

El Dorado County
**Integrated Natural Resources Management Plan and
Environmental Document**
Request for Proposal # 09-918-116

Presented to
Board of Supervisors
Special Meeting – October 26, 2009


By
sea
Sierra Ecosystem
Associates

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Presentation Overview

- Introduction to Project Team
- Representative Experience
- Project Understanding
- Project Goals
- Project Methods & Approach
- Outcomes and Deliverables
- **Summary – Why SEA?**

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★ Introduction to Project Team

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INTRODUCTION TO PROJECT TEAM - SEA Team Highlights -

Expertise in Northern CA/Sierra foothills corridor ecology

Familiar with and to El Dorado County stakeholders


Successful plans for Northern CA/Sierra foothill habitats, infrastructure, and community development

Most cost-effective consultant team: dedicated, proximity, low bid and already up-to-speed on issues

Recognize need to use best available science and information for a legally defensible INRMP

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INTRODUCTION TO PROJECT TEAM - Presentation Team Members -



- **Jordan Postlewait – Project Manager**
- **Fraser Shilling, Ph.D. – Landscape Ecologist**
- **Robert Smart – Registered Professional Forester**
- **Rick Lind – Principal-in-Charge**

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Jordan Postlewait Project Manager



- CA Registered Landscape Architect #3603
- Degrees in landscape architecture and biology
- 20-year resident of Placerville, El Dorado County
- Former Manager of Airports, Parks & Grounds for El Dorado County
- Member American Society of Landscape Architecture
- Member California Park & Recreation Society
- Award winning photographer, published in Landscape Architecture Magazine

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Fraser Shilling Ph.D. Landscape Ecologist



- Co-Director of the Road Ecology Center at UC Davis, the only center on the West Coast that:
 - Researches habitat connectivity,
 - Studies the effects of transportation systems,
 - Develops decision-support tools for public/private entities, and
 - Hosts the only statewide online roadkill mapping and reporting system
- Co-author of the Caltrans California Wildlife Crossing Manual
- 25 scientific articles in peer-reviewed journals
- Expert in spatial analysis (GIS) and modeling and wildlife observation and tracking

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Robert Smart
Registered Professional Forester



- Registered Professional Forester-State of California
- Member of Society of American Foresters
- Wildland fire expert
- Strong regional natural resources experience
- El Dorado County Parks and Recreation Commissioner

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Rick Lind
Principal-in-Charge



- President and owner of SEA – County-based employer for 10 years
- County resident for 20+ years – understand region's land uses, water supplies, infrastructure, habitats, and permitting processes
- Project Manager for Oak Woodland Management Plan – the oak woodland portion of INRMP
- Natural resources/environmental regulatory expertise – CEQA, NEPA, and agency permitting for land, water, and energy development
- As PIC – responsive, credible and legally defensible process

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Introduction to Project Team

- ★ **Representative Experience**
- Project Understanding
- Project Goals
- Project Methods & Approach
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- Summary – Why SEA?

Representative Experience

Local and Regional Expertise

- Land Use/Infrastructure Plans
- Habitat/Restoration Plans
- Socioeconomic/Cost-Benefit Analyses

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Representative Experience (Cont.)

Land Use/Infrastructure Plans

- California Wildlife Crossing Manual (Caltrans)
- Oak Woodland Management Plan (El Dorado County)*
- Pine Hill Rare Plant Important Habitat Mitigation Plan (Renee & Jong Yi)*
- SFAR Watershed Plan (El Dorado Irrigation District)*
- General Plan Connectivity Assessment and Plan (City of Riverbank)
- Diamond Dorado Subdivision Plan (Patterson Development/Jongordon)*
- Bidwell – Sacramento River State Park General Plan/EIR (CA Department of Parks and Recreation)

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Representative Experience (Cont.)

Habitat/Restoration Plans

- Study of Wildlife Movement in the Vicinity of I-80 (Caltrans)
- Assessment of Connectivity in the Sierra Nevada
- Upper Cosumnes Watershed Conservation Plan (American River Conservancy)*
- SFAR Watershed Assessment and Integration Plan (Georgetown Divide Resource Conservation District)*
- Update to Hallelujah Junction Wildlife Area Land Management Plan (CA Department of Fish & Game)

