench available for people to sit by the pond for nature observation.

4.1.3 Sedge Seep

The dominant plant in this habitat is Monterey sedge (*Carex harfordii*). Also present are western lady fern (*Athyrium filix-femina* var. *cyclosorum*), seep-spring monkey flower (*Mimulus guttatus*), California buttercup (*Ranunculus californicus*), Fendler's meadow-rue (*Thalictrum fendleri* var. *polycarpum*), clustered dock (*Rumex conglomeratus*), round-leaved hoita (*Hoita orbicularis*), California willow-herb (*Epilobium ciliatum* ssp. *ciliatum*), golden brodiaea (*Triteleia ixioides*), one-leaved onion (*Allium unifolium*), brown-headed rush (*Juncus phaeocephalus* var. *phaeocephalus*), tall cyperus (*Cyperus eragrostis*), and velvet grass (*Holcus lanatus*).

4.1.4 Arroyo Willow Riparian Forest

Although dominated by arroyo willow (*Salix lasiolepis*), also present are such wetland obligates as seep-spring monkey flower (*Mimulus guttatus*), giant chain fern (*Woodwardia fimbriata*), and watercress (*Rorippa nasturtium-aquaticum*). Other plants

found in this habitat were California blackberry (*Rubus ursinus*), coast figwort (*Scrophularia californica* ssp. *californica*), mugwort (*Artemisia douglasiana*), and crimson columbine (*Aquilegia formosa*). This community is considered rare by CDFG.

4.1.5 Coast Live Oak Forest

This community is dominated by coast live oak (*Quercus agrifolia*). Other trees which are present are California laurel (*Umbellularia californica*), tan-oak (*Lithocarpus densiflora*), big-leaf maple (*Acer macrophyllum*), and coast redwood (*Sequoia sempervirens*). Areas of Coast Live Oak Forest which support coast redwoods are mapped separately in Figure 4. Understory plants include creeping snowberry (*Symphoricarpos mollis*), ocean-spray (*Holodiscus discolor*), Douglas' iris (*Iris douglasiana*), wood mint (*Stachys bullata*), wood rose (*Rosa gymnocarpa*), poison oak (*Toxicodendron diversilobum*), wood fern (*Dryopteris arguta*), western bracken (*Pteridium aquilinum* var. *pubescens*), California wild strawberry *(Fragaria vesca*), climbing bedstraw (*Galium porrigens*), narrow-flowered brome (*Bromus vulgaris*), and California polygala (*Polygala californica*).

A rare plant is found here, Santa Lucia gooseberry (*Ribes sericeum*), and the two plants located on the property are mapped. Santa Lucia gooseberry is included on the California Native Plant Society's List 4. List 4 species are watch list plants of limited distribution. Several stick nests of Monterey dusky-footed woodrat (*Neotoma fuscipes lucianus*) were found in this community in the area between the employee housing access road and Highway 1. The area will be included within the Conservation Easement and the project will have no impacts to this species. This mammal is a California Special Concern Species. There is a widespread infestation of Coast Live Oak Forest by French broom, with a moderate threat to the community posed by this invasion. This habitat is further threatened by the spread of "sudden oak death syndrome," which is prevalent on the property. Post Ranch Inn is involved in some experimental efforts to find treatments to this problem.

4.1.6 California Sycamore Woodland

This plant community appears on the west-facing scrub slope, and is dominated by western sycamore (*Platanus racemosa*). Other associated plants are present as described under Arroyo Willow Riparian Forest.

4.1.7 Redwood Forest

This habitat is dominated by coast redwood (*Sequoia sempervirens*). Other trees which are present here are big-leaf maple (*Acer macrophyllum*), tan-oak (*Lithocarpus densiflora*), and California laurel (*Umbellularia californica*). Understory plants include common sword fern (*Polystichum munitum*), Dudley sword fern (*P. dudleyi*), California wood fern (*Dryopteris californica*), false Solomon's seal (*Smilacina racemosa*), pink star-flower (*Trientalis latifolia*), western wake-robin (*Trillium ovatum*), thimbleberry (*Rubus parviflora*), fairy bells (*Disporum hookeri*), sweet-scented bedstraw (*Galium triflorum*), white-flowered hawkweed (*Hieracium albiflorum*), and Douglas' iris (*Iris douglasiana*). This community is considered rare by CDFG. Coast redwoods on the property have been

used for roosting by California condors (*Gymnogyps californianus*), a bird which is both state- and federally-listed endangered.

4.1.8 Coyote Brush Scrub

The dominant plant in this community is coyote brush (*Baccharis pilularis*). Other shrubs are often present, such as California sagebrush (*Artemisia californica*), blue-blossom (*Ceanothus thyrsiflorus*), northern sticky monkey-flower (*Mimulus aurantiacus*), California coffeeberry (*Rhamnus californica*), and poison oak (*Toxicodendron diversilobum*). Herbaceous species which are present include common California aster (*Aster chilensis*), yerba buena (*Satureja chamissonis*), leafy bentgrass (*Agrostis pallens*), California everlasting (*Gnaphalium californicum*), amole (*Chlorogalum pomeridianum*), and coast figwort (*Scrophularia californica* ssp. *californica*).

4.1.9 California Sagebrush Scrub

The dominant plant is California sagebrush (*Artemisia californica*). Black sage (*Salvia mellifera*) is usually present in a lesser quantity, as well as shrubs and/or subshrubs including California fuchsia (*Epilobium canum*), golden yarrow (*Eriophyllum confertiflorum*), sawtooth goldenbush (*Hazardia squarrosa*), toyon (*Heteromeles arbutifolia*), California-aster (*Lessingia filaginifolia* var. *filaginifolia*), northern sticky monkey-flower (*Mimulus aurantiacus*), and seacliff buckwheat (*Eriogonum parvifolium*). Seacliff buckwheat is a food plant of the federally-listed endangered SBB, and occurrences of this plant within the California sagebrush scrub community are mapped separately. Herbaceous species include California everlasting (*Gnaphalium californicum*), common Indian paint-brush (*Castilleja affinis*), Indian thistle (*Cirsium brevistylum*), hairy golden aster (*Heterotheca sessiliflora* var. *sessiliflora*), star lily (*Zigadenus fremontii*), and giant wild rye (*Leymus condensatus*).

4.1.10 Coastal Terrace Prairie

Co-dominants are purple needlegrass (*Nassella pulchra*) and foothill needlegrass (*N. lepida*). Other native grasses which are present include meadow barley (*Hordeum brachyantherum* ssp. *brachyantherum*), California oatgrass (*Danthonia californica* var. *californica*) and red fescue (*Festuca rubra*). Other herbaceous plants include golden brodiaea (*Triteleia ixioides*), large-flowered agoseris (*Agoseris grandiflora*), Davy's centaury (*Centaurium davyi*), amole (*Chlorogalum pomeridianum*), rattlesnake weed (*Daucus pusillus*), California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californicus*), and blue-eyed grass (*Sisyrinchium bellum*). A grindelia, which may be *Grindelia camporum* var. *bracteosum*, is present in this community. This plant is not otherwise known from Monterey County, and confirmation of this identification is pending. Also found in this habitat were many specimens of wine-cup clarkia (*Clarkia purpurea* ssp. *purpurea*), a taxon once considered extinct (Brian LeNeve, personal communication). These plants are confined to a single area of Coastal Terrace Prairie, which is mapped. Although not listed by the California Native Plant Society, wine-cup clarkia should be considered sensitive. The Coastal Terrace Prairie community is highly threatened by the invasive French broom.

4.1.11 California Oatgrass Bunchgrass Grassland

This grassland community is dominated by California oatgrass (*Danthonia californica* var. *californica*). Other native perennial grasses which are present include purple needlegrass (*Nassella pulchra*), foothill needlegrass (*N. lepida*), and red fescue (*Festuca rubra*). Exotic annual grasses are also present, together with a number of exotic forbs (as described under California Annual Grassland). Star lily (*Zigadenus fremontii*), rattlesnake weed (*Daucus pusillus*), and slender fescue (*Vulpia octoflora* var. *octoflora*) are also commonly found here. This habitat is considered rare by CDFG, and is highly threatened by French broom.

4.1.12 California Annual Grassland

Annual grassland consists primarily of exotic species, especially slender oat (*Avena barbata*), soft brome (*Bromus hordaceus*) and Italian rye (*Lolium multiflorum*). Many exotic forbs are also present, such as filarees (*Erodium* spp.), clovers (*Trifolium* spp.), milk thistle (*Silybum marianum*), Italian thistle (*Carduus pycnocephalus*), summer mustard (*Hirschfeldia incana*), and curly dock (*Rumex crispus*). Native forbs include dove weed (*Eremocarpus setigerus*), everlastings (*Gnaphalium* spp.), Spanish clover (*Lotus purshianus*), vinegar weed (*Trichostema lanceolatum*), and slender madia (*Madia gracilis*). In some areas, especially south of the pond, this habitat is moist enough to support patchy stands of spreading rush (*Juncus patens*) and brown-headed rush (*J. phaeocephalus* var. *phaeocephalus*). Seacliff buckwheat (*Eriogonum parvifolium*), food plant of the SBB, is present where this habitat adjoins California Sagebrush Scrub, and occurrences of this plant are mapped. This community is also highly endangered by the spread of French broom.

4.1.13 Invasives and Disturbed Areas

The most prevalent invasive plant at the Post Ranch Inn is French broom (*Genista monspessulana*), an exotic shrub. This is an aggressively-spreading plant, which has the potential to overtake grassland habitats throughout the property. Post Ranch Inn personnel have made a concerted effort to remove broom from most areas of the property over the last 10 years. However, long seed viability will require future efforts. No other taxa are associated with this plant community. Other disturbed areas at the Inn include landscaping, the orchard, paved roads, and a small landslide.

4.2 COVERED SPECIES: SMITH'S BLUE BUTTERFLY (SBB)

The invertebrate species addressed in this HCP and requested for coverage in its associated Section 10(a) (1) (B) permit (hereinafter referred to as covered species) is one federally-listed insect, the SBB, which is known to inhabit the site and may be affected by the project. A discussion of the biology of this species and its occurrence on the project site follows.

4.2.1 Conservation Status

SBB is a federally-listed endangered species. Throughout most of its range, the primary threat to the butterfly is urbanization. In a few instances, other types of land uses, such as overgrazing, recreational activities, mining, and development in park lands, have also threatened the butterfly. For these reasons, the butterfly was recognized as an endangered species by the

U.S. Fish & Wildlife Service in 1976. Critical habitat was proposed (U.S. Fish & Wildlife Service (1976) but never finalized. A recovery plan was published by the U.S. Fish & Wildlife Service (1984). Although the recovery plan mentions other populations in the greater Big Sur area, the Post Ranch Inn is not specifically mentioned as the occurrence of the butterfly there was not known at that time.

The State of California does not recognize insects as endangered or threatened species. However, the International Union for the Conservation of Nature (1996) recognizes SBB as endangered.

4.2.2 Description and Taxonomy

SBB is a small lycaenid butterfly (Insecta: Lepidoptera: Lycaenidae), whose adult wingspan measures about one inch. Larvae are slug-shaped and vary in color from cream to pale yellow or rose, to match the buckwheat flowerheads on which they feed.

The butterfly was originally described in the genus *Philotes* by Mattoni (1954), and referred to as *Philotes enoptes smithi*. Shields (1975) realigned several genera of blues, resulting in the placement of the species *enoptes* in the genus *Shijimiaeoides*. Thus, the scientific name of SBB, when it was first recognized as an endangered species (U.S. Fish & Wildlife Service 1976), was *Shijimiaeoides enoptes smithi*. Mattoni (1977) subsequently made a number of nomenclatural rearrangements in several genera of the blue butterfly tribe Scolititandini, which resulted in the placement of *enoptes* in the genus *Euphilotes*. Today, SBB is now known scientifically by the name *Euphilotes enoptes smithi*; however, all of these names may be encountered in the literature.

SBB is one of eight described subspecies of *Euphilotes enoptes*, which ranges from throughout California and Nevada (Langston 1969; Miller and Brown 1981; Pratt and Emmel 1998). All of the subspecies of *E. enoptes* are closely associated with their larval (i.e., caterpillar) and adult food plants, different species of buckwheat (*Eriogonum*: Polygonaceae). Generally, each subspecies is restricted to one or a few closely-related species of *Eriogonum*.

Populations of SBB can be distinguished from other infraspecific taxa of *Euphilotes enoptes* by the following morphological characters:

1) the wide marginal band on the dorsal forewings of males;
2) the faint terminal line on the underside of both wings;
3) the prominent checkering of the forewing fringe on both dorsal and ventral facies; and
4) a light underside with large, prominent macules.

Color illustrations of the adult and larval stages are presented in Arnold (1983a). Other illustrations of the adult butterfly can be found in Arnold (1983b), U.S. Fish & Wildlife Service (1984), Howe (1975), Scott (1986), Steinhardt (1990), Lowe *et al*. (1990), and Thelander and Crabtree (1994).

Mattoni (1954) described *Euphilotes enoptes smithi* from specimens that he and Claude Smith collected at Burns Creek, near California State Highway 1, in Monterey County in 1948.

Two colonies, in the vicinity of Big Sur, were known at the time of its description. Langston (1963, 1965) noted the occurrence of several additional colonies, in particular the sand dune inhabiting populations that occur north of Ft. Ord. More recently, additional populations have been found on dunes south of Ft. Ord (Arnold 1983b and 1986), along the Big Sur coastline (Arnold 1986, 1994, 2002; Kellner 1989; Norman 1994), in the Carmel Valley at Garland Ranch Regional Park (Walsh 1975; Arnold 1991a), and in the Santa Lucia Mountains at Rancho San Carlos (Arnold 1991b). Other inland populations have been reported from Laureles Grade, Paraiso Springs, Cone Peak, and the Hastings Reservation operated by the University of California (Arnold 1983a; U.S. Fish & Wildlife Service 1984).

4.2.3 Distribution and Habitats

Between Monterey and southern Santa Cruz County, *smithi* is found on coastal sand dunes in association with coast buckwheat (*Eriogonum latifolium*), although recent studies by Pratt and Emmel (1998) suggest that these populations should be referred to as *E. enoptes arenicola*. From the southern portion of Fort Ord to Monterey, there are several sand dune-inhabiting populations that occur in association with seacliff (also commonly known as dune) buckwheat (*Eriogonum parvifolium*). South of Monterey, between Point Lobos and San Carpoforo Creek in San Luis Obispo County line, *smithi* is found at several dozen locations in the Santa Lucia Mountains and along the immediate coastline where there is coastal sage scrub, cliff chaparral, or grassland habitats and *E. parvifolium*. Inland populations of the butterfly, such as those occurring in the Carmel River Valley, are also primarily associated with coastal sage scrub and cliff chaparral habitats, and feed on *E. parvifolium*. At some interior locations, adults of the SBB have also been observed nectaring on naked buckwheat (*E. nudum*), but it is not known if larvae feed on this buckwheat (Arnold 1991b). Recent surveys by R. Arnold in 2003 have found new populations of *E. parvifolium* and SBB in national forest lands on the Big Sur coast and at Palo Corona Ranch near Carmel Highlands. Although it is suspected that *E. parvifolium* is well distributed in the region, large portions of Monterey Bay and the Big Sur coast have not been surveyed.

4.2.4 Natural History

SBB is univoltine, i.e., it has only one generation per year. Adult emergence and seasonal activity is synchronized with the blooming period of the particular buckwheat used at a given site. At a particular location, adults are active for about four to eight weeks, but the adult activity period and duration can vary dramatically from year-to-year and from one location to another.

Individual adult males and females live approximately one week, and both sexes spend the majority of their time on *Eriognonum* flowerheads (Arnold 1983a, 1983b, and 1986). There they perch, bask (i.e., thermoregulate), forage for nectar, search for mates, copulate, and lay their eggs. Females lay single eggs on the buckwheat flowers. Larvae hatch in about one week and begin feeding in the buckwheat flowerheads. Young larvae feed on the pollen and developing flower parts, while older larvae feed on the seeds. Older larvae are tended by ants, which may provide some protection from parasites and predators. Upon maturing in about one month, the larvae pupate in the flowerheads or in the leaf litter and sand at the base of the buckwheat plant. Pupae that form in the flowerheads later drop to the ground.

Dispersal data from capture-recapture studies (Arnold 1983b and 1986) indicate that most adults are quite sedentary, with home ranges no more than a few acres. However, a small percentage of adults disperse farther and exhibited home ranges between 20-30 acres (Arnold 1986).

All populations of the three buckwheat food plants, within the range of SBB, are not always used by the butterfly at a particular point in time. Lycaenids that feed on *Eriogonum* flowers favor mature, robust individuals of the perennial buckwheats because they produce more flowers (Arnold 1983a and 1983b; Arnold and Goins 1987; Arnold 1990). Thus, buckwheat stands that consist of younger or older, senescent individuals, which produce fewer flowers, may not be visited by the butterfly until these plants mature or are augmented by robust, flowering specimens.

Among butterflies, it is somewhat unusual for both the adult and larval stages to feed only on one plant, and, in particular, only on just the flowers. Most butterflies feed as caterpillars on one or a few closely-related plants, and then as adults obtain nectar from flowers that are generally unrelated to what the caterpillars fed on. Because of SBB's dual dependency on the flowers of its buckwheat food plants, it is more susceptible to habitat degradation. Although it is more extinction prone because of its total dependence upon the flowers of buckwheats, conservation efforts are greatly simplified because resource managers only need worry about a single plant rather than several plants to maintain this endangered butterfly.

4.2.5 Occurrence at the Project Site and Vicinity

A single adult of the endangered SBB was observed at the Post Ranch Inn, on the west-facing slope below the Sierra Mar restaurant, on July 22, 2000 by Richard A. Arnold and Jeff Norman (Arnold 2000). Arnold (pers. observ.) saw another adult of SBB at the same location on August 13, 2001. Due to the abundance of *E. parvifolium* in association with the California sagebrush scrub and annual grassland habitats at the site, the butterfly population is likely to be robust. A brief survey of nearby, accessible properties revealed that *E. parvifolium* is patchily distributed, but locally abundant, so this is probably not an isolated population of SBB. A copy of Arnold's (2000) survey report on SBB is attached as Appendix A.

4.3 COVERED SPECIES: CALIFORNIA RED-LEGGED FROG (CRLF)

The vertebrate species addressed in this HCP and requested for coverage in its associated Section 10(a) (1) (B) permit (hereinafter referred to as covered species) is one federally-listed amphibian, the CRLF, which is known to inhabit the site and may be affected by the project. A discussion of the biology of this species and its occurrence on the project site follows.

4.3.1. Conservation Status

The CRLF is a federally-listed threatened species. Throughout most of its range, the primary threat to the CRLF is habitat conversion for agriculture and urbanization. Other threats include water degradation and diversions, mining, timber harvest, recreation, and invasion by nonnative plants and exotic predators (U.S. Fish & Wildlife Service 2000). It is estimated that the CRLF has disappeared from approximately 75% of its former range and has been extirpated

or nearly extirpated from the Central Valley, Sierra Nevada and much of southern California south of Ventura County (Miller, *et. al.* 1996; U.S. Fish & Wildlife Service 2000).

In June 1996 the CRLF was listed as threatened and provided protection under the Endangered Species Act (ESA). ESA protection applies to both public agencies and private applicants with project proposals or ongoing activities that have the potential to affect CRLF. A draft recovery plan was circulated in May 2000 (U.S. Fish & Wildlife Service 2000). The Service published a final plan on May 28, 2002. The U.S. Fish & Wildlife Service proposed critical habitat on September 11, 2000 (McCasland and Twedt 2000), and then published a final designation on March 13, 2001. The designation defined land considered most important to the species' long-term survival. The project site is within the Little Sur/Big Sur Watersheds "Core Area" for focused recovery efforts in the Draft Recovery Plan (U.S. Fish & Wildlife Service 2000), but is not situated within critical habitat. On November 6, 2002, a Federal judge vacated the critical habitat designation and remanded the issue back to the Service to redesignate. The Service proposed re-designation of critical habitat on April 13, 2004, and extended the public comment period on June 14, 2004.

