

Interim Process for Determining 2015 Navajo Dam Environmental Flow Releases

General Guidelines:

* For 2015, Biology Committee (BC) decision to forego a one-week spring peak release (given most probable forecast)

* There are two major factors to be considered in making Navajo Dam releases for environmental purposes:

1) End of Water Year Storage Target (EOWYST),

The EOWYST target elevation is 6,063 ft. with flexibility to drop to 6,050 ft. for biological flexibility (e.g., extend flow duration from 3 weeks to 5 weeks),

2) Adaptive Management

The shape, timing, and duration of the SPR hydrograph can be modified through adaptive management to meet the Program goals.

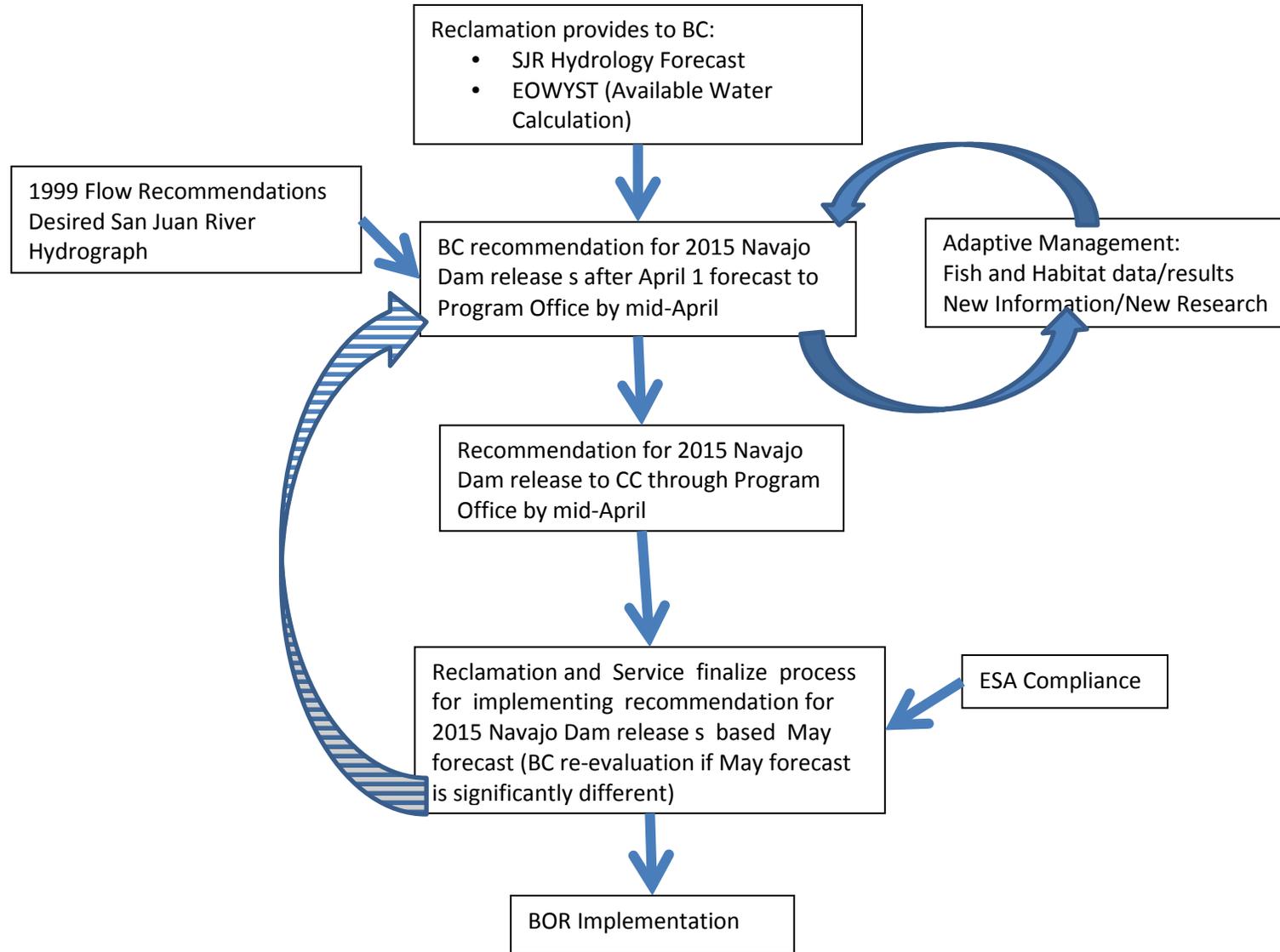
*In support of the recommended process for 2015, the Service specified that as long as the environmental flow (e-flow) release recommendations come from the Program through the BC, they will be considered the best science available for progress toward recovery of the listed species and deemed to be in compliance with the ROD

