



CALIFORNIA WATERSHED PROGRAM

What is a Watershed?

In its historical definition, a watershed is the divide between two drainage streams or rivers separating rainfall runoff into one or the other of the basins. In recent years, the term has been applied to mean the entirety of each of the basins, instead of just the divide between them. The Continental Divide is a watershed according to the earlier definition, where rainfall runoff is directed toward the Gulf of Mexico or toward the Pacific Ocean. The Mississippi River basin and the Colorado River basin are watersheds under the new definition. Other parts of the world use the terms catchment, or river basin, to describe the drainage area between (historical) watersheds.

It is from the earlier definition of watershed that we derive the phrase “watershed event”—an occurrence that changes the pattern of all that follows, moving the flow of events toward a different outcome.

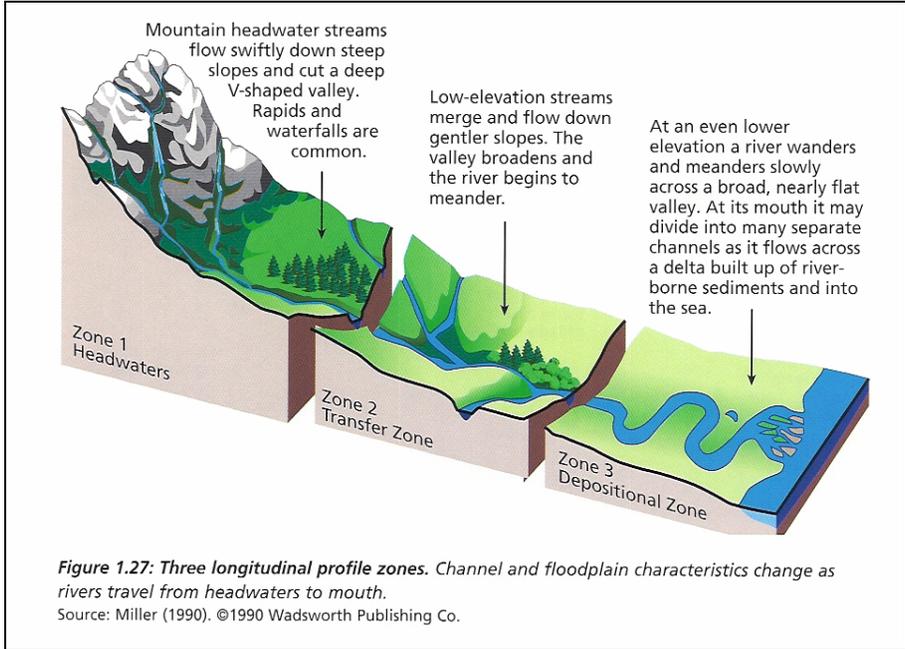


Figure 1: Watershed Zones



What is the Watershed Approach?

Watershed management could perhaps be more accurately defined as resource management with watersheds as the basic organizing unit. Three major interpretations of the watershed approach have emerged across the country in the last thirty years. Although each refers to watersheds as an organizing unit, the results of their use achieve markedly different outcomes. They are:

I. A geographic representation: For some, the watershed approach means redrawing the geographical boundaries within which they work.

II. A separate, distinct set of actions: Another definition of the watershed approach is as a separate program, or set of actions, dedicated to watershed management as a specific task.

Activities developed using these two interpretations generally:

- √ Are mechanical in nature
- √ Do not require a change of methods or perspectives used to manage natural resources
- √ Maintain a problem solving, or “working on the pieces” mode of operation, and
- √ Emphasis is on procedure, rather than on the complex dynamics that impact and generate change

Many agencies and non-governmental organizations establish special watershed departments, or watershed teams, funded and operated as a separate unit from other programs. With these interpretations, we often hear about budget and personnel availability woes connected with adopting the watershed approach. Other programs and activities may feel separate from watershed management, rather than a partner in it.

A third interpretation is as:

III. A fundamental set of principles: Using a set of basic guidelines that inform development, implementation and integration among various programs, processes and other work details that may have an impact on watershed conditions:

- √ Places emphasis on the dynamics that generate change
- √ Promotes creativity, consensus and collaboration
- √ Allows generation of new creative prototypes for natural resource management.
- √ Encourages creation of new approaches to meet the purposes of existing programs.
- √ Encourages the improvement of both the efficacy and efficiency of resource management efforts in achieving the goals of the watershed community.
- √ Emphasizes the way communication is developed and maintained, and values the quality of information exchange that informs the public dialogue.