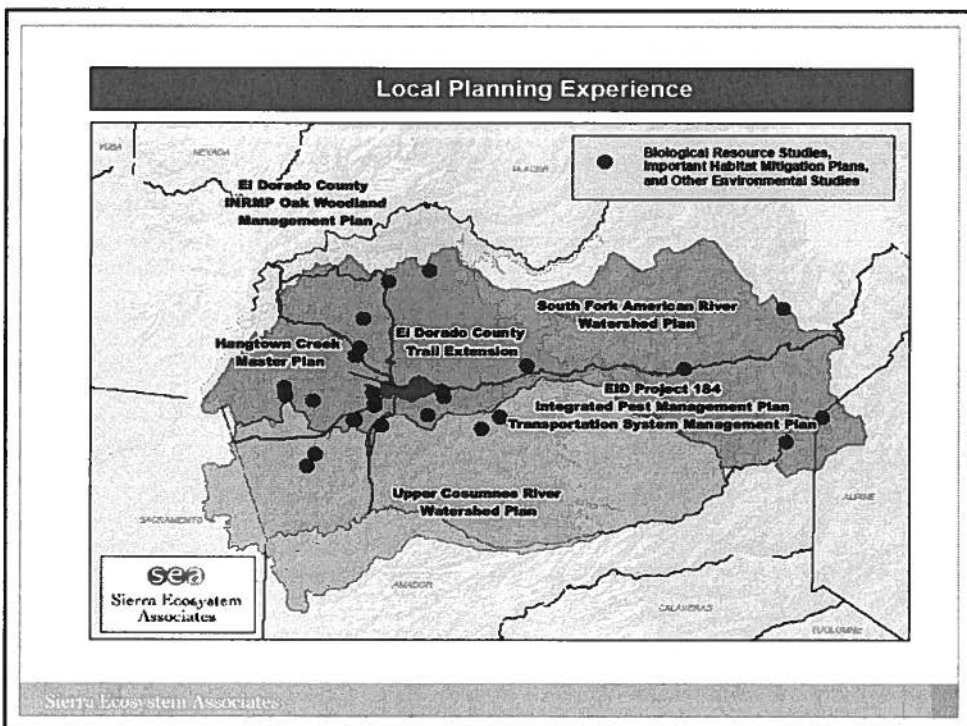
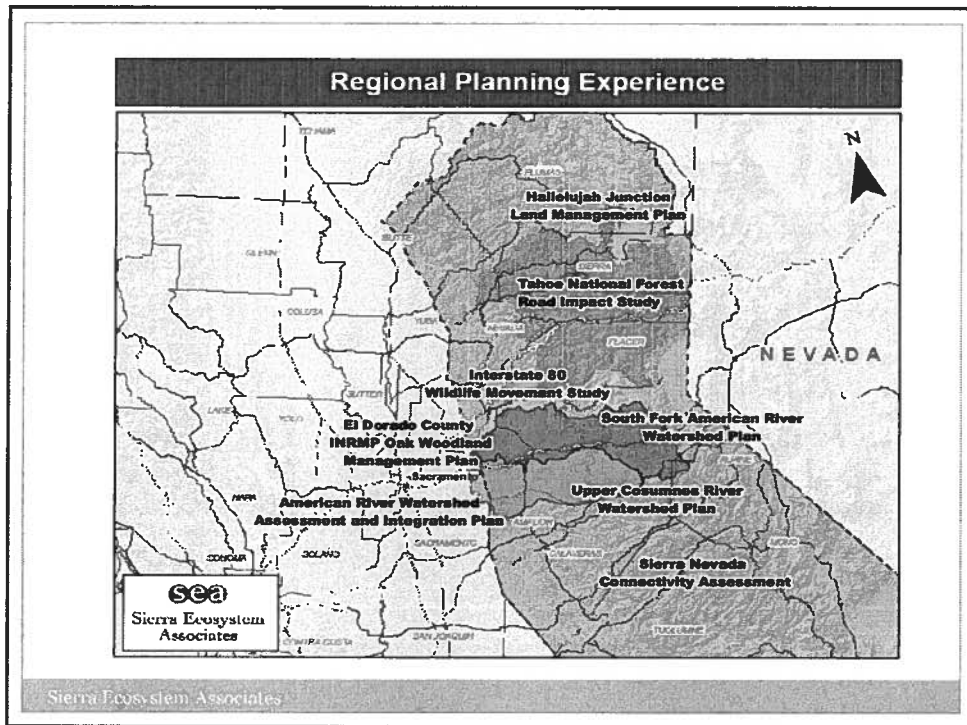
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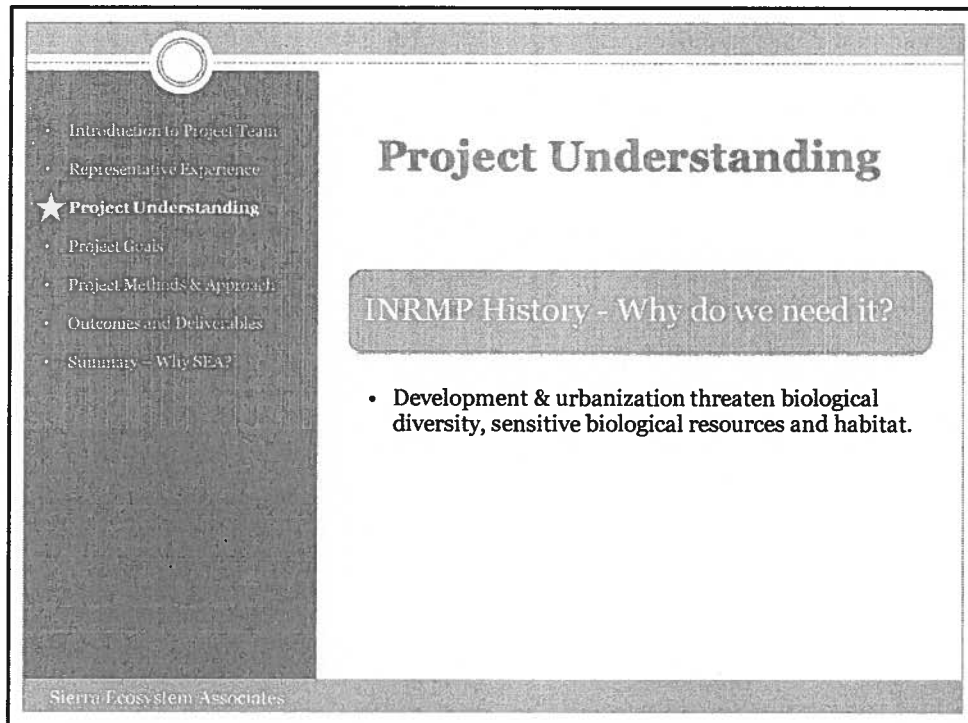
Representative Experience (Cont.)

