Watershed Assessment in California

Watersheds by their nature are fluid and complex, making it difficult to fully understand their processes and conditions. Understanding watersheds in California is all the more challenging, due to the state’s exceptionally diverse array of geographic and hydrologic conditions, which is overlain by an equally diverse set of social and economic conditions. Watersheds include the land surrounding a river or stream. When it rains, substances in the watershed get washed off and can end up as pollution in the waterway and finally the ocean. Since we all live in a watershed, we all have a voice on what is at stake for future activities in the watershed.

“Watershed assessment” is one method used to understand a watershed. It is a process for evaluating how well a watershed is functioning. Watershed assessments may include identifying important issues, examining historic conditions, evaluating present conditions and processes, and determining the effects of human activities. It can mean describing the parts and processes of the whole watershed and analyzing their functioning in general, or relative to some standard (such as a water quality standard or historic condition). It also can mean focusing on particular concerns about human activities, conditions, or processes in the watershed.

The California Watershed Assessment Manual provides a series of standard approaches that assist watershed assessors, and those guiding assessments, in planning and carrying out watershed assessments. These approaches are appropriate for a variety of watershed stakeholders, including members of watershed groups, agency representatives, landowners, scientists, members of the academic community, business representatives, and consultants.
Effective watershed assessment should be linked directly to the actions that are taking place, or can be taken to improve watershed condition. Some of these will be restoration actions (e.g., increasing vegetation on denuded slopes), certain ones will be related to land-use (e.g., zoning of certain areas for watershed protection), and others will be monitoring and evaluation of conditions and the management actions themselves.

There is a growing understanding that watershed adaptive management involves monitoring our actions and the responses of the ecosystems and human systems we impact. This often involves the selection of factors that are particularly influential on the ecosystem (e.g., water collection and diversion) or responsive to the actions (e.g., native aquatic biota). These factors are often called “indicators” when applied to natural and social processes and attributes, or “performance measures” when applied to management actions. Whatever you call them, the selection of a set of these indicators or measures is important in deciding what to monitor and assess.