



BIDWELL PARK



FINAL MASTER MANAGEMENT PLAN UPDATE



JUNE 2008

EDAW

BIDWELL PARK



FINAL MASTER MANAGEMENT PLAN UPDATE



PREPARED FOR:

CITY OF CHICO PARK DEPARTMENT
411 MAIN STREET, 3RD FLOOR
CHICO, CALIFORNIA 95929

CONTACT: DENNIS BEARDSLEY
(530) 896-7801

PREPARED BY:

EDAW
2022 J STREET
SACRAMENTO, CALIFORNIA 95827

CONTACT: PETRA UNGER
(916) 414-5800

EDAW

JUNE 2008

April 26, 2007

**NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE
BIDWELL PARK MASTER MANAGEMENT PLAN UPDATE (SCH# 2004102045)**

Name of Project: Bidwell Park Master Management Plan (BPMMP) Update

Location: The 3,670-acre Bidwell Park (the Park) is located in the City of Chico, approximately 92 miles north of Sacramento and 72 miles southeast of Redding. Bidwell Park extends in a northeasterly direction from near downtown Chico approximately ten miles into the Sierra Nevada/Cascade foothills. The Park is bisected by Big Chico Creek, a perennial stream which traverses the entire length of the park in an east to west direction. State Highway 99 traverses the lower portion of the Park in a north to south direction.

Description of Project: The Bidwell Park Master Management Plan (BPMMP) update is a comprehensive update of the 1990 Master Management Plan completed for the Park. The updated BPMMP incorporates the acquisition of 1,455 acres of additional park land, updates baseline data on park resources, addresses important planning issues pertaining to management and public use of the Park, provides a venue for public input, and clarifies allowable uses in the Park. The BPMMP was developed with extensive input from a Citizen Advisory Committee formed specifically for the BPMMP update process, as well as with significant input from the Bidwell Park and Playground Commission, which is charged with oversight on issues pertaining to management of the Park.

This Draft Environmental Impact Report (Draft EIR) examines the significant and potentially significant effects on the environment that may occur as a result of implementing the proposed BPMMP update, which includes four site-specific Park Improvement Projects – the Trails Plan, the Horseshoe Lake Area Concept Plan, the Cedar Grove Area Concept Plan, and the Disc Golf/Trailhead Area Concept Plan. The Draft EIR is a companion to and integrated with the proposed BPMMP, because both share certain presentations that have common uses in each document (e.g., project description, description of existing conditions). In other words, the two documents must be utilized together, and for that reason, the BPMMP update is identified as Volume 1 and the Draft EIR is identified as Volume 2.

Because of the nature of the BPMMP as an overall planning document that addresses a program of actions within the Park, many proposed policies are directive and qualitative, rather than quantitative. For this reason, the Draft EIR is a Program EIR. A Program EIR can either serve as a “first-tier” EIR upon which later project-specific California Environmental Quality Act (CEQA) documents can rely or as a comprehensive document that would allow an agency to carry out activities that are “within the scope” of the Program EIR without having to prepare additional site-specific EIRs or negative declarations. In addition, the document also serves as a Project EIR for the four proposed Park Improvement Projects identified above. This is the most common form of EIR and it focuses on the changes in the environment that would occur as a result of the construction and operation of the four Park Improvement Projects.

Lead Agency: City of Chico Planning Services Department

Lead Agency Contact Person: Brendan Vieg, Senior Planner

Phone Number: (530) 879-6806

Draft EIR Review Period: Begins: April 27, 2007

Ends: June 26, 2007 at 5:00 p.m.

Where Documents Are Available for Review: The Draft EIR, BPMMP, and supporting materials may be reviewed at the City of Chico Planning Services Department, 411 Main Street, Chico; the Butte County Library, Chico Branch, 1106 Sherman Avenue, Chico; and the Meriam Library, Special Collections, 3rd floor, CSU, Chico. *The Draft EIR is also available on the City's website at <http://www.ci.chico.ca.us/>*

Publish: Thursday, April 26, 2007

Acct. # MAJNC/19005-000-4120

Where to Send Comments: *Comments related to environmental concerns and the Draft EIR should be provided in writing to Brendan Vieg, City of Chico Planning Services Department, P.O. Box 3420, Chico, CA 95927 or delivered to the 411 Main Street address no later than June 26, 2007 by 5:00 pm. Comments may also be submitted via e-mail to Brendan Vieg at bvieg@ci.chico.ca.us* For each comment received on the Draft EIR during the 60-day comment period, a written response will be prepared for inclusion in the Final EIR. Although verbal comments received at the public meeting (discussed below) will be noted and addressed within the Final EIR, to ensure an accurate recording of each concern, written comments are strongly encouraged.

