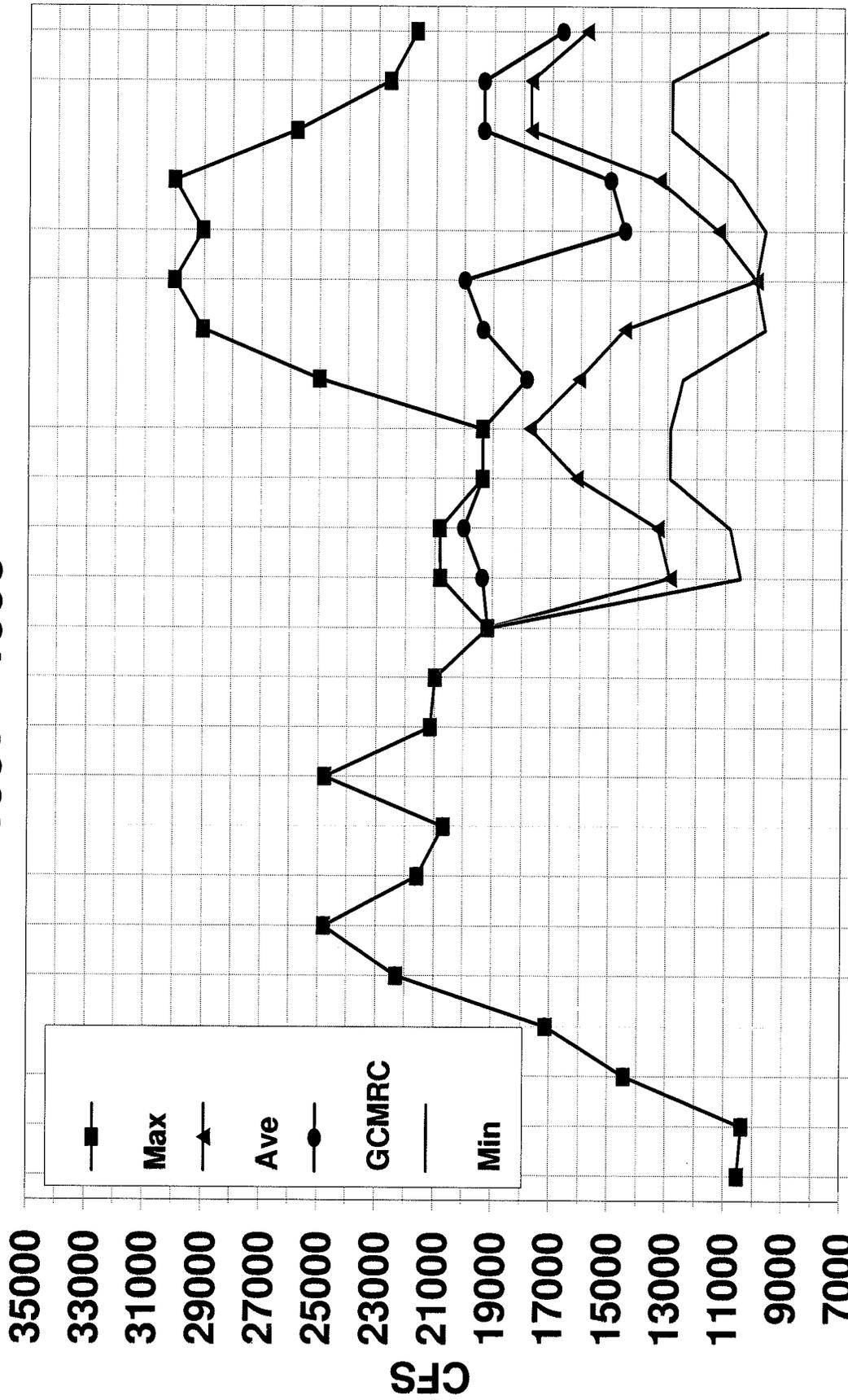


# Glen Canyon Releases

1997 - 1998



Oct Dec Feb Apr Jun Aug Oct Dec Feb Apr Jun Aug

## **1998 Operations Decision Points**

Oct 1 - AOP issued by Secretary of the Interior

Jan 1 - Projections of spring runoff begin

Feb 15 - Decision on spike flow in March

Apr - Start of 1999 AOP meetings  
- Start of spring runoff

Jul - End of runoff  
- Conclusion of AOP discussions

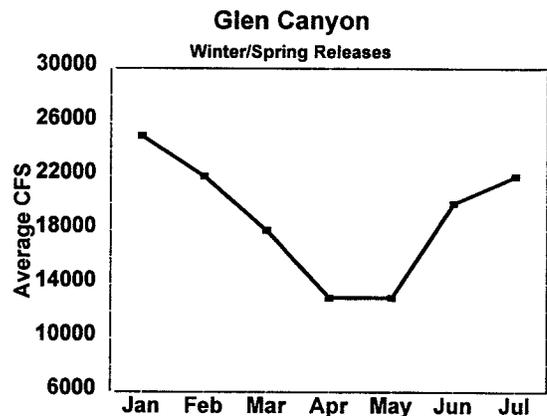
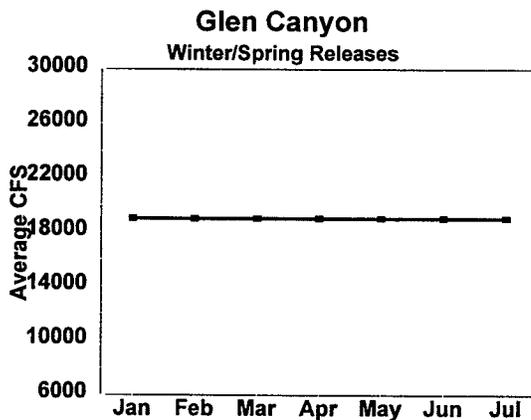
# Causes of Unanticipated Spills

## 1 - Forecast errors

- 5 MAF on January 1
- 2 MAF on June 1

## 2 - Monthly release patterns

- level releases
- aggressive response to forecast increases



## 3 - Target elevations

- January 1
- July 31

Based on a request from the Transition Work Group of the GCDEIS, one week of high steady flows for research purposes is planned from Glen Canyon Dam in April 1996. These flows would test the effectiveness of the Beach/Habitat Building flow recommendation in the GCDEIS and would require bypassing the powerplant.

The Colorado River Management Work Group and Transition Work Group, involved with the AOP and the GCDEIS respectively, support the elimination of the provision for Beach/Habitat Building Flows during low reservoir storage conditions as contained in the preferred alternative of the GCDEIS. These work groups also support accomplishing this action through the Record of Decision process. This approach would attempt to accomplish the objectives of the Beach/Habitat Building Flow recommendation of the GCDEIS utilizing reservoir releases in excess of powerplant capacity required for dam safety purposes during high reservoir conditions at Glen Canyon Dam. Such releases would be consistent with the 1956 Colorado River Storage Project Act, the 1968 Colorado River Basin Project Act and the 1992 Grand Canyon Protection Act. Such releases would be managed to the maximum extent possible to (1) protect river sediment storage downstream or (2) be released in such a way as to reshape river topography, redeposit