The State of California lists the CRLF as a Species of Special Concern. The species is therefore afforded protection under the California Environmental Quality Act (CEQA). Since the ESA affords the animal greater protection, the Service is usually the lead agency responsible for providing guidance to avoid or minimize adverse effects to the CRLF.

4.3.2. Description and Taxonomy

The California red-legged frog (*Rana aurora draytonii*; Amphibia: Anura: Ranidae) is the largest native frog in California, and can grow to 138 mm (5.4 inches) in length (from nose to vent). Adult females are larger on average than adult males. Coloration is highly variable throughout the species' range. The body is generally brownish or reddish with dark spots on the back. The undersides of the legs are usually red or salmon-colored, although the amount of coloration varies greatly. A prominent ridge (dorsolateral fold) runs from behind each eye along the back. Tadpoles, which range in size from 14 to 80 mm (0.6 – 3.1 inches) depending on developmental stage, are generally dark brown or olive with two lines of faint, gold spots that become the dorsolateral folds (Storer 1925; U.S. Fish & Wildlife Service 2000).

Currently, there are two recognized subspecies of red-legged frog. The northern subspecies (*R. a. aurora*) ranges from Sonoma County along the Coast Range north to British Columbia, while the California subspecies (*R. a. draytonii*) ranges from Sonoma County east to localized areas in the Sierra and south along the Coast Range into Baja California. Some populations in northern Marin and Sonoma County exhibit intergradational characteristics of both subspecies. The northern red-legged frog differs from the California subspecies in a number of physical, biochemical and behavioral characteristics. The northern subspecies is smaller, vocalizes from beneath the water surface rather than in the air, and lays its eggs submerged rather than in contact with the water surface (Hayes and Miyamoto 1984). The two forms also demonstrate genetic differentiation. Preliminary evidence indicates that individuals in southern California have unique genetic characteristics and may represent a third subspecies for *R. aurora*.

4.3.3. Distribution and Habitats

The CRLF historically occupied much of central and southern California from the coast through the Central Valley to the western slopes of the Sierra Nevada and south into Baja California. Currently, it ranges from northern Marin and southern Sonoma Counties, where it may intergrade with the northern red-legged frog, and south along the Coast Range to Ventura County. The species appears to have been extirpated from the Central Valley and is only known from 2 or 3 sites in the Sierra Nevada (Miller, *et al*. 1996). It has nearly been extirpated from southern California south of the Ventura County.

The CRLF inhabits a variety of habitats including non-native grassland, oak savanna, oak woodland and coniferous forest. At many locations, use of these habitats varies seasonally. It requires ponds, slow-moving streams or marshes as breeding habitat during the late winter and early spring. At perennial water bodies, it may reside year round, although portions of the population tend to disperse after the breeding season and in response to receding water. Summer habitat includes intermittent or perennial streams and rivers, seasonal water bodies, man-made impoundments, spring boxes and other moist habitats.

4.3.4. Natural History

The CRLF requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submergent or emergent vegetation. Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Radio-telemetry data indicates that adults engage in straight-line movements irrespective of riparian corridors or topography, and they may move up to two miles between non-breeding and breeding sites (Bulger et.al. 2003). Adults generally inhabit aquatic habitats with riparian vegetation, overhanging banks or plunge pools for cover, especially during the breeding season (Hayes and Jennings 1988). They may take refuge in small mammal burrows, leaf litter or other moist areas during periods of inactivity or to avoid desiccation (Rathbun *et al.* 1993; Jennings and Hayes 1994). CRLFs may move up to 300 feet from aquatic habitats into surrounding uplands, especially following rains, when individuals may spend days or weeks in upland habitats (Bulger et.al. 2003). Eggs require 6 to 12 days before hatching and metamorphosis generally occurs 3.5 to 7 months after hatching, although larvae are capable of over-wintering. Following metamorphosis, generally between July and September, juveniles are 25-35 mm in size. Movements and habitat associations of juveniles are poorly understood.

During the non-breeding season, a wider variety of aquatic habitats are used by CRLFs, including small pools in coastal streams, springs, water traps and other temporary water bodies. Occurrence of this frog has been shown to be negatively correlated with presence of non-native bullfrogs (Moyle 1973; Hayes & Jennings 1986, 1988), although both species are able to persist at certain locations, particularly in the coastal zone (M. Allaback, pers. obser.). Common predators include raccoons, garter snakes, herons and certain raptors.

4.3.5. Occurrence at the Project Site

Jeff Norman observed CRLF at the permanent pond in June-August 2000. During a site visit on August 24, 2000, Service biologists David Pereksta and Diane Pratt, and others observed CRLFs at the pond. A reconnaissance-level survey in September 2000 confirmed that the pond is the only potential breeding habitat for the species on the property. It is suspected that the

species will also use the constructed wetland area whenever it holds water. Post Creek is the closest other permanent water source, and is located approximately 0.25 mile off-site to the east.

A focused survey was performed at the pond in September 2002 following the Service's guidelines (U.S. Fish & Wildlife Service 1997) in order to census individuals by size-class and determine if bullfrogs (*Rana catesbeiana*) were present (Table 4). A report (Allaback 2000) detailing the results of this survey area is attached as Appendix B. In October 2000, as many as 17 adult and 46 juvenile CRLFs were observed, and up to four adult bullfrogs were seen.

Table 4. Results of California red-legged frog surveys at Post Ranch Inn

Survey Date	Ad/Sub CRLF	Metamorph CRLF	CRLF tadpoles	Ad/Sub Bull. (Obs/Removed)	Metamorph Bullfrog	Unidentified Ranid
9/28/2000 (day)	4	0	NS	2	0	2
10/2/00 (day)	4	4	NS	0	0	21
10/2/00 (night)	15	36	NS	4	0	24
10/17/00 (night)	17	46	NS	2	0	20
6/5/01 (day)	0	0	8	0	0	0
6/5/01 (night)	30	0	0	4	0	44
8/13/01 (day)	2	148[1]	0	1	0	0
9/21/01 (day)	0	273	0	0	800-1000	0
10/23/01 (day)	0	>500[2]	NS	5	>800	0
10/23/01 (night)	19	NS	NS	6	NS	2
2/27/02 (day)	17	0	NS	2	~2200	0
2/27/02 (night)	37	0	0	2	NS	0
3/27/02 (night)	26	0	0	3	NS	0
8/19/02 (day)	5	4	NS	3000-5000[3]	-	0
8/19/02 (night)	17	22	NS	963 removed	-	0
8/27/02 (day)	NS	NS	NS	5200	-	0
8/27/02 (night)	11	30	NS	1186 removed	-	0
9/5/02 (day)	NS	NS	NS	4000	-	0
9/5/02 (night)	23	21	NS	1227 removed	-	0
4/22/03 (d/n)	10	0	1	> 500; 113 rem.	-	0
6/18/03 (d/n)	16	0	NS	342; 111 rem.	-	0
7/29/03 (night)	20	0	NS	>200; 98 rem	-	0
8/26/03 (night)	40	0	0	80 removed	0 tadpoles	0
9/30/03 (d/n)	25	0	0	56 removed	0 tad on 9/11	0
10/21/03 (night)	0	0	NS	24 removed	-	0
11/4/03 (night)	5	0	0	1 removed	-	0
3/30/04 (night)	13	0	0	8; 1 rem.	-	4
5/25/04 (d/n)	40	0	0	20; 10 rem.	0 tadpoles	0
7/1/04 (night)	52	0	0	6; 1 removed	-	0
8/11/04 (day)	~ 2	0	1	0	0 tadpoles	0
9/20/04 (night)	22	0	0	10; 9 removed	-	0
10/6/04 (night)	37	0	0	1; 1 removed	-	0
11/4/04 (night)	1	0	0	0	-	1

[1] Portion of pond surveyed
[2] Estimate of entire pond
[3] Included survey of the island

These data indicate that the pond is a breeding site for CRLF, and therefore represents a significant resource to the localized population in the area. In 2001, winter surveys indicated that CRLFs were common and no more than 4 bullfrogs were seen. Aquatic surveys were difficult to perform due to dense, submergent vegetation, although CRLF tadpoles were detected in June 2001. However by September 2001, several hundred metamorphs of both species inhabited the pond. Since bullfrog tadpoles require at least one year to reach metamorphosis, it is likely that bullfrogs bred at the site for the first time during the summer months just prior to the start of this study in October 2000. Interviews with two knowledgeable local residents (Norman and Moffat) support this contention. The bullfrog has a competitive advantage over the CRLF, and can reduce and possibly eliminate the CRLF population over time.

In October 2002, with authorization from the Service and under a CRLF 10(a)(1)(B) permit, the pond was drained with a submersible pump into the wetland to the west and Post Creek tributary to the east. On October 30 and 31, 40 adult CRLF, 12 subadults, 2 metamorphs and 1 tadpole CRLF were relocated to the re-hydrated wetland west of the pond. The team also removed 3 adult, 99 subadult and 1,551 bullfrog tadpoles. On 11/5/02 and 11/6/02 another 7 bullfrog adults, 1,585 subadults and 477 bullfrog tadpoles were dispatched. Additional efforts were conducted on 11/19/02, 11/20/02 and 12/6/02 when an additional 326 bullfrog subadults were removed. Adult crayfish and mosquito fish were also removed during the Oct-Dec pond draining. Bullfrog removal efforts have been ongoing and additional bullfrogs were removed during 2003 and 2004 surveys (see Table 4 and Appendix B). With authorization from the Service, pond draining was again conducted in October 2005 to remove mosquito fish and crayfish. On October 27, November 3 and Nov. 16, 2,104 crayfish, 2,380 bullfrog tadpoles and unknown number of mosquito fish were removed from pond. Some crayfish remained after the Nov. 16 effort, but all mosquito fish and bullfrog tadpoles were eliminated from the pond.

4.3.6 Occurrence in the Site Vicinity

On October 2, 2000, State Park Ranger William D. Moffat was interviewed, since he is familiar with the area and the species. Mr. Moffat, an amateur herpetologist, observed CRLFs regularly at the Post Ranch Inn pond. During the wet season, he regularly observed CRLFs in the vicinity of the Big Sur River at Pfeiffer Big Sur State Park located about one mile north of the site. Other than these two areas, he was not aware of any other localities for the species in the area. He did not believe that any potential breeding habitat was present in Pfeiffer Big Sur State Park.

Based on a review of topographical maps, the only other ponds near the project site are located on the Rancho Grande private property approximately 1.25 miles southeast of the project site between Highway 1 and the ocean. On September 21, 2001, a daytime visit to this private ranch revealed the presence of 9 ponds, 3 of which were confirmed as breeding sites based on the presence of CRLF metamorphs. Although a focused field survey was not performed, interviews with an employee indicated that no bullfrogs have been seen at the private ranch over the last approximately 15 years**.** The US Forest Service has also documented breeding CRLF at Sycamore Canyon, approximately 2 miles WSW of the project site.

Post Creek, located offsite 0.25 mile to the east, flows into the Big Sur River at Pfeiffer Big Sur State Park approximately 1 mile north of the confluence with the Post Ranch Inn

unnamed tributary. Both of these watercourses likely provide important summer habitat for a portion of the CRLF population breeding at Post Ranch. The creeks contain pools during the summer and fall that could be inhabited by non-breeding and juvenile CRLFs. Based on aerial photos, potential non-breeding habitat also occurs to the southeast in Mule Canyon, Graves Canyon, and Castro Canyon, and to the northwest in Pfeiffer Gulch, although these locations were not visited. CRLFs may travel up to two miles or more between breeding and summering habitats, so it is expected that movements of individuals takes place during the winter throughout much of the property. It is likely that CRLFs use scrub and forest upland habitats, but not grassland areas except to transit through. Since the pond onsite is permanent, a significant percentage of the population may reside at or near the pond much of the year; however, a portion of the population, including metamorphs, are expected to disperse for a portion of the year.

5.0 IMPACTS AND ENVIRONMENTAL COMPLIANCE

5.1 IMPACT ASSESSMENT

This chapter describes direct and indirect impacts as well as the temporary and permanent impacts to the endangered Smith's blue butterfly and threatened California red-legged frog from the proposed covered activities described in Chapter 2. Implementation of the measures described in Chapter 7 is expected to minimize the potential for take of both species resulting from the proposed covered activities. The following discussion identifies temporary impacts associated with construction, construction and maintenance of fire breaks, exotic plant removal, and habitat management, as well as permanent impacts resulting from operation of the expanded facilities. Although most buckwheat food plants of SBB, as well as the pond and nearby upland areas inhabited by CRLF will be avoided by the proposed project, it is anticipated that increased human use of the area will result in both indirect and direct permanent impacts to these species.

5.1.1 Temporary Impacts

Most of the anticipated impacts of the proposed project will occur during grading of the impact area, installation of drainage and erosion control improvements, construction of the project, plus creation and maintenance of fire breaks. Impacts due to grading and building construction are considered permanent, but all other impacts are considered temporary since native revegetation will occur to offset such impacts. Lesser impacts are expected to occur outside of the impact area during the removal of invasive plants plus habitat restoration and enhancement activities (i.e seed collection and site preparation prior to revegetation). The remainder of this chapter identifies the specific activities that could result in impacts to SBB and CRLF, as well as their habitats. Table 3 enumerates the impacted acreages for each habitat type at the project site.

5.1.1.1 During Construction

Construction of the facilities described in Chapter 2 could affect SBB and CRLF if they enter the work area. In general, all life stages of SBB generally remain on or in close proximity to their buckwheat food plants. However, since some of the proposed new facilities would be constructed near the buckwheats growing on the west ridge portion of the site, adult butterflies could wander into the work area as they disperse. Construction activities in the immediate vicinity of the existing buckwheat plants will avoid the June 15th to September 15th flight season of the butterfly to minimize potential adverse impacts to SBB, unless a site visit by a qualified biologist determines that the butterfly's flight season has concluded at an earlier date. To the extent practical, a buffer of 300 ft. surrounding existing buckwheats will be established to protect them during construction activities. This buffer distance may be less if unsuitable habitat occurs nearer to existing buckwheats.

Similarly, CRLF typically restrict the majority of their movements to the proximity of aquatic habitats during the dry season. By scheduling construction activities during the dry season and siting major facilities more than 300 feet from the known breeding pond, most construction-related effects to CRLFs will be avoided. If construction takes place during the wet season, CRLFs could seek cover within a work area, under debris or under stockpiled supplies. CRLFs could become trapped in exposed trenches or foundation pits. If construction activities create a temporary pond or wet area, CRLFs may be attracted to that location. The primary areas

of concern for CRLF construction-related impacts are in the new central services and the pool/spa facilities. Both sites are more than 300 feet from the pond, although the proposed central services' facility is within 200 feet of the wetland area above the pond.

A single lane access road will be constructed to provide access to Parcel D. The new access road (Figure 5) has been located to avoid steep slopes, avoid impacts to an archaeological site, and provide adequate sight distance for traffic on the main Post Ranch Inn entrance road. The northerly 220-foot section of access road is within 300 feet of the east end of the pond, and will occupy 2640 ft^2 (0.061ac) of CRLF annual grassland upland habitat. The remainder of the road and a new proposed public parking and picnic area lies more than 300 feet away but within fall-winter dispersal distance of the pond. Grading, surfacing and use of the access road and picnic facilities during and after construction could impact CRLF foraging in the area or migrating to or from the pond. Construction will occur over a 4-5 day period and include scraping surface vegetation, and then applying four inches of aggregate base rock. The rock will then be compacted. The project wastewater facilities are also within 300 feet of the pond. Proposed improvements to these facilities will disturb an area of 712 ft^2 during construction; however, most facilities will be underground and will be revegetated after construction. New above-ground wastewater facilities will occupy 200 ft^2 (0.005 ac.). A total of 0.066 acre of CRLF upland habitat within 300 feet of the pond will be lost due to construction of wastewater and access road facilities. A total of 0.76 acre of upland dispersal habitat outside the 300' area will also be removed. Of this total, 0.216 acre is construction staging areas that would be restored to shrub and forest habitats after construction.

A potential indirect impact of the project is dust that is generated from grading activities, landscaping, and other construction-related activities. Dust will be controlled as necessary by watering down to minimize any adverse impacts on the life stages of the butterfly or its buckwheat food plant.

Grading, development, and installation of drainage and erosion control improvements within the SBB impact area, will result in the removal of approximately 0.355 acres of California sagebrush scrub and California annual grassland habitats, including approximately 0.001 acre of California sagebrush scrub with buckwheat plants. In a worst case scenario, these activities will also result in the direct removal of an estimated 15 *E. parvifolium* plants, which support an unknown number of the endangered SBB. The steep slopes on which many of these plants grow will limit the number of plants actually removed to prevent erosion.

The 15 potentially-impacted buckwheats during construction represent approximately 0.75% of the estimated 2000 buckwheats resident on the entire 91.98-acre project site. This estimate of the number of potentially-impacted buckwheats is probably high as it includes all size classes of buckwheat, some of which have not matured to flowering or produce few flowers. The estimated total number of seacliff buckwheat plants on site is conservative as the steep lower slopes on the west ridge could not be surveyed.

Most of the patches of *E. parvifolium* located in the remaining undeveloped portions of the site will be unaffected by the project and will continue to provide habitat for the butterfly at the project site during the grading and construction. Since the majority of grading activities are

proposed to occur in the spring months before the butterfly's activity period or in the fall months after the butterfly's activity period, the potential for collisions with vehicles and equipment is greatly reduced.

Since all construction vehicles must use the access road adjacent to the pond, CRLFs could be injured or killed as a result. Although CRLF movement will most likely occur during rainy nighttime hours when construction vehicles are not likely to be using area roads, take could occur during early morning hours and/or when upland areas are moist.

There is no construction planned at the pond, except that which may be implemented to make the pond easier to drain for invasive species removal, as discussed in sections 5.1.1.2 and 7.8.5. Other than the Parcel D access road and proposed wastewater facilities, no construction is planned in upland habitats within 300 feet of the pond where CRLFs could seek refuge. Similarly, no construction is planned within other wetlands on the property. CRLF can also disperse and seek refuge in areas beyond 300 feet where frogs could be impacted by construction activities.

5.1.1.2 During Habitat Management

Habitat management activities, as detailed in Chapter 7.8, could result in impacts to SBB and CRLF. For example, as many as 10 seacliff buckwheat plants/ yr. or 100 total during the 20-year period, may be lost outside of the project's impact area as invasive plants are removed, during fire clearance for other inn units, and during implementation of habitat restoration and enhancement activities. Procedures are in place for staff to recognize and avoid buckwheat plants during mowing for fire clearance and exotic species removal. These include detailed instruction on seacliff buckwheat identification, and mowing or other removal methods to avoid any damage to plants. Instruction is repeated for new employees. Therefore levels of incidental take should be less than 10 plants per year assumed for all management activities.

