

---

**From:** Leahigh, John@DWR  
**Sent:** Tuesday, March 24, 2015 12:22 PM  
**To:** [RMILLIGAN@usbr.gov](mailto:RMILLIGAN@usbr.gov); Howard, Tom  
**Cc:** Stein, Russell@DWR; Hunnicutt, Maggie@DWR; Grober, Les@Waterboards; Rea, Maria@NOAA; Reece, Kevin@DWR; [pfujitani@usbr.gov](mailto:pfujitani@usbr.gov); Moon, Laura [K.@DWR](mailto:K.@DWR); Wilcox, Carl@Wildlife; PABLO ARROYAVE; Cowin, Mark@DWR; Jeff McClain; Murillo, D@USBR; Castleberry, Dan@fws; [Ren\\_Lohofener@fws.gov](mailto:Ren_Lohofener@fws.gov); [dan.keeton@noaa.gov](mailto:dan.keeton@noaa.gov); Aufdemberge, Amy; Fry, Susan@USBR; [kaylee.allen@sol.doi.gov](mailto:kaylee.allen@sol.doi.gov); [Ryan.Wulff@noaa.gov](mailto:Ryan.Wulff@noaa.gov); Hinojosa Jr., Arthur@DWR; [William.Rasch@noaa.gov](mailto:William.Rasch@noaa.gov); Idlof, [Patti@usbr.gov](mailto:Patti@usbr.gov); William W. Stelle; Bonham, Chuck@Wildlife; Croyle, William@DWR; Mizell, James@DWR; Holderman, Mark@DWR; Garcia, Cindy [A.@DWR](mailto:A.@DWR); Mead, Michelle@NOAA; Christopher Keifer; [Alan.Haynes@noaa.gov](mailto:Alan.Haynes@noaa.gov); [Kim\\_S\\_Turner@fws.gov](mailto:Kim_S_Turner@fws.gov); Dibble, Chad@Wildlife; Rabin, [Larry@fws.gov](mailto:Larry@fws.gov); [roger\\_guinee@fws.gov](mailto:roger_guinee@fws.gov); Crothers, Cathy@DWR; Pettit, Tracy@DWR; Messer, Dean@DWR; Spanglet, Harry@DWR; Marshall, Paul@DWR; Gingras, Marty@Wildlife; George, Michael@Waterboards; Hinojosa, Tracy@DWR; Miller, Aaron@DWR; Heyne, Tim@Wildlife; Marston, Dean@Wildlife; Friend, Janiene@DWR; Chorneau, Charlotte@DWR; Riddle, Diane@Waterboards; [Garwin.Yip@noaa.gov](mailto:Garwin.Yip@noaa.gov)  
**Subject:** RE: Request for Early Start of Vernalis Pulse Flow Period

Tom,

I can confirm that DWR agrees with the early start to the D-1641 31-day export limitation associated with the Vernalis Pulse Flow period as requested by Reclamation.

**John W. Leahigh, P.E.**  
Department of Water Resources  
State Water Project  
Water Operations Office  
(916) 574-2722  
[leahigh@water.ca.gov](mailto:leahigh@water.ca.gov)

**From:** Milligan, Ronald [<mailto:rmilligan@usbr.gov>]  
**Sent:** Tuesday, March 24, 2015 7:49 AM  
**To:** Howard, Tom  
**Cc:** Stein, Russell@DWR; Hunnicutt, Maggie@DWR; Grober, Les@Waterboards; Rea, Maria@NOAA; Reece, Kevin@DWR; [pfujitani@usbr.gov](mailto:pfujitani@usbr.gov); Moon, Laura [K.@DWR](mailto:K.@DWR); Wilcox, Carl@Wildlife; PABLO ARROYAVE; Cowin, Mark@DWR; Jeff McClain; Murillo, D@USBR; Castleberry, Dan@fws; [Ren\\_Lohofener@fws.gov](mailto:Ren_Lohofener@fws.gov); [dan.keeton@noaa.gov](mailto:dan.keeton@noaa.gov); Aufdemberge, Amy; Leahigh, John@DWR; Fry, Susan@USBR; [kaylee.allen@sol.doi.gov](mailto:kaylee.allen@sol.doi.gov); [Ryan.Wulff@noaa.gov](mailto:Ryan.Wulff@noaa.gov); Hinojosa Jr., Arthur@DWR; [William.Rasch@noaa.gov](mailto:William.Rasch@noaa.gov); Idlof, [Patti@usbr.gov](mailto:Patti@usbr.gov); William W. Stelle; Bonham, Chuck@Wildlife; Croyle, William@DWR; Mizell, James@DWR; Holderman, Mark@DWR; Garcia, Cindy [A.@DWR](mailto:A.@DWR); Mead, Michelle@NOAA; Christopher Keifer; [Alan.Haynes@noaa.gov](mailto:Alan.Haynes@noaa.gov); [Kim\\_S\\_Turner@fws.gov](mailto:Kim_S_Turner@fws.gov); Dibble, Chad@Wildlife; Rabin, [Larry@fws.gov](mailto:Larry@fws.gov); [roger\\_guinee@fws.gov](mailto:roger_guinee@fws.gov); Crothers, Cathy@DWR; Pettit, Tracy@DWR; Messer, Dean@DWR; Spanglet, Harry@DWR; Marshall, Paul@DWR; Gingras, Marty@Wildlife; George, Michael@Waterboards; Hinojosa, Tracy@DWR; Miller, Aaron@DWR; Heyne, Tim@Wildlife; Marston, Dean@Wildlife; Friend, Janiene@DWR; Chorneau, Charlotte@DWR; Riddle, Diane@Waterboards; [Garwin.Yip@noaa.gov](mailto:Garwin.Yip@noaa.gov)  
**Subject:** Request for Early Start of Vernalis Pulse Flow Period