Socioeconomic/Cost-Benefit Analyses

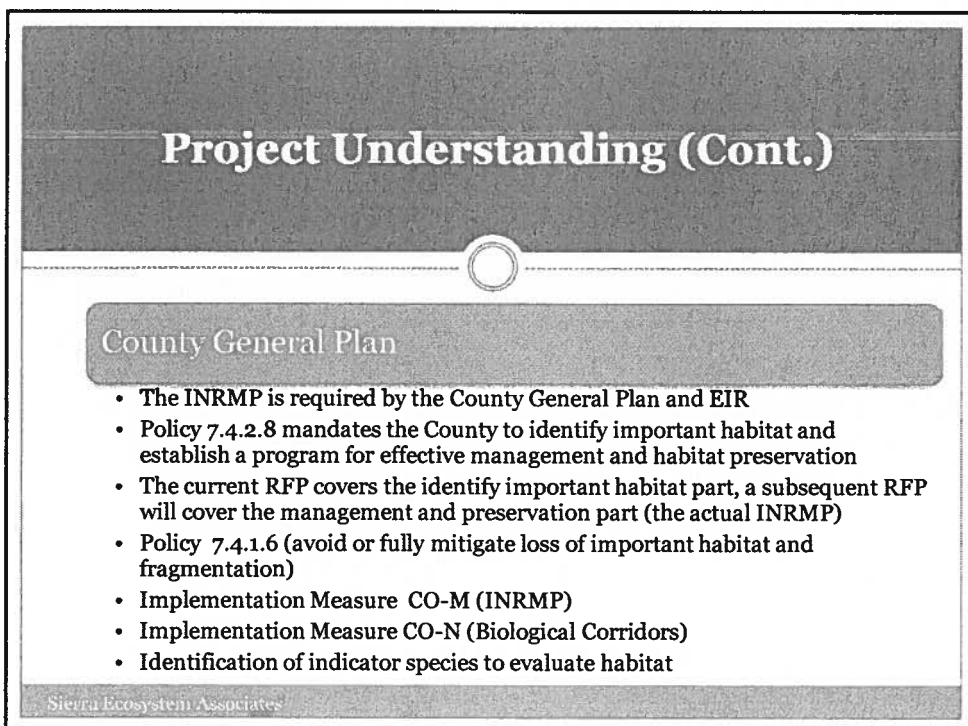
- Oak Woodland Management Plan Option B Fee (County of El Dorado)*
- Socioeconomics of Habitat Restoration in the Sacramento River Conservation Area (The Nature Conservancy)
- Socioeconomic Assessment for Relicensing of Hydroelectric Generating Facilities at Lake Oroville (CA Department of Water Resources)
- Cost-benefit Analysis of Lake Level Alternatives for Mono Lake Water Rights EIR (State Water Resources Control Board)
- Ukiah Planning Area Resource Management Plan and EIS (U.S. Bureau of Land Management)

