From: Naseem Alston - NOAA Federal <naseem.alston@noaa.gov>

Sent: Thursday, May 23, 2019 6:55 AM **To:** Garwin Yip - NOAA Federal

Cc: Cathy Marcinkevage - NOAA Federal Subject: ROC LTO Climate Change Text

Firstly, sharing the guidance on how/where to include climate change (as a reminder):

SOS/CH

- Describes current or future changes in environmental conditions linked to climate change that are relevant to status of the species.
- Describes current or future changes in environmental conditions linked to climate change that are relevant to status of critical habitat.

EnvB

• Includes climate change information relevant to species and critical habitat in the action area by referencing information in the status section (minimum) or by describing more action area-specific information on climate change

Effects

• Takes climate change into account to a degree commensurate with its significance regarding the proposed action's effects

CumulativeE

Some continuing non-Federal activities are reasonably certain to contribute to climate effects within the action area. However, it is difficult if not impossible to distinguish between the action area's future environmental conditions caused by global climate change that are properly part of the environmental baseline *vs.* cumulative effects. Therefore, all relevant future climate-related environmental conditions in the action area are described in the environmental section.

I&S

Expressly includes the risk posed by climate change when it is relevant to the analysis. The section should state how the effects of the action, the status, baseline, and cumulative effects are expected to be impacted by climate change.

Naseem O. Alston ESA-Section 7 Coordinator/Fish Biologist NOAA Fisheries West Coast Region U.S. Department of Commerce California Central Valley Office Sacramento, CA (916)930-3655 http://www.westcoast.fisheries.noaa.gov/ On Wed, May 22, 2019 at 11:24 PM Garwin Yip - NOAA Federal < garwin.yip@noaa.gov > wrote: Cathy--Attached are minor track changes edits.

Naseem--I'm rethinking this, and changing my mind that I don't think we need a key consultation consideration for climate change. Thoughts?

I'm gonna accept all edits, then send to Rosalie, Chris, and Maria for review in the a.m. unless either/both of you don't think it's necessary/desired.

-Garwin-

Garwin Yip

Water Operations and Delta Consultations Branch Chief NOAA Fisheries West Coast Region U.S. Department of Commerce California Central Valley 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



On Wed, May 22, 2019 at 10:21 PM Cathy Marcinkevage - NOAA Federal < cathy.marcinkevage@noaa.gov wrote:

Garwin and Naseem --

Attached an on the server is the updated climate change language. See Garwin's email below for thoughts on where this should be inserted. What is left off of the list is putting it at the beginning of the effects section, near the stressor intros, so that it provides blanket coverage of all subsequent effects sections.

I believe that next steps are:

- 1) Garwin review and sign off and
- 2) Naseem as UCDPM inserts whatever excerpts she likes in whatever places seem relevant.

Let me know how I can help.

S:\Draft BiOp\2 ESA\2.5-2.6 Effects of the Action\Climate Change

Thanks! Cathy

On Fri, Apr 12, 2019 at 10:09 AM Garwin Yip - NOAA Federal < garwin.yip@noaa.gov > wrote: See attached for my track changes.

I agree with how the document lays out our consideration of the best available climate change assessment, and how we would qualitatively consider those effects on top of those in our analyses.

Seems like we could add a general summary of climate change in the "key consultation considerations" section, then paste the attached into the BiOp (I forget whether it's environmental baseline, cumulative effects, or both), and insert a qualitative summary in each of the division effects sections (and in turn, the I&S section).

-Garwin-

Garwin Yip
Water Operations and Delta Consultations Branch Chief
NOAA Fisheries West Coast Region
U.S. Department of Commerce
California Central Valley 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



On Thu, Apr 11, 2019 at 11:43 PM Cathy Marcinkevage - NOAA Federal < <u>cathy.marcinkevage@noaa.gov</u>> wrote:

All --

Attached is a first draft of text to insert (in the effects analysis?). This mirrors some language already inserted into the latest draft of the analytical approach, but with some more detail. I'd like to use this to help identify how we thread a qualitative assessment of the updated climate change projections into our document -- recognizing that we simply DO NOT have something that quantitatively translates the differences between the BA projections and the latest projections into a readily usable metric or change in result.

I'm happy to hear thoughts on this and ideas on incorporating it into our document. Let's shoot for COB Tuesday, 4/16.

Feel free to let me know if anyone else should contribute to this.

Thanks, Cathy

3

Naseem O. Alston ESA-Section 7 Coordinator/Fish Biologist NOAA Fisheries West Coast Region U.S. Department of Commerce California Central Valley Office Sacramento, CA (916)930-3655 http://www.westcoast.fisheries.noaa.gov/