



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003

August 31, 2017



IN REPLY REFER TO:  
08EVEN-2017-CPA-0189

Phil Anderson, Chair  
Pacific Fishery Management Council  
7700 NE Ambassador Place, #101  
Portland, Oregon 97220

Subject: Agenda Item C.1—Acoustic Trawl Survey Methodology Review Terms of Reference

Dear Mr. Anderson and Council Members:

The U.S. Fish and Wildlife Service (USFWS) thanks the Pacific Fishery Management Council (Council) for its continuing efforts to improve assessment and management of northern anchovy (*Engraulis mordax*). Specifically, we thank the Council for its November 2016 direction to the Scientific and Statistical Committee (SSC), Southwest Fisheries Science Center, Coastal Pelagic Species Management Team (CPSMT), and Coastal Pelagic Species Advisory Subpanel to “develop an integrated stock assessment and procedures for setting and updating [the] overfishing limit (OFL), acceptable biological catch, and Minimum Stock Size Threshold for the central subpopulation of northern anchovy (CSNA), consistent with Agenda Item G.4.a, Supplemental SSC Report” (PFMC 2016). The Supplemental SSC report recognizes that the current OFL for the CSNA “is based on a model using data from a historical period and collected under dramatically different environmental and abundance conditions” (SSC 2016). Given that the existing OFL does not correspond to the current status of the stock, we view updated assessment and management of CSNA as necessary not only to fulfill the objectives of the Magnuson-Stevens Fishery Management and Conservation Act but also to ensure that the goal of the Coastal Pelagic Species Fishery Management Plan to “provide adequate forage for dependent species” (PFMC 2016b) is being met.

We look forward to completion of the acoustic trawl survey (ATM) methodology review in early 2018; however, we are concerned that the Terms of Reference as currently written do not place sufficient emphasis on northern anchovy. For instance, items under the headers “Trawl survey design protocols [...]” and “Effects of trawl survey design” seem to be focused primarily on Pacific sardine (*Sardinops sagax*) and only secondarily or “potentially” on “other CPS, such as northern anchovy” (PFMC 2017a). It is not clear whether this apparent emphasis is unintentional or indicative of a lower priority accorded to northern anchovy. The 2011 ATM methodology review stated that a revised sampling design would be needed to use ATM surveys to provide estimates of abundance of northern anchovy (PFMC 2011), and the April 2017 Joint SSC/CPSMT Report on Central Subpopulation of Northern Anchovy Overfishing Limit Process

stated that “an inshore correction factor would need to be derived” for ATM biomass estimates (SSC/CPSMT 2017). In light of these statements and conflicting information indicating that correction factors may not be essential (Davison et al. 2017), it is particularly important that northern anchovy be given full consideration under those items addressing survey design and correction factors. The methodology review should be conducted in such a way that it will yield the information necessary for the SSC to fulfill the Council’s April 2017 direction to “further review methods for developing an OFL for the central subpopulation of northern anchovy, evaluate the results of the January 2018 acoustic-trawl survey methodology review as it could apply to anchovy biomass and Fmsy estimates, and report to the Council in April 2018” (PFMC 2017b). We request that the Terms of Reference be revised to indicate clearly that northern anchovy will be considered fully under each of the items, and in particular that methods used to differentiate species, age, and size structure will allow for the differentiation of spawning biomass from total biomass to ensure appropriate inputs for the development of reference points prior to the Anchovy Abundance and Reference Point Update scheduled for April 2018 (PFMC 2017c).

We have previously expressed our concerns regarding the availability of northern anchovy to California brown pelicans (*Pelecanus occidentalis californicus*) and other marine predators in the California Current Ecosystem (USFWS 2015a, USFWS 2015b, USFWS 2016a, USFWS 2016b). Northern anchovy availability within foraging distance of colonies is the most important factor influencing brown pelican breeding success within the Southern California Bight (Anderson et al. 1982),<sup>1</sup> although brown pelicans also consume other small schooling fishes, including Pacific sardine and Pacific mackerel (*Scomber japonicus*) (USFWS 1983, Gress et al. 1990). Local availability