

ECHO LAKES WATER MANAGEMENT

Have you ever wondered why, when and how the water level rises and falls at Echo Lakes? Water levels in the Echo Lakes are managed under two permits/licenses, both held by the El Dorado Irrigation District (EID). One is for the dam itself and the other governs the flow of water down Echo Creek to Lake Tahoe (“Echo Lake Outlet”). This article explains the guidelines for releasing the water. It also has links to the EID website where you can see the lake level and also the flow rate by the hour.

Water levels in the Echo Lakes are managed under two permits/licenses, both held by the El Dorado Irrigation District (EID).

1. The Dam is operated under a permit issued by the State Division of Safety of Dams (DSOD).
2. Water level (the top 6 feet) is regulated by a license held by EID issued by the Federal Energy Regulatory Commission (FERC) for the El Dorado Hydroelectric Project, Project No. 184.

DAM PERMIT

Echo Lakes dam is operated under a permit issued to EID by the State Division of Safety of Dams (DSOD).

The permit includes requirements on when the boards can first go in to raise the water level and the dates they are to be removed. EID can first begin putting boards in on April 2 and are to begin removal no later than October 31. They are allowed under the permit to keep 2 feet of water in Echo until November 15. Variances to these requirements can be requested both before April 2 and after October 31. Some examples of recent variances are:

- EID requested and received a variance from DSOD in Fall 2021 to keep 4' of boards from 11/1 to 11/30, 3' of boards from 12/1 to 12/15, 2½' of boards from 12/16 to 12/31 and remove all boards by 1/1. EID considered requesting extending the variance but decided not to due to early-season rain/snow. All boards were removed by 12/20.
- The Boards were put in before April 2 in 2015 with DSOD approval. The Sierra snowpack was 13% of average in 2015, the lowest on record. Even with a record low snowfall, the lakes were full by Memorial Day weekend.

PROJECT 184

Project 184 is composed of four storage reservoirs (Echo, Aloha, Caples, and Silver) a powerhouse and various support infrastructure. Echo is the smallest of the four reservoirs. EID has rights under the license to the top six feet of water in Echo.

EID has two basic obligations for water management under the license at Echo:

1. EID shall operate Echo Lakes such that the channel between the Upper and Lower Lakes is navigable by motorized watercraft between July 1 and Labor Day of each year, while still complying with minimum streamflow requirements.
2. Monthly Minimum streamflow requirements for Echo Creek are specified in the license and are dependent on projected flows in the American River at Folsom Lake. Projected American River flows are established by California Department of Water Resources Bulletin 120, Water Conditions in California, which projects water year type. Bulletin 120 is issued monthly from February to May, with the May Bulletin establishing water year type/monthly releases for the remainder of the year. The table below defines the water year types used by the State Water Resources Control Board (SWRCB) and the required monthly minimum Echo Creek streamflow's by water year type.

These releases are a mandatory requirement unless EID receives a flow variance. Variances require 5 agencies who are parties to the license to agree to the variance request. The SWRCB must give final approval. Some examples of recent variances are:

- In 2015, the lowest snowpack on record, reduced flows were implemented in mid-April and Echo was full on May 23.
- 2018 was rated "below normal" by the State Water Board but snowpack (60%) in the Echo basin had been washed out by late-season rains and runoff was not sufficient to raise the lake level in May with required 30 cubic feet/second (cfs) releases. At the urging of ELA and Chalet a flow variance was requested after the Memorial Day weekend and approved in mid-June. The lakes did not fully fill in 2018.

Water Year Types are used to determine the required monthly minimum flow at the 'Echo Lake Outlet' which the State Water Resources Board refers to as Echo Creek.

- WET – greater than 125% of average
- AN (above normal) – less than 125% but greater than or equal to 100% of average.
- BN (below normal) – less than 100% but greater than or equal to 75% of average.
- Dry – less than 75% but greater than or equal to 50% of average.
- CD (critically dry) – less than 50% of average

For example, 2022 has been deemed a Dry year. This means that in June 2022, the water going down the creek should be 15 cfs or the Natural Flow (NF).

Echo Creek Below Echo Lakes Dam¹

Month	Minimum Streamflow by Water Year (cfs)				
	CD	DRY	BN	AN	WET
OCT	6 or NF	6 or NF	6 or NF	6 or NF	6 or NF
NOV	6 or NF	6 or NF	6 or NF	6 or NF	6 or NF
DEC	6 or NF	6 or NF	6 or NF	6 or NF	6 or NF
JAN	6 or NF	6 or NF	6 or NF	6 or NF	6 or NF
FEB	6 or NF	6 or NF	6 or NF	10 or NF	10 or NF
MAR	6 or NF	6 or NF	6 or NF	15 or NF	15 or NF
APR	6 or NF	10 or NF	15 or NF	25 or NF	25 or NF
MAY	6 or NF	15 or NF	30 or NF	45 or NF	45 or NF
JUNE	6 or NF	15 or NF	30 or NF	40 or NF	40 or NF
JULY	6 or NF	10 or NF	15 or NF	20 or NF	20 or NF
AUG	6 or NF	6 or NF	6 or NF	6 or NF	6 or NF
SEPT	6 or NF	6 or NF	6 or NF	6 or NF	6 or NF

- 1) Project 184 License, 2006. Pg. 65.
NF – Natural Flow

WHERE TO FIND CURRENT ECHO WATER LEVEL AND STREAMFLOW DATA

1. Search for El Dorado Irrigation District (EID) or click this link <https://www.eid.org/>
2. On the EID home page, enter 'Project 184' in the search box or click on <https://www.eid.org/our-services/hydroelectric>
3. Scroll down to 'Current Streamflows and Water Data' or click this link [Current Streamflows and Water Data | El Dorado Irrigation District \(eid.org\)](https://www.eid.org/our-services/hydroelectric/current-streamflows-and-water-data)
4. Use dropdown menu and select option you prefer:
 - 'Echo Lake' for water level at the dam
 - 'Echo Lake Outlet' for flow in cubic feet/second (cfs) at Echo Creek

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