Hand-removal of invasive plant species and planting of native species at the pond could result in disturbance to resident CRLFs. The bullfrog control program could likewise result in harassment of CRLFs. Periodic draining of the pond will likely be necessary to remove bullfrogs and bullfrog tadpoles, as outlined in Control of Exotic Animals at Pond (Chapter 7.8.5). Bullfrogs, mosquito fish and crayfish have colonized the pond in recent years. This management action should benefit the localized CRLF population in the long term by reducing the relative abundance of non-native competitors and predators in the pond. However, this action would also result in temporary but unavoidable impacts to CRLF occurring in the pond. Pond draining will occur in the fall when lower numbers of CRLF (and few if any tadpoles) are expected to be present. Draining the pond would result in the temporary loss of aquatic habitat, forcing a large portion of the population to seek other shelter in nearby vegetation or mud cracks, or be manually relocated to nearby habitat by approved biologists. These individual CRLF could be exposed to predators and/or desiccation during this time. It is also possible that the process would affect developing tadpoles of CRLF, since some larvae may over-winter in breeding ponds. These actions will result in capture and relocation, and could result in injury, harassment or mortality to CRLF. When drained, if the pond is recontoured and additional pumps or drainages devises installed, additional harassment, injury or mortality of CRLF could occur in work areas.

All future routine maintenance and repair activities of the aforementioned improvements (inn units, fire clearance) are expected to occur within the impact area. Additional maintenance of facilities at the pond would occur outside the impact area. Depending upon the location of such activities, impacts to the SBB or CRLF could occur as part of these activities.

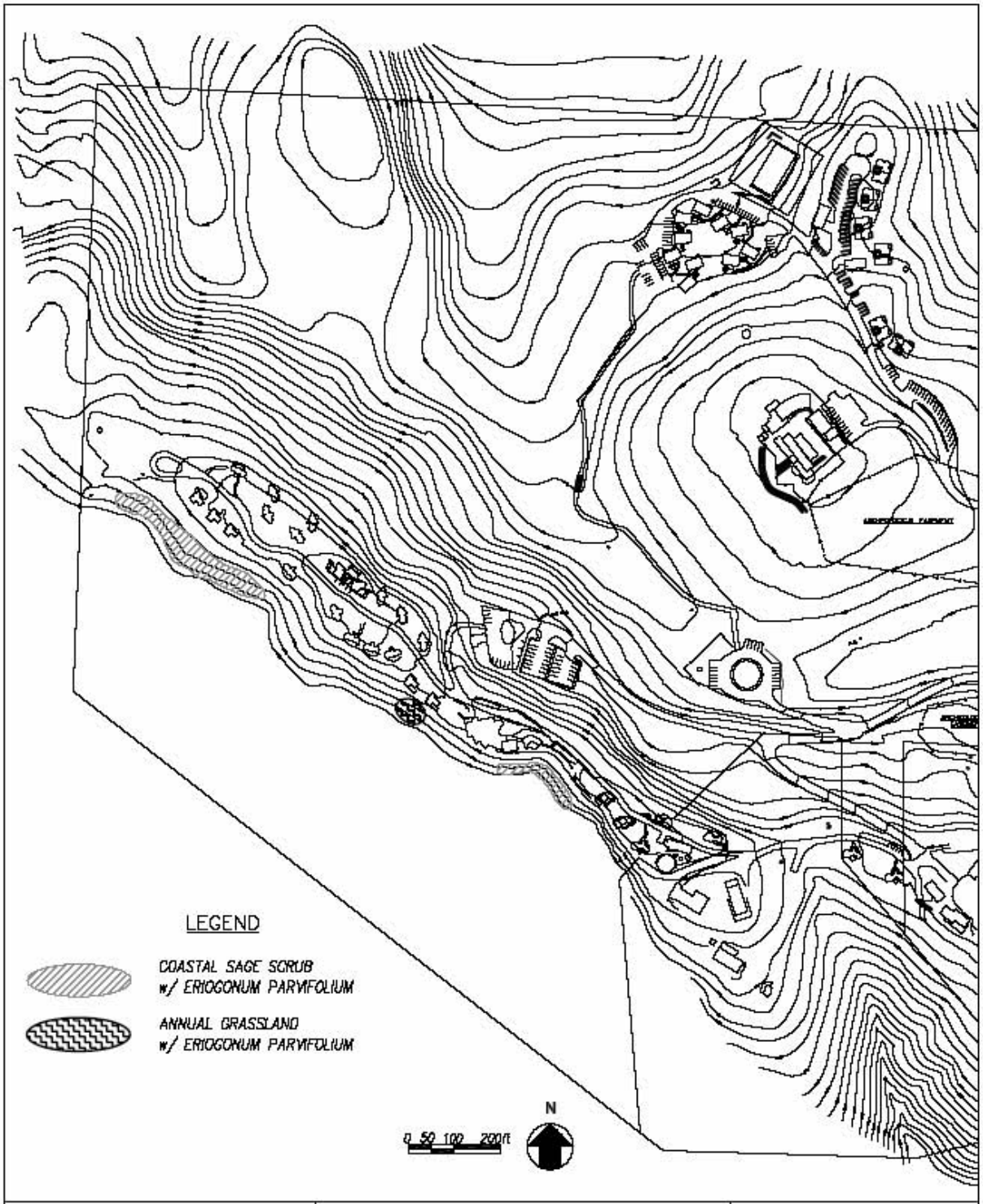
5.1.1.3 Impacts Due to Fire Clearance and Erosion

The California Department of Forestry & Fire Protection (CDF) will ultimately determine the fire clearance requirements for the planned new facilities. CDF has conducted a preliminary review and has determined due to extremely steep slopes and potential for erosion, a normal fire clearance zone will not be required. Fire clearance requirements depend on the type of construction materials used to build the structure, slope, the location of the proposed structure within the building envelope, and the presence of sensitive habitat on site. In other parts of Big Sur, CDF has allowed no clearance, allowed less than 30 feet, provided for avoidance of sensitive plant species, or retention of native plants on steep slopes in the 30-foot buffer. At this time, based on discussion with fire officials, it is anticipated that no fire clearance will be necessary other than possible removal of coyote brush within the fire clearance area, and that no activity would occur beyond 30 feet. In the unlikely event that CDF, in consultation with the consulting biologist, determines that the removal of seacliff buckwheat is necessary to protect a future inn unit or other facility, the biologist shall survey the affected area for seacliff buckwheat plants and return to the Service to amend this HCP and permit. Suitable revegetation and enhancement areas to accommodate these potential impacts are identified on Figure 10. Future maintenance and repair of erosion, drainage and erosion control facilities, removal of coyote brush for fire clearance, and necessary slope repairs could result in further impacts to SBB, CRLF, and their habitats outside of the identified impact area. If these efforts result in the removal of seacliff buckwheat plants, Post Ranch L.P. or its successor permittee shall mitigate these impacts in accordance with the procedures set forth in Chapter 9.1. These impacts will be limited to a cumulative maximum loss of 100 buckwheat plants or a maximum10 plants per year. If all 100 plants are lost this represents 5% of the total Post Ranch Inn estimated population.

To summarize, impacts to the SBB, CRLF, and their habitats will occur during the grading and the installation of various improvements to the covered area. As discussed in greater detail in Chapter 7.0 on Minimization and Mitigation Measures, the loss of up to 0.001 acres of California sagebrush scrub and California annual grassland habitats for SBB within the impact area will be offset by the restoration of 0.736 acres with seacliff buckwheats. Table 3 summarizes the existing and impacted acreages for each plant community at the project site. Table 5 summarizes protected and restored acreages for each community.

5.1.2 Permanent Impacts

At this time, most of the potential impacts to SBB and its habitat are considered to be temporary and can be adequately mitigated on site. The only permanent impacts to SBB that are expected to occur as a result of the proposed project at Post Ranch Inn are the grading and construction of the new ocean-facing guest units. In contrast, permanent impacts to the CRLF may occur and are discussed in greater detail in the remainder of this chapter.



HABITAT CONSERVATION PLAN FOR POST RANCH INN	SMITH'S BLUE BUTTERFLY RESTORATION AREAS	FIGURE 10 JUNE 2003

5.1.2.1 Loss of Upland Habitat

The expansion project will not result in development of upland habitat within 300 feet of the pond, except for a portion of the Parcel D access road and limited footprint for additional septic facilities near Central Services. The project will result in the loss of 0.826 acre of forest and scrub upland habitat on the 91.98-acre site that may be used by CRLF infrequently for temporary cover during breeding and dispersal movements. (It should be noted that although some development or roads are located under a forest canopy, no trees will be removed by the proposed project.) Of the 0.826 ac. lost, 0.216 acre is for construction staging areas that will be revegetated after construction. Based on radio telemetry data from other sites, straight-line movements between breeding and non-breeding habitats are anticipated (Bulger 1999). Given that there are no suitable freshwater habitats west of the ridge, CRLF are not expected to use uplands west of the current Post Ranch Inn reception office. Therefore, construction of the ocean and mountain-facing Inn units on the ridge will not result in the loss of upland habitat for CRLF. The pool/spa and central services' facilities are located in existing developed areas or within annual grassland, and are unlikely to be presently used by CRLFs, but may be within travel migration corridors. A portion of the proposed employee housing and related parking is located in the coyote brush scrub or at the edge of the coast live oak-redwood woodland. These project areas are 550 to 1000 feet from the pond, and although somewhat distant may be within movement corridors for CRLF.

5.1.2.2 Traffic Changes in Proximity to the Pond

The only access road to the existing and new facilities runs within 25 feet of the known breeding pond. The project will result in additional guests and staff, potentially increasing the number of vehicle trips on roads in close proximity to the pond. However as discussed in Section 2.1.3.4, implementation of a new shuttle system will result in a 35% overall decrease in the number of daily vehicle trips passing by the pond on the southerly side, and a 41% average decrease on the east access road to the employee housing. This decrease is from present before-project conditions. Nighttime traffic decreases should be even larger because these trips are primarily by employees that will use the shuttle (Higgins Associates, 2001). Because the greatest CRLF movement occurs during rainy nights, this mitigation will decrease the probability that CRLF could be injured or killed along the access road.

The project will result in a 12 % increase in the number staff and a 33% increase in number of guests, which will result in greater use of the walking path near the pond. Use of this trail could result in harassment, injury or mortality to CRLF. Guests or staff may attempt to capture CRLF or release exotic aquatic predators into the pond. These impacts can be reduced by installation of interpretive signs and implementation of a staff and public education program (see Section 7.5).

Traffic on the new Parcel D access road could also result in take of CRLF. New traffic generated by one home and use of picnic facilities is not expected to be large. Picnic facilities, as described in the Project Description, will be used occasionally but only during non-rainy daytime hours minimizing encounters with frogs.

5.1.2.3. Impacts from Existing Post Ranch Inn Operation

Post Ranch Inn was constructed in the early 1990's. The existing Inn operations may have had some impacts to SBB and CRLF. Impacts to SBB could have occurred during construction of the ocean-facing inn units and Sierra Mar restaurant. These activities may have removed seacliff buckwheat and/or caused take of SBB during construction. It is possible that SBB may have been adversely affected by vehicles or pedestrians traveling on the ridge access road. In addition, some seacliff buckwheat was probably removed in the 30' fire clearance zone west of the inn units, although it is not possible to determine whether mature plants capable of supporting SBB were removed. The maintenance crew has been given instructions to avoid buckwheat in the 30' fire zone and has been successful in adhering to this during mowing of the fire zone. CRLF may have been subject to take (disturbance, harassment, injury, mortality) by construction of roads and trails near the pond, vehicles and pedestrians traveling in proximity to the pond, and construction of other Post Ranch Inn facilities if these activities occurred during times CRLF were foraging away from the pond or during the CRLF upland migration periods. Other than road construction immediately south and east of the pond, construction activities were some distance from the pond and probably did not disturb frogs residing in the pond.

5.1.3. Permanent Indirect Impacts

The expansion project will result in a decrease in vehicle traffic, but an increase in pedestrians in proximity to the breeding pond. The growth in the size of the resident population at the employee housing area and the new residential parcel will result in an increase of indirect effects including an increase in the relative abundance of urban-tolerant predators such as raccoons and striped skunks, and predation by domestic animals.

5.2 Level of Incidental Take

Since there are no estimates of the numbers of SBBs that reside at the project site, it is not possible to quantify the exact number of individual animals that could be taken by the removal of its buckwheat food plant within the impact area. Also, since the numbers of seacliff buckwheats that will be removed have been estimated, the level of incidental take of SBB is expressed as the maximum number of buckwheat removed during construction (15 plants). Outside of the construction impact area, the incidental take permit will also authorize all such take of SBB as may occur as a result of the removal of up to 10 plants per year or 100 total *E. parvifolium* plants for habitat management.

The level of take of SBB at the Post Ranch Inn as described above is expected to have negligible effects on the butterfly's overall survival. This is because the actual number of animals incidentally taken will likely be low; the percentage of the species habitat relative to the species entire range is very small; and its relative importance to the species both regionally and range-wide is thought to be minor.

The number of CRLF that will be taken during the term of this HCP is difficult to reasonably estimate. The upland acres of CRLF frog habitat permanently and temporarily removed by the project are quantified in Tables 3 and 5, and include 0.221 acres of redwood and coast live oak forest and 0.139 acres of scrub. An additional 0.25 ac. of coyote brush scrub will be lost to fire clearance. This compares with 41.4 acres of forest and almost 21.8 acres of scrub remaining on the property. During construction, an additional 0.101 ac. and 0.115 ac. of forest and *Baccharis* shrub habitat, respectively would be affected. The construction period is

expected to occur over a 4-year period (beginning September 2004), and some construction is expected during the winter rain season. These temporary construction areas will be revegetated after the project construction. Grassland was not considered upland habitat although it would be habitat that frogs might migrate through to other uplands or wetlands. In an attempt to quantify migration habitat removed or affected by construction, 0.35 acres of annual grassland would be permanently removed by the project and 0.26 ac. will be affected during construction but revegetated. The forest and coyote brush scrub areas mentioned above, and other aquatic, scrub, grassland and orchard areas not affected by the project, could also provide migration habitat.

The primary source of CRLF mortality is likely to be road-kill in the immediate vicinity of the pond. The number will depend on a variety of factors including natural fluctuations in the population level due to environmental conditions. Successful implementation of mitigation measures may increase the number of CRLF present, and therefore the probability of take. However, implementation of the shuttle service will also reduce the main source of take associated with automobile traffic adjacent to the pond, by reducing traffic volumes over present pre-project levels. This avoidance measure will benefit CRLF. CRLF may also be subject to trampling by pedestrians using the 1.25 miles of trails at Post Ranch Inn. The greatest possibility of take would occur on the trail adjacent to the pond.

CRLF tadpoles and metamorphs may also be lost when the pond is drained to control bullfrogs. It is estimated that up to 10 tadpoles, 5 metamorphs and 0 adults may be lost during pond draining based on experience at Post Ranch Inn and another CRLF pond in San Mateo County. Draining will be performed in the fall after the majority of the tadpoles have transformed and just before the first rains of the winter season to greatly reduce take. However, CRLF, particularly metamorphs, are known to seek refuge in vegetation and cracks in mud and will be subject to injury, harassment or mortality during capture efforts. An unknown number of CRLF adults may also be harassed or lost following relocation during pond draining but the long-term benefit of providing a pond free of introduced bullfrogs and other exotic animals will provide a net benefit.

Automobiles using new access road to Parcel D could result in a low level of CRLF take due to road kill, although use of this road is expected to be very small. Winter rainy night use is expected to be negligible. The restoration of the turnout and parking area immediately southeast of the pond will reduce the potential for take in this area.

Considering all potential effects to CRLF, the net impact to the species from the expansion project is expected to be beneficial. Management actions undertaken to control bullfrogs, and revegetation of grasslands with native wetland, forest, and scrub species adjacent to the pond and on other parts of the site should also benefit the species.

5.3 ENVIRONMENTAL COMPLIANCE (Internal Sec. 7 Assessment)

The following information is provided to assist the Service in complying with consultation requirements of Section 7 of the ESA.

5.3.1 Direct and Indirect Effects

Direct and indirect impacts of the proposed project on the SBB, its buckwheat food plant, and its preferred habitat are expected to be minimal. Only 0.001 acres of California sagebrush scrub which support seacliff buckwheats, will be removed. As previously discussed in this HCP, the project site is situated in a region where neighboring and nearby parcels support extensive stands of California sagebrush scrub habitat, including seacliff buckwheats and SBB. Furthermore, this loss of habitat will be temporary, as the applicant will implement habitat restoration and enhancement measures to establish 0.736 acres of new, on-site habitat for the butterfly.

The Post Ranch Inn expansion project will result in direct and indirect impacts to CRLF. Although the pond and nearby upland areas inhabited by CRLF will be avoided, it is anticipated that increased human use of the area will result in both indirect and direct impacts to the species. 0.826 acre of CRLF upland forage and dispersal habitat will be lost to construction, fire clearance and construction staging (Table 5); however, 1.04 acres of forest and scrub upland habitat (including 0.216 ac. of construction staging) will be restored after construction. Additional grassland areas will be revegetated to forest and scrub under the proposed revegetation plan. Implementation of the measures described in Chapter 7 is expected to minimize the potential for take of CRLF resulting from proposed covered activities. The following impacts are anticipated from the project:

- Temporary impacts during construction
- Temporary impacts resulting from habitat management, including pond draining
- Permanent loss of upland habitat
- Traffic in proximity to pond
- Introduction of bullfrog or other non-native predators into the pond
- Permanent indirect impacts of increased use of area

5.3.2 Cumulative Effects

The cumulative effect from the proposed Post Ranch Inn expansion project, coupled with other projects or actions on the Big Sur coast is considered to be negligible. Past actions in the project vicinity have been limited to construction of a small number of single family residences in existing large lot residential subdivisions. There are no past, present or future residential or commercial projects of magnitude planned in the area. Furthermore, the Monterey County General Plan and Coastal Land Use Plan for the area have significant restrictions on new development (see Sections 2.3 and 3.5). Similarly, California State Parks and US Forest Service have no plans for development or actions for lands under their jurisdiction that could affect either SBB or CRLF.

Even though 0.001 acres of California sagebrush scrub with *Eriogonum parvifolium* habitat will be temporarily removed along with an unknown number of SBBs, these losses are

Table 5. Acreage estimates (existing, impacted, restored and protected), map codes, and conservation information for the plant communities at the Post Ranch Inn.					
Plant Community	**Map Code**	**Existing Acreage**	**Impacted Acreage** (Improvements, staging, fire)	**Restored Acreage[1]**	**Protected Acreage[2]**
Aquatic Habitats					
Freshwater Marsh	FM	0.249	0	0	0.18
Freshwater Pond	PW	0.537	0	0	0.537
Sedge Seep	SS	0.234	0	0	0.22
Aquatic Subtotal		**1.02**	**0**	**0**	**0.937**
Forest Habitats					
Arroyo Willow Riparian Forest	AW	0.067	0	0	0.067
Coast Live Oak Forest	CLOF	3.454	0.072	0.005	3.13
Ribes sericeum	RS	0.001	0	0	0
Coast Live Oak Forest with Coast Redwood	CLOF/RW	17.966	0.119	0.104	13.46
California Sycamore Woodland	CSW	0.021	0	0	0.021
Coast Redwood Forest	RF	19.918	0.13	0	9.07
Forests Subtotal		**41.427**	**0.321**	**0.109**	**25.748**
Scrub Habitats					
Coyote Brush Scrub	CBS	12.955	0.501	0.261	11.15
California Sagebrush Scrub	CSS	7.967	0.002	0	6.93
California Sagebrush Scrub with *Eriogonum parvifolium*	CSS/EP	0.882	0.001	0.67	0.949
Scrub Totals		**21.804**	**0.504**	**0.931**	**19.029**
Grassland Habitats					
Coastal Terrace Prairie	CTP	0.467	0	0	0.35
Coastal Terrace Prairie with *Clarkia purpurea* ssp. *purpurea*	CTP/CPP	0.0	0	0	0
California Oatgrass bunchgrassland	COB	2.038	0	0	0
California Annual Grassland	CAG	15.680	0.609	0.264	8.09
California Annual Grassland with *Eriogonum parvifolium*	CAG/EP	0.089	0	0.066	0.155
Grassland Total		**18.274**	**0.609**	**0.330**	**8.595**

Invasives and Disturbed Habitats					
Broom Scrub (*Genista*)	BS	0.016	0.	0.016	0.016
Landscaped Area, including structures, some roads, etc.)	LND	7.292	3.701	0	1.54
Orchard	Orchard	2.096	0	0	0.07
Slide	Slide	0.051	0	0	0
Invasives and Disturbed Subtotal		**9.455**	**3.701**	**0.016**	**1.626**
Grand Totals		**91.980**	**5.135**	**1.386**	**55.935**

[1] Restored Acreage includes areas restored for SBB habitat enhancement and from temporary construction impacts. It does not include all areas revegetated with native vegetation under the landscape plan.
[2] Protected Acreage includes all Post Ranch Inn lands with slopes $\geq$30%, in conservation easement, scenic easement and archaeological easement. Where protection categories overlap, acreage was counted only once.

not expected to affect the survival of the resident butterfly population or its food plant due to the occurrence and abundance of its food plant elsewhere on the project site and on several neighboring and nearby locations, as well as elsewhere throughout the SBB's entire geographic range. Furthermore, because the affected acreage will be replaced with 0.67 acres of restored California sagebrush scrub habitat and 0.066 acres of restored California annual grassland, there will be a large net gain in SBB habitat (i.e., acreage) as a result of this project.