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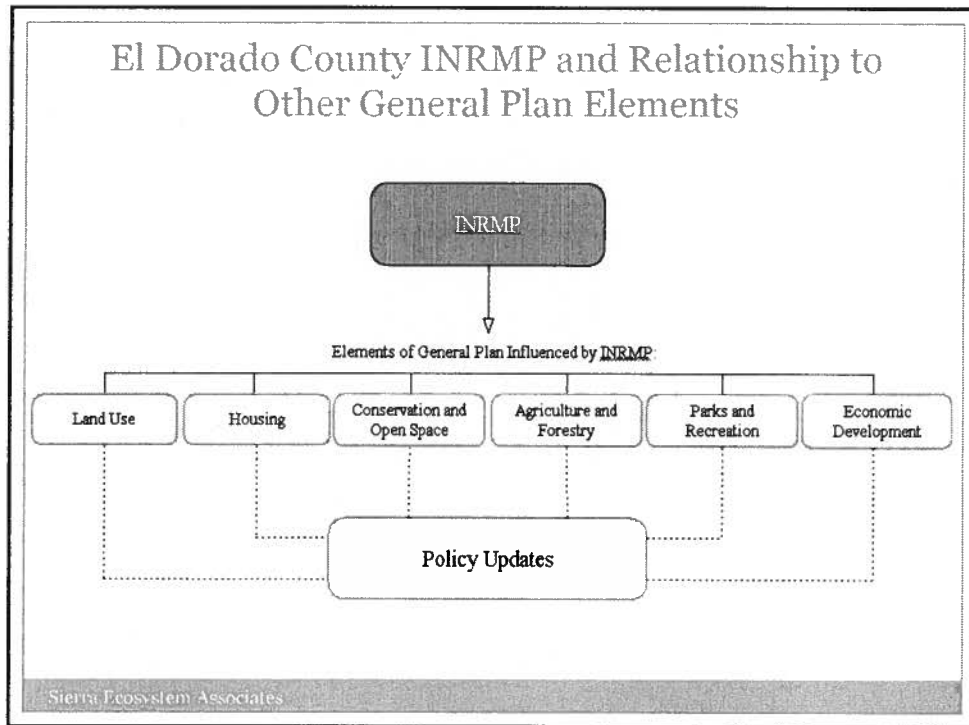
This slide is titled "Project Understanding". On the left side, there is a vertical list of topics: "Introduction to Project Team", "Representative Experience", "★ Project Understanding", "Project Goals", "Project Methods & Approach", "Outcomes and Deliverables", and "Summary - Why SEA?". The "Project Understanding" item is highlighted with a star. Below the list, the text "Sierra Ecosystem Associates" is visible. The main content area on the right features the title "Project Understanding" at the top, followed by a rounded rectangular box containing the text "INRMP History - Why do we need it?". Below this box is a single bullet point: "• Development & urbanization threaten biological diversity, sensitive biological resources and habitat."



This slide is titled "Project Understanding (Cont.)". It features a dark header with the title in white. Below the header, there is a rounded rectangular box containing the text "County General Plan". Underneath this box is a list of seven bullet points:

- The INRMP is required by the County General Plan and EIR
- Policy 7.4.2.8 mandates the County to identify important habitat and establish a program for effective management and habitat preservation
- The current RFP covers the identify important habitat part, a subsequent RFP will cover the management and preservation part (the actual INRMP)
- Policy 7.4.1.6 (avoid or fully mitigate loss of important habitat and fragmentation)
- Implementation Measure CO-M (INRMP)
- Implementation Measure CO-N (Biological Corridors)
- Identification of indicator species to evaluate habitat

