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**From:** Kristin Begun - NOAA Affiliate <kristin.begun@noaa.gov>  
**Sent:** Tuesday, February 26, 2019 11:22 AM  
**To:** J. Stuart - NOAA Federal  
**Cc:** Garwin Yip - NOAA Federal; Barbara Byrne  
**Subject:** Re: CCF Predator Management in ROC BA

So is it safe to assume that all current actions will continue?

Kristin Begun, Natural Resource Specialist  
Contractor with Ocean Associates, Inc.  
NOAA Fisheries West Coast Region  
[kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov)

On Tue, Feb 26, 2019 at 12:20 PM J. Stuart - NOAA Federal <[j.stuart@noaa.gov](mailto:j.stuart@noaa.gov)> wrote:  
I thought I heard the current actions and what is proposed for the PA

On Tue, Feb 26, 2019 at 12:18 PM Kristin Begun - NOAA Affiliate <[kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov)> wrote:  
He may just provide what's new in the PA and that's why the table will be so simple.

Kristin Begun, Natural Resource Specialist  
Contractor with Ocean Associates, Inc.  
NOAA Fisheries West Coast Region  
[kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov)

On Tue, Feb 26, 2019 at 12:17 PM Garwin Yip - NOAA Federal <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)> wrote:  
I thought we asked for it, and Victor will provide it.

-Garwin-

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*Garwin Yip*  
Water Operations and Delta Consultations Branch Chief  
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On Tue, Feb 26, 2019 at 12:16 PM Kristin Begun - NOAA Affiliate <[kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov)> wrote:  
Would it be helpful to ask Victor for a table showing current, PA (if different than current), and continued actions; and then we can review and ask for more details if needed?

Kristin Begun, Natural Resource Specialist  
Contractor with Ocean Associates, Inc.  
NOAA Fisheries West Coast Region  
[kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov)

On Tue, Feb 26, 2019 at 12:11 PM J. Stuart - NOAA Federal <[j.stuart@noaa.gov](mailto:j.stuart@noaa.gov)> wrote:  
I concur. This is more of what are they doing now (including any RPA actions from '09 that they are actually doing) and what are they proposing for the future (PA). It gets back to what are they really proposing to do in the PA with something more than a stick figure to represent it.

On Tue, Feb 26, 2019 at 12:06 PM Garwin Yip - NOAA Federal <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)> wrote:  
The problem is that this whole discussion was pursuant to implementation of RPA Action IV.4.2(2)(a), so saying "same" doesn't mean anything to folks who have not been engaged. Also, like I mentioned on the call, rather than fill in the gaps with the assumption that the ongoing efforts are proposed, to hear it directly from DWR, and to put all of the details into one place.

We'll see what Victor et al. comes up with.

-Garwin-

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On Tue, Feb 26, 2019 at 11:16 AM Kristin Begun - NOAA Affiliate <[kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov)> wrote:  
My main question is how the proposed action is different than current. I haven't really had time to compare.  
Also wondering how impacts to sea lions that may be present would be minimized/avoided.

Kristin Begun, Natural Resource Specialist  
Contractor with Ocean Associates, Inc.  
NOAA Fisheries West Coast Region  
[kristin.begun@noaa.gov](mailto:kristin.begun@noaa.gov)

On Tue, Feb 26, 2019 at 10:56 AM Garwin Yip - NOAA Federal <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)> wrote:  
Thanks, Jeff.

-Garwin-

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*Garwin Yip*  
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----- Forwarded message -----

From: **J. Stuart - NOAA Federal** <[j.stuart@noaa.gov](mailto:j.stuart@noaa.gov)>  
Date: Tue, Feb 26, 2019 at 10:52 AM  
Subject: Re: CCF Predator Management in ROC BA  
To: Garwin Yip - NOAA Federal <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)>

Here is a quick set of directed questions for today's call at 11 am

On Tue, Feb 26, 2019 at 10:21 AM <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)> wrote:

Do we have targeted questions for this meeting? One question I have for clarification is how much of the proposed action is from the RPA and ongoing efforts, and how much have changed, so we better understand the details of the proposal.