There is potential for some loss of CRLF from project construction, traffic or other indirect effects that should not affect the survival of the CRLF population in the pond. In addition, project minimization measures (shuttle system) should reduce adverse affects to the CRLF population at the site. Other populations exist in central California coastal locations, and in the Big Sur area. These populations would not be affected by the proposed expansion project. Therefore, the project would not result in cumulative impacts to CRLF.

5.3.3 Effects on Critical Habitat

Although critical habitat was proposed (U.S. Fish & Wildlife Service 1976) for SBB, it was never finalized. Also, the Post Ranch Inn was not part of any proposed zones of critical habitat for the butterfly. Thus no areas of critical habitat for SBB will be affected by this project.

The U.S. Fish & Wildlife Service proposed critical habitat for CRLF on September 11, 2000 (McCasland and Twedt 2000), and then published a final designation on March 13, 2001. The designation defined land considered most important to the species' long-term survival. The Post Ranch Inn was not included in any of the critical habitat zones proposed for CRLF (McCasland and Twedt 2000). On November 6, 2002, a Federal judge vacated the critical habitat designation and remanded the issue back to the Service to redesignate. Critical habitat for CRLF was re-proposed on April 13, 2004 and the public comment period extended on June 14, 2004. The Post Ranch Inn site is not within proposed CRLF critical habitat.

6.0 TAKE OF THE COVERED SPECIES

These incidental take limits for SBB and CRLF are subject to full implementation of all minimization and mitigation measures described in Chapter 7.0. If any of these take limits are exceeded, Post Ranch Inn shall cease all construction and habitat management operations and the project's construction or biological monitor shall contact the Service immediately for further guidance.

6.1 SMITH'S BLUE BUTTERFLY

Incidental take of SBB will result from removal of approximately 0.001 acres of California sagebrush scrub with seacliff buckwheat and California annual grassland with seacliff buckwheat habitats on the project site within the impact area (< 15 buckwheat plants). In addition, butterfly eggs, larvae, pupae, or adults may be directly harmed during initial grading activities or by construction equipment and vehicles or indirectly by dust. An undetermined, but limited number (< 10) of buckwheat plants and life stages of SBB may be lost during habitat management activities, in particular, during the removal of non-native plants in other portions of the entire 91.98-acre project site.

The maximum levels of take of the SBB anticipated to occur under this HCP, and requested for coverage under a Section 10(a)(1)(B) permit, are as follows (Note: take limits for the Smith's blue butterfly are specified indirectly by the numbers of seacliff buckwheat plants):

1) any Smith's blue butterflies and seacliff buckwheat plants (≤10 plants) that may be associated with up to 0.001 acres of foraging and breeding habitat that will be removed by the project;
2) any Smith's blue butterflies and seacliff buckwheat plants (≤ 5 plants)that may be killed, harassed, harmed, or injured as a result of impacts by construction equipment or vehicles, activities related to construction, or dust; and
3) after completion of all construction activities, any Smith's blue butterflies and seacliff buckwheat plants that may be killed, harassed, harmed, or injured as a result of habitat restoration (including seed collection), habitat management, fire clearance, erosion control, or monitoring activities, i.e., ≤ 5 buckwheat plants per year (on average, but not to exceed 10 in any given year) throughout the remaining term of the incidental take permit, or not to exceed 100 buckwheat plants during the 20-year term of the permit.

To summarize, a maximum take limit of 15 seacliff buckwheat plants is proposed for the construction zone and construction-related impacts, while outside of the construction zone but elsewhere within the HCP boundaries, a maximum take limit of 10 buckwheat plants/year or a maximum of 100 buckwheats throughout the 20-year permit term may occur due to other activities such as removal of plants in fire clearance zone, removal of exotic plants, and other habitat management or restoration activities.

6.2 CALIFORNIA RED-LEGGED FROG

Incidental take of the CRLF is likely to occur as a result of construction of this project and on-going use of the Post Ranch Inn. Take may occur due to construction in 0.576 acre of upland habitat during the years 2006 to 2009; habitat management activities in 0.537 acre of aquatic habitat throughout the permit term; and, fire clearance and management activities on the remaining 0.25 acre of upland habitat throughout the permit term. Take could also occur due to use of 11,343 linear feet of roads and use of 6620 linear feet of trails at the Post Ranch Inn site. Implementation of the mitigation measures described in Chapter 7 is intended to address those impacts described in Chapter 5. Even with successful implementation of the mitigation program, there will be residual impacts following implementation of mitigation measures including take along the roadways as the result of traffic, and take resulting from mitigation measures themselves.

The maximum levels of take of CRLF anticipated to occur under this HCP, and requested for coverage under a Section 10(a)(1)(B) permit, are as follows:

1) any CRLFs that may be killed or injured as a result of impacts by activities related to construction, including construction vehicles, materials stockpiling, noise, vibration, etc.;
2) any CRLFs that may be killed or injured by vehicles operating on roads adjacent to or in close proximity to the pond; and
3) any CRLFs that may be killed, injured or harassed inadvertently by persons using trails or other Inn facilities; and
4) any CRLFs that may be captured, harassed, killed or injured during habitat management, including pond draining or other management measures to control bullfrog or exotic fish populations; and
5) any CRLFs that may be captured, harassed, killed or injured during recontouring and other pond improvements to facilitate future drainage.

7.0 MINIMIZATION AND MITIGATION MEASURES

The conservation strategies presented in this HCP will minimize the incidental take of individuals of SBB and CRLF during construction of the expansion project at Post Ranch Inn, increase the amount of habitat for SBB and improve and enhance habitat quality at the pond and nearby uplands to compensate for impacts to CRLF associated with increased use of the facilities after construction is complete. Habitat quality for CRLF will be enhanced by restoring pond wetland vegetation and nearby uplands, removing exotic vegetation and revegetating with native species, removing non-native bullfrogs, crayfish and mosquito fish, providing educational materials, and dedicating a portion of the property, including the pond, for preservation through a conservation easement. The remainder of this chapter discusses the measures that have been incorporated into the proposed project to minimize and mitigate potential incidental take of SBB and CRLF.

7.1 BIOLOGICAL MONITOR

A knowledgeable, experienced biologist, approved by the Service and named as an authorized individual under the incidental take permit, will be responsible for overseeing implementation of the construction and operational requirements designed to minimize impacts to SBB and CRLF during construction of the new facilities, and will ensure compliance with the mitigation measures provided in this HCP. The biological monitor shall be informed of the project starting date at least 7 days prior to the onset of construction. Duties of the biological monitor will include at least the following activities:

- provide training for all workers associated with the project to increase their awareness of SBB and CRLF and advise them of the precautions necessary to insure compliance with the incidental take permit;

- supervise the installation of temporary, protective fencing as required to protect sensitive species, habitat areas and native plants prior to clearing of vegetation;

- supervise grading and construction activities, including hand clearing of vegetation (gas-powered brush removers and chainsaws okay) prior to stripping of the surface soil layer, in portions of the work area supporting actual or potential habitat for SBB and CRLF;

- coordinate with project contractors and Post Ranch Inn representatives to develop a grading schedule; conduct the contractor education program and inspections of the project site during the initial grading period, and thereafter periodically visit the project site during construction to insure that no impacts occur in protected portions of the property;

- if a CRLF is found in any work area, the Service will be contacted to determine if more extensive monitoring is necessary; also, any CRLFs found within the work area will be relocated to the nearest suitable habitat and released and all such incidents will be reported in writing to the Service within five business days;

- the biological monitor shall have authority to stop immediately any activity that is not in compliance with this HCP, and to order any reasonable measure to avoid the take of an individual of SBB or CRLF.

7.2 DELINEATION OF IMPACT AREA

The project's impact or work area shall be restricted to the minimum amount necessary to perform the construction project as illustrated on Figure 5. Delineation of the work area shall be performed in consultation with the biological monitor. Work areas (i.e., grading, construction, laydown, equipment storage, parking areas, etc.) shall be enclosed in high-visibility construction fencing to avoid and minimize unnecessary disturbance to habitats of SBB and CRLF (including upland habitat for the CRLF). The protective construction fencing will remain in place until all construction activities are completed. Signs will be posted warning all grading and construction personnel not to proceed beyond the fence. The biological monitor shall regularly inspect the work area to ensure that all protective measures are being implemented.

All project-related parking and equipment storage shall be confined to the construction site (i.e., the impact area). Undisturbed areas shall not be used for parking or equipment storage.

7.3 CONSTRUCTION AND OPERATIONAL REQUIREMENTS

The following measures to minimize adverse effects to SBB and CRLF shall be performed during the construction phase of the project:

- Initial work involving surface-disturbing activities (e.g. grading, trenching) shall be performed during dry weather, although final fine grade adjustments may occur during wet months. Any vegetation removal or grading work in proximity to seacliff buckwheat should avoid the period of June 15 to September 15 (SBB flight season) unless otherwise authorized by the consulting biologist after review of SBB activity.

- The size of work areas, including parking and lay-down areas, will be minimized to the greatest extent possible.

- The parking area near the pond will not be used for construction vehicles or equipment storage. Revegetation of this area is discussed below.

- Prior to any construction for the expansion project or any pond management work, the biological monitor shall perform a daytime ground survey to search for CRLFs within the work areas. Immediately following the survey, vegetation and debris piles, if present, shall be removed using hand tools to a height of approximately 6-8 inches. Brushcutters and chain saws may be used, if necessary. The biological monitor will repeat the ground survey following initial vegetation removal. Following the above procedure, the remainder of the vegetation will be removed.

- Temporary fencing will be installed along the perimeter of the impact area, and construction vehicles and equipment will be excluded from the fenced protected portions of the property.

- Project-related vehicle traffic shall be restricted to established roads and the impact area. A speed limit of 10 miles per hour will be imposed on all construction vehicles.

- All food-related trash that could attract potential predators of CRLF shall be removed from the work site and disposed of daily.

- All fueling and maintenance of vehicles and other equipment will be conducted at least 300 feet from the pond.

- If a dead CRLF or SBB is found during construction, the biological monitor shall be contacted. The specimen will be photographed and its location mapped. The Service will be advised within five days in writing. If an injured CRLF or SBB is found on the project site, the Service shall be contacted immediately for additional guidance.

7.4 CONTRACTOR AND EMPLOYEE ORIENTATION

All employees and subcontractors involved with the construction project shall participate in an endangered species awareness program prior to beginning work onsite. The program shall be prepared by a qualified biologist and will be approved in advance by the Service. The program will present pertinent information about the biology of SBB and CRLF and the terms of the HCP. It will also inform all personnel, but especially equipment operators, of the grading limits and construction activity restrictions. There will also be a discussion of the appropriate protocol should the covered species be encountered during construction activities. In addition, printed reference materials and a signature sheet, which shall be submitted to the biological monitor and made available to the Service upon request, will be included. The printed material shall include information on SBB and CRLF biology and habitat requirements; their status under the Endangered Species Act; threats to the species onsite; and measures being taken for their protection under this HCP during the construction period. The biological monitor shall coordinate with the construction foreman to ensure that all personnel receive the appropriate written material, and sign the signature sheet to indicate that they understand the material.

During and after construction, employees of Post Ranch Inn shall participate in an annual training program that may be revised as necessary. The program shall consist of printed materials and will include a signature sheet that shall be submitted to the HCP Administrator. The training and training materials shall also be made available in Spanish. The program must be approved in advance by the Service. The printed material shall include information on SBB and CRLF biology and habitat requirements; their status under the Endangered Species Act; threats to the species onsite (including the danger of bullfrog or other exotic species introduction to the pond); and measures being taken for their protection under this HCP.

7.5. PUBLIC EDUCATION

Post Ranch Inn shall develop educational materials to be made available to its guests. These materials will include a brochure regarding SBB and CRLF in the Big Sur area, which may be adapted from the employee education program. The brochure will detail threats to SBB and CRLF onsite and measures that guests can take to reduce these threats. Strategically placed

interpretive signs shall also be placed to inform guests about SBB and CRLF biology, related butterflies and frogs at Post Ranch Inn, and the importance of buckwheat for SBB and the pond for frogs. Threats to the species, such as removal of seacliff buckwheat or introduction of bullfrogs and fishes into aquatic systems, shall be incorporated into informational materials. Graphics and text for the signs shall be prepared or reviewed by biologists familiar with SBB and CRLF life histories and habitat requirements.

Post Ranch Inn shall install a weatherproof informational kiosk at the pond to provide educational materials regarding the CRLF and SBB, as well as other interesting flora and fauna on site. In addition to providing natural history information, the kiosk will clarify the species' status under the Endangered Species Act and will clearly note that it is illegal to harass, capture or kill listed species.

7.6 ACCESS TO PROJECT SITE

Post Ranch L.P. shall allow representatives from the Service access to the project site to monitor compliance with the terms and conditions of this HCP.

7.7 HABITAT PROTECTION

Habitat protection is necessary both during construction of the planned project and in perpetuity. The next two sections discuss protective measures for both of these periods.

7.7.1 During Construction

The work area shall be restricted to the minimum amount necessary to perform the construction project. As deemed necessary by the biological monitor, work areas shall be enclosed with construction fencing to minimize unnecessary disturbance to habitats for SBB and CRLF (including upland habitat). Signs will be placed on the fence at locations within 15 feet of the grading footprint, informing operators of the grading equipment of the presence of an endangered species. Signs will include the following language, or something similar as approved by the Service:

"NOTICE: SENSITIVE HABITAT AREA. ACCESS PROHIBITED."

The biological monitor shall regularly inspect the integrity of the fence and surrounding land to ensure that no habitat has been unnecessarily affected. Any changes to the work area must be pre-approved by the biological monitor and by the Service if they occur in habitats for SBB or CRLF. During inspections, the biological monitor shall ensure that all construction and operational requirements are being met.

All construction personnel will complete the worker educational program prior to working at the project site. The purposes of the educational program will be to inform all construction personnel of the presence of endangered species on and in the vicinity of the project site, identify for participants where grading can and cannot occur, to inform workers of appropriate protocol should they encounter SBB or CRLF during grading and construction activities, and to advise them of the penalties they may incur if harm to SBB or CRLF or their protected habitat on site occurs beyond what is authorized in the Service's incidental take permit.

The majority of grading activities in and near SBB habitat are proposed to occur in the spring months before the butterfly's activity period or in the fall months after the butterfly's activity period. To minimize effects on CRLF, in portions of the project site that are within 300 feet of the pond, work will only occur between May 15 and August 31. A portion of the Parcel D access road and the wastewater facilities are the only new facilities within 300' of the pond. Appropriate dust control measures, such as periodically wetting down the dirt access road and graded areas, will be used as necessary during grading of the areas for building footprints and in other portions of the impact area during construction, landscaping, or any other activities than generate dust to minimize any adverse impacts on the life stages of the SBB or its buckwheat food plant. Any dust generated by grading activities will pose only a temporary problem that will be eliminated once the site is revegetated. The methods appropriate for dust control will be determined by consultation between the construction foreman and project biologist. Care will be taken to avoid ponding at low points during dust control activities.

The patches of *E. parvifolium* located in the undeveloped portions of the site will remain unaffected and will continue to provide habitat for the butterfly at the project site during the grading and construction. Increased equipment traffic in the vicinity of any occupied butterfly habitat during grading and construction could result in increased collisions with adult butterflies. However, since the adults are weak fliers and tend to stay in close proximity to their buckwheat food plants, and since the majority of grading activities are proposed to occur in the spring months before the butterfly's activity period or the fall months after the butterfly's activity period, the potential for collisions with equipment is greatly reduced.

With the exception of the small footprint for the septic system expansion and a small segment of the Parcel D access road, the pond and near-proximity upland habitat within 300 feet of the pond will not be affected by construction activities and therefore will continue to provide breeding and upland habitat for CRLF. There could be some restriction of longer range movement of CRLF during construction, especially at the pool-spa, central services, and employee housing areas. There could also be some mortality of CRLF by equipment or workers when frogs might be moving through these areas; however this is expected to be minimal as movement would likely occur during rainy nights when construction is not occurring. Increased construction traffic on access roads in the immediate vicinity of the pond could result in injury or mortality to CRLF, although construction vehicles will not be operating on rainy nights when likelihood of CRLF movement is greatest.

Drainage improvements will be installed to prevent potential erosion in protected habitat areas from runoff originating in the impact area. These improvements will include curbs, gutters, and other appropriate temporary erosion control measures within the impact areas.

A qualified biologist will monitor activities on a regular basis during the grading and construction, including all areas where frogs or butterflies may be present. Monitoring during the summer butterfly flight period and fall-winter CRLF migration period will occur on a daily basis. Appropriate guidance will be given to construction personnel to avoid impacts to listed species. Should any violation occur, a "stop work" order will be issued immediately. The Ventura office of the Service will be contacted and the "stop work" order will remain in effect until the issue is resolved.

7.7.2 Permanent Protection

To conserve and maintain habitat for SBB and CRLF in perpetuity, Post Ranch L.P. (and its successors and assigns) shall grant a conservation easement to the American Land Conservancy ("ALC"), a California non-profit public corporation eligible to hold conservation easements under the provisions of California Civil Code §§ 815 *et seq.*, as a condition of the issuance of the incidental take permit (Appendix D). The conservation easement shall be subject to the approval of the Service and shall only permit uses consistent with habitat restoration, protection, and activities consistent with this HCP, and will prohibit further development in this sector of the property. This conservation easement will:

- Provide for long-term protection of the existing and restored areas of habitat that support seacliff buckwheat plants on the project site.

- Protect all uplands within 300 feet of the pond, and the portion of the property extending east from the pond to Highway 1.

The existing paved road system will not be covered by the conservation easement. Construction and maintenance of the access road to Parcel D will also be allowed under the conservation easement in accordance with this HCP. Lands subject to the proposed conservation easement are shown on Figure 12 (see Section 8).

Existing 0.881 acre of SBB habitat that currently includes seacliff buckwheat will be permanently protected via conservation easement. An additional 0.736 acre of California sagebrush scrub and California annual grassland habitat and 0.016 acre of broom, will be restored, including planting with seacliff buckwheat, that will be protected via conservation easement. An additional 13.76 acres of additional habitat will also be protected by conservation easement and is in vegetation types that may be valuable to SBB in the future if colonized by seacliff buckwheat.

Approximately 63.75 acres of the existing pond, aquatic, and forest/ scrub upland habitats on the Post Ranch Inn site will remain undeveloped and be maintained within the covered area to benefit the threatened CRLF. This includes 0.537 acre of CRLF breeding habitat (existing pond) and 4.207 acres of upland and wetland habitats that are within 300 feet of the pond that will be placed into a conservation easement. An additional 15.96 acres of upland habitat will be permanently protected by the conservation easement.

