Answer Key to
Handout H12-1. Questioning the Effects of the Storrie Fire

A. What is the overall condition of the soil on the burned area? Focus especially on the statistics in Part III of the report ("WATERSHED CONDITION") and the "Burn Intensity Descriptions." Explain what proportion of the burned area has each kind of severity. Find a way to make the erosion potential and sediment potential real to your listeners. For example, you might give examples of just how much 97 tons is, or how many cubic yards of sediment would come off the fire if ALL of the high-severity burned area lost that much soil.

Burn Severity (acres): 37,000 (low) 11,000 (moderate) 8,000 (high)
Water-Repellent Soil (acres): 5,500
Soil Erosion Hazard Rating (acres): 32,000 (low) 12,000 (moderate) 12,000 (high)
Erosion Potential: 97 tons/acre
Sediment Potential: 9 cubic yards / square mile

B. What is the report's recommendation regarding the Bucks Lake Wilderness? What is the rationale for this approach, based on the information the report gives on soil burn severity? The wilderness may be very precious to some of your audience and meaningless to others, so find a way to engage as many of your listeners as possible.

Rely mainly on "Section A. Description of the Watershed Emergency." None of the watersheds in the Bucks Lake Wilderness were burned to a level that warrants concern. The wilderness portion of the fire created a mosaic pattern of burn intensities, with no single drainage significantly impacted. Fern Canyon and Belden Ravine flow through the community of Belden and were not sufficiently changed by the burn to consider them for emergency treatment. Flows from these channels normally flood into the area during high flow events and usually carry low to moderate amounts of sediment.

C. What is the likelihood that flooding and erosion will damage local roads and human communities? How extensive is that threat – over the entire burned area, or …? What can be done about it? How long will people have to worry about it?

Rely mainly on "Section A. Description of the Watershed Emergency" and "H. Treatment Narrative." Highway 70 passes through a few small drainages that were impacted by high intensity fire. These drainages are in very steep terrain, where rock fall is common and debris torrents could occur, especially in the first 3 to 5 years after the fire. "The impacts caused by most occurrences would be localized, but those channels directly flowing to Highway 70 will likely cause damage. In addition, the small community at the mouth of Indian Creek and at the upper end of the Rock Creek Reservoir could experience damage from large amounts of sediment deposition at that location if a large storm event occurs before hydrologic recovery takes place. This risk would decrease each year. The Indian Creek community could expect this type of damage any year, even without the burn, but for

the next several years, this likelihood is greater, although probably not to the same magnitude as what occurred in the January 1, 1997 storm." "Treatment would consist of (1) adding culvert pipe risers and associated trash racks and (2) constructing dips and overside-drains to provide controlled drainage if the pipes still plug. The pipes and their risers would be monitored and cleaned when accessible during the wet season."

D. How could soil burn severity affect aquatic species and riparian areas? How extensive are the threats – over the entire burned area, or… ? What can be done about the situation? Why should your listeners care?

See these sections of the report: "Aquatic, Riparian, and Terrestrial Habitats" and "Treatment Narrative." "The primary aquatic resources at risk are the coldwater fisheries and Threatened, Endangered and Sensitive (TES) amphibian populations. There are potential short- and long-term effects of sedimentation and debris torrents to these aquatic populations. There is also the potential for reduced water quality and associated increased stream temperature due to sedimentation and lost vegetative cover within sections of the perennial drainages. Amphibian species of concern include the California red-legged frog and Foothill and Mountain yellow-legged frogs within the fire boundary. Fisheries of concern are the wild trout population within Yellow Creek and native rainbow trout populations throughout perennial drainages within the fire boundary". The report does not indicate what can be done to help the aquatic species and riparian areas. Treatment may not be warranted. However, "land treatments" such as rice straw mulch, "channel treatments" such as armoring channel banks could help in specific areas of concern.