

AGENDA

Salmonid Restoration Federation and
California Department of Fish & Game

Fish Passage at Stream Crossings Design Workshop

Pierpont Inn

Ventura, CA

January 15-17, 2013

Tuesday, January 15th

- 8:00 a.m. Registration**
- 8:30 a.m. Welcome and Outline of the Day**
Dana Stolzman, Salmonid Restoration Federation
- Introductions
 - Pre-course survey
- 8:45 a.m. Aquatic Species and Stream Crossings**
Ross Taylor
- Ecological continuity of stream channels
 - Impacts of fragmenting populations
 - Overview of aquatic species of concern in California's coastal streams
 - Characteristics of instream structures that create fish migration barriers
 - Fish swimming abilities and requirements
 - Ranking and prioritization of barriers for treatments
- 10:00 a.m. "What makes a successful project?"**
Group Exercise - Ross Taylor Facilitates
- 10:15 a.m. BREAK**
- 10:30 a.m. Overview of Channel Morphology - Stream Crossing Interactions**
Michael Love
- Causes and impacts of channel incision and aggradation
 - Channel in-stability and channel evolution
 - Interaction of stream crossings with channels
 - Causes of perched culverts; plunge pool vs. incision

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Tuesday, January 15th (Continued)

- 11:15 a.m. Pre-design & Project Layout**
Kozmo Bates
- Spectrum of fish passage approaches
 - Hydraulic verses Geomorphic design approaches
 - Range of ecological benefits
 - Project alignment and project profile
 - Determining Vertical Adjustment Profiles (VAP)
 - Headcut considerations
 - Selecting a design approach
- 12:15 p.m. Lunch Provided**
- 1:15 p.m. CDFG and NOAA Fisheries Fish Passage Design Guidance and Project Review Requirements**
Marjorie Caisley, DFG Senior Hydraulic Engineer
- Overview of fish passage design guidelines
 - FEMA and funding replacements for fish passage
 - Project Specific Requirements Submittal Checklist
 - Design Plan Criteria requirements in the Fisheries Restoration Grants Program (FRGP)
- 2:15 p.m. Geomorphic Based Designs**
Kozmo Bates
- Overarching principals of stream simulation
 - Stream simulation design process
 - Reference reach
 - Bed design – bed materials and shape
 - Structure sizing
 - Stability/mobility analysis: Models, design flows, bed mobility, bed stability, flood capacity
 - Low-slope design process
 - Construction techniques
- 3:00 p.m. BREAK**

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- 3:15 p.m. **Geomorphic Based Designs (Continued)**
- 4:00 p.m. **BREAK**
- 4:15 p.m. **Local case study**
Matt Stoecker, Stoecker Ecological
*Restoring fish passage on the Gaviota Coast –
Setting Priorities and Taking Action*
- 4:55 p.m. **Outline of the next day's activities**
Dana Stolzman
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Wednesday, January 16th

- 8:30 a.m. **Profile Control Techniques**
Michael Love
- Geomorphic based approaches to profile control
 - Basis of approach
 - Types and applications
 - Design process
 - Drop structures
 - Types (boulder, log, concrete, sheetpile weirs)
 - Shape, spacing, slope, and stability
 - Design Process
 - Construction techniques
- 10:00 a.m. **BREAK**
- 10:15 a.m. **Hydraulic Designs using Baffles and Fishways**
Kozmo Bates
- Design criteria and fish behavior
 - Use of baffles
 - Design and analysis procedures
 - Fishway types, applications, layouts
 - The Do's and Don'ts
- 11:45 a.m. **Introduce Group Exercises**
- 12:00 p.m. **Working Lunch (Provided)**

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Wednesday, January 16th (continued)

- 1:30 p.m. **Small Group Reports**
Ross Taylor and Michael Love Facilitate
- 2:15 p.m. **Monitoring and Adaptation**
Ross Taylor
- "What questions should monitoring answer?" - Group Exercise
 - Monitoring techniques
 - Examples from previous fish passage monitoring
 - Monitoring and Success Stories
- 3:30 p.m. **BREAK**
- 3:45 p.m. **Local case study**
Mike Garello, Fisheries Engineer, HDR
*Quitoa Creek Stream Simulation Crossings &
Mission Creek Flood Control Channel Modifications*
- 4:40 p.m. **Post-course survey**
- 4:50 p.m. **Field trip logistics**
Dana Stolzman, Salmonid Restoration Federation

Thursday, January 17th

OPTION A Full Day Field Tour of Fish Passage Projects

8:30 a.m. to 4:00 p.m. Tour fish passage project sites in the Carpinteria Creek Watershed and in the City of Santa Barbara

OPTION B Engineering Practicum followed by Half-Day Field Tour

Michael Love and Kozmo Bates

- 8:30 a.m. Guided exercises applying design procedures and equations for the following fish passage project types:
- Stream simulation bed design and specifications
 - Roughened rock chute bed material sizing and fish passage analysis
- 12:00 p.m. Join field tour and visit afternoon field sites
- 4:00 p.m. Return to Pierpont Inn