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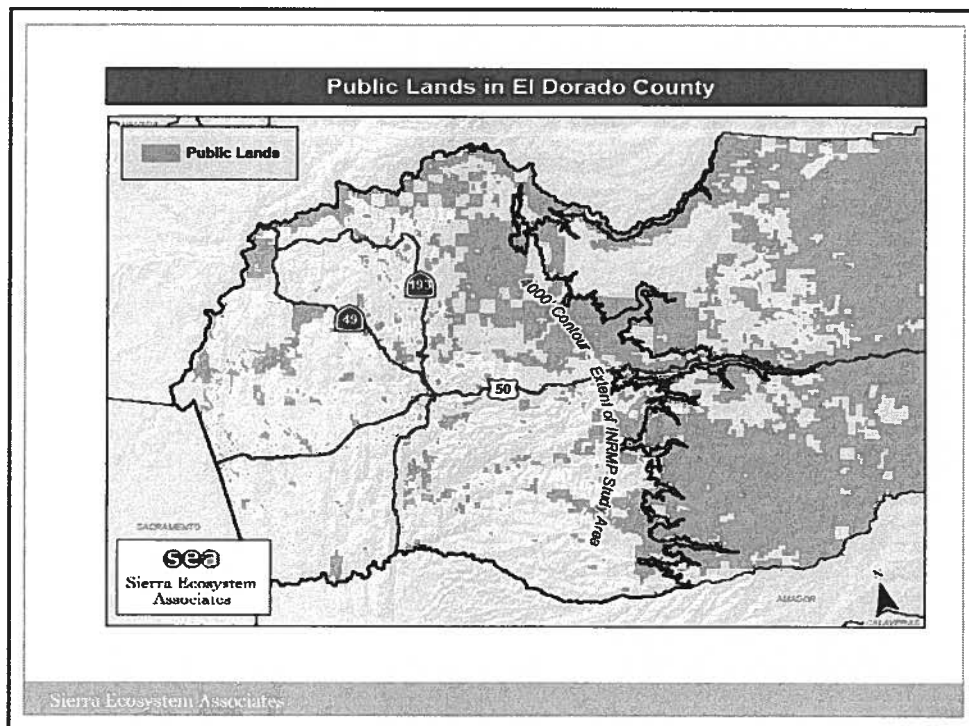
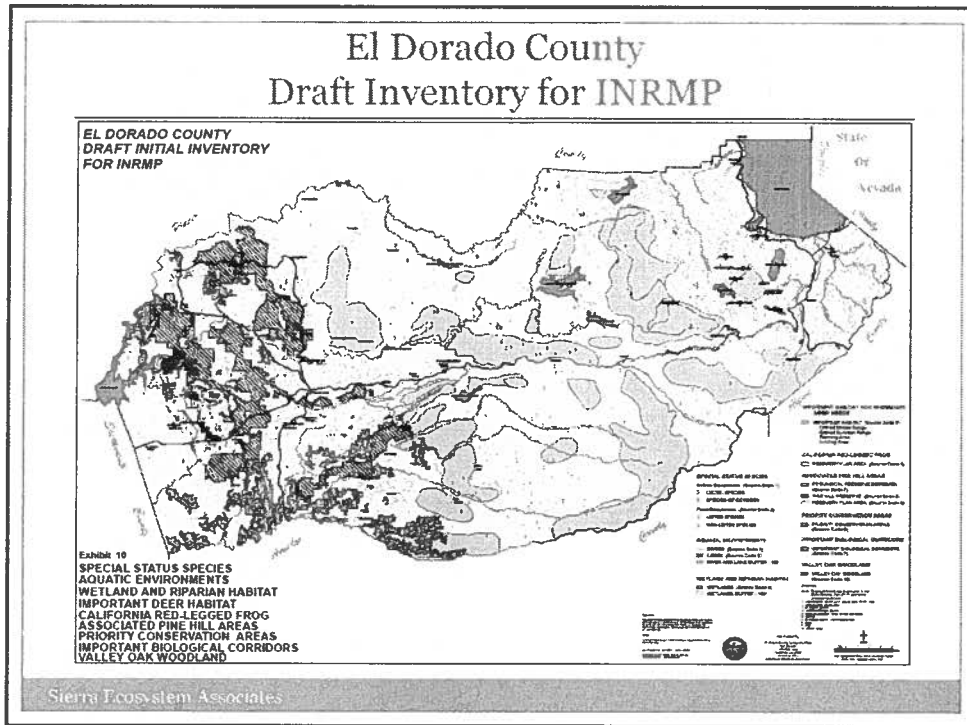


