Tuesday, November 16th

8:00 a.m.  Registration

8:30 a.m.  Welcome and Outline of the Day
Dana Stolzman, Salmonid Restoration Federation
- Pre-course survey

8:45 a.m.  Introductions & “What makes a successful project?”
Group Exercise - Ross Taylor Facilitates

9:00 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

10:05 a.m.  BREAK

10:20 a.m.  Overview of Channel Morphology and Stream Crossings
Michael Love
- Introduction to stream channel morphology/types
- Causes and impacts of channel incision and aggradation
- Channel stability and the “urban equilibrium”
- Interaction of stream crossings with channels
- Causes of perched culverts; plunge pool vs. incision
**Tuesday, November 16th (Continued)**

10:45 a.m. **Pre-design & Project Layout**  
Kozmo Bates

- Establishing project goals and objectives
- Spectrum of fish passage approaches
  - Hydraulic verses Geomorphic design approaches
  - Range of ecological benefits
- Site assessment requirements
- Project alignment
- Determining Vertical Adjustment Profiles (VAP)
- Headcut considerations
- Developing the project profile
- Selecting a design approach

12:00 p.m. **Lunch Provided**

1:00 p.m. **NOAA Fisheries and California DFG Fish Passage Design Guidance**  
Rick Wantuck, NOAA Fisheries

- Overview of fish passage design guidelines
- FEMA and funding replacements for fish passage

1:45 p.m. **Geomorphic Based Designs**  
Kozmo Bates

- Overarching principals of stream simulation
- Determining when the stream simulation and low-slope designs are applicable.
- 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
- Geomorphic considerations of low-water crossings (fords)
- Construction techniques
2:30 p.m. BREAK

2:45 p.m. Geomorphic Based Designs (continued)  
Kozmo Bates

3:15 p.m. Profile Control Techniques  
Michael Love

- Applicable design criteria
- Drop structures
  - Types (boulder, log, concrete, sheetpile weirs)
  - Shape, spacing, slope, and stability
  - Design Process

4:00 p.m. BREAK

4:15 p.m. Local case study  
Tallant Road Bridge Replacement for Steelhead Passage  
George Johnson, Santa Barbara City Creek’s Planner

4:55 p.m. Outline of the next day’s activities  
Dana Stolzman

**Wednesday, November 17th**

8:30 a.m. Profile Control Techniques (continued)  
Michael Love

- Geomorphic based designs
  - Types and applications
  - Design process
- Construction techniques

10:00 a.m. BREAK

10:15 p.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
Wednesday, November 17th (continued)

11:30 a.m.  Group exercises

12:00 p.m.  LUNCH (SUPPLIED)

1:30 p.m.   Small group reports
Ross Taylor and Michael Love Facilitate

2:00 p.m.   BREAK

2:15 p.m.   CDFG & NOAA Fisheries Project Review Requirements
Margie Caisley, CDFG

- Project Specific Requirements Submittal Checklist
- Design Plan Criteria requirements in the Fisheries Restoration Grants Program (FRGP)

2:45 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

3:45 p.m.   BREAK

4:00 p.m.   Post course survey

4:10 p.m.   Local case study
Lessons learned from a over decade of implementing fish passage projects in San Luis Obispo, Brian Stark, Conservation Director, Ojai Valley Land Conservancy.

4:50 p.m.   Field trip logistics
Dana Stolzman, Salmonid Restoration Federation
Thursday, November 18th

OPTION A  Full Day Field Tour of Fish Passage Projects

8:30 a.m.  Meeting location to be determined
12:00 p.m. Lunch provided
4:00 p.m.  Return to Parking Lot

OPTION B  Engineering Practicum and Half-Day Field Tour
Michael Love and Kozmo Bates

8:30 a.m.  Guided exercises applying design procedures and equations for various fish passage project types; may include:
   - Stream simulation bed design and specifications
   - Geomorphic-based profile control design and specifications
12:00 p.m. Lunch provided and engineers join afternoon field tours
4:00 p.m.  Return to Parking Lot