A portion of the covered area totaling 36.1 acres will be placed within a conservation easement. Of the 36.1 acres protected by the conservation easement, 15.4 acres provide habitat for the Smith's blue butterfly, and 20.7 acres provide habitat for the California red-legged frog. All of the Smith's blue butterfly habitat within the conservation easement is newly protected from development, while 5.98 acres of the CRLF habitat was already protected from development by a scenic easement. 4.66 acres of the CRLF habitat within the conservation easement area is also overlapped by three archaeological easements. However, the archeological easements do not prevent development and therefore the conservation easement provides a higher level of protection where they overlap. A copy of the recorded conservation easement is

attached to this HCP as Appendix D.

Enforcement of the conservation easement will serve to protect the easement area as habitat for the SBB and CRLF in perpetuity. The conservation easement shall prohibit activities that are incompatible with the preservation and restoration efforts. As described elsewhere in this HCP, protection, restoration, enhancement, and maintenance activities will be undertaken to protect the habitat and maintain it in a manner that benefits the endangered butterfly and threatened frog. These species protection and management activities shall be conducted by Post Ranch Inn. Post Ranch Inn shall provide an annual monitoring report to the Service. The monitoring report shall include a discussion of all topics as itemized for the restoration monitoring report (see Section 7.8.7).

As is discussed in greater detail in Section 8.8 below, as a condition of the issuance of the incidental take permit the permittee shall provide financial assurances with respect to the implementation of the long term management and maintenance of the easement area. These assurances will consist of: (1) an endowment contribution to ALC to fund ALC's monitoring and enforcement of the development and other land use restrictions under the proposed conservation easement; and (2) and annually renewable letter of credit to secure funding of the annual monitoring and management actions required under this HCP.

7.8 HABITAT MANAGEMENT AND ENHANCEMENT

The section discusses performance and success criteria for the habitat management and enhancement activities that will be undertaken to benefit SBB and CRLF. In addition, it discusses specific habitat management and enhancement activities that need to be undertaken to protect both species, as well as maintain and improve habitat values for them.

7.8.1. Performance and Success Criteria

The success of the mitigation measures in reducing incidental take of CRLF and in providing habitat for CRLF in the covered area will be compared against the following performance standards:

- Maintain habitat conditions at the pond favorable to CRLFs. Maintain emergent vegetation around 50% of the perimeter of pond. Approximately 10% of the pond perimeter should be kept clear of emergent vegetation. Invasive (non-native) plant species should be removed at the pond and within 300 feet of the pond. Periodic but limited removal of native emergent vegetation, with a biological monitor present, may be necessary to maintain the above ratios.

- The pond shall be kept free of introduced bullfrogs and introduced predator fish species. Although it may not be possible to entirely eradicate the burrowing crayfish from the pond, control efforts will be ongoing in an effort to keep the population depressed. A monitoring program will be used to determine the degree of bullfrog and non-native fish infestation and evaluate the best method for controlling the species. Pond management techniques are described below.

- Restore the 6,381 square foot (0.146 acre) parking and turnout area east of the pond to native scrub habitat. Restoration will be considered successful if within 5 years of revegetation, 50% of this is vegetated with 5 native shrub and herbaceous species, and within 10 years 70% is vegetated with 6 native shrub and herbaceous species.

The habitat restoration efforts for SBB will be considered successful if 200 mature seacliff buckwheats are established in 0.736 acres of restored California sagebrush scrub and California annual grassland habitats at the end of the 10-year post-construction monitoring period. Restored buckwheats should exhibit a stable or increasing population trend in at least three of the five monitoring years. In addition, up to 8.68 acres of California sagebrush scrub, which provides suitable habitat for the butterfly, will be preserved in perpetuity under the recorded conservation easement. The maintenance goal of maximum cover of non-native invasive plants on site will be two (2) percent.

If at any point during the monitoring period, the survival rates and success criteria are not met, the biological monitor will provide an analysis of the cause(s) of failure, and in consultation with the Service, propose remedial action(s) appropriate to deal with the causal factors and to achieve the restoration goals. Depending upon the severity of the causal factor(s), a range of alternative corrective actions may need to be evaluated and implemented. These steps would be accomplished in accordance with the Adaptive Management plan (Section 8.9).

If specific factors become apparent that may preclude the establishment or success of buckwheats at the site, they will be described.

Specific management goals for SBB can be enumerated as follows:

a) Siting of features of the project to avoid sensitive habitats and resources;
b) Slope stabilization, if needed;
c) Removal and control of exotic vegetation to less than 2% cover at the site;
d) Restoration of California sagebrush scrub and California annual grassland habitat including revegetation with 200 mature seacliff buckwheat plants at the end of 10 years;
e) Habitat protection during grading and construction;
f) Establishment of a conservation easement for permanent protection of SBB habitat values on 15.4 acres; and
g) Monitoring and maintenance of habitat values during and after construction.

The management goals and techniques described in this chapter are intended to minimize and mitigate the take of SBB and CRLF and to mitigate for impacts to their habitats. The remainder of this chapter discusses the array of management techniques that will be used to meet the management goals of the HCP for the Post Ranch Inn. Adaptive management practices will provide the basis for long-term stewardship of the project site and are considered fundamental to the successful implementation of the conservation measures set forth in this HCP. The flexibility inherent in the adaptive management approach allows adjustments to be made throughout the management of the project site and ensures that the biological goals of the HCP will be met. For example, if new information about SBB or CRLF, seacliff buckwheat, wetland vegetation or other site conditions becomes available during the life of the permit, management techniques

may be altered to incorporate this new information. The key to adaptive management of the project site will be the monitoring program, which will identify where management efforts are successful and where remedial measures need to be implemented to achieve success.

7.8.2 Avoidance of Sensitive Habitat

The majority of the SBB's California sagebrush scrub habitat on the project site, consisting of approximately 8.85 acres, will be avoided during grading and construction activities for the Post Ranch Inn's expansion project. Only about 0.001 acres of buckwheat-dominated California sagebrush scrub or California annual grassland habitats will be directly affected by project development. Similarly, no aquatic or wetland habitat shall be affected by the project. Except for a short length of the Parcel D access road and wastewater treatment facilities, no construction will take place within 300 feet of the pond so as to avoid direct impacts to resident CRLFs.

7.8.3 Slope Stabilization

Approximately 11.4 acres at Post Ranch Inn consist of slopes greater than 30% (Figure 7). Grading for the new visitor units will occur within existing development and on the flatter portions of the west ridge, and therefore only minor slope stabilization is needed within the impact area. Structures will be stepped to conform to existing contours. Grading for other facilities (employee housing, central services, pool-mercantile) will also occur on gently sloping areas and have minimal slope stabilization requirements.

Grading and backfill operations will be conducted to avoid slope failures in neighboring protected habitat areas that currently support stands of seacliff buckwheat. A temporary fence will be constructed between the limit of grading and existing buckwheat stands that lie outside of the impact area. Heavy equipment will not be permitted beyond the fence. Equipment operators will be informed of the reasons for installation of the fence and will be required to stop work and notify the project biologist and engineer immediately should slope failure, that threatens existing buckwheat plants, be imminent.

7.8.4 Control of Exotic Plants

One task of the habitat management and restoration activities will be the control of exotic, non-native vegetation from the pond, in areas that support seacliff buckwheat, and on all lands within the conservation easement. Invasive species should be identified and prioritized as to removal needs. For example, French broom currently occupies 1.8 acres on the entire property, including the Post and Sullivan properties and Parcel D. Since the initial construction of Post Ranch Inn in 1989, major efforts at broom eradication have resulted in a large reduction in this invasive species; only 0.016 acre of broom remains on the Post Ranch Inn property. In order to expand the cover of native plant species and enhance habitat values, it should be eliminated from the easement lands and, if possible, from the project site. In accordance with Post Ranch Inn policy removal methods will avoid the use of herbicides and use mechanical or hand labor only. Hand removal in early spring when moist soil conditions exist is optimum, but soil disturbance should be minimized to the greatest extent possible.

Special care is required in areas where invasive and native plants, such as seacliff buckwheat, are growing together. The weed eradicator shall be informed of the need to protect

native plants, and if necessary, native plants should be flagged for avoidance. Manual removal of nonnative plants will be necessary within a five-foot radius of *Eriogonum parvifolium* plants.

7.8.5 Control of Exotic Animals at Pond

In late 2001 and 2002 a significant population of metamorph and subadult bullfrogs was found during routine pond census surveys (Table 4). With concurrence of the Service, Ranidae surveys in summer 2002 included bullfrog eradication by hand. Mark Allaback and Jeff Norman eliminated over 3000 bullfrogs; however thousands still remained in mid-September 2002. In consultation with the Service, plans were made to drain the pond in late October 2002. Under a Federal permit held by M. Allaback, removal efforts were carried out on 10/30, 10/31, 11/5 and 11/20 in a largely dewatered pond. A total of 5051 metamorph and subadult bullfrogs, 9 adult bullfrogs, 2028 late-stage tadpoles and 226 crayfish were removed from the pond in 2002. An estimated several hundred metamorph and subadult bullfrogs avoided capture and remained in the pond in early December 2002 when the first significant winter rains began.

Using information gained from the fall 2002 eradication efforts, a bullfrog removal program was initiated in consultation with the Service and continued through 2003 and 2004. Mark Allaback, a qualified and permitted biologist used nocturnal surveys to locate and remove bullfrogs, and census red-legged frogs. These efforts continued every ~ 6 weeks throughout the 2003-2004 period. Only one bullfrog egg mass was observed during this period (on 5/12/04), and was removed. A non-motorized boat was used early in the season to identify and census CRLF egg masses, and a kayak was used to reach bullfrogs observed in open water or along the island within the pond. CRLF egg masses were counted but not disturbed, and bullfrog control efforts were delayed in some instances when CRLF eggs were considered to be at risk. Receding pond water levels during summer months allowed qualified biologists to walk most of the pond and eradicate bullfrogs. Whenever possible, bullfrogs were gigged or captured by hand to ensure recovery of the carcass. Numbers of bullfrogs removed and CRLF counted are indicated in Table 4. The relatively small number of bullfrogs counted and exterminated in late 2004 indicates bullfrog eradication has been a success at Post Ranch Inn, although reproduction in 2005 indicates renewed monitoring and eradication efforts are warranted.

Egg mass surveys and ranid frog surveys during 2003, 2004 and 2005 found lack of reproductive success by CRLF, despite the presence of numerous CRLF egg masses observed in each breeding season. Twenty-nine CRLF egg mass clusters were censused in late January 2003, 43 clusters counted in early February 2004, and 49 clusters found in 2005. Bullfrog reproduction was also unsuccessful in 2003 and 2004, but was successful in 2005 (see below). Although it has not been determined why CRLF tadpoles have not reached transformation, the most likely reason is that they are easy prey to introduced crayfish and mosquito fish. A common pondweed (*Potamogeton nodosus*) that was present prior to draining the pond has never recovered, which may have provided the necessary cover for tadpoles to evade their aquatic predators. Without the pondweed, there is little or no vegetative cover except early in the season when the pond is at capacity. During the spring, the water level slowly drops below the perimeter vegetation line until there is no vegetative cover in the entire water body during the summer months. Any time the pond is drained, appropriate pondweed will be introduced as soon as practicable.

It was possible to eliminate the mosquito fish by draining the pond completely dry in fall 2005. Since they could easily be re- introduced in the future, measures have been taken to prevent this (see below). It was not possible to remove all the crayfish in 2005, but it is recommended that control measures be implemented to reduce numbers as much as is practicable. Therefore, under this HCP we seek authorization for qualified biologists, assisted by Post Ranch personnel, to perform a regular trapping program to reduce numbers of crayfish. In addition, the qualified biologist should remove crayfish whenever feasible while conducting monitoring studies at the pond.

It is recommended that crayfish traps be used and initially tested by a qualified biologist to ensure that take of adult CRLF is minimized or does not occur. If take does occur, then control efforts should be modified in consultation with the Service. Some take of CRLF tadpoles is likely and cannot be avoided. Fine-mesh minnow traps should be used with entrances modified to be 2 inches in diameter. Although this is large enough to capture CRLF, the traps will be placed at the bottom of the pond and tethered at least 10 feet from the shore to reduce the likelihood of capturing adult CRLF incidentally. Traps will initially be monitored from October-March, outside the period when most CRLF tadpoles are present, unless the water temperature drops below 40 degrees (F). Traps will be run throughout the year if a qualified biologist determines that CRLF tadpoles are not being affected. Trapping may cease if capture rates are low and/or if they begin to burrow and become inactive. Traps will be baited with dead fish, placed in the late afternoon and checked the following morning.

Because CRLF tadpoles failed to reach transformation again in 2005, the pond was drained completely dry in fall 2005, and mosquito fish, crayfish, and bullfrog tadpoles were removed. It is believed that all mosquito fish and bullfrog tadpoles were exterminated, but some crayfish remained in burrows around the pond. Pond draining in 2005 was conducted slowly to incite adult CRLF movement out of the pond. No CRLF life forms were detected after the pond was dry. The pond refilled completely with the onset of rains in late November and December 2005.

If bullfrog reproduction occurs in the future, the pond will need to be drained again to remove tadpoles. It is imperative that sufficient annual monitoring be conducted to determine whether bullfrog tadpoles are present to ensure that the pond is drained the same year. If bullfrog tadpoles go undetected for a full year, they may transform prior to draining the pond and it will not be possible to contain each individual.

If red-legged frog tadpoles and/or metamorphs are also present, then it is recommended that the water level be reduced to the localized deep end of the pond to concentrate the larvae. The pond will be drained in late October or early November, at a time when the water level is at its lowest point. More importantly, most CRLF tadpoles should have transformed by this time. Efforts will be made to draw the water down rapidly to increase capture rates (drawing down the water slowly may incite natural dispersal). All tadpoles will then be seined and netted out of the remaining water and either dispatched (bullfrogs) or kept over-night in aerated tanks (CRLF) and returned to the remaining pool after the sediment has settled. Metamorphs will either be allowed to remain in the pool or placed in the nearest, moist perimeter vegetation relative to the remaining pool. Adult CRLF will be allowed to remain at the pool or moved to the upper pond (see below). After removing all the bullfrog tadpoles, the biologist will determine if sufficient

water remains for the remaining CRLF or if supplemental water should be added to the pond. Post Ranch will provide a water source, if necessary. During all the studies described herein, a record of the number of individuals by age class shall be maintained and included in annual reports.

During the pond draining effort, water will be allowed to dissipate along a dry drainage such that it will not reach any standing or flowing water in the area. The pond will be pumped dry or nearly dry with the intake screened appropriately. It may be necessary to move sub-adult and adult RLF a short distance out of harm's way. A small, seasonal wetland area located immediately above the pond, which dries by mid-summer and has a capacity of less than 12 inches, shall be hydrated to provide a moist location to release adult red-legged frogs. It contains a significant amount of emergent vegetation to provide shade and predator protection. This wetland is less than 20 feet above the inlet of the main pond and is presumably familiar to the resident frogs. Red-legged frog metamorphs (to ~50 mm, snout-urostyle) shall be moved to different areas, if necessary, and released in dense, shady and/or moist vegetation within 20 feet of the perimeter of the pond. Metamorphs shall not be released where adults are present to reduce the potential for cannibalism. Care will be taken to prevent harm, harassment, injury or mortality to red-legged frogs. Red-legged frogs that are found dead shall be deposited at the California Academy of Sciences in San Francisco.

Future pond draining and bullfrog removal efforts will be subject to adaptive management practices as more effective control procedures and provisions for CRLF protection become available. The pond will be allowed to refill naturally from underground springs and seasonal rainfall.

Post Ranch may choose to make improvements to the pond by either establishing a permanent submersible pump and outlet pipe system, or by re-grading bottom contours to allow the pond to naturally drain towards the standpipe at the easterly end. If a submersible pump is installed it would be located at the low spot near the west end of the pond, with an underground pipe placed in the access road or pedestrian trail and then across the employee housing access road to the Post Creek tributary drainage ravine. Some re-grading or shallow fill would be needed near the island to allow natural drainage to the pump. Re-grading towards the east standpipe would require more fill at the west end and excavation at the easterly pond, replacement of the standpipe, a short length of underground pipe installed under the employee access road, and possibly installation of a new submersible pump in the standpipe. Pumps would be screened to prevent uptake of CRLF tadpoles. No pumps will ever be operated or maintained during the CRLF egg-laying season. Pond improvement work would be done in the fall after the pond is drained for exotic species removal. Either alternative would make future pond draining for exotic species removal more efficient and cost effective.

After the initial removal efforts, bullfrogs and other exotic organisms shall be removed annually while conducting the HCP monitoring activities described below.

No exotic wildlife species shall be introduced into the covered area. The effect of mosquito fish (*Gambusia affinis*) on CRLF eggs and larvae has been identified as a potential threat to the species (Miller, *et al.* 1996; U.S. Fish & Wildlife Service 2000). There is evidence

that mosquito fish can affect behavior and development of CRLF larvae (Lawler, et al. 1999). No new introductions of mosquito fish shall be permitted, and Post Ranch Inn managers and local mosquito abatement personnel shall be instructed to use only biological agents (Altosid pellets or BTI brickets) for mosquito control at the pond. BTI brickets containing *Bacillus thuringiensis* were placed in the pond after fall 2005 draining, and signs erected near the pond to educate and warn against introduction of any exotic species, including mosquito fish, to the pond.

7.8.6 Habitat Restoration and Enhancement

To conserve and maintain suitable habitat for SBB, Post Ranch L.P. shall undertake the following activities :

- Establishment of viable populations of native plants, notably *E. parvifolium*, is proposed for portions of the site that will be restored within the areas placed under conservation easement. Figure 10 illustrates portions of the project site that will be initially targeted for habitat restoration. The restoration goal is to successfully establish 200 mature seacliff buckwheat plants by the end of the 10-year, post-construction monitoring period in portions of the project site targeted for habitat restoration.

- Existing habitat quality in some of the undeveloped portions of the site is degraded by the presence of invasive plant species. Appropriate weed control practices, as discussed in Chapter 7.8.4, will be utilized to eradicate these invasives from the project site and provide additional habitat for the endangered butterfly. Approximately 0.016 acres of the site presently support invasive plants such as French broom. Other non-native plants were noted in the botanic survey and will also be removed. Wherever feasible, areas of suitable habitat currently occupied by invasives in the 15.4 acre SBB conservation easement will be restored with seacliff buckwheats and other native species after the invasives have been eradicated.

- Several methods of establishing seacliff buckwheat are available, including seeding, propagation, planting of nursery stock, and natural succession. At the project site, a combination of these methods, such as seeding, propagation and planting of nursery stock, will be used to revegetate suitable habitat for SBB where invasive plants are removed and habitat needs to be restored or enhanced. The particular revegetation method used at a given location will depend upon physical characteristics of the location, such as topography, soil condition, and hydrology, plus the time of year when revegetation is implemented, and the availability of suitable planting stock.

- Seacliff buckwheats that will be lost within the impact area may be used to obtain rooted-cuttings and seeds. If necessary, a native plant grower should be consulted to select the best plants within the impact area for cuttings, and for the methods most suitable to root the cuttings. Seed and/or cutting collection of buckwheat plants from onsite plant material will occur after the Smith's blue butterfly flight season (after September 15 or as determined by a qualified biologist) for later germination and outplanting. If any SBB pupae are found during plant collection, they will be placed under seacliff buckwheat plants outside construction areas by a qualified biologist.