Tom,

Reclamation requests your concurrence regarding a temporary shift in the timing of the 31-day Vernalis Pulse Flow period and associated Export Limit called for in D-1641 to better benefit steelhead and fall-

run Chinook salmon in the Stanislaus and San Joaquin Rivers. Reclamation proposes that 31-day period at Vernalis begin on 25 March this year.

Over the last month, Reclamation has been working with your staff and the other RTDOT member agencies on a potential modification to the timing of the 31-day Vernalis Pulse Flow and flow releases on the Stanislaus River. Given the extreme dry conditions in the San Joaquin Basin, low river flows and the recent warmer than average air temperatures, the water temperatures are becoming a concern for steelhead and fall-run Chinook salmon in the both Stanislaus River and lower San Joaquin.

The proposed shift in timing would initiate the Pulse Flow period earlier than the traditional April timeframe, but we believe the proposed timing is consistent with the intent and purpose of D-1641 given the unusual conditions this year. National Marine Fisheries Service has already concurred with the recommendation to initiate RPA Action III.1.3 as soon as practicable for the Stanislaus River, and DWR has agreed to operate to an early start of the Export Limit component. The shift in the Pulse Flow period should also allow for adequate overlap with planned releases from the Tuolumne River in mid-April. This modification to the Pulse Flow period has also been incorporated in the biological review of our next TUCP that I understand will be delivered to you later today.

Given the urgency of this matter and projected return of much warmer than normal temperatures again later this week, Reclamation has started an initial pulse flow on the Stanislaus River to help queue fish to encourage outmigration. Allowing for the travel time from Goodwin Dam on the Stanislaus River to Vernalis, we are proposing that the 31-day Vernalis Pulse Flow period (and associated Export Limit) begin on 25 March this year.

Again thank you for your consideration as we work through this difficult year.

Ron Milligan

Operations Manager

U.S. Bureau of Reclamation

On Thu, Mar 19, 2015 at 11:22 PM, Garwin Yip - NOAA Federal <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)> wrote:  
RTDOT,

Below is NMFS' determination and concurrence on the SOG advice.

-Garwin-

---

*Garwin Yip*

Water Operations and Delta Consultations Branch Chief  
NOAA Fisheries West Coast Region  
U.S. Department of Commerce  
California Central Valley Area Office  
650 Capitol Mall, Suite 5-100  
Sacramento, CA 95814  
Office: 916-930-3611  
Cell: 916-716-6558  
FAX: 916-930-3629  
[www.westcoast.fisheries.noaa.gov](http://www.westcoast.fisheries.noaa.gov)



----- Forwarded message -----

From: **Garwin Yip - NOAA Federal** <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)>  
Date: Thu, Mar 19, 2015 at 11:19 PM  
Subject: Re: Final SOG advice - 2-E flow schedule 2015  
To: "Field, Randi C" <[RField@usbr.gov](mailto:RField@usbr.gov)>  
Cc: Carolyn Bragg <[cbragg@usbr.gov](mailto:cbragg@usbr.gov)>, Barbara Byrne <[Barbara.Byrne@noaa.gov](mailto:Barbara.Byrne@noaa.gov)>, "Morstein-Marx, Thomas" <[TMorsteinMarx@usbr.gov](mailto:TMorsteinMarx@usbr.gov)>, [lmao@usbr.gov](mailto:lmao@usbr.gov), Michele Palmer <[mpalmer@usbr.gov](mailto:mpalmer@usbr.gov)>

Randi,

As you know, Action III.1.3 (pages 49-50 of the 2011 RPA Amendments to the NMFS Biological Opinion) provides for the adaptive management of the flow schedule in Appendix 2-E of the NMFS Biological Opinion. Specifically, "...based upon the advice of SOG and the concurrence by NMFS, the flows may be implemented with minor modifications to the timing, magnitude, and/or duration, as long as NMFS concurs that the rationale for the shift in timing, magnitude, and/or duration is deemed by NMFS to be consistent with the intent of the action."