Public Meeting: *A public meeting has been scheduled for Wednesday, June 13, 2007 at 6:00 p.m. in the City of Chico Council Chambers at 421 Main Street, to receive oral comments on the Draft EIR.* Again, submittal of written comments is strongly encouraged. Individuals and agencies are invited to attend the meeting to discuss environmental concerns and questions associated with the project's environmental review.

Anticipated Significant Impacts: Implementation of the BPMMP is not expected to result in significant adverse effects on the environment. Implementation of the goals, objectives, implementing strategies and guidelines presented in the BPMMP along with compliance with federal and state laws and regulations will avoid potential significant effects or maintain them at less than significant levels. Implementation of the four Park Improvement Projects has the potential to result in potentially significant or significant effects on the environment affecting the following resources: Air Quality, Biological Resources, Cultural Resources, Hydrology and Water Quality, Noise, and Traffic. For each significant or potentially significant impact, the Draft EIR contains mitigation measures that would reduce the impacts to less than significant.

Signature: _____

Date: _____

TABLE OF CONTENTS

Section	Page
Acronyms and Abbreviations	vii
Glossary of Terms.....	ix
Spirit of Bidwell Park	1-1
1 INTRODUCTION.....	1-2
1.1 Introduction to the Park.....	1-2
1.1.1 Location and Setting of the Park.....	1-2
1.1.2 Historic and Current Context of the Park.....	1-5
1.1.3 Regional Context.....	1-6
1.2 Master Management Plan Update	1-6
1.2.1 Purpose of the Master Management Plan Update	1-6
1.2.2 Subsequent Planning Activities.....	1-6
1.2.3 Public Involvement and Agency Review	1-6
1.3 Contents of the Master Management Plan Update.....	1-7
1.3.1 Introduction.....	1-7
1.3.2 Existing Conditions.....	1-7
1.3.3 Management Goals and Objectives and Implementing Strategies and Guidelines.....	1-8
1.3.4 Environmental Impact Report.....	1-8
1.3.5 Plan Preparers	1-8
1.3.6 References.....	1-8
1.3.7 Other Sections	1-8
2 EXISTING CONDITIONS	2-1
2.1 Park Zones.....	2-1
2.1.1 Lower Park.....	2-1
2.1.1.1 Cedar Grove	2-1
2.1.1.2 One-Mile Recreation Area	2-1
2.1.1.3 Lost Park.....	2-1
2.1.1.4 Annie’s Glen/Camellia Way.....	2-2
2.1.2 Middle Park.....	2-2
2.1.2.1 Horseshoe Lake	2-2
2.1.3 Upper Park	2-2
2.1.3.1 Proposed Disc Golf Facility/Trailhead at the SR 32 Site	2-7
2.1.4 Trails Plan	2-7
2.2 Land Uses.....	2-7
2.2.1 City of Chico General Plan & Zoning.....	2-7
2.2.1.1 Park and Recreation Plan, CARD (1988).....	2-8
2.2.1.2 Bidwell Park Master Management Plan (1990)	2-8
2.2.2 Surrounding Land Uses.....	2-9
2.2.2.1 Butte County General Plan.....	2-9
2.2.3 Park-wide Land Use.....	2-9
2.2.4 Regional Context.....	2-10
2.2.5 Park Orientation	2-11
2.3 Park Resources.....	2-12
2.3.1 Physical Resources.....	2-12
2.3.1.1 Topography	2-12

