The status of this project is complete. During this reporting period all field aspects of the project took place and were completed.
Pre-project photos were taken on July 25th 2011 (see attached photo 1.).
Wood acquisition July 29 2011 to August 11 2011 – The first phase of the field component was wood acquisition. Wood was acquired from a local land-owner. Forty six logs in all were gathered. Some were felled by chainsaw, most were removed with root wad by the excavator. The wood was then decked and loaded onto a low-boy truck trailer, secured down and hauled to the project site in the Mattole Estuary.
Site prep – complete August 11, turbidity curtain assembled to surround area of construction. On August 11th it was sealed shortly before equipment began operating in the area.
Rock delivery – four truck loads of rock were delivered to the site. This rock is hauled from the nearest quarry (2 hours away) and used for anchoring the structure.
LWD construction – August 11th to August 17th. During this period, the access road was created, structure constructed and access road removed (see photo 2).
August 17th The California Conservation Corps volunteered time to plant willows, begin anchoring (rock to rock hole drilling).

Construction of three apex jam structures - August 18th to 19th. The three apex jam structures (funded by USWFS) were located with the assistance of our technical advisory committee including Conor Shea (Geomorphologist for USFWS)
Anchoring of LWD structure – August 17th to August 29th. Apex jams are left unanchored to move naturally during very high flows while the LWD strucutres are anchored for stability and longevity of the created habitat. The anchoring techniques are as prescribed in the DFG stream restoration manual, and performed by MSG staff trained by Matt Smith (25+ years restoration contractor).

Upon completion, the disturbed areas were mulched and watered, and all anchored connections were double checked to ensure

completion (see photo 3).

Long and Short term objectives – The short term objectives were:

1. Acquire permits (complete at previous report)
2. Choose a suitable site – this was done through field tours and discussions with our technical advisory committee.
3. Construct 1 LWD structure and 3 Apex jam structure causing the least disturbance to the estuary. This was accomplished by the use of a turbidity curtain, the use of biologically compatable fuels and lubricants in excavator, and professional job-site behavior.

The long term objectives are:

1. Construct a LWD structure that creates complex habitat for salmonids in both summer and winter conditions for many years (we expect the structure to survive between 10 and 40 years).
2. Construct 3 apex jams that help create channel complexity and or slough habitat during winter flows that persist also during the low-flow months.

Relevance of the project enhancing habitat:

The wood structures constructed during the summer of 2011 are part of an on-going effort to restore habitat conditions in the Mattole River Estuary. This is the 7th LWD structure in the Mattole Estuary. These seven structures provide habitat in a diverse range of areas (north bank, south bank, and various distance from the ocean) and allow for fish use during different seasons, weather conditions and river flows. The benefits of wood for salmonids in similar systems has been extensively studied (*Juvinile Salmon Response To The Placement of Engineered Log Jams (ELJS) in the Elwha River, Washington State, USA*. Pess, Liermann et. Al.). Several documents and studies created and published by the Mattole Restoration Council and The Mattole Salmon Group (i.e. *Dynamics of Recovery, A Plan to Enhance the Mattole River Estuary*, Mattole Restoration Council) demonstrate that establishing wood in the Mattole Estuary is key in restoring crucial estuary habitat for Mattole Chinook and Coho salmonids. The apex jams placed during this summer bring the total apex jam numbers to 6 in the lower estuary. This puts a total of 151 logs in the estuary from all our projects of the last 10 years.

Using historic wood volume estimates put forth by Thomas Lisle in his Paper, *How much Dead Wood in Stream Channels is enough?* The Mattole, historically had 300-1,000 cubic meters of wood per hectare. Our estimates show we have 6-15 cubic meters of wood in the estuary. While existing wood volumes are still much lower than predicted historical volumes, each structure, when inundated with water has been observed by MSG divers to be providing habitat to salmonids.

Photo 1. Pre-project photo showing conditions and survey of area. July 2011

Photo 2. Construction in progress, August 2011

Photo 3. The Completed LWD structure August 2011