- *E. parvifolium* seed and cuttings will be collected from the HCP site if possible, or within 3 miles of the covered area if HCP site collection is not possible, to control genetic variation. Seed and cuttings will be grown by a local commercial native plant nursery in nursery flats, supercells, or 1-gallon containers. Plants will be installed during appropriate seasons using methods that will facilitate the highest degree of success. The need for supplemental watering will be minimized by planting during the rainy season; however, a drip irrigation system may be used if hand watering is impractical.

By implementing the weed control, habitat restoration, enhancement and protection measures described in this HCP, the quality of habitat for SBB on the project site is expected to improve over existing conditions. On the other hand, in the absence of weed eradication, enhancements and restoration program, the invasive plant species may eventually outcompete the existing seacliff buckwheat habitat to the detriment of SBB. Mowing of the fire clearance zone below the existing northern Inn units is and will be accomplished after locating and flagging seacliff buckwheat. No impacts to CRLF are expected from mowing in this area due to its distance from pond, and location well away from migration corridors to other wetlands. No mowing or vegetation management is proposed for the fire clearance zone below the new inn units due to extremely steep slopes.

To conserve and maintain suitable aquatic habitat for CRLF on the project site, Post Ranch Inn shall maintain the pond for the term of this HCP in the following manner:

- Remove exotic, non-native vegetation (including landscaped vegetation) from the island and perimeter of the pond and within the conservation easement under the direction of a restoration specialist.

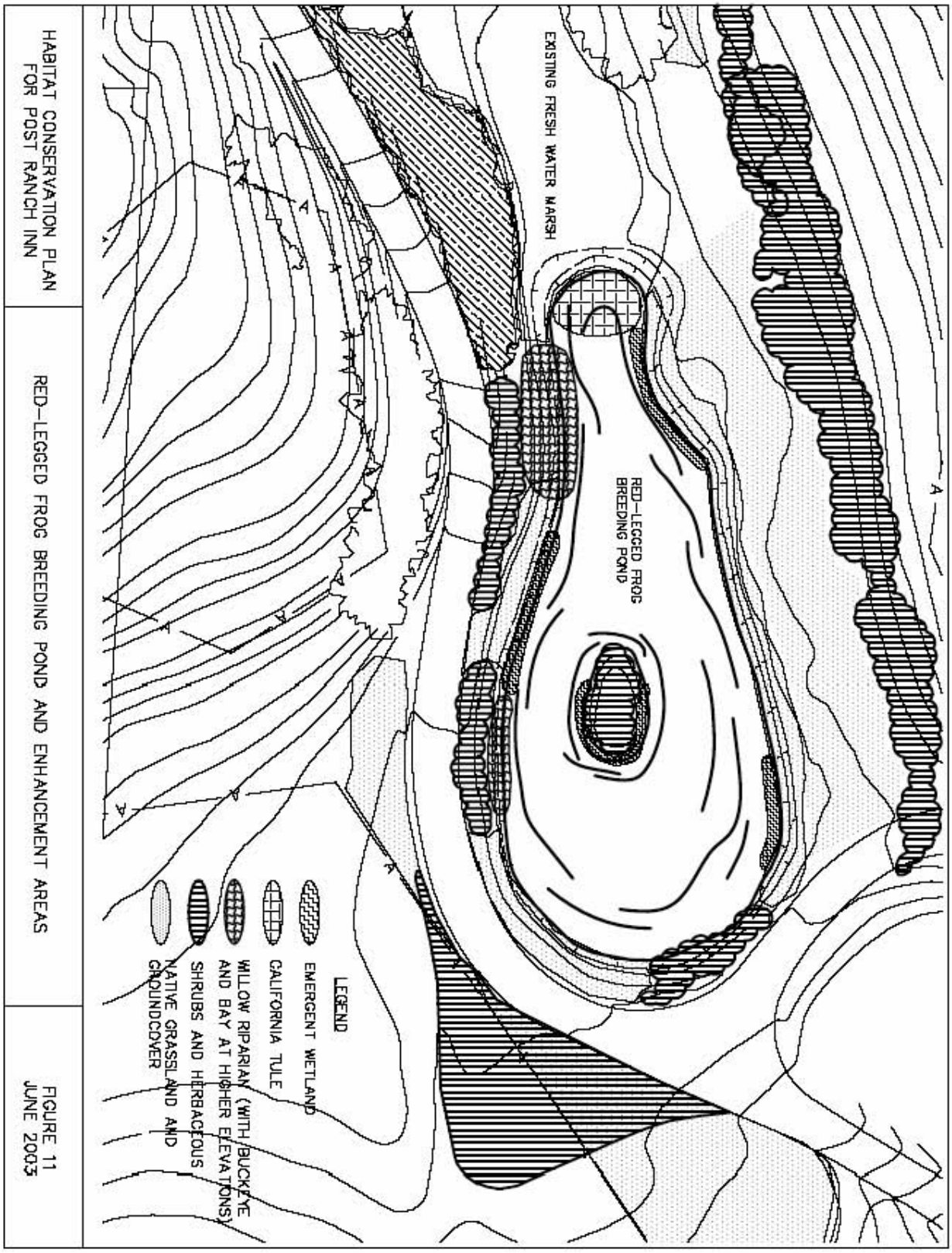
- Plant native vegetation on the island, around the perimeter of the pond, and in uplands adjacent to the pond following consultation with a restoration specialist (Figure 11).

- Maintain wetland-dependent vegetation along approximately 50% of the perimeter of the pond to provide cover for CRLFs. The stand of *Scirpus* in the northern portion of the pond shall be maintained although periodic pruning of *Scirpus* may be needed for bullfrog control efforts in early years. The non-native willows at the upper end of the pond will be replaced with native arroyo willow.

- Maintain wetland-dependent vegetation along approximately 50% of the island to provide cover for CRLFs;

- Divert water flow from the paved roads and parking areas in the pond watershed through bio-engineered filters to remove vehicle contaminants from water.

To conserve and maintain upland habitat for the CRLF in the vicinity of the pond, Post Ranch Inn shall maintain the uplands within the conservation easement areas, as illustrated in Figure 12, for the term of this HCP in the following manner:



HABITAT CONSERVATION PLAN
FOR POST RANCH INN

RED-LEGGED FROG BREEDING POND AND ENHANCEMENT AREAS

FIGURE 11
JUNE 2003

- Remove invasive, non-native vegetation (excluding non-native grasses) from the uplands under the direction of a restoration specialist.

- Manage the grasslands by mowing under the direction of a restoration specialist and a Service-approved wildlife biologist familiar with CRLF. Mowing will occur during late spring and early summer when CRLF are least likely to inhabit grasslands. Mowing will be excluded in the immediate pond perimeter and down-slope to the water edge. Mowing in upper grasslands the vicinity of the pond will be a 2-step process—with a weed-wacker initially to reduce grass height and flush frogs and then with a tractor mower. Some harassment of frogs is possible if present, although due to timing they are not likely to be in the area.

- Close the 5,728 square foot parking area immediately southeast of the pond (Figure 8) to avoid the potential for CRLF take. This area will be used for construction staging during construction for the employee housing in 2007. The area will be restored and re-vegetated with native scrub vegetation. After review of the area by the biological monitor, the base rock will be removed, soil scarified and soil amendments added. Planting of shrubs and groundcover will be done manually with a Post Ranch Inn maintenance crew. Site preparation and planting will be scheduled for early fall before first rains occur.

- Night lighting in the vicinity of the pond is limited to a small directional sign about one foot high east of the pond that does not illuminate the pond. No new lighting will be installed in the vicinity of the pond.

- Pesticides and herbicides will not be used for vegetation management on Post Ranch Inn property.

- Since CRLF is susceptible to mortality by road-kill, particularly during rainy nights between approximately September and April, Post Ranch Inn shall post and enforce a speed limit of ten (10) miles per hour on roads within 300 feet of the pond.

- Implement shuttle service to reduce the potential for CRLF road-kill, as planned.

- Continue policy that excludes pets from Post Ranch Inn property and removes feral animals when they are found.

- Continued monitoring and maintenance per Section 7.8.7.

7.8.7 Monitoring and Maintenance

The monitoring program is designed to evaluate the effectiveness of mitigation measures and to identify potential problems with the mitigation strategy. Although monitoring has been conducted in 2000-2005, monitoring under the HCP will be initiated in 2006 to provide baseline data. Monitoring of project impacts and success of mitigation measures shall be carried out for the term of this HCP. In addition, Post Ranch Inn will be responsible for monitoring, in perpetuity, beyond the term of the incidental take permit.

To maintain an accurate assessment of the status of the CRLFs and bullfrogs in the covered area, the following field surveys shall be conducted annually by a qualified biologist, using methods approved by the Service. In addition to species monitoring, bullfrogs shall be destroyed as described in Chapter 7.8.5.

- From February to mid-March, two surveys shall be conducted at the pond to estimate relative abundance of the breeding adult population, and determine presence of CRLF egg masses. Monitoring for bullfrog egg masses will occur between April and July, and they will be removed from the pond if found.

- In May to June of each year, aquatic sampling will be performed to determine the breeding status of CRLFs at the pond. If tadpoles are not initially detected, the survey shall be repeated within 30 days. A bullfrog census will also be conducted.

- In August to September of each year, one diurnal survey for red-legged frog metamorphs shall be performed to assess productivity of the pond.

- A regular water-monitoring program will be established to track water quality in the pond. Baseline measurements will be taken prior to any treatment to provide baseline data. Measurements will include water temperature, pH, dissolved oxygen, phosphorous, nitrogen, conductivity and salinity. Sampling for chytrid fungus will also be accomplished by taking bullfrog tissue and performing a lab analysis. This is proposed for the 2006 year and will be continued if this or other diseases are suspected by the qualified biologist.

To assess impacts to seacliff buckwheat and SBB during construction, inn operation and during habitat management, and assess success of buckwheat revegetation, the following shall be accomplished by a qualified biologist:

- Monitoring of SBB, buckwheat occurrence and construction practices during ocean inn unit construction.

- Annual mapping of the resident seacliff buckwheat plants will be performed during their summer flowering period. Mapping will be done with a global positioning system with an accuracy that allows year-to-year comparisons of individual plants. Causes of observed mortality will be identified for each dead plant.

Post Ranch L.P. or its assignees and/or successors will provide funding for a qualified biologist to monitor implementation of this HCP for a period of 10 years after completion of construction and restoration activities, depending on the success of the restoration effort. It is anticipated that this individual would also visit the site regularly during the period of grading, and periodically during project construction and during the initial stages of implementation of the various management measures. This allows for timely solutions to problems that may arise during construction or mitigation implementation.

Once habitat improvements have been completed, an assessment of the success of these measures will be necessary. The individual responsible for monitoring will visit the site quarterly (4 times per year). The monitor will annually provide a brief written report to the property owners, the holder of the conservation easement, and the Service, which describes:

1) an assessment of the condition of the on-site seacliff buckwheat;
2) evidence of erosion control or function;
3) an estimate of the non-native species cover;
4) a brief discussion of restoration efforts for the past year, including all monitoring activities that were performed and whether restoration goals are being achieved;
5) review of monitoring surveys conducted for CRLF and SBB;
6) incidental take occurrences;
7) any mitigation problems and any corrective measures undertaken to insure restoration success;
8) recommendations to solve any problems; and
9) SBB and CRLF sightings illustrated on a map of suitable scale.

7.8.8 Remedial Actions

Remedial actions will be necessary if monitoring indicates that the aforementioned performance standards are not being met. The following actions may be required, but others may be deemed more appropriate given the circumstances at the time, and consultation with the biological monitor and the Service.

- An annual evaluation of water quality and status of the breeding CRLF at the pond will be made. If the CRLF breeding population decreases from baseline levels or if the annual recruitment of metamorphs decreases beyond those fluctuations that can be expected naturally, measures will be taken such as removal of non-native predators (bullfrogs, mosquito fish and crayfish). Continued monitoring will be used to evaluate the response of the population to this action. Deteriorating water quality resulting from drought is discussed in Section 8.9.

- If bullfrog or other exotic animal populations increase dramatically such that the direct removal methods described in Section 7.8.5 are not practicable, other methods for control will be developed in consultation with the Service.

7.8.9 Schedule for Implementation

The various management techniques described in this document will be implemented according to the following schedule. Plant collection and propagation will begin prior to initiation of grading. Seed and/or cutting collection of seacliff buckwheats from onsite plant material will occur after the SBB flight season (after September 15 or as determined by a qualified biologist) for later germination and outplanting. If any SBB pupae are found during plant collection, they will be placed under seacliff buckwheat plants outside construction areas by a qualified biologist. The seeds or cuttings will be stored or propagated by a designated native plant specialist until planting of the restoration area occurs. Plant duff and topsoil from the impact area may also be collected, if appropriate to aid in buckwheat establishment. The native plant specialist hired to perform the habitat management and restoration activities will provide the Service with a more specific schedule of activities.

Control and eradication of invasive plants will be achieved by manual and mechanical removal for each target invasive species. The timing of these activities will be determined by weather, or the phenologies of the targeted invasive plants.

Temporary fencing will be erected to protect existing habitats for the SBB and CRLF prior to the start of grading. If necessary, the construction monitor or a qualified biologist will assist in staking the limit of grading and the alignment of the fence. This biologist will conduct pre-construction meetings with grading and construction personnel to inform them about the presence of special status species at the project site and appropriate protocol should the butterfly or frog be encountered. The biological monitor will periodically visit the site to insure that all grading and construction activities comply with the parameters established in this HCP.

Revegetation of the pond and parking area east of the pond will follow the same implementation and monitoring schedule above for seacliff buckwheat.

Implementation of pond management for bullfrogs will follow the schedule outlined in Section 7.8.5, with exotic species eradication and pond draining projected for 2006. This schedule could change depending on the success of exotic species eradication efforts in 2005.

A habitat restoration and enhancement program will continue for a period of five to ten years. The first year will begin when restoration activities in response to grading and construction activities are initiated. Construction will be phased over several years. In the first and second year following the end of phased construction, the biological monitor/revegetation specialist will visit the project site four times annually. In years three, four and five, the biological monitor will visit the project site biannually. If after the fifth year the success criteria have not been satisfied, biannual monitoring will occur through at least year ten to insure that success criteria are successfully achieved. Additional revegetation monitoring will occur only if vegetation success criteria are not met by year 10. An annual report will be prepared and submitted to the Service. This report will describe the revegetation monitoring activities performed, the results, and recommendations for any necessary remedial actions to achieve the goals of the HCP. Reporting requirements are discussed further in Section 8.7.

7.9 MITIGATION FOR IMPACTS DUE TO FIRE CLEARANCE AND EROSION

Certain activities, such as the maintenance and repair of drainage facilities, necessary slope repair due to erosion damage, and fire clearance requirements may impact seacliff buckwheat plants outside of the designated construction impact area. To mitigate for these unlikely, but potential future impacts, a maximum of 100 seacliff buckwheat plants during the 20-year permit term may be removed pursuant to these activities. The greatest potential for buckwheat loss is from fire clearance, however due to extremely steep slopes it does not appear feasible or necessary to remove any vegetation below the new Inn units. The CDF representative and Big Sur Volunteer Fire Chief believe that if any fire clearance is needed, only minimal removal of larger coyote brush shrubs will be required at any time in the future. Therefore the potential for any fire clearance in this area is extremely remote. The portions of the restoration areas used to mitigate for these impacts will not overlap with those portions identified for anticipated impacts of the project. Habitat enhancement procedures would follow the methods

described in Section 7.8.6, Habitat Restoration and Enhancement. Monitoring and maintenance of mitigation areas for fire management and erosion impacts shall follow the procedures described in Section 7.8.7, Monitoring and Maintenance. If fire management requirements are changed, or these combined activities result in the removal of more than 100 seacliff buckwheat plants, Post Ranch L.P. or the current permittee shall amend the HCP and permit.

Installation, maintenance and repair of pond facilities and drainage structures could impact CRLF. CRLF could also be affected by new introduction of exotic predator species. Emergency pond draining may be necessary to repair facilities or remove contaminants. If resident CRLFs cannot be relocated to suitable habitats on site, neighboring property owners with suitable breeding ponds will be contacted to provide temporary relocation site(s).

8.0 PLAN IMPLEMENTATION

8.1 BIOLOGICAL GOALS AND OBJECTIVES

The first goal of this HCP is to protect SBB and SBB habitat during construction, and replace SBB habitat impacted by the construction of new visitor units and associated facilities as well as on-going management activities at the Post Ranch Inn. This will be accomplished by restoring and enhancing approximately 0.736 acres of existing California sagebrush scrub and California annual grassland habitat to improve habitat values for the endangered butterfly, and by protecting in perpetuity 15.4 acres, including 8.59 acres of existing and restored California sagebrush scrub habitat at the project site via a conservation easement. No more than 10 buckwheat plants per year that serve as actual or potential habitat for the SBB will be impacted by project construction. Similarly, any of the 137 buckwheat plants that grow outside of the construction area, may also be impacted by fire clearance, weed control, or habitat management activities ($\leq$ 10 buckwheat plants/year). A total of 200 mature buckwheats will be established in restored and protected areas of the project site to mitigate for these potential losses. A larger number of buckwheat plants will be planted to insure establishment of 200 mature plants.

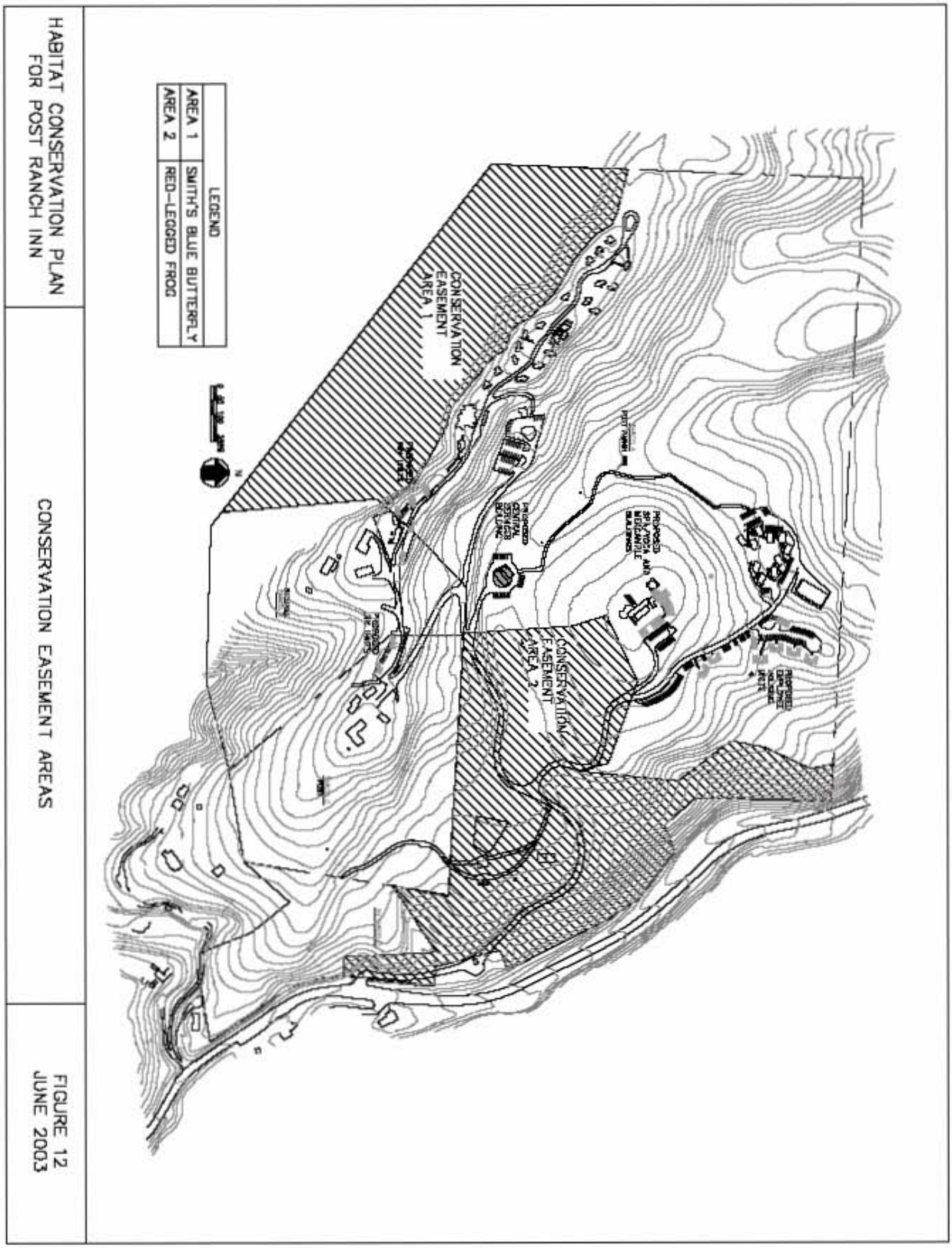
With respect to CRLF, the goal of the HCP is to protect breeding habitat at the pond by maintaining breeding adult CRLFs. Census data during the years 2000-2005 revealed up to 40-45 adult CRLF using the pond. The HCP goal to maintain breeding productivity of the pond will be implemented by ongoing efforts at exotic species removal, maintaining water quantity and quality during summer months, reduction of vehicle traffic on roads adjacent to the pond, and pond and upland revegetation measures to improve CRLF habitat conditions. The conservation easement will protect 20.7 acres for CRLF breeding and upland habitat.

