

What general rehabilitation is needed for dams?

Many dams can function beyond the original design life with continued maintenance and rehabilitation. The following are some issues to be addressed regarding aging infrastructures.

Replacement of deteriorating components, such as principal spillway pipes, slide gates, valves, and trash guards. For example, metal conduits, for example, corrugated metal pipes, generally have a life expectancy of less than 50 years.

Reservoirs fill with sediment. Since reservoirs are designed to store the normal sediment anticipated to accumulate during the design life of the dam, reservoirs fill with sediment. If modifications are not performed, continued delivery of sediment to the site encroaches on flood storage resulting in more frequent flows through the auxiliary spillway, increased maintenance needs, and increased threat of dam failure.

Dams inability to meet current state dam safety regulations. Typically, these requirements have increased since many dams' original construction as a result of federal legislation and/or state laws that have continued to be revised after dam safety and environmental concerns were raised in the 1970s. By that time, more than 70 percent of USDA-assisted project dams were in place.

Lack of adequate land rights under current easements to conduct future rehabilitation work. Water rights issues and land use control (upstream and downstream from the structure) must be addressed before development of a rehabilitation plan.

Any rehabilitation alternative considered and the final selected approach must be determined on the economic, environmental, and social merits of the site-specific project. Common approaches to consider include the following.

Remove sediment from the reservoir: Removing sediment from the reservoir and disposing of it at an environmentally safe location can extend the life of a dam. Before removal, the sediment must be tested for potential contaminants, such as herbicides and other toxins.

Remove the dam (sometimes referred to as decommissioning).

Increase or replace the principal spillway: This approach would address greater amounts of runoff from the watershed above the dam due to residential and/or commercial development, or provide higher capacity discharge due to changed safety or design criteria.

This fact sheet was adapted from *A Report to Congress on Aging Watershed Infrastructure, An Analysis and Strategy for Addressing the Nation's Aging Flood Control Dams* (United States Department of Agriculture Natural Resources Conservation Service).