Attachment 1 of the attached file provides the correspondence leading up to the current revised SOG advice:

- On March 2, 2015, SOG provided advice to NMFS on the timing, magnitude, and duration of the spring pulse flow in Appendix 2-E of NMFS' Biological Opinion.
- On March 18, 2015, NMFS responded to the SOG advice, requesting that SOG revise or clarify its earlier advice, as appropriate, based on the status of the construction of the rock barrier at the Head of Old River (HORB; the HORB will be 90% complete by April 1, and 100% complete by April 8).

The attached SOG advice identifies the current and projected water temperatures in the Stanislaus and Vernalis rivers, and advises implementation of Alternative 1, that is, to initiate a spring pulse flow on the Stanislaus River as soon as practicable and following the shape and magnitude provided in Figure 1 and Table 1 (which indicates the initiation of the pulse on Tuesday, March 24), while water temperature conditions are still conducive for steelhead smoltification and emigration. The SOG advice also acknowledges the status of the construction of the HORB, but stated that its concerns about water temperature effects, both for smoltification potential and migratory corridor conditions, far outweigh any concerns regarding possible routing of steelhead into Old River before the HORB is mostly completed on April 1.

NMFS concurs that the SOG advice, Alternative 1, meets the objective of RPA Action III.1.3 "...to incorporate habitat maintaining geomorphic flows in a flow pattern that will provide migratory cues to smolts and facilitate out-migrant smolt movement..." In addition, as a result of the concerns regarding water temperatures, **NMFS recommends that Reclamation shift all of the dates associated with the spring pulse flow in Alternative 1 to one day earlier, so that the spring pulse flow is initiated on Monday, March 24.**

WOMT--In the interest of following the process provided in NMFS' Opinion section 11.2.1.1, this e-mail is to inform WOMT of NMFS' determination, and to provide WOMT with an opportunity to discuss the proposal. As this is a time critical issue, if anyone wants to discuss the SOG advice or NMFS determination, please initiate a WOMT meeting as soon as possible. Thanks.

-Garwin-

---

*Garwin Yip*  
Water Operations and Delta Consultations Branch Chief  
NOAA Fisheries West Coast Region  
U.S. Department of Commerce  
California Central Valley Area Office  
650 Capitol Mall, Suite 5-100  
Sacramento, CA 95814  
Office: [916-930-3611](tel:916-930-3611)  
Cell: [916-716-6558](tel:916-716-6558)  
FAX: [916-930-3629](tel:916-930-3629)  
[www.westcoast.fisheries.noaa.gov](http://www.westcoast.fisheries.noaa.gov)



----- Forwarded message -----  
From: **Bragg, Carolyn** <[cbragg@usbr.gov](mailto:cbragg@usbr.gov)>

Date: Thu, Mar 19, 2015 at 5:11 PM

Subject: Final SOG advice - 2-E flow schedule 2015

To: Garwin Yip - NOAA Federal <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)>

Cc: Thomas Morstein-Marx <[tmorsteinmarx@usbr.gov](mailto:tmorsteinmarx@usbr.gov)>, Randi Field <[rfield@usbr.gov](mailto:rfield@usbr.gov)>, Barb Byrne <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)>, Leeyan Mao <[lmao@usbr.gov](mailto:lmao@usbr.gov)>, Michele Palmer <[mpalmer@usbr.gov](mailto:mpalmer@usbr.gov)>

Hey Garwin,

At its 3/18/15 meeting, the Stanislaus Operations Group (SOG) again considered the shaping and timing of the spring pulse flow on the Stanislaus River per the Appendix 2-E flow schedule in the NMFS Biological Opinion. SOG explicitly considered the construction schedule for the rock barrier at the Head of Old River (HORB), and developed two alternative flow schedules, per your request, consistent with the intent of Action III.1.3 (see attached).

The conclusion from the updated SOG advice is excerpted below:

**There was strong consensus that the Alternative 1 schedule, which starts the spring pulse during March, provides a better chance of successful steelhead outmigration than the Alternative 2 schedule.** SOG's conclusion is based on the fact that current water temperatures on the Stanislaus River are already exceeding the threshold (57° F) considered suitable for steelhead smoltification, and are rising. Additionally, water temperatures in the mainstem San Joaquin are even warmer, and may soon be unsuitable for steelhead migration (>72° F; 2009 NMFS BiOp). **SOG's concerns about water temperature effects, both for smoltification potential and migratory corridor conditions, far outweigh any concerns regarding possible routing of steelhead into Old River before the HORB is mostly completed on April 1.**

SOG requests that NMFS concur with this advice. Please send your determination to Randi Field, Reclamation (acting for Tom Morstein-Marx), with a cc: to others included in this e-mail. I'll forward your decision to SOG for their information.

Much thanks and let me know if I can be of help - talk with you soon.