* E-flow release decisions need to include monitoring to measure response

Process Steps (see page 2 for Process Flow Chart):

- 1) Reclamation provides Available Water Calculation based on the EOYWST to Biology Committee by April 1.**
- 2) Biology Committee formulates and provides draft recommendation for 2015 Navajo Dam e-flow releases to Program Office by mid-April based on:**
 - a. EOYWST/available water calculation (Reclamation's model)
 - b. Desired or appropriate San Juan River hydrograph
 - c. Review of fish and habitat response to flow
 - d. 1999 flow recommendations
- 3) Recommendation for 2015 Navajo Dam e-flow releases provided to Coordination Committee (CC) through Program Office by mid April. CC reviews recommended releases and provides any comments to Reclamation and the Service.**
- 4) Reclamation and the Service work out the final details toward accomplishing the recommendation for 2015 Navajo Dam e-flow releases based on May forecast (including ESA compliance check). If significant change in May forecast has occurred, BC re-evaluates draft recommendation and submits modifications, if necessary (process resets to Step 2).**
- 5) Reclamation implements the final recommendation.**

Draft Proposed Process 2015 Process Flow Chart



PRELIMINARY AVAILABLE WATER CALCULATION 2015

CBRFC Forecast Date: 4/16/2015

Water Year	End of Water Year Storage Target (ft)	MIN PROBABLE FORECAST		MOST PROBABLE FORECAST		MAX PROBABLE FORECAST	
		Available Water over base (af)	Spring Peak Release **	Available Water over base (af)	Spring Peak Release **	Available Water over base (af)	Spring Peak Release **
2015	6063	0	0	0	0	0	0
	6050*	0	0	0	0	0	0
2016	6063	0	0	99,604	Type 1	515,211	Type 4
	6050*	0	0	260,471	Type 3	669,570	Type 4
2017	6063	47,140	0	441,813	Type 4	461,376	Type 4
	6050*	201,499	Type 2	596,172	Type 4	615,736	Type 4

* Note that use of the maximum Available Water affects the following water year's Available Water calculation. Only EWYST of 6063ft is modeled.

** Available Water is the total volume available over the minimum base release from the reservoir (350 cfs). The Spring Peak Release assigned is the closest prescribed hydrograph from the flow recommendations based on the Available Water volume. Any remaining Available Water will be available to the SJRIP for other uses, or will be evacuated from the reservoir through Operational Spill. Operational Spill will not be required unless the end of water year storage is over 6063 ft.

Volume including 350 cfs base (af)	Volume over 350 cfs base (af)	Release Type	Release Description
90,483	83,207	Type 1	1-week at 5,000 cfs with 3-day ramps on either side
150,347	138,545	Type 2	2 weeks at 5,000 cfs with 3-day ramps on either side
229,686	212,331	Type 3	3-weeks at 5,000 cfs with 3-day ramps on either side
418,512	374,777	Type 4	3-weeks at 5,000 cfs with full ramps on either side

This calculation is subject to change with evolving forecasts and is considered a preliminary estimate. Please contact Ryan Christianson (970-248-0652) or Susan Behery (970-385-6560) with questions regarding the Spring 2015 forecast and operations.

Behery, Reclamation, April 7, 2015 email



MEMORANDUM

Date: May 3, 2015

To: Dave Campbell, SJRIP Program Coordinator

From: Bill Miller, SJRIP BC Chair

CC:

Subject: Biology Committee recommendations for 2015 Navajo Dam release

The SJRIP Biology Committee (BC) reviewed and discussed the water available for peak flow release during conference calls in March and April 2015. Based on the available water the BC is recommending the following:

BC recommends to the Coordination Committee that there be no peak release in 2015 while target baseflows are maintained in the San Juan River. The motion on the issue was made by Bill Miller at the April 20, 2015 BC call. Vince Lamarra seconded the motion and it was approved unanimously.

Please forward this memo to the CC for discussion and any necessary approvals and direction to Bureau of Reclamation at the May 14, 2015 meeting.