8.2 CONSERVATION EASEMENT

Prior to issuance of the incidental take permit by the Service, Post Ranch L.P. shall record a conservation easement on 36.1 acres to insure that significant CRLF and SBB habitat outside of the developed Post Ranch Inn areas are preserved in perpetuity. The American Land Conservancy (ALC) is the intended easement holder. Once recorded, the easement holder shall perform periodic monitoring and maintenance as necessary to insure that Post Ranch L.P. or the current permit holder are complying with the terms of the conservation easement. Figure 12 illustrates the portions of Post Ranch Inn that will be placed into the conservation easement. A copy of the conservation easement is attached to this HCP as Appendix D.

8.3 IDENTIFICATION OF PROJECT REPRESENTATIVE

Prior to initiating ground-disturbing activities, Post Ranch L.P. shall designate a representative as the HCP Administrator, who is responsible for communications with the Service and for overseeing compliance with the Section 10(a)(1)(B) permit. Initially, the designated representative is Mr. Michael S. Freed, Managing Partner of the Post Ranch L.P., c/o Post Ranch Inn, Highway 1, Big Sur, CA 93920, (831) 667-2200. If a substitute representative is designated, the Service shall be notified in writing of the representative's name, business address, and telephone number.


CONSERVATION EASEMENT AREA 1
CONSERVATION EASEMENT AREA 2
LEGEND
AREA 1 SMITH'S BLUE BUTTERFLY
AREA 2 RED-LEGGED FROG
HABITAT CONSERVATION PLAN
FOR POST RANCH INN
CONSERVATION EASEMENT AREAS
FIGURE 12
JUNE 2003

8.4 IDENTIFICATION OF BIOLOGICAL MONITOR

Subject to approval by the Service, Post Ranch L.P. nominates Mr. John Gilchrist as the biological monitor for this project. Mr. Gilchrist can be contacted by mail at 226 Spring Street, Santa Cruz, CA 95060, or via phone (831) 429-4355 and fax (831) 425-2305. Mr. Gilchrist is a restoration ecologist who is familiar with habitats and special-status species that occur in Monterey County. Richard Arnold, Mark Allaback and Jeff Norman will assist Mr. Gilchrist as necessary.

8.5 RESPONSIBILITIES

Post Ranch L.P. will satisfy its mitigation responsibilities for SBB by maintaining existing areas that support seacliff buckwheat and by restoring California sagebrush scrub habitat on 0.736 acres of the project site. Similarly, it will satisfy its mitigation responsibilities for CRLF by protecting the pond and upland habitats within the covered area. These habitats will be protected via a recorded conservation easement (Appendix D) held by the American Land Conservancy. ALC will assume responsibilities for monitoring the provisions of that Easement on an annual basis. Post Ranch Inn L.P will be responsible for replacement planting, maintenance of protected and restored habitat areas, species monitoring and reporting, and other management activities as described in Chapters 7 & 8. Post Ranch L.P. will also complete all obligations assigned to it within the Section 10(a)(1)(B) permit and the HCP.

8.6 PLAN DURATION

Post Ranch L.P. requests a 20-year permit from the Service to cover project construction and management activities associated with the removal seacliff buckwheat habitat at the project site. The 20-year period is necessary to insure that the mitigation is implemented successfully and benefits the endangered SBB, and that management activities are covered by the take permit. Successful revegetation and establishment of mature seacliff buckwheat may take a number of years to achieve. The 20-year permit period is also needed to insure that pond management results in long term breeding success for threatened CRLF. Our experience at this and other CRLF sites is that removal of non-native predators is critical to CRLF breeding success, and also may take a number of years to achieve. Ongoing operations of the Post Ranch Inn, including habitat restoration activities, may result in an ongoing low level of take of listed species. If there is a possibility of listed species take beyond the 20-year period Post Ranch Inn will apply for a permit extension.

8.7 REPORTING

8.7.1 Post-Construction Compliance Report

A post-construction compliance report prepared by the monitoring biologist shall be forwarded to the Ventura Office of the U.S. Fish and Wildlife Service within 60 calendar days of the completion of construction. If construction phasing extends the construction period longer than 3 years, this report should be prepared and forwarded to the Service on a biannual schedule, with interim reports completed by December. This report shall provide the following information:

- dates that construction occurred;

- pertinent information concerning the permittee's success in meeting the project's mitigation measures;
- an explanation of failure to meet such measures, if any;
- known project effects on federally-listed species, if any;
- occurrences of incidental take of federally-listed species, if any; and
- other pertinent information.

8.7.2 Annual Monitoring Reports

After issuance of the take permit, by March of each year, Post Ranch Inn shall submit to the Service a report of the activities conducted under this HCP during the previous year. An annual report of activities will be submitted for every year of the permit's 20-year term. The following information shall be included:

- a summary of all actions implemented as required by this HCP;
- an assessment of the condition of seacliff buckwheat, and breeding status of CRLF;
- results of mapping of seacliff buckwheat and all other biotic surveys that were performed;
- evidence of erosion control or function;
- an estimate of non-native plant species cover, and non-native animal species in pond;
- a brief discussion of restoration efforts over the past year, including all monitoring activities that were performed and whether restoration goals are being achieved;
- a summary of any incidental take occurrences for SBB and CRLF that occurred during the previous year;
- SBB and CRLF sightings illustrated on a map of suitable scale;
- identification of any existing or potential problems, including non-compliance with standards included in the previous mitigation measures, and suggested revisions to mitigation measures or management practices to solve such problems;
- list of and description of changed or unforeseen circumstances that occurred during the previous year, and a summary of how those circumstances were addressed;
- a summary of any adaptive management measures put in place during the previous year; and
- any changes to the annual budget for the upcoming year.

8.8 FUNDING

8.8.1 Funding for Planned Activities

The Post Ranch L.P. will provide all funding for implementation of take avoidance, minimization and mitigation measures as specified in this HCP. Post Ranch L.P. understands that a failure to provide adequate funding, and a consequent failure to implement the terms of this HCP in full, could result in temporary permit suspension or revocation.

All funds required for conservation easement monitoring, habitat maintenance, restoration and biotic monitoring will be provided by Post Ranch L.P. ALC will receive an endowment of $42,750 to fund its costs of monitoring and enforcing the land use restrictions

under the proposed conservation easement. Separately, Post Ranch L.P. will conduct and fund the costs of the implementation of the HCP, as itemized in Table 6, and will secure that funding obligation with an annually replaced Irrevocable "Standby" Letter of Credit ("LOC"). Some HCP items do not specifically appear in Table 6, including temporary fencing and trash disposal, but will be implemented by the building contractor(s) and included in their costs. Contractor training and pre-construction surveys are included in the construction monitoring costs (Table 6), while annual buckwheat mapping, post-construction and restoration reporting are included in habitat monitoring costs in Table 6. Speed limit signs, habitat signing, public education materials and the information kiosk have been completed and installed or are underway and will be implemented and paid for before the HCP takes effect.

A draft LOC form is provided in Appendix E. The LOC for the initial year after approval of the HCP and take permit will be the full budget of the HCP including a 15% contingency (340,730+51,110) (Table 6). Each replacement LOC will be reduced for tasks accomplished during the year, but contingencies will not be subtracted as 15 percent of the full budget amount is needed to preserve funds for changed circumstances. Each year's LOC will expire on December 31st, and each replacement LOC shall be delivered to the Service by November 30th of the year prior to the commencement of the term of the replacement LOC, together with the written budget estimate supporting the amount of the replacement LOC.

In the event either that (i) Post Ranch L.P. fails to submit a monitoring report required in accordance with Subsection 8.7 of this HCP, or (ii) fails to deliver a replacement LOC as required in the preceding paragraph, the Service shall be entitled to declare a "Default" under the LOC and make a drawing against the LOC of such amount, up to the full amount available to the Service under the LOC, as the Service reasonably determines to be necessary to fund the undertaking of the HCP implementation obligation that Post Ranch L.P. has failed to discharge.

The preliminary budget figures presented in Table 6 are in current dollar values, and will be adjusted annually for inflation using the San Francisco-Oakland-San Jose Area Consumer Price Index –All Urban. These budget estimates will be reviewed and revised annually as necessary to account for changes in projected costs of implementation of the HCP. Restoration and habitat management activities at Post Ranch Inn will include, but will not be limited to: site inspections, removal and control of exotic plants and animals, plant collection and propagation of SBB food plants, revegetation of pond and uplands with native plants, monitoring of SBB and CRLF, fire control, and annual reporting of such activities, as necessary to maintain the conserved lands in conditions suitable for the protection of its habitat value in perpetuity.

8.8.2 Funding for Changed Circumstances

Changed circumstances are defined and discussed in Section 9.1 below. Funding for each changed circumstance includes professional consulting time to evaluate requirements or design facilities, monies to implement needed measures, and costs for monitoring, maintenance and reporting after implementation. The costs (below) assume a worst-case scenario for disasters, hazards, and required structural repairs; however, it is also assumed that post-project monitoring can be conducted in conjunction with other monitoring responsibilities under this HCP, resulting in net savings for that function. Funding for a changed circumstance will be added to the annual LOC.

Table 6. Estimated costs for Planned Habitat Conservation Plan Implementation				
Activity	**Assumptions**	**Unit Cost**	**Yr. 1 Cost**	**Total Cost**
Revegetation- SBB:				
Eradication of exotics	2 days/yr. Years 1-2	$ 240/day	$ 480	$ 960
Seed collection & plant propagation	Years 1-2	$ 14/plant 600 plants	$ 4200	$ 8,400
Plant installation	3 days, Years 1-3	$ 240/day	$ 720	$ 2,160
Scrub seed collect & broadcast	4 days, Years 1-2	$ 240/day $ 2400/yr.- entomol.	$ 960 $2400	$ 1,920 $ 4,800
Revegetation- Pond				
Exotics eradication	1 day, years 1-2	$ 240/day	$ 240	$ 480
Plant propagation	Years 1-4	$ 14/plant 1000 plants	$ 3500	$ 14,000
Plant installation	2.5 days, Years 1-4	$ 240/day	$ 600	$ 2,400
Subtotal for Minimization Measures			$ 13,100	$ 35,120
Monitoring:				
Construction monitoring	Years 1-3	6hrs/day, 72 days/yr., 3 yrs.	$ 36,720	$110,160
Habitat and species monitoring- SBB	Years 1-3	3 days/yr (botanist) $10000/yr.(entomol)	$ 1920 $ 10,000	$ 5,760 $ 30,000
Habitat and species monitoring- CRLF	Years 1-3	6 days/yr. (biol.) 6 days/yr.(wild. biol.)	$ 3600 $ 3600	$ 10,800 $ 10,800
Habitat and species monitoring	Years 4 -10	6 days/yr. (boil. $4080/yr) 3 days/yr. (wild. biol. $2040/yr.)		$ 28,560 $ 14,280
Habitat and species monitoring	Years 11-20	4 days/yr. $ 4000/yr.		$ 40,000
Annual Report	Years 1-20	$ 1000/yr.	$ 1000	$ 20,000
Subtotal for Monitoring			$ 56,840	$270,360
Maintenance:				
Reveg: Irrigation, exotics control, species replacem.	Years 2-5	$ 1,000/yr.		$ 4,000
Exotics Removal	Years 6-10	$ 250/yr		$ 1,250
Bullfrog and exotic fish control	Years 1-4	$ 7,500/yr.	$ 7500	$ 30,000
Subtotal for Maintenance			$ 7500	$ 35,250
15% Contingency			$11,616	$51,110
HCP Implementation Grand Total			**$ 89,056**	**$ 391,840**

The following costs have been estimated for changed circumstances:

- Protection measures in the event of new species listing: $ 8,200
- Wildfire/erosion affecting seacliff buckwheat (SBB habitat): 5,300
- Wildfire affecting pond and upland vegetation for CRLF 7,100
- Earthquake causing landslide destruction of seacliff buckwheat 4,000
- Earthquake causing destruction of pond dam 9,500
- Pond draining for new exotic species infestation 8,500
- Augment pond water due to extended drought or severe pond leakage 8,000

Total Estimated Costs $ 50,600

Table 7 shows total annual costs of implementing the HCP in 2006 dollars. The contingency column is the amount budgeted to address changed circumstances, should they occur.

Table 7. Annual Costs Per Year

Years	Annual Cost	Contingency	Total for Year
1	$77,440	$11,616	$89,056
2	$78,440	11,766	90,206
3	$70,160	10,524	80,684
4	$19,720	2,958	22,678
5	$8,120	1,218	9,338
6-10	$7,370	1105.50	8,476
11-20	$5,000	750	5,750

8.9 ADAPTIVE MANAGEMENT

Adaptive management is a process by which the HCP may be adjusted over time to reflect new information on the life history or ecology of the two species covered in this plan. Management adjustments may occur due to continuing research on the species, or information determined during monitoring on the effectiveness of minimization and mitigation measures contained in the HCP. Adaptive management will allow for changes in the mitigation strategies that may be necessary to reach the long-term biological goals for SBB and CRLF under this HCP.

8.9.1 Procedures for Revising the Conservation Program

Adaptive management amendments undertaken pursuant to the section include, but are not limited to:

- Knowledge of species' habitat management becomes available from recovery plans or other scientific research on SBB or CRLF;

- Monitoring of SBB or CRLF shows a population decline, or an inability to successfully reproduce, and management techniques can be identified that could result in adjustment to reverse the population declines.

The process for adopting changes pursuant to the Adaptive Management program is the same as those established in Sections 10.1 or10.2 under Major or Minor Amendments to the HCP. Specifically, the project biologist will confer with the Service about new techniques that could improve habitat quality or species' survival, and feasibility of implementing said techniques. If determined feasible, revision to the HCP management techniques shall be made by written authorization from the Service.

8.9.2 Adaptive Management for Covered Species in the HCP

The goals and objectives for replacement of SBB habitat at Post Ranch Inn involve revegetation techniques that have proved successful in similar California sagebrush scrub and California annual grassland habitats and therefore should be able to be met. However future research on SBB life history and habitat requirements may indicate need for new management strategies for the butterfly, seacliff buckwheat, or other plants in the California sagebrush scrub vegetation complex that are unknown at this time.

Based on monitoring accomplished between 2000 and 2004, the ability to meet goals and objectives for CRLF is somewhat questionable. Specifically, recent surveys have indicated that CRLF breeding has produced egg masses in large quantities but that metamorphic transformation from larvae to juvenile frogs has not been successful. Adaptive management techniques may be needed if proposed management at the breeding pond fails (Section 7.8.5). Adaptive management may include annual draining of the pond, trapping and removal of crayfish, and/or other techniques developed in consultation with the Service to eradicate exotic animal predators.

9.0 CHANGED AND UNFORESEEN CIRCUMSTANCES

Section 10 regulations [50 CFR 17.22 (b)(2) and 50 CFR 17.32(b)(2)] require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Habitat Conservation Plan Assurances (No Surprises) Rule [50 CFR 17.2, 17.22 (b)(5) and 69 FR 71723] defines changed and unforeseen circumstances and describes the obligations of the Permittee and the Service. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the Permittee [50 CFR 17.3, 17.22(b)(5), and 17.32(b)(5)].

9.1 CHANGED CIRCUMSTANCES

Changed circumstances are defined as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the Service and for which contingency plans can be prepared (e.g., the new listing of a species, a fire, or other natural catastrophic event in areas prone to such an event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program (e.g., the conservation management activities or mitigation measures expressly agreed to in the HCP), then the Permittee will implement those measures as specified in the plan. However, if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the Service will not require these additional measures absent the consent of the Permittee, provided that the HCP is being "properly implemented" and the species in question is adequately covered (properly implemented means the commitments and the provisions of the HCP have been or are being fully implemented).

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the Federal ESA during the term of the Section 10 permit, the Section 10 permit will be reevaluated by the Service and the HCP covered activities may be modified, as necessary, to insure that the activities covered under the HCP are not likely to jeopardize or result in the take of the newly listed species or adverse modification of any newly designated critical habitat. The Permittee shall implement the modifications to the HCP covered activities identified by the Service as necessary to avoid the likelihood of jeopardy, to or take, of the newly listed species or adverse modification of newly designated critical habitat. The Permittee shall continue to implement such modifications until such time as the Permittee has applied for and the Service has approved an amendment of the Section 10 permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies the Permittee in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of take or jeopardy of the newly listed species or adverse modification of newly designated critical habitat.

9.1.1 Natural Hazards and Disasters

As to other potential changed circumstances; e.g., wildfire, extended drought, earthquake or other natural disaster, the relatively short duration of the permit (i.e., 20 years) lessens the likelihood that one of these phenomena may cause substantial changes to this site during the permit period. Furthermore, some types of changed circumstances, for example a wildfire, may actually enhance habitat values in the long term because Seacliff buckwheat regenerates well after such fires. If areas with seacliff buckwheat are burned in a wildfire, regeneration of those areas will be monitored and measures such as weed control and re-seeding and /or replanting with seacliff buckwheat will be implemented if seacliff buckwheat does not return naturally. Seacliff buckwheat will be planted in the areas where French broom or other exotics are removed and interplanted in voids in the California sagebrush scrub community. This may occur within or outside the 0.732 restored scrub area, but would occur within the 15.4 acre SBB conservation easement area. Many other native plant communities on site also benefit from fire. Nonetheless, in the event of a wildfire, some intrusion into the protected habitat area may be necessary to protect the Inn facilities and adjacent residences, which would require future restoration of habitat. The Permittee is responsible for restoration if, during a wildfire, degradation of the preserved area and take of SBB occur during attempts to protect and preserve the Inn facilities and related structures existing or to be constructed. Similarly fire could destroy pond vegetation and surrounding upland habitat that is important for CRLF. These areas would also be revegetated.

Extended drought could delay the establishment and growth of restoration plantings, which can be accommodated by extending the term of the permit until restoration goals are achieved. Similarly, extended drought could affect water levels in the pond occupied by CRLF; however, extended drought would probably cause drying of the pond during fall months, which could benefit CRLF. If there is significant drying of the pond at times other than normal fall dispersal periods for CRLF, or if water contaminants are adversely affecting CRLF (both highly unlikely events), the Service will be contacted about the possibility of augmenting pond water with treated wastewater on an emergency basis. In order to be used in the pond, water quality testing must indicate levels of nutrients, contaminants and pathogens are low or non-existent in wastewater, and wastewater quality is higher than pond water quality.

