

Reservoir Operating Restrictions

December 2014

What is an operating restriction?

An operating restriction on a dam and reservoir typically limits storage by curbing the maximum height of water on the reservoir. Water behind the dam is kept at or below the restricted level whenever possible.

A dam's freeboard is the distance between the crest of the dam and the water level. Imposing an operating restriction on the reservoir's water level will increase the freeboard. Increasing the freeboard is a typical way of increasing the safety of the dam.



Aerial view of Anderson Reservoir

Who can implement a reservoir restriction?

A dam owner such as the water district can implement an operating restriction. As the state's dam safety regulator, the State Department of Water Resources Division of Safety of Dams (DSOD) can require operating restrictions for all water district dams and reservoirs. Additionally, the Federal Energy Regulatory Commission (FERC) has dam safety jurisdiction over Anderson Dam as a result of the nearby water district hydroelectric facility and can also implement an operating restriction for Anderson Dam and reservoir. Any restriction imposed by the water district must be approved by the appropriate regulator(s).

Why are operating restrictions implemented?

Operating restrictions provide an adequate level of safety to the public downstream of the dam. Seismic stability deficiency, inadequate spillway capacity or freeboard are among the reasons to implement these restrictions. About 60 dams statewide currently have operating restrictions, the majority for seismic stability concerns.

When do operating restrictions get put in place?

The water district implements operating restrictions with the DSOD – FERC at Anderson Dam – when there is reliable information needed to provide an adequate level of safety to the public downstream. For a water district dam undergoing a seismic stability evaluation, the agency acts when credible scientific information, such as a report from a consultant, documents a change in the level of safety of a dam.

Why is it impossible to always keep a reservoir level below an operating restriction?

The water district does not control nature. Even in an empty reservoir, there is always a chance that enough rainfall and the resulting runoff will fill the reservoir over the operating restriction level. The water district uses dam and reservoir specific strategies to minimize how often this occurs and to quickly return the reservoir below the restricted level.

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What are the water supply impacts of operating restrictions?

Operating restrictions reduce the amount of storage allowed in the reservoirs. The impact on water supply depends upon the amount of rainfall and resulting runoff that occurs. If we have a relatively dry winter and spring, there will be little or no impact by operating restrictions on the water supply stored in our reservoirs.

On the other hand, if we have a very wet winter and spring, some of the water will be released downstream to either San Francisco or Monterey Bay to comply with the operating restriction. Either way, on an average basis, operating restrictions will lead to some reduction in the amount of local runoff that can be captured and used for water supply and other purposes in our reservoirs.

Are there any other impacts of operating restrictions?

All water district reservoirs provide environmental flows to species living in the downstream waterways below the dams. With less water stored in our reservoirs, there could be some reduction in our ability to provide appropriate flows and water temperature at some of these reservoirs.

Contact us

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What water district dams and reservoirs currently have operating restrictions and why?

The table below shows the current operating restrictions' impact on storage and water supply. The impact on water supply is an estimate based on current operational strategies. The actual impact will depend on the rainfall in any given year.

Reservoir/ Dam	Reservoir capacity (Acre-feet)	Restricted capacity (Acre-feet)	% capacity after restriction	Reason for restriction	Average annual water supply impact (acre-feet)
Anderson	90,373	61,810	68	Seismic stability concern	10,500
Coyote	23,244	12,382	53	Active fault movement (Calaveras fault) under dam	2,400
Almaden	1,586	1,472	93	Seismic stability concern	2,500
Calero	9,934	4,585	46	Seismic stability concern	
Guadalupe	3,415	2,218	65	Seismic stability concern	800
Stevens Creek	3,138	no restriction	N/A	N/A	N/A
Lexington	19,044	no restriction	N/A	N/A	N/A
Chesbro	7,945	no restriction	N/A	N/A	N/A
Uvas	9,835	no restriction	N/A	N/A	N/A
Vasona	495	no restriction	N/A	N/A	N/A
Totals	169,009	122,924			16,200

The Santa Clara Valley Water District manages water resources and provides stewardship for the county's five watersheds, including 10 reservoirs, hundreds of miles of streams and groundwater basins. The water district also provides flood protection throughout Santa Clara County. Visit our website, www.valleywater.org.