TABLE OF CONTENTS

Section	Page
2.3.1.2 Geology/Soils	2-12
2.3.1.3 Hydrology/Water Quality	2-17
2.3.1.4 Air Quality	2-25
2.3.2 Biological Resources	2-25
2.3.2.1 Regulatory Background	2-25
2.3.2.2 Botanical Resources	2-25
2.3.2.3 Terrestrial Wildlife	2-51
2.3.2.4 Aquatic Resources	2-68
2.3.3 Cultural Resources	2-83
2.3.3.1 Cultural Setting	2-83
2.3.3.2 Prehistoric Context	2-83
2.3.3.3 Ethnographic Context	2-84
2.3.3.4 Historic Context	2-92
2.3.3.5 Bidwell Park History	2-94
2.3.3.6 Background Research	2-95
2.3.4 Interpretative and Educational Resources	2-97
2.3.4.1 Facilities and Other Resources	2-97
2.3.4.2 Themes	2-97
2.3.4.3 Programs and Special Events	2-97
2.3.4.4 Rules and Regulations	2-98
2.3.5 Aesthetic Resources	2-98
2.3.5.1 Visual Resources and Scenic Characteristics	2-98
2.3.5.2 Viewsheds	2-98
2.3.5.3 Night Sky	2-99
2.3.6 Recreational Resources	2-99
2.3.6.1 Recreational Activities	2-99
2.3.6.2 Trails	2-99
2.3.6.3 Patterns and Levels of Recreational Use	2-99
2.4 Facilities	2-100
2.4.1 Buildings	2-100
2.4.1.1 Chico Creek Nature Center	2-100
2.4.1.2 Rod and Gun Club	2-100
2.4.1.3 Kiwanis Community Observatory	2-100
2.4.1.4 Restrooms	2-100
2.4.2 Recreational Facilities	2-101
2.4.2.1 Playgrounds	2-101
2.4.2.2 Golf Course	2-101
2.4.2.3 Chico Equestrian Association Arena	2-101
2.4.2.4 Swimming Areas	2-101
2.4.2.5 Horseshoe Lake Fishing Pier	2-101
2.4.2.6 Disc Golf (Unofficial)	2-102
2.4.2.7 Picnic Tables	2-102
2.4.2.8 Benches	2-102
2.4.2.9 ADA Accessibility	2-102
2.4.3 Circulation and Access	2-102

TABLE OF CONTENTS

Section	Page
2.4.4 Park Access	2-103
2.4.4.1 Access to Lower Park	2-103
2.4.4.2 Access to Middle Park	2-104
2-2.4.4.3 Access to Upper Park	2-108
2.4.4.4 Access Off SR 32	2-112
2.4.5 Utilities and Services	2-113
2.4.5.1 Lighting	2-113
2.4.5.2 High Voltage Power Lines	2-113
2.4.5.3 Other Utilities	2-113
2.4.6 Public Safety and Emergency Services	2-114
2.4.6.1 Fire Protection	2-114
2.5 Maintenance and Operations Staff	2-115
2.5.1 Funding	2-116
2.5.1.1 Funding Strategies	2-116
2.5.1.2 Bidwell Park Endowment Fund	2-117
2.5.2 Maintenance Staff	2-117
2.5.3 Rangers/Life Guards	2-117
2.6 Volunteers	2-118
2.6.1 Park Watch	2-118
2.6.2 Maintenance Activities	2-118
2.6.2.1 Trail Maintenance	2-118
2.6.2.2 Litter Control	2-118
2.6.2.3 Vegetation Management	2-119
2.6.2.4 Painting	2-119
2.6.3 Chico Creek Nature Center	2-119
2.7 Planning Influences	2-119
2.7.1 Demographic Profile	2-119
2.7.1.1 Local and Regional Residents	2-119
2.7.1.2 Existing and Potential Future Park Visitors	2-122
2.8 Key Planning Issues and Opportunities	2-123
2.8.1 Land Uses	2-123
2.8.2 Physical and Biological Resources	2-123
2.8.3 Cultural Resources	2-124
2.8.4 Aesthetic Resources	2-124
2.8.5 Interpretive and Educational Resources	2-124
2.8.6 Recreation	2-124
2.8.7 Upper Park Road	2-124
2.8.8 Site Specific Planning	2-125
3 PARK VISION, GOALS, OBJECTIVES, AND IMPLEMENTATION STRATEGIES	
AND GUIDELINES	3-1
Bidwell Park Vision	3-1
3.1 Introduction	3-3
3.2 Purpose	3-4
3.3 Interpretation of the Plan	3-4
3.3.1 Procedures for Interpretation of BPMMP	3-4