We should make sure to give DWR plenty of time (which isn't much given only 1 hour for the meeting) to describe their proposed action and effects analyses.

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**CCF Predator Management in ROC BA**

Meeting purpose: Provide clarification on DWR's Clifton Court Forebay Predator Management actions in the ROC on LTO Biological Assessment.

NMFS has requested details on DWR's CCF Predator Management actions as part of their review of the ROC on LTO BA. The BA excerpts below indicate how the "Clifton Court Predator Management" (Site-specific) actions are currently covered in the BA, along with excerpts for "Skinner Fish Facility Improvements" (Programmatic). The focus of the discussion will be providing details on the Clifton Court Predator Management (Site-specific) action.

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[!OC([1033])!]

.....  
Chapter 4. Proposed Action

Table 4-6. Components of the Proposed Action (pp. 4-21 to 4-24)

Operations

Clifton Court Predator Management\*

Site-specific

Core

Facility Improvements

Skinner Fish Facility Improvements\*

Programmatic

AM

o Skinner Fish Facility Improvements: DWR would continue implementation of projects to reduce mortality of ESA-listed fish species. These measures that would be implemented include: (a) electro-shocking and relocating predators; (b) controlling aquatic weeds; (c) developing a fishing incentives or reward program for predators; and (d) operational

changes when listed species are present. Please see Appendix G, Clifton Court Forebay Predation Studies for study results from the last decade. (p 4-57)

## Chapter 5. Effects

### 5.6.4.12 Clifton Court Predator Management (p. 5-71)

Clifton Court predator management efforts could reduce predation on listed fishes following entrainment into CCF, reducing pre-screen loss.

### 5.8.4.15 Clifton Court Predator Management (p. 5-163)

Predator control efforts at Clifton Court Forebay under the proposed action could reduce pre-screen loss of juvenile Spring-run Chinook Salmon entrained into Clifton Court Forebay. Spring-run Chinook Salmon are unlikely to be in the area during predator control efforts during the summer in-water work window.

### 5.8.4.23 Skinner Fish Facility Improvements (p. 5-165)

Predator control efforts at Skinner Fish Facility under the Proposed Action to reduce predation on listed fishes following entrainment into Clifton Court Forebay could reduce pre-screen loss of juvenile Spring-run Chinook Salmon entrained into Clifton Court Forebay. Spring-run Chinook Salmon are unlikely to be in the area during predator control efforts.

### 5.10.4.14 Clifton Court Predator Management (p. 5-222)

Clifton Court predator management under the proposed action could reduce pre-screen loss of juvenile CV Steelhead entrained into CCF; therefore, providing a benefit for all life stages of CV Steelhead.

### 5.12.4.10 Clifton Court Predator Management (p. 5-283)

Predator control efforts under the proposed action can reduce predation on listed fish species, following their entrainment into Clifton Court Forebay. This could also reduce pre-screen loss of juvenile southern DPS Green Sturgeon. It is unknown what proportion of juvenile Green Sturgeon are entrained into CCF but individuals are salvaged infrequently.

### 5.12.4.17 Skinner Fish Facility Improvements (p. 5-285)

Skinner Fish Facility improvements under the proposed action, which involve predator control efforts, can reduce predation on listed fish species, following their entrainment into Clifton Court Forebay. This could also reduce pre-screen loss of juvenile southern DPS Green Sturgeon. It is unknown what proportion of juvenile Green Sturgeon are entrained into CCF but individuals are salvaged infrequently. Thus, the proposed action is not likely to negatively impact juvenile Green Sturgeon.

### 5.14.5.5.14 Clifton Court Predator Management (p. 5-364)

Predator control efforts in Clifton Court Forebay under the proposed action could reduce pre-screen loss of juvenile Fall-run Chinook Salmon entrained into Clifton Court Forebay. Larger proportions of Late Fall-run Chinook Salmon are lost at the facilities and this action would have a larger beneficial effect for this run.