“The way we treat rivers reflects the way we treat each other”

Aldo Leopold



What is Watershed Management?

Watershed management is the process of creating and implementing plans, programs, and projects to sustain and enhance watershed functions that provide the goods, services and values desired by the community affected by conditions within a watershed boundary.

The objective of watershed management is to increase and sustain a watershed's ability to provide for the diverse needs of the communities that depend on it, from local to regional to state and federal stakeholders.

Resource management using watersheds as an organizing unit has proven to be an effective scale for natural resource management. It presents a common reference point for the many different activities and actors that affect the system, and promotes greater integration and collaboration among those actions.

Using watersheds as organizing units for planning and implementation of natural resource management means that:

- √ large regions can be divided along topographic lines that transcend jurisdictional lines
- √ status and trends analysis can be done on the basis of entire natural systems in concert with social conditions
- √ communities within the watersheds can better track and understand the impacts of their management activities on the larger system
- √ each watershed can adjust management measures and policies to meet local goals while supporting larger scale goals as well (such as regional and statewide interests)
- √ multi-objective planning is facilitated by inclusion in, and reference to, a whole-system context

Effective management recognizes the mutually dependent interaction of various basic elements of a watershed system. They are:

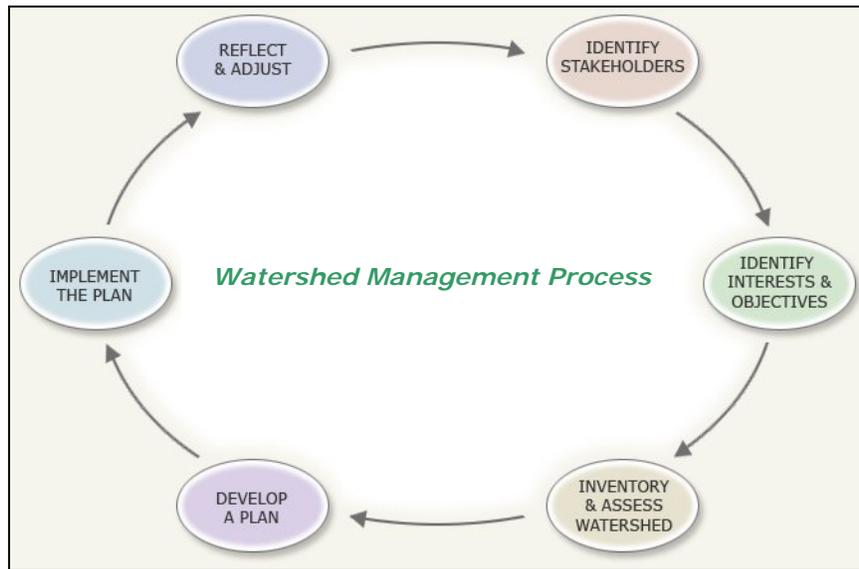
- √ Hydrology: *precipitation and flow*
- √ Biology: *flora, fauna, ecosystems*
- √ Geology: *landforms, soils, sedimentation, topography*
- √ Sociology: *culture, economics, history*

Each must be considered in context with the others, because change in one spurs changes in the others, creating a different system outcome.

"It is not necessarily those lands which are the most fertile or most favored climate that seem to me the happiest, but those in which a long stroke of adaptation between man and his environment has brought out the best qualities of both."

T. S. Eliot





The watershed **inventory** is a systematic process for creating a pool of community information about the current condition of watershed resources. The watershed **assessment** compares the current condition with the desired conditions, as defined by the community's goals and objectives, to identify and quantify gaps.

A **watershed management plan** charts a path for closing the gap between actual and desired watershed conditions. Typically, the plan states the mission, goals, and objectives of the management initiative. The plan also describes the action steps the community will take to attain its objectives, and how success will be measured.

The plan should not be confused with the actions required to implement it. Within an effective process, plan implementation includes the responsibility of stakeholders to work within a network of partnership groups. *No single entity or group can effectively manage a watershed.*

Continuous monitoring of all aspects of plan implementation and results of actions, is an essential and integral component of effective watershed management. By reflecting on and discussing feedback information from the monitoring program, the watershed community can identify appropriate adjustments to all aspects of the plan and its implementation.

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