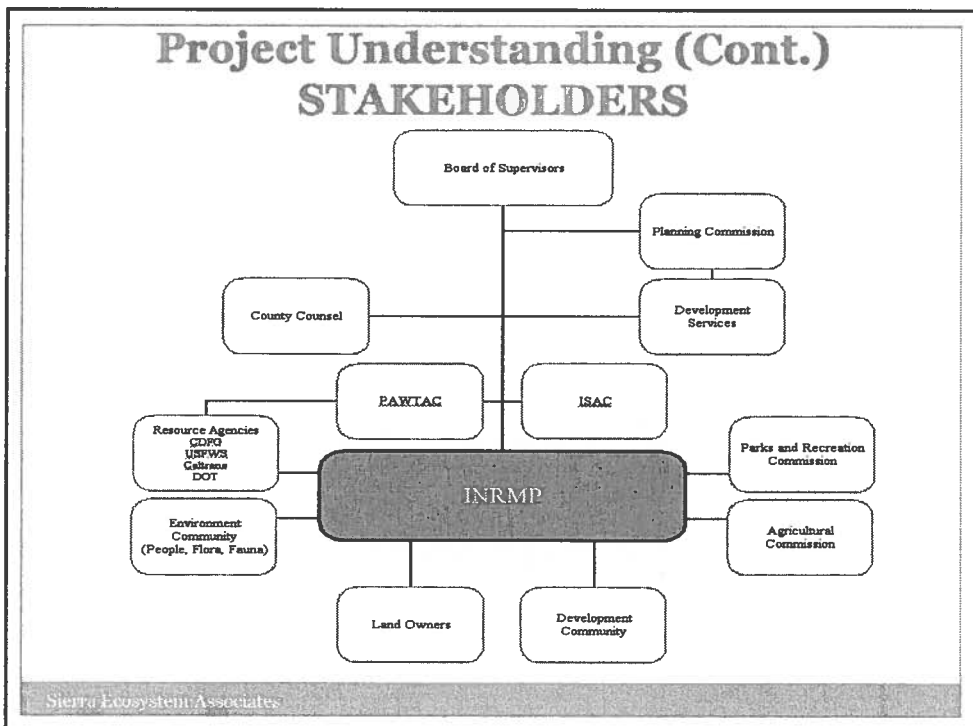
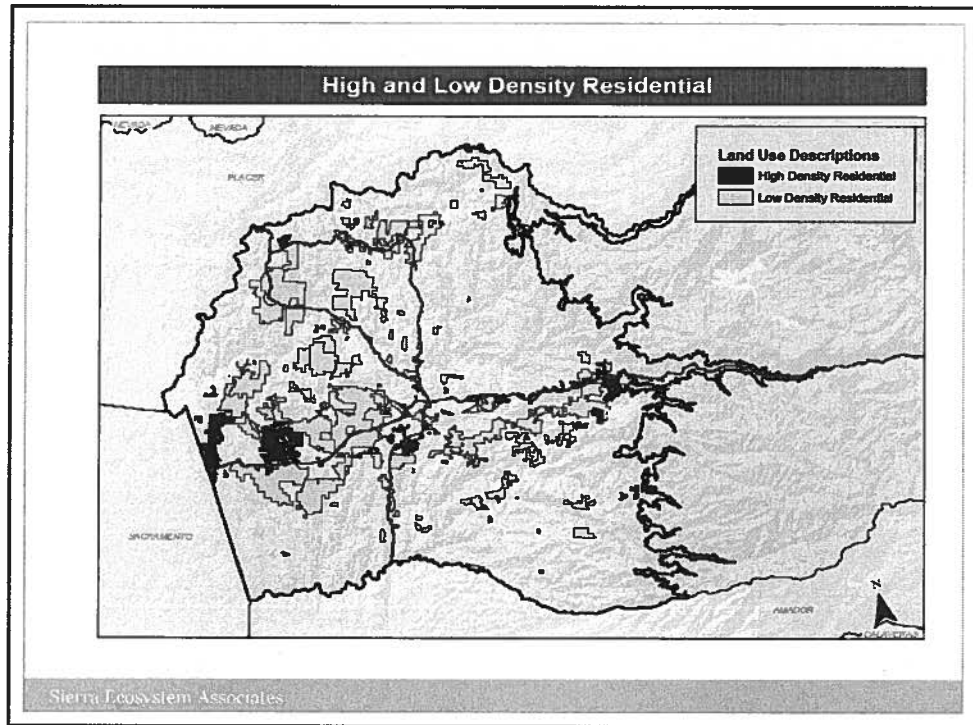
Project Understanding (Cont.)

Important Habitat to Identify

- Habitats that support special status species
- Aquatic environments including streams, rivers and lakes
- Wetland and riparian habitat
- Important habitat for migratory deer herds
- Large expanses of native vegetation

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Project Goals

- Introduction to Project Team
- Representative Experience
- Project Understanding
- ★ **Project Goals**
 - Project Methods & Approach
 - Outcomes and Deliverables
 - Summary – Why SEA?