### 5.14.5.5.22 Skinner Fish Facility Improvements (p. 5-366)

Skinner fish facility improvements from predator control efforts to reduce predation following entrainment into Clifton Court Forebay could reduce pre-screen loss of Fall-run/Late Fall-run juvenile Chinook Salmon entrained into Clifton Court Forebay. However, only small proportions of Fall-run Chinook Salmon are lost at the SWP (Zeug and Cavallo

2014). Larger proportions of Late Fall-run Chinook Salmon are lost at the facilities and this action would have a larger effect for this run.

#### 5.16.4.3 Clifton Court Predator Removal (p. 5-423)

Predator control efforts under the proposed action to reduce predation on listed fishes following entrainment into Clifton Court Forebay could reduce salvage-related loss of adult Delta Smelt. Entrainment risk under the proposed action would be managed to limit the potential for adult Delta Smelt to occur in the south Delta and be entrained. Depending on the gear type of Clifton Court predator control efforts, predator control efforts may also catch Delta Smelt (that would likely have been salvaged or lost).

##### 5.16.4.3.1 Eggs and Larvae to Juveniles (March - June)

Depending on the gear type of Clifton Court predator control efforts, predator control efforts under the proposed action may also catch Delta Smelt that would likely have been salvaged or lost.

#### 5.16.4.10 Skinner Fish Facility Operations and Improvements (p. 5-433 to 5-434)

##### 5.16.4.10.1 Adults to Eggs and Larvae (December - May)

Skinner fish facility improvements from predator control efforts under the proposed action to reduce predation on listed fishes following entrainment into CCF could reduce salvage-related loss of adult Delta Smelt. However, entrainment risk under the proposed action would be managed to limit the potential for adult Delta Smelt to occur in the south Delta and be entrained. Depending on the gear type of Clifton Court predator control efforts, predator control efforts may also catch Delta Smelt that would likely have been salvaged or lost).

##### 5.16.4.10.2 Eggs and Larvae to Juveniles (March - June)

Larval Delta Smelt are unlikely to be salvaged and therefore the Skinner Fish Facility improvements under the proposed action would have no effects on this life stage. Depending on the gear type of Clifton Court predator control efforts, predator control efforts may also catch Delta Smelt that would likely have been salvaged or lost.

##### 5.16.4.10.3 Juveniles to Subadults (June-September); Subadults to Adults (September - December)

Juvenile and subadult Delta Smelt do not occur in the south Delta (Figure 5.16-1) and therefore there would be no effects from Skinner Fish Facility improvements under the proposed action on this life stage. Depending on the gear type of Clifton Court predator control efforts, predator control efforts may also catch Delta Smelt that would likely have been salvaged or lost.

## Appendix A. Facility Descriptions

#### A.5.3.1.2.2 Clifton Court Forebay Predation Studies (p. A-104)

DWR has conducted the following studies on predation at Clifton Court Forebay:

- Clifton Court Forebay Predation Study Project Report (DWR 2

When Tue Feb 26, 2019 11am – 12pm Pacific Time - Los Angeles

Where DWR 335 - Meeting Room ([map](#))

Who

- Wilkinson, Chris@DWR - organizer
- [garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov) - creator
- Katherine Sun
- Kristin Begun - NOAA Affiliate
- Katrina Harrison ([kharrison@usbr.gov](mailto:kharrison@usbr.gov))

- Reeve, Matthew@DWR
- Brumbaugh, Steven@DWR
- Affonso, Jana @FWS
- Halston, Armin A
- Clark, Kevin@DWR
- J. Stuart
- Jacobs, Brooke@Wildlife
- Pacheco, Victor@CDCR - optional
- Bradley, Mark@DWR - optional
- Padilla, Roger (Rogelio)@DWR - optional

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