



EACCS

OCTOBER 2010

EAST ALAMEDA COUNTY CONSERVATION STRATEGY

FINAL DRAFT

Alameda County Congestion Management Agency
Alameda County Resource Conservation District
Alameda County Waste Management Authority
California Department of Fish and Game
City of Dublin
City of Livermore
City of Pleasanton
County of Alameda
East Bay Regional Park District
Natural Resources Conservation Service
San Francisco Bay Regional Water Quality Control Board
U.S. Fish and Wildlife Service
Zone 7 Water Agency

FINAL DRAFT

EAST ALAMEDA COUNTY CONSERVATION STRATEGY

PREPARED FOR:

East Alameda County Conservation Strategy Steering Committee
100 North Canyons Parkway
Livermore, CA 94551
Contact: Mary Lim
925.454.5036

PREPARED BY:

ICF International
2841 Junction Avenue, Suite 114
San Jose, CA 95134
Contact: Troy Rahmig
408.434.2244

October 2010



ICF International. 2010. *East Alameda County Conservation Strategy*. Final Draft. October. (ICF 00906.08.) San Jose, CA. Prepared for: East Alameda County Conservation Strategy Steering Committee, Livermore, CA.

Contents

List of Tables	vi
List of Figures.....	viii
Chapter 1 Introduction	1-1
1.1 Introduction	1-1
1.1.1 Overview	1-1
1.1.2 Background	1-2
1.1.3 Purpose	1-3
1.2 Overview of the Planning Process	1-4
1.2.1 Steering Committee	1-4
1.2.2 Users Advisory Group	1-5
1.2.3 Public Outreach and Involvement	1-6
1.3 Scope of Conservation Strategy	1-7
1.3.1 Study Area	1-7
1.3.2 Regulatory Scope	1-8
1.3.3 Focal Species	1-8
1.4 Regulatory Setting	1-11
1.4.1 Federal and State Endangered Species Laws.....	1-11
1.4.2 Other Federal and State Species Laws.....	1-17
1.4.3 National Environmental Policy Act	1-19
1.4.4 California Environmental Quality Act	1-20
1.4.5 Federal and State Wetland Laws and Regulations	1-20
1.5 Document Organization.....	1-22
Chapter 2 Environmental Setting.....	2-1
2.1 Introduction	2-1
2.2 Land Use.....	2-2
2.2.1 Existing Conditions.....	2-2
2.2.2 Land Use Categories	2-3
2.2.3 Land Use Controls	2-7
2.2.4 Open Space (Public Lands and Private Easements)	2-9
2.3 Physical Resources	2-15
2.3.1 Location.....	2-15
2.3.2 Topography.....	2-15
2.3.3 Geology and Soils.....	2-16
2.3.4 Climate	2-19

2.3.5	Hydrology.....	2-21
2.4	Biological Resources	2-23
2.4.1	Methods.....	2-23
2.4.2	Biological Diversity in the Study Area	2-31
2.4.3	Natural Communities and Land Cover Types.....	2-32
2.4.4	Habitat Connectivity and Wildlife Linkages	2-76
Chapter 3	Conservation Strategy	3-1
3.1	Overview	3-1
3.2	Project-Level Use of the Strategy	3-3
3.2.1	Standardized Mitigation	3-4
3.2.2	Impact/Mitigation Scoring of Focal Species Habitat.....	3-5
3.3	Independent Conservation Actions	3-6
3.4	Methods and Sources	3-6
3.4.1	Conservation Gap Analysis.....	3-7
3.4.2	Geographic Units of Conservation	3-8
3.5	Conservation Goals and Objectives	3-9
3.5.1	Landscape-Level Goals and Objectives	3-10
3.5.2	Natural Community–Level Goals and Objectives	3-12
3.5.3	Focal Species Goals and Objectives	3-40
Chapter 4	Conservation Zones	4-1
4.1	Conservation Zone 1	4-3
4.1.1	Background	4-3
4.1.2	Conservation Priorities	4-4
4.1.3	Summary	4-4
4.2	Conservation Zone 2	4-4
4.2.1	Background	4-4
4.2.2	Conservation Priorities	4-5
4.2.3	Summary	4-6
4.3	Conservation Zone 3	4-6
4.3.1	Background	4-6
4.3.2	Conservation Priorities	4-6
4.3.3	Summary	4-7
4.4	Conservation Zone 4	4-8
4.4.1	Background	4-8
4.4.2	Conservation Priorities	4-8
4.4.3	Summary	4-9

4.5	Conservation Zone 5	4-10
4.5.1	Background	4-10
4.5.2	Conservation Priorities	4-11
4.5.3	Summary	4-12
4.6	Conservation Zone 6	4-13
4.6.1	Background	4-13
4.6.2	Conservation Priorities	4-13
4.6.3	Summary	4-15
4.7	Conservation Zone 7	4-15
4.7.1	Background	4-15
4.7.2	Conservation Priorities	4-16
4.7.3	Summary	4-17
4.8	Conservation Zone 8	4-17
4.8.1	Background	4-17
4.8.2	Conservation Priorities	4-17
4.8.3	Summary	4-18
4.9	Conservation Zone 9	4-19
4.9.1	Background	4-19
4.9.2	Conservation Priorities	4-19
4.9.3	Summary	4-21
4.10	Conservation Zone 10	4-21
4.10.1	Background.....	4-21
4.10.2	Conservation Priorities.....	4-22
4.10.3	Summary	4-24
4.11	Conservation Zone 11	4-25
4.11.1	Background.....	4-25
4.11.2	Conservation Priorities.....	4-25
4.11.3	Summary	4-26
4.12	Conservation Zone 12	4-26
4.12.1	Background.....	4-26
4.12.2	Conservation Priorities.....	4-27
4.12.3	Summary	4-28
4.13	Conservation Zone 13	4-28
4.13.1	Background.....	4-28
4.13.2	Conservation Priorities.....	4-29
4.13.3	Summary	4-30

4.14	Conservation Zone 14	4-31
4.14.1	Background.....	4-31
4.14.2	Conservation Priorities	4-31
4.14.3	Summary	4-32
4.15	Conservation Zone 15	4-33
4.15.1	Background.....	4-33
4.15.2	Conservation Priorities	4-33
4.15.3	Summary	4-35
4.16	Conservation Zone 16	4-35
4.16.1	Background.....	4-35
4.16.2	Conservation Priorities	4-35
4.16.3	Summary	4-37
4.17	Conservation Zone 17	4-38
4.17.1	Background.....	4-38
4.17.2	Conservation Priorities	4-38
4.17.3	Summary	4-39
4.18	Conservation Zone 18	4-40
4.18.1	Background.....	4-40
4.18.2	Conservation Priorities	4-40
4.18.3	Summary	4-41
Chapter 5	Conservation Strategy Implementation	5-1
5.1	Overview	5-2
5.2	Implementation Structure	5-3
5.2.1	Implementation Committee	5-3
5.2.2	Public Advisory Committee.....	5-5
5.2.3	Annual Meeting	5-5
5.2.4	Data Tracking and Reporting	5-6
5.3	Funding	5-9
5.4	Participating Entities	5-9
5.4.1	Local Governments	5-9
5.4.2	State and Federal Resource Agencies.....	5-10
5.4.3	Special Districts and Agencies.....	5-10
5.5	Project-by-Project Regulatory Compliance.....	5-11
5.5.1	National Environmental Policy Act	5-11
5.5.2	California Environmental Quality Act	5-11
5.5.3	Federal Endangered Species Permitting	5-12
5.5.4	State Endangered Species Permitting.....	5-14

5.5.5	Federal Clean Water Act Permitting	5-14
5.5.6	Clean Water Act Section 401 and the Porter-Cologne Water Quality Control Act.....	5-14
5.5.7	State Streambed and Lake Alteration Agreement.....	5-15
5.6	Conservation through Mitigation	5-15
5.6.1	Roles and Responsibilities of Project Applicants	5-16
5.6.2	Land Acquisition for Mitigation	5-18
5.6.3	Conservation Easements for Mitigation	5-20
5.6.4	Conservation or Mitigation Banks	5-24
5.6.5	New Concepts for Mitigation Planning	5-25
5.7	Conservation Actions Unrelated to Mitigation—Voluntary Conservation Actions	5-26
5.7.1	Existing Stewardship Programs.....	5-27
5.7.2	New Stewardship Programs and Tools	5-29
Chapter 6	Literature Cited	6-1
6.1	Printed References.....	6-1
6.2	Personal Communications	6-21
Appendix A	Wildlife Species List	
Appendix B	Plant Species List	
Appendix C	Glossary	
Appendix D	Species Accounts	
Appendix E	Mitigation Score Sheets	
Appendix F	Conservation Easement Toolkit	
Appendix G	Water Quality Objectives for Use in Designing and Implementing Projects with Impacts to Creeks or Wetlands	

Appear at the end of chapters in which they are named.

- 1-1 Species Proposed for Inclusion as Focal Species for the East Alameda County Conservation Strategy
- 2-1 Simplified Land Use Planning Designations from Local General Plans
- 2-2 Summary of Open Space in the Conservation Strategy as of October 2010
- 2-3 Comparison of East Alameda County Conservation Strategy Land Cover Classification to Other State and Local Classification Systems
- 2-4 Land Cover Types and their Extent in the Study Area
- 3-1 Conservation Goals for Land Cover within the East Alameda County Conservation Strategy Study Area
- 3-2 General Avoidance and Minimization Measures to Reduce Effects on Focal Species
- 3-3 Species-Specific AMMs
- 3-4 Standardized Mitigation Ratios for Vernal Pool Fairy Shrimp in the EACCS Study Area
- 3-5 Standardized Mitigation Ratios for Longhorn Fairy Shrimp in the EACCS Study Area
- 3-6 Standardized Mitigation Ratios for Callippe Silverspot Butterfly in the EACCS Study Area
- 3-7 Standardized Mitigation Ratios for California Red-Legged Frog in the EACCS Study Area
- 3-8 Standardized Mitigation Ratios for California Tiger Salamander in the EACCS Study Area
- 3-9 Standardized Mitigation Ratios for Alameda Whipsnake in the EACCS Study Area
- 3-10 Standardized Mitigation Ratios for Non-Listed Species in the EACCS Study Area
- 3-11 Standardized Mitigation Ratios for San Joaquin Kit Fox in the EACCS Study Area
- 3-12 Standardized Mitigation Ratios for Focal Plant Species in the EACCS Study Area
- 4-1 Natural Land Cover Protection Goals for Conservation Zone 1
- 4-2 Natural Land Cover Protection Goals for Conservation Zone 2
- 4-3 Natural Land Cover Protection Goals for Conservation Zone 3
- 4-4 Natural Land Cover Protection Goals for Conservation Zone 4
- 4-5 Natural Land Cover Protection Goals for Conservation Zone 5
- 4-6 Natural Land Cover Protection Goals for Conservation Zone 6
- 4-7 Natural Land Cover Protection Goals for Conservation Zone 7

- 4-8 Natural Land Cover Protection Goals for Conservation Zone 8
- 4-9 Natural Land Cover Protection Goals for Conservation Zone 9
- 4-10 Natural Land Cover Protection Goals for Conservation Zone 10
- 4-11 Natural Land Cover Protection Goals for Conservation Zone 11
- 4-12 Natural Land Cover Protection Goals for Conservation Zone 12
- 4-13 Natural Land Cover Protection Goals for Conservation Zone 13
- 4-14 Natural Land Cover Protection Goals for Conservation Zone 14
- 4-15 Natural Land Cover Protection Goals for Conservation Zone 15
- 4-16 Natural Land Cover Protection Goals for Conservation Zone 16
- 4-17 Natural Land Cover Protection Goals for Conservation Zone 17
- 4-18 Natural Land Cover Protection Goals for Conservation Zone 18
- 4-19a Modeled Suitable Habitat (acres) for Focal Invertebrate Species
- 4-19b Modeled Suitable Habitat (acres) for Reptile and Amphibian Species
- 4-19c Modeled Suitable Habitat (acres) for Focal Bird Species
- 4-19d Modeled Suitable Habitat (acres) for Focal Mammal Species
- 4-19e Modeled Suitable Habitat (acres) for Focal Plant Species
- 4-20 Critical Habitat (acres) for Federally Listed Focal Species

Appear at the end of chapters in which they are named.

- 1-1 Study Area
- 1-2 How the East Alameda County Conservation Strategy Will Work
- 2-1 East Alameda County Simplified Land Use Planning Designations from Local General Plans
- 2-2 Criteria for Open Space Types
- 2-3 East Alameda County Open Space (Public Lands and Private Easements)
- 2-4 East Alameda County Topography
- 2-5 East Alameda County Soils
- 2-6 East Alameda County Unique Soil Resources
- 2-7 Watersheds
- 2-8 East Alameda County Land Cover
- 2-9 Pond Density
- 3-1 Conservation Zones
- 3-2 Grassland Land Cover
- 3-3 Chaparral and Coastal Scrub Land Cover
- 3-4 Conifer Woodland and Oak Woodland
- 3-5 Aquatic Land Cover
- 3-6 Vernal Pool Fairy Shrimp Standardized Mitigation Reference Map
- 3-7 Longhorn Fairy Shrimp Standardized Mitigation Reference Map
- 3-8 Callippe Silverspot Butterfly Standardized Mitigation Reference Map
- 3-9 California Red-Legged Frog Standardized Mitigation Reference Map
- 3-10 California Tiger Salamander Standardized Mitigation Reference Map
- 3-11 Plants and Non-Listed Wildlife Species Standardized Mitigation Reference Map
- 3-12 Alameda Whipsnake Standardized Mitigation Reference Map
- 3-13 San Joaquin Kit Fox Standardized Mitigation Reference Map