Installation, maintenance and repair of pond facilities, drainage structures, and introduction of treated graywater into the pond could impact CRLF. CRLF could also be affected by new introduction of exotic predator species. Emergency pond draining may be necessary to repair facilities or remove contaminants. If resident CRLFs cannot be relocated to suitable habitats on site, neighboring property owners with suitable breeding ponds will be contacted to provide temporary relocation site(s).

An earthquake could cause landsliding which could remove seacliff buckwheat or damage the pond berm. Buckwheat removal would be mitigated by replanting. Emergency repairs to the berm would be conducted after an authorized biologist removed all CRLF life phases from the construction zone. Reconstruction of the berm could be accomplished without removing all water from the pond. The pond would be artificially refilled with well water or allowed to refill naturally if berm reconstruction occurred during rainy months. Winter storms could cause landslide or severe erosion problems in habitat areas that would require subsequent

repairs, such as slope stabilization and revegetation. The ongoing management of the protected and restored portions of the project site will allow for appropriate responses to changed circumstances during the life of the permit.

In addition, the HCP recognizes that potential maintenance and repair of improvements, or significant erosion may result in additional, unanticipated impacts to seacliff buckwheats that grow outside of the impact area. If such changed circumstances occur, the Permittee will notify the Service and the holder of the conservation easement to describe the changed circumstances and will obtain the Service's written concurrence before proceeding with any mitigation. To mitigate potential future impacts due to these changed circumstances, the applicant agrees to restore the affected habitat at a 2:1 ratio using the procedures described elsewhere in this HCP.

To accomplish such restoration, buckwheat plantings will be placed in other portions of the Post Ranch Inn, where buckwheats currently do not grow, but outside of areas targeted for restoration as mitigation due to the impact area. All enhancement buckwheats will need to be monitored for a minimum period of ten (10) years, following the procedures used for the restoration buckwheats to insure that the replacement of mature buckwheats is successful.

9.2 UNFORESEEN CIRCUMSTANCES

Unforeseen circumstances are defined as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the Service at the time of the plan's negotiation and development and that result in a substantial and adverse change in status of the covered species. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the Permittee.

In the case of an unforeseen event, Post Ranch L.P. or the current permit holder, shall immediately notify the Service staff who have functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen circumstance, the Service shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the Service determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstance where the HCP is being properly implemented, the additional measures required of the Permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that are already set-aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall involve the

commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP only with the consent of the Permittee.

10.0 PERMIT AMENDMENT/RENEWAL PROCESS

10.1 MAJOR AMENDMENTS TO THE PERMIT

During the specified permit period, amendment of the Section 10(a)(1)(B) permit for the Post Ranch Inn project would be required for any of the following changes:

- significant revision of the permit area boundary;
- the listing under the ESA of a new species not currently addressed in this HCP that may be taken by project activities;
- modification of any important project action or mitigation component under the HCP, including funding, that may significantly affect authorized take levels, effects of the project, or the nature or scope of the mitigation program; or
- any other modification of the project likely to result in significant adverse effects to SBB or CRLF not addressed in the original HCP and permit application.

10.2 MINOR AMENDMENTS TO THE HCP

This HCP may, under certain circumstances, be amended without amending its associated permit, provided that such amendments are of a minor or technical nature and that the effect on the species involved and the levels of take resulting from the amendment are not significantly different from those described in the original HCP. Examples of minor amendments to the Post Ranch Inn project HCP that would not require permit amendment include:

- minor revisions to monitoring or reporting protocols;
- minor revisions of the HCP's plan area or boundaries; and
- minor revisions in project design and construction procedures.

To amend the HCP without amending the permit, the Permittee must submit to the Service in writing a description of the proposed amendment, an explanation of why the amendment is necessary or desirable, and an explanation of why the effects of the proposed amendment are believed not to be significantly different from those described in the original HCP. If the Service concurs with the amendment proposal, it shall authorize the HCP amendment in writing, and the amendment shall be considered effective upon the date of the Service's written authorization.

10.3 PERMIT RENEWAL

Upon expiration, the Section 10(a)(1)(B) permit for the Post Ranch Inn project may be renewed, if necessary, without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting SBB and CRLF at the site are not significantly different from those described in the original HCP. At least sixty(60) days prior to the expiration of this permit, Post Ranch L.P. shall submit to the Service, in writing:

- a renewal application and applicable fee;
- reference to the original permit number;

- certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, or inclusion of a list of changes;
- a description of what take has occurred under the existing permit; and
- a description of what portions of the project are still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

10.4 PERMIT TRANSFER

In the event of sale or transfer of ownership of the property, transfer of the permit shall be governed by the Service's regulations in force at the time, as explained in Section 2.2 Permit Holder/Permit Boundary.

11.0 ALTERNATIVES CONSIDERED

11.1 ALTERNATIVE #1: NO-ACTION

Under the No-action alternative, the Post Ranch Inn project would not be implemented. As a result, incidental take of SBB and CRLF associated with removal of vegetation from the property due to initial grading activities would be avoided, and no Section 10(a)(1)(B) permit would be required. However, impacts to SBB and especially to CRLF may be far greater in the absence of this HCP. Currently, the 91.98-acre site parcel supports French broom, which, if not eradicated, could infest much of the suitable habitat on site, including the seacliff buckwheat stands, which in a worst case scenario may eventually cause the local extirpation of SBB. Similarly, bullfrogs at the Post Ranch Inn need to be controlled to minimize competition with CRLF. In this case, no mitigation replacement acreage would be restored for this project, and other conservation measures included in the project (e.g., establishment of a conservation easement, control of invasive weeds and animals, implementation of drainage improvements to enhance pond water quality, and other open space restoration measures on the property) would not be implemented. Therefore, the No-action Alternative is concluded to be of lesser conservation value to SBB and CRLF than implementation of the proposed project and accompanying HCP. For these reasons, this alternative has been rejected.

11.2 ALTERNATIVE #2: REDESIGNED PROJECT (REDUCED TAKE)

Under this alternative, the development footprint of the project would be reduced or relocated to another portion of the site, thereby reducing the loss of potential habitat for SBB and/or CRLF. Relocation options are limited by the existence of over 30% slopes (unbuildable in Monterey County), and presence of scenic easement, archaeological easement and proposed Conservation Easement. Also woodland areas, requiring tree removal and incursion into sensitive habitat, were deemed unsuitable to new development. That leaves small areas of undeveloped annual grassland, or the orchard area, that could be considered for support facilities such as Central Services, but would require longer road extensions and other infrastructure improvements. Relocating ocean or mountain facing Inn units is restricted by need for an access road along the ridge, County policy requiring new units be at least 400’ from the existing inn units, and presence of steep slopes. Further reduction of the development footprint, including inn units, employee housing, spa-pool complex and central services was considered by the owners and architects due to cost concerns, but was rejected because the existing sizes of these facilities are small and further reductions would compromise functionality. In addition, any changes to the design or location of facilities would require a new, complex and time-consuming County review process that the owner has rejected. With a redesigned, reduced take project, Section 10(a)(1)(B) permit would still be required, although the amount of mitigation would be less than that provided for the project as proposed. A reduction in the development would not significantly improve onsite habitat for SBB or CRLF and there would still be an increase in human activity that could affect individual animals that may be using the project site. Relocated development could affect CRLF upland habitat, or alternatively other environmental resources such as archaeological sites or steep slope areas. Thus, the anticipated gains in reduction of take of the covered species and reduced modification of the covered species’ habitats would not be significant; furthermore this alternative would also result in unnecessary economic burdens to Post Ranch L.P. For these reasons, this alternative has been rejected.

11.3 ALTERNATIVE #3: PROPOSED ACTION (PERMIT ISSUANCE)

Under the Proposed Action alternative, the Post Ranch Inn project would be developed as described in Chapter 2.0. The Proposed Action includes the issuance of a Section 10(a)(1)(B) permit to allow construction of the project. The project would result in the loss of approximately 0.003 acres of actual or potential habitat for SBB. More intensive use of the site could also affect CRLF. However, conservation measures as proposed in the HCP would result in greater habitat value for SBB and CRLF than presently exists on the project site, due to the control or eradication of exotic plants and animals that can out-compete the buckwheat food plant of the butterfly, or adversely affect the frog. The Proposed Action thus provides greater habitat conservation benefits than the No Action and Redesigned Project alternatives, and also best meets the needs of the applicant. Therefore, the Proposed Action is the preferred alternative.

12.0 HABITAT CONSERVATION PLAN PREPARERS

John A. Gilchrist, Richard A. Arnold and Mark Allaback prepared this HCP. Arden Handshy and Jeff Norman reviewed HCP drafts and provided information on County permitting/ general plan issues and site botany, respectively. Peter Haase with Fall Creek Engineering assisted with the discussion of drainage and wastewater improvements. Dr. Arnold is the President of Entomological Consulting Services, Ltd., of Pleasant Hill, CA. Mr. Allaback is a wildlife biologist and co-owner of Biosearch Associates in Santa Cruz, CA. Mr. Gilchrist is the principal of John Gilchrist & Associates, an environmental and biological consulting firm in Santa Cruz, CA. Mr. Handshy is a land use facilitator based in Pacific Grove, CA. Mr. Norman is a botanist from Big Sur, CA. John Gilchrist is the primary contact person for the team.

13.0 REFERENCES

Allaback, M.A. 2001. California Red-legged Frog Survey, Post Ranch Inn, Monterey County, CA

Arnold, R.A. l983a. Conservation and management of the endangered Smith's blue butterfly, *Euphilotes enoptes smithi.* Journal of Research on the Lepidoptera 22:135-153.

Arnold, R.A. 1983b. Ecological studies of six endangered butterflies: island biogeography, patch dynamics, and the design of habitat preserves. Univ. of Calif. Publications in Entomology 99: 1-161.

Arnold, R.A. 1985. Ecological studies of the endangered El Segundo blue butterfly at the Chevron refinery in El Segundo, California during 1984. Final report for a contract with Chevron, U.S.A. 25 pp.

Arnold, R.A. 1986. Ecological studies of the endangered Smith's blue butterfly at Marina State Beach in 1986. Final report for an interagency agreement between the Calif. Dept. of Parks & Recreation and the University of California's University Research Expedition Program. 32 pp.

Arnold, R.A. 1990. The ecology and conservation of two endangered Southern California butterflies. IN, *Endangered Wildlife and Habitats in Southern California.* P.J. Bryant and J. Remington, eds. Memoirs of the Natural History Foundation of Orange County. Vol. 3, pp. 36-47.

Arnold, R.A. 1991a. Habitat and status surveys for the endangered Smith's blue butterfly at Rancho San Carlos in Carmel Valley, California. Final Report. 35 pp.

Arnold, R.A. 1991b. Habitat and status surveys for the endangered Smith's blue butterfly at Garland Park in Carmel Valley, California. Final Report. 30 pp.

Arnold, R.A. and A.E. Coins. 1987. Habitat enhancement techniques for the El Segundo blue butterfly, an urban endangered species. IN, *Integrating Man and Nature in the Metropolitan Environment.* L.W. Adams and D.L. Leedy, eds. Proc. Natl. Symposium on Urban Wildlife, Chevy Chase, MD, 4-7 Nov. 1986. Published by the National Institute for Urban Wildlife. pp. 173-181.

Arnold, R.A. 1994. Letter report, addressed to Maeton Freel, of the Los Padres National Forest, regarding the Smith's Blue butterfly at the Gorda Overlook project site.

Arnold, R.A. 2000. Letter report, addressed to Arden Handshy, regarding the Smith's Blue butterfly at Post Ranch Inn. Dated 20 Sept. 2000. 7 pp.

Arnold, R.A. 2002. Protocol for Presence-Absence Surveys of the Endangered Smith's Blue Butterfly on the Los Padres National Forest in Monterey and northern San Luis Obispo counties, CA. Prepared for the U.S. Forest Service, Contract #53-91Y9-1-1G096. November 2002.

Bossard, C.C., J.M. Randall & M.C. Hosbovshy. 2000. Invasive Plants of California's Wildlands. UC Press, Berkeley, CA

Bulger, J. B., N. J. Scott Jr., and R. B. Seymour. 2003. Terrestrial Activity and Conservation of Adult California Red-legged Frogs *Rana aurora draytonii* in Coastal Forests and Grasslands. Biological Conservation 110: 85-95.

Bulger, J. B. 1999. Terrestrial activity and conservation of California red-legged frogs (*Rana aurora draytonii*) in forested habitats of Santa Cruz County, California. Prepared for Land Trust of Santa Cruz County.

California Natural Diversity Data Base. 1999. List of California terrestrial natural communities recognized by the California Natural Diversity Data Base. California Dept. of Fish & Game, Natural Heritage Division. Sacramento, CA. 65 pp.

California Native Plant Society. 1994. Inventory of rare and endangered vascular plants of California. Special Publication #1, 5th ed. 338 pp.

Fall Creek Engineering. 2001. Post Ranch Inn Engineering Report – Water, Wastewater & Drainage Improvement Plan, September 10, 2001.

Handshy, Arden. 2001. Post Ranch Inn Improvements – Plan Sheets 0.1-0.12 and A.1 to A.10. Submitted to Monterey County Planning Department, September 11, 2001.

Hayes, M.P. and M.R. Jennings. 1986. Decline of ranid frog species in western North America: are bullfrogs (*Rana catesbeiana*) responsible? Journal of Herpetology 20:490-509.

Hayes, M.P. and M.R. Jennings. 1988. Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytonii*) and the foothill yellow-legged frog (*Rana boylii*): implications for management. In R.C. Szaro, K.E. Severson, and D.R. Patton tech. Corr., Management of Amphibians, Reptiles and Small Mammals in North America. USDA, Forest Service, Rocky Mountain Forest and Range Experiment Station. Gen. Tech. Rpt. RM-166.

Hayes, M.P and M.M. Miyamoto. 1984. Biochemical, behavioral and body size differences between *Rana aurora aurora* and *Rana aurora draytonii*. Copeia, 1984: 1018-1022.

Hickman, J.C. 1993. The Jepson Manual—Higher Plants of California. UC Press, Berkeley, CA

Higgins & Associates. 2001. Post Ranch Inn Planned Improvements—Traffic and Parking Impact Analysis, and Trip Reduction Plan. Letter report to Arden Handshy.

Howe, W.H. 1975. The butterflies of North America. Doubleday, Garden City, N.Y.

International Union for the Conservation of Nature (IUCN). 1996. Red list of threatened animals. Gland, Switzerland. 368 pp.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game Contract # 8023. Inland Fisheries Division, Rancho Cordova, California.

Kellner, C. 1989. Survey for Smith's blue butterflies along the Big Sur coast, Monterey County, California. LSA Associates Inc. Pt. Richmond, CA. 80 pp.

Langston, R.L. 1963. *Philotes* of central coastal California. Journ. Lepid. Soc. 17:201-223.

Langston, R.L. 1965. Distribution and hosts of five *Philotes* in California. Journ. Lepid. Soc. 19:95-102.

Langston, R.L. 1969. *Philotes* of North America: synonymic lists and distribution. Journ. Lepid. Soc. 23:49-62.

Lawler, S.P., D. Dritz, T. Strange, and M Holyoak. 1999. Effects of introduced mosquitofish and bullfrogs on the threatened California red-legged frog. Cons. Bio. 13: 613-622.

Lowe, D.W. (ed.) 1990. The official World Wildlife Fund guide to endangered species of North America. 2 Vols. Beacham Publishing, Inc. Washington, D.C. 1180 pp.

Mattoni, R.H.T. 1954. Notes on the genus *Philotes.* I. Descriptions of three new subspecies and a synoptic list. Bull. So. Calif. Acad. Sci.53:157-165.

Mattoni, R.H.T. 1977. The Scolitantidini: I. Two new genera and a generic rearrangement (Lycaenidae). Journ. Res. Lepid. 16:223-242.

McCasland, C. and B. Twedt. 2000. Endangered and threatened wildlife and plants; proposed designation of critical habitat for the California red-legged frog (*Rana aurora draytonii*); proposed rule. Federal Register: Vol. 65, No. 176. 11 September.

Miller, K. J., A. Willy, S. Larsen, and S. Morey. 1996. Endangered and threatened wildlife and plants; determination of threatened status for the California red-legged frog. Federal Register: Vol. 61, No. 101.

Miller, L.D., and F.M. Brown. 1981. A catalogue/checklist of the butterflies of America north of Mexico. The Lepidopterists' Society, Memoir #2. 280 pp.

Monterey County. 1985. Big Sur Area Land Use Plan.

Monterey County. 1988. Monterey County Coastal Implementation Plan, Part 1 (Coastal Zone Regulations; Regulations of Coastal Development Permits; General Provisions and Exceptions; Title 20).

Moyle, P.B. 1973. Effects of introduced bullfrogs, *Rana catesbeiana*, on the native frogs of the San Joaquin Valley, California. Copeia, 1973: 18-22.

Norman, J. 1994. Surveys for *Eriogonum parvifolium*, food plant of the endangered Smith's blue butterfly. Final report for the U.S. Forest Service, Los Padres National Forest Unit.

Norman, J. 2001. Biological Report for Post Ranch Inn Improvement Plan. 70 pp.

Pratt, G.F. & J.F. Emmel. 1998. Revision of the *Euphilotes enoptes* and *E. battoides* complexes. IN, Emmel, T.C. (ed.). *Systematics of western North American butterflies*. Mariposa Press. Gainesville, FL. pp. 207-270.

Rathbun, G.B., M.R. Jennings, T.G. Murphey, and N.R. Siepel. 1993. Status and ecology of sensitive aquatic vertebrates in lower San Simeon and Pico Creeks, San Luis Obispo County, California. Unpublished report, National Ecology Research Center, Piedras Blancas Research Station, San Simeon, California, 93452-0070. Cooperative Agreement 14-16-009-91-1909.

Scott, J.A. 1986. The butterflies of North America: a natural history & field guide. Stanford Univ. Press, Stanford, CA.

Shield, A.O. 1975. Studies on North American *Philotes* (Lycaenidae). V. Taxonomic and biological notes, and new subspecies. Bulletin Allyn Museum, No. 28: 1-30.

Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Houghton Mifflin Co., Boston, MA

Steinhardt, P. 1990. California's wild heritage: threatened and endangered animals in the Golden State. California Dept. of Fish & Game. Sierra Club Books. Craftsman Press, Seattle, WA. 108 pp.

Storer, T.I. 1925. A synopsis of amphibia of California. Univ. of California Publ. In Zoology 27:1-342.

Thelander, C.G. and Crabtree, M. (eds). Life on the edge: a guide to California's endangered natural resources. BioSystems Books. Santa Cruz, CA. 550 pp.

U.S. Environmental Protection Agency. 1999. Storm Water Technology Fact Sheet - Bioretention. USEPA. Office of Water. Washington, D.C. (EPA Publication No. 832-F-99-012)

U.S. Fish & Wildlife Service. 1976. Determination that six species of butterflies are endangered species. Federal Register 41:22041-22044.

U.S. Fish & Wildlife Service. 1984. Smith's blue butterfly recovery plan. Portland, OR. 87 pp.

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1996. Endangered Species Habitat Conservation Handbook. November, 1996.

U.S. Fish and Wildlife Service. 1997. Guidance on Site Assessment and Field Surveys for California Red-legged Frogs.

U.S. Fish and Wildlife Service. 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon. 173 pp.

U.S. Fish and Wildlife Service. 2004. Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the California Red-legged Frog (*Rana aurora draytonii*) Federal Register 69:19620-19642, April 13, 2004.

Walsh, B. 1975. (untitled brief note). Atala 2:2.