sediment and enhance aquatic habitat. In addition, installation of permanent extensions to spillway gates as provided in the preferred alternative of the GCDEIS will provide infrequent, short-term control of floods for the environmental protection of the Grand Canyon and for dam safety purposes. These concepts, along with habitat maintenance flows up to powerplant capacity during lower reservoir conditions, would be carefully monitored to ensure that the goals of environmental and endangered species protection are met. Additional NEPA compliance will be completed on the permanent installation of the spillway gate extensions.

With this proposal in place, a test of a Beach/Habitat Building flow from Glen Canyon Dam could be accomplished in the spring of 1996. This test would allow scientific verification of the sediment deposition mechanisms believed to be key to the long-term maintenance of habitats in the Grand Canyon. NEPA and ESA compliance will be completed on this research test prior to its occurrence in 1996.

This test in 1996 may have economic impacts due to foregone power generation and its associated revenue impact to the Treasury from the water that would bypass the powerplant, about 345 MCM (0.280 MAF). Such a test release, if performed for other than hydrologic reasons, could result in modified monthly release volumes throughout water year 1996, and may cause additional purchase power expenses during the other months of the year and low value "dump energy" during the month of the test release.

## **Potential Operations Errors**

- Releasing spike flow in March when not required. Runoff forecasts decrease as winter turns dry. Annual release volume drops and summer releases are reduced accordingly.
- Not releasing March spike flow, then inadvertently spilling in June. Likely a result of expecting only a moderate runoff year, then having a large spring forecast increase.
- Releasing spike flow in March, then inadvertently spilling in June. Likely a result of a high water year or a large spring forecast increase.