General Plan Implementation
Protect What's Here Now/Preserve Quality of Life
Defensible to Challenge
Determine What is Wrong and Describe How to Fix It
Foundation for Dynamic/Interactive Planning Tool
Use of Public Lands

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Project Methods and Approaches for Assessing Wildlife Habitat and Connectivity

- Introduction to Project Team
- Representative Experience
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- ★ **Project Methods & Approach**
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Step-by-Step Process

- **Throughout: Stakeholder process (input from Board, ISAC, PAWTAC, County staff, others)**
- **Step 1: Identify important habitats to update initial INRMP important habitat inventory map**
- **Step 2: Develop list of indicator species**
- **Step 3: Evaluate wildlife movement and connectivity**

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Step 1: Identify Important Habitats

Critical role in ecosystem structure and processes.

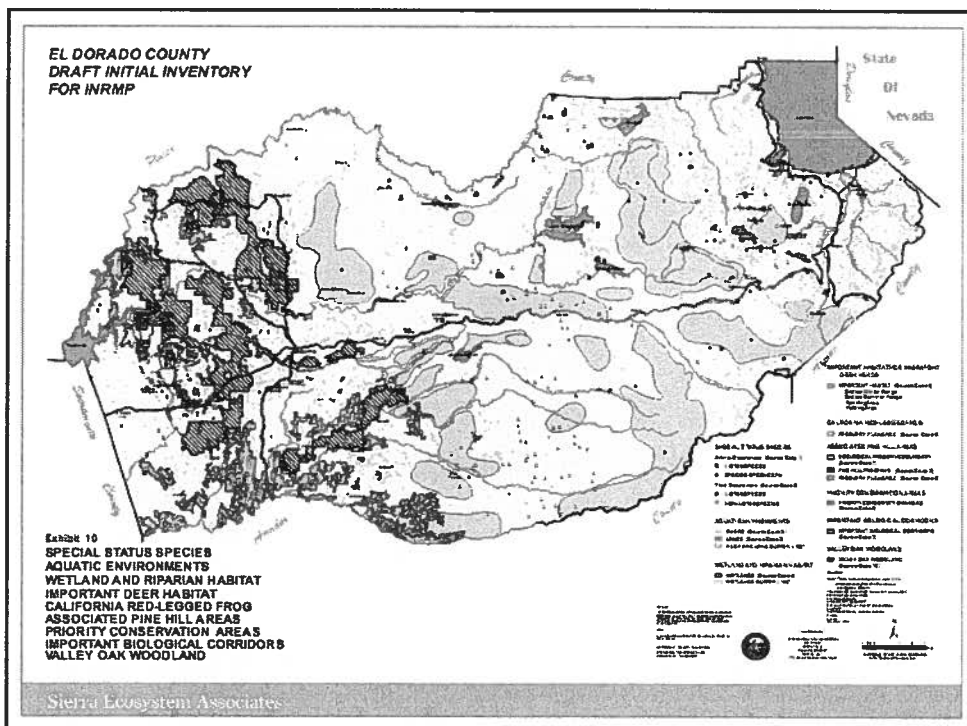
Their relative rarity or vulnerability to threats.

•Including:

- Oak woodlands
- Riparian forests
- Serpentine rock outcrops



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Step 2: Identify Indicator Species

Indicator species tell us about condition of important habitats, or the well-being of other related species.

•Criteria for Indicator Species Selection

- Wide ranging
- Representative of other species
- Critical to function of the ecosystem
- Regulatory concern
- Specific habitat needs



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Step 3: Evaluate Wildlife Movement and Connectivity

What is Connectivity and What are Corridors?

- **Connectivity is an attribute of all landscapes that refers to how much wildlife movement the landscapes allow**
- **Connectivity is critical for almost all animals**
- **Corridors are narrow zones of connectivity and are useful for certain animals, but not all**


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Step 3: Evaluate Wildlife Movement and Connectivity

Wildlife occupy and move within suitable habitats

Movement inhibited by infrastructure and people's activities

Connectivity is a product of habitat suitability, behavior, and disturbance

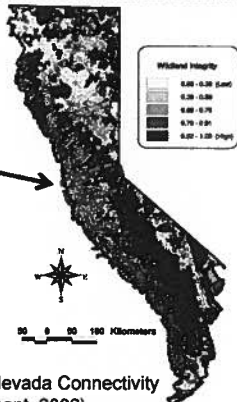


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3a. Evaluate El Dorado County Landscape Connectivity