TABLE OF CONTENTS

Section	Page
3.3.2	Consideration of Previously Unidentified Uses 3-4
3.3.2.1	Similar Uses Allowed 3-4
3.3.2.2	Applicable Standards and Review 3-5
3.4	Implementation of the Plan 3-5
3.4.1	Procedures for Implementation 3-5
3.4.2	Roles and Responsibilities 3-6
3.4.3	Adaptive Management 3-6
3.4.4	Funding 3-6
3.5	Park-wide Goals 3-6
3.5.1	Decision-Making and Management 3-7
3.5.2	Land Uses 3-8
3.5.2.1	Management and Classification 3-8
3.5.2.2	Surrounding Land Uses 3-9
3.5.2.3	Regional Context 3-11
3.5.2.4	Visitor Uses 3-12
3.5.2.5	Acquisitions 3-12
3.5.3	Park Resources 3-13
3.5.3.1	Physical Resources 3-14
3.5.3.2	Biological Resources 3-16
3.5.3.3	Cultural Resources 3-21
3.5.3.4	Interpretive and Educational Resources 3-23
3.5.3.5	Aesthetic Resources 3-25
3.5.3.6	Recreational Resources 3-27
3.5.4	Facilities 3-31
3.5.4.1	Accessibility 3-31
3.5.4.2	Community Facilities 3-32
3.5.4.3	Restrooms (Permanent, Porta Potties) 3-33
3.5.4.4	Recreational Facilities 3-33
3.5.4.5	Circulation and Access 3-35
3.5.4.6	Utilities and Services 3-38
3.5.4.7	Public Safety and Emergency Services (including Fire Protection, Park Security and Medical Aid) 3-39
3.5.5	Maintenance and Operations 3-41
3.5.5.1	Maintenance Staff 3-41
3.5.5.2	Rangers 3-41
3.5.6	Volunteers 3-42
3.5.7	Design Standards 3-43
3.5.8	Funding and Implementation Resources 3-43
3.6	Zone-Specific Goals, Objectives, implementation Strategies and guidelines 3-44
3.6.1	Lower Park 3-44
3.6.1.1	Permissible Uses in Lower Park 3-44
3.6.1.2	Lower Park Objectives, Implementation Strategies and Guidelines 3-44
3.6.1.3	Cedar Grove Objectives, Implementation Strategies and Guidelines 3-45
3.6.1.4	One-Mile Recreation Area Objectives, Implementation Strategies and Guidelines 3-46
3.6.1.5	Lost Park 3-47
3.6.1.6	Annie’s Glen/Camellia Way 3-48

TABLE OF CONTENTS

Section	Page
3.6.2 Middle Park.....	3-48
3.6.2.1 Permissible Uses in Middle Park.....	3-48
3.6.2.2 Middle Park Objectives, Implementation Strategies and Guidelines.....	3-49
3.6.2.3 Horseshoe Lake Area Objectives, Implementation Strategies and Guidelines.....	3-49
3.6.3 Upper Park.....	3-50
3.6.3.1 Permissible Uses in Upper Park.....	3-50
3.6.3.2 Upper Park Goal, Objectives, Implementation Strategies and Guidelines.....	3-50
3.6.3.3 Disc Golf/Trailhead Area Objectives, Implementation Strategies and Guidelines ..	3-53
4 ENVIRONMENTAL IMPACT REPORT.....	4-1
5 PLAN PREPARERS.....	5-1
5.1 City of Chico Staff.....	5-1
5.2 Consultants.....	5-1
5.3 Citizen Advisory Committee.....	5-2
5.4 Bidwell Park and Playground Commission	5-3
6 REFERENCES.....	6-1

TABLES

2.2.3-1 City of Chico Park Acreage, 1989–2003.....	2-10
2.2.3-2 Responsibilities of the City of Chico Park Division.....	2-11
2.3.2-1 Overview of the Acreage Occupied by Each Plant Community.....	2-31
2.3.2-2 Special-Status Plant Species Known to Occur or with Potential to Occur in Bidwell Park.....	2-41
2.3.2-3 Special-Status Terrestrial Wildlife Species Known from or with Potential to Occur Bidwell Park.....	2-54
2.3.2.4-1 Fish Species Occurring in Big Chico Creek.....	2-69
2.3.2.4-2 Special-Status Fish Known from or with Potential to Occur in Big Chico Creek.....	2-70
2.3.2.4-3 Aquatic Invertebrates Observed in Big Chico Creek.....	2-79
2.3.3-1 Documented Cultural Resource Studies Previously Conducted in Bidwell Park.....	2-88
2.3.6-1 Percentage of Areas Visited.....	2-100
2.4.4.1-1 Lower Park Parking Capacity.....	2-108
2.4.4.2-1 Middle Park Parking Capacity.....	2-111
2.4.4.3-1 Upper Park Parking Capacity.....	2-112
2.4.5.3-1 Trash Receptacles Location in Bidwell Park.....	2-113
2.7.1-1 Historic Population Growth Trends.....	2-119
2.7.1-2 Population Projections by Jurisdiction 2005–2025	2-120
2.7.1-3 Ethnic Characteristics	2-120
2.7.1-4 Acres per Capita of Large Municipal Parks.....	2-121

TABLE OF CONTENTS

Section	Page
EXHIBITS	
2.1.1.1 Lower Park Facility	2-3
2.1.2.1 Middle and Upper Park Facility.....	2-5
2.3.1-1 Soils of Lower Bidwell Park.....	2-13
2.3.1-2 Soils of Middle and Upper Bidwell Park.....	2-15
2.3.2-1a Plant Communities – Lower Park	2-27
2.3.2-1b Plant Communities – Middle and Upper Parks.....	2-29
2.3.2-2a Known Special-status Species Occurrences – Middle Park.....	2-37
2.3.2-2b Known Special-status Species Occurrences – Upper Park	2-39
2.3.3-1a Previous Survey Coverage – Lower Park	2-85
2.3.3-1b Previous Survey Coverage – Middle Park	2-87
2.3.3-1c Previous Survey Coverage – Upper Park.....	2-89
2.4.3-1a Circulation – Lower Park.....	2-105
2.4.3-1b Circulation – Middle Park.....	2-107
2.4.3-1c Circulation – Upper Park	2-109

APPENDICES

- A Annie Bidwell Deed
- B Visitor and Community Survey Summary
- C Natural Resources Management Plan
- D Cultural Resources Management Plan (Outline Only)
- E Trails Plan
- F Horseshoe Lake Area Concept Plan
- G Cedar Grove Area Concept Plan
- H Disc Golf/Trailhead Area Concept Plan
- I Regulatory Framework
- J City of Chico General Plan Goals and Policies and Municipal Codes
- K Cultural Resources Information –Confidential– Not for Public Circulation
- L Design Standards
- M City of Chico Bench Policy
- N Depository for Future BPPC Guidance on BPMMP Interpretation

ACRONYMS AND ABBREVIATIONS

°C	Celsius
°F	Fahrenheit
AB 1807	Tanner Air Toxics Act
AB 2588	Air Toxics Hot Spots Information and Assessment Act of 1987
ADA	American with Disabilities Act
AQAP	Air Quality Attainment Plan
ARB	California Air Resources Board
ATCM	Airborne Toxics Control Measure
BACT	best available control technology for toxics
BCAQMD	Butte County Air Quality Management District
BCCER	Big Chico Creek Ecological Reserve
BCCWA	Big Chico Creek Watershed Alliance
BCDEH	Butte County Department of Environmental Health
BLM	Bureau of Land Management
BMP	Best Management Practices
BPMMP	Bidwell Park Master Management Plan
BPPC	Bidwell Parks and Playground Commission
CAAQS	Californian Ambient Air Quality Standards
CAC	Citizen Advisory Committee
CalIPC	California Invasive Plant Council
CARD	Chico Area Recreation and Park District
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDF	California Department of Forestry
CDFA	California Department of Food and Agriculture
CDMG	California Department of Conservation, Division of Mines and Geology
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
City	City of Chico
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
Construction General Permit	General Permit for Discharges of Storm Water associated with Construction

	Activity
CRHR	California Register of Historical Resources
CRMP	Cultural Resources Management Plan
CSUC	California State University, Chico
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibels
dBA/DD	A-weighted decibels per doubling of distance
DFG	California Department of Fish and Game
Draft EIR	Draft Environmental Impact Report
DWR	California Department of Water Resources
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EMF	electromagnetic fields
EPA	U.S. Environmental Protection Agency
ESU	ecologically significant unit
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
Final EIR	Final Environmental Impact Report
FOBP	Friends of Bidwell Park
GLO	General Land Office
HAP	hazardous air pollutants
Hz	hertz
in/sec	inches per second
IWMP	Integrated Waste Management Plans
L_{dn}	Day-Night Noise Level
L_{eq}	Equivalent Noise Level
LEV	Low Emission Vehicle
L_{max}	Maximum Noise Level
L_{min}	Minimum Noise Level
L_x	Statistical Descriptor
MACT	maximum available control technology for toxics
mgd	million gallons per day
ml	milliliter
mph	miles per hour
MPN	most probable number

MRZ	Mineral Resource Zones
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NESHAP	national emissions standards for hazardous air pollutants
NO	nitric oxide
NO ₂	nitrogen dioxide
NOAA Fisheries	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO _x	oxides of nitrogen
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NRMP	Natural Resources Management Plan
NSVAB	Northern Sacramento Valley Air Basin
O ₃	photochemical smog
OPR	Governor's Office of Planning and Research
PAH	polynuclear aromatic hydrocarbons
Park	Bidwell Park
PCE	perchloroethylene
PFMC	Pacific Fisheries Management Council
PG&E	Pacific Gas & Electric
Plan	Bidwell Park Master Management Plan
PM	concentrations and particulate matter
PM ₁₀	respirable particulate matter
ppm	parts per million
PPV	peak particle velocity
RCA	Resource Conservation Area
RHJV	Riparian Habitat Joint Venture
RMS	root mean squared
RWQCB	Regional Water Quality Control Board
SMARA	Surface Mining and Reclamation Act
SMASCH	Specimen Management System for California Herbaria
SO ₂	sulfur dioxide
SR	State Route
SRA	shaded riverine aquatic
SWPPP	Storm Water Pollution Prevention Plan

SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
T-BACT	best available control technology for TAC
TCE	trichloroethylene
the Park	Bidwell Park
TPY	tons per year
U.S. EPA	U.S. Environmental Protection Agency
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibels
VELB	Valley elderberry longhorn beetle
WPA	Work Progress Administration
WPCP	Water Pollution Control Plant
μ	micro

GLOSSARY OF TERMS

Aesthetics: refers to the visual, audible, and other sensory factors within the park setting and its surrounding landscapes that, taken together, establish character or sense of place.

Adaptive Management: an approach and process that incorporates monitoring, research, and evaluation to allow projects and activities to proceed in the face of some uncertainty regarding consequences.

Alluvium: a general term for all detrital deposits resulting from the operations of rivers, thus including the sediments laid down in riverbeds, flood plains, lakes, fans at foot of mountain slopes and estuaries.

Alternatives: As defined by the California Environmental Quality Act (CEQA) Guidelines (§15126), an alternative to a proposed project is a modification to the project or its location which is capable of avoiding or substantially lessening any significant effect of the project, even if the alternative would impede to some degree the attainment of the project objectives, or would be more costly. A reasonable range of alternatives is to be evaluated under CEQA and shall include alternatives that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects.

Ambient Air Quality: the atmospheric concentration (amount in specified volume of air) of a specific compound as actually experienced at a particular geographic location that may be some distance from the source of the relevant pollutant emissions.

Ambient Noise Level: the composite of noise from all sources near and far.

Anadromous: those fish which spend the greater part of their lives in salt water, but migrate to freshwater rivers and streams for reproduction (e.g., salmon, shad, bass, and steelhead trout).

Archaeological: pertaining to the material remains of past human life, culture, or activities.

Aquifer: the underground layer of water-bearing rock, sand, or gravel through which water can seep or be held in natural storage. Such water holding rock layers hold sufficient water to be used as a water supply.

Bedrock: the solid rock underlying unconsolidated surface materials.

Best Management Practices (BMPs): the most current methods, treatments, or actions in regards to environmental mitigation responses.

Biodiversity: biological diversity in an environment as indicated by numbers of different species of plants and animals, as well as the relative abundance of all the species within a given area.

Biota: Animal and plant life, in general.

Buffer: land that protects natural and/or cultural values of a resource or park from adverse effects arising outside the buffer.

California Environmental Quality Act (CEQA): a state law (PRC §21000 et al.) requiring state and local agencies to take actions on projects with consideration for environmental protection. If a proposed activity may result in a significant adverse effect on the environment, an EIR must be prepared.

Clean Water Act (CWA): enacted in 1972 to create a basic framework for current programs to control water pollution; provide statutory authority for the National Pollutant Discharge Elimination System (NPDES).

Conservation Easement: acquisition of rights and interests to a property to protect identified conservation or resource values using a reserved interest deed. Easements may apply to entire parcels of land or to specific parts of the property. Most are permanent, although term easements pose restrictions for a limited number of years. Land protected by a conservation easement remains on the tax rolls and is privately owned and managed; landowners who donate conservation easements are generally entitled to tax benefits.

Cultural Landscape: a geographic area (including both the cultural and natural resources) associated with a historic event, activity, or person or exhibiting cultural or aesthetic values. This type is a landscape that evolved through use by people whose activities or occupancy shaped it.

Cultural Resource: a resource that exists because of human activities. Cultural resources can be prehistoric (dating from before European settlement) or historic (post-European contact).

Cumulative Impact: as defined by the state CEQA Guidelines (§15355) two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts.

Degradation: the reduction of environmental quality in an area through a lessening of diversity, the creation of growth anomalies, or the supplanting of native species by nonnative plant and animal species.

Demographic: having to do with a particular characteristic of a segment of the public at large; may be connected to the group's age, the region where the group resides, a particular recreational interest, economic status, etc.

Ecology: the study of the interrelationship of living things to one another and their environment.

Ecosystem: a community consisting of all biological organisms (plant, animals, insects, etc.) in a given area interacting with the physical environment (soil, water, air) to function together as a unit of nature.

Ecotone: a transition area between two adjacent ecological communities, usually exhibiting competition between organisms common to both; often a rich biological area.

Effect/Impact: an environmental change; as defined by State CEQA Guidelines §15358: (1) Direct or primary effects are caused by the project and occur at the same time and place (2) Indirect or secondary effects that are caused by the project and are late in time or farther removed in distance, but still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water quality and other natural systems including ecosystems.

Endangered Species: a species of animal or plant is considered to be endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. The U.S. Fish and Wildlife Service and/or the California Department of Fish and Game make this designation.

Endemic: indigenous to, and restricted to, a particular area.

Environment: as defined in State CEQA Guidelines §15360, "the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise, and objects of historical and aesthetic significance."

Environmental Impact Report (EIR): a report required by CEQA that assesses all the environmental characteristics of an area and determines what effects of impacts will result if the area is altered or disturbed by a proposed action. If a proposed activity may result in a significant adverse effect on the environment, an EIR must be prepared. General plans require the preparation of a "program" EIR appropriate to its level of specificity.

Environmentally Sensitive: an area in which plant or animal life or their habitats are either rare or especially valuable because of their role in an ecosystem. Such areas can be easily disturbed or degraded by human activities and developments, and typically receive protection under federal, state or local laws and regulations.

Ethnographic: a multi-format group of materials gathered and organized by an anthropologist, folklorist, or other cultural researcher to document human life and traditions.

Floodplain: a lowland or relatively flat area adjoining inland or coastal waters that is subject to a one or greater chance of flooding in any given year (i.e., 100-year flood).

Floodway: the channel of a natural stream or river and portions of the flood plain adjoining the channel, which are reasonable required to carry and discharge the floodwater or flood flow of any natural stream or river.

Geology: the scientific study of the origin, history, and structure of the earth.

Habitat: the physical location or type of environment, in which an organism or biological population lives or occurs. It involves an environment of a particular kind, defined by characteristics such as climate, terrain, elevation, soil type, and vegetation. Habitat typically includes shelter and/or sustenance.

Hazardous Material: any substance that, because of its quantity, concentration, physical or chemical characteristics, poses a significant presence or potential hazard to human health and safety or to the environment.

Hydrology: pertaining to the study of water on the surface of the land, in the soil and underlying geology, and in the air.

Intensive Uses: uses that typically occur at developed facilities or uses in undeveloped areas that result in substantial disturbance or removal of natural (e.g., plants, wildlife, soils, hydrology), cultural, visual, aesthetic or other resources. Substantial disturbance results when the intensity, frequency, and/or extent of the use exceeds the capacity of the resource to recover or significantly damages the resource for an extended period. Thus, intensive uses are defined both by the type of use as well as the sensitivity of the resource where the use occurs. Examples of intensive uses that result in degradation of resources and include cumulative off-trail foot traffic on erosion prone creek banks or other sensitive sites and large group field trips to sensitive areas (e.g., wet meadows and wildflower fields).

Infrastructure: public services and facilities, such as sewage-disposal systems, water supply systems, other utility systems, road and site access systems.

Interpretation: In this planning document, it refers to a communication process, designed to reveal meanings and relationships of our cultural and natural heritage, through involvement with objects, artifacts, landscapes, sties, and oral histories.

Invasive Species: a species occurring in an area outside of its historically known natural range that has been intentionally introduced to or have inadvertently infiltrated into the system. Also known as non-native, ornamental, or introduced species. Invasive animals prey upon native species and compete with them for food and habitat. Invasive plant species can convert native ecosystems into a non-native dominated system that provides little benefit to other species in the ecosystem.

Mitigation Measure: A measure proposed that would eliminate, avoid, rectify, compensate for, or reduce a significant environmental effect (see State CEQA Guidelines §15370).

National Register of Historic Places (NRHP): The official federal list of buildings, structures, objects, sites and districts worthy of historic preservation. The register recognizes resources of local, state, and national

significance. The register lists only those properties that have retained enough physical integrity to accurately convey their appearance during their period of significance.

Native species: A plant or animal that is historically indigenous to a specific site area.

Natural habitat: the habitat a species would occur in under non-disturbed circumstances.

Non-intensive uses: uses that generally do not result in substantial disturbance or removal of natural (e.g., plants, wildlife, soils, hydrology), cultural, visual, aesthetic or other resources individually or cumulatively. Examples of non-intensive uses include trails in most areas, well-designed trails in sensitive areas, swimming in natural creek settings, nature observation, and limited amounts of off-trail foot traffic in non-sensitive areas.

Non sensitive resources: All resources that do not meet the definition of sensitive resources provided below.

Office of Historic Preservation (OHP): The governmental agency primarily responsible for the statewide administration of the historic preservation program in California. Its responsibilities include identifying, evaluating, and registering historic properties and ensuring compliance with federal and state regulatory obligations.

Open Space: An area with few or no paved surfaces or buildings, which may be primarily in its natural state or improved for use as a park.

Project: As defined by the State CEQA Guidelines §15378, a project can be one of the following a) activities undertaken by any public agency; b) activities undertaken by a person which are supported in whole or in part through contracts, grants, subsidies, loans or other forms of assistance from one or more public agencies; c) activities involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

Reach: A section of a stream or river between two specific points or possessing some common characteristic(s).

Redd: Fish spawning nest, or group of nests, dug in a gravel bed.

Riparian: Pertaining to the environment of river and stream banks and flood plains. Sometimes the term is used more broadly for wet, mostly terrestrial, environment around any fresh water body, including seeps or springs. Riparian habitat represents the vegetative and wildlife areas adjacent to perennial and intermittent streams and is delineated by the existence of plant species normally found near fresh water.

Riverine: Riparian ecosystem encompassing both instream and adjacent riparian zones, especially their biological components.

Runoff: That portion of rainfall or surplus water that does not percolate into the ground and flows overland and is discharged into surface drainages or bodies of water.

Sensitive Resources: Sensitive resources include environmental resources that are sensitive due to their rarity and/or historic value and vulnerability to disturbance or degradation by human activities and developments. They may be biological, physical, cultural, or other resources. Sensitive habitats include those that are of special concern to resource agencies or that are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, or Section 404 of the federal Clean Water Act (CWA). Sensitive biological resources include those that are afforded special protection through CEQA, CESA, California Fish and Game Code, Endangered Species Act (ESA) and the federal CWA as well as areas in which plant or animal life or their habitats are either rare or especially valuable because of their role in an ecosystem.

Significant Effect on the Environment: As defined by State CEQA Guidelines §15382, substantial or potentially substantial, adverse change on any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to physical change may be considered in determining whether the physical change is significant.

Special-Status Species: Plant or animal species that are typically listed (State and Federal) as endangered, rare and threatened, plus those species considered by the scientific community to be deserving of such listing. Special-status species include plants and animals that are legally protected or are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations.

State Historic Preservation Officer (SHPO): The chief administrative officer for the OHP and is also the executive secretary of the State Historic Resources Commission.

Threatened Species: An animal or plant species that is considered likely to become endangered throughout a significant portion of its range within the foreseeable future because its prospects for survival and reproduction are in jeopardy from one or more causes. The U.S. Fish and Wildlife Service and/or the California Department of Fish and Game make this designation.

Topography: Graphic representation of the surface features of a place or region on a map, indicating their relative positions and elevations.

Viewshed: The area that can be seen from a specified location.

Watershed: The total area above a given point on a watercourse that contributes water to the flow of the watercourse; entire region drained by a watercourse; synonymous with drainage basin or catchment.

Wetland: Includes the environment of subtidal, mudflats, tidal salt marsh, periodically inundated or brackish marsh, diked marshland, associated upland, and freshwater marsh.