North-south dispersal of native wildlife species within and through El Dorado County

- Determine how critical this connectivity is for maintaining biodiversity and reducing listings
- Determine importance of constraints by land-use and highway 50



(Sierra Nevada Connectivity Assessment, 2002)

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3a. Evaluate El Dorado County Landscape Connectivity

Determine how important East-west connection is for seasonal migration

Determine where connections may be constrained by land-use and transportation



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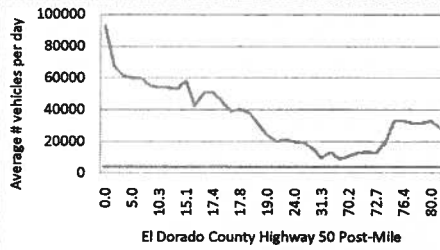
3b. Threats to El Dorado County Landscape Connectivity

Three main threats to connectivity and wildlife movement:

- Land-use
- Transportation networks
- Climate change

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3b. Threats to El Dorado County Landscape Connectivity



Connectivity impacts from both pattern and use activities on roads and development

Describe traffic impact of roads

Describe possible impact of fences, pets, land management



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3b. Threats to El Dorado County Landscape Connectivity: Highway 50

Determine opportunities: Underpasses that are vegetated, or that open to vegetation, can be important passages for wildlife

Determine constraints: modification of the right-of-way and traffic patterns will be limited



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All Steps: Available Data to Conduct Assessments

Spatial Data: At the Information Center for the Environment (ICE), we have immediate access to and understanding of the largest spatial database in California

Roadkill Data: statewide, online roadkill reporting system + Caltrans' roadkill database

Wildlife Movement Data: field investigation of wildlife movement in the foothills using radio-collars, cameras, and tracking + data from other studies

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Keeping it Real: Affordable Implementation

Protecting connectivity can be very expensive in developed places

In El Dorado County, there are still opportunities

Fewer fences, traffic calming for safety, developing key vegetated underpasses, protecting critical junctures and places




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Phase 2 Alternatives

Wildlife Monitoring

Spatial Modeling (GIS)

Expert Opinion



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Outcomes and Deliverables

**Consensus Building Work at
ISAC and PAWTAC**

Board of Supervisors Briefings

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Outcomes and Deliverables (Cont.)

Indicator Species List and Report

- How they represent the environments identified in Policy 7.4.2.8
- Habitat Relationships
- Distribution
- Status
- Dispersal
- Home Range Requirements

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Outcomes and Deliverables (Cont.)

Wildlife Movement Report

- Species with N/S Migration Patterns
- Species with E/W Migration Patterns
- Barrier Effect of Highway 50 and Other Roadways
- Possible Retrofits & Costs
- Satisfies General Plan Implementation Measure CO-N

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Outcomes and Deliverables (Cont.)

INRMP Alternative Approaches Evaluation

- GIS Based Computer Modeling
- Conceptual Approaches
- Possibility of General Plan Amendments
- Easements and Deed Restrictions VS None

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Outcomes and Deliverables (Cont.)

INRMP Scope of Work

- Habitat Protection Strategy
- Mitigation Assistance
- Habitat Acquisition
- Habitat Management
- Habitat Monitoring
- Cost – Grant Assistance

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Why SEA?

- Introduction to Project Team
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- ★ **Summary – Why SEA?**

Local Expertise

- **Expertise in Sierra ecosystems wildlife movement and conservation**
- **County Oak Woodland Management Plan and other landscape-scale plan accomplishments**
- **Local firm/local experience = knowledge of landscape/data sources**
- **INRMP stakeholder experience and familiarity**
- **Understanding of regulatory setting: INRMP implementation purpose, history and future**

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Why SEA? (Cont.)

Full Range of Technical and Planning Disciplines

- **Ecological and biological scientists**
- **Landscape, land use, fire/forestry, and natural resource planners**
- **Public involvement/facilitation specialists**
- **GIS/spatial analysis technicians**
- **Natural resource economists**

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Why SEA? (Cont.)

SEA Commitment to El Dorado County

- **Initial products with long term vision for INRMP that:**
 - Retains quality of life values for residents
 - Maintains landowner property rights
 - Meaningfully engages stakeholders
 - Emphasizes use of public lands
 - Meets regulatory requirements/legally defensible
 - Establishes a program for effective habitat preservation and management
- Not a cookie-cutter task that can be imported
- Low bid and already up-to-speed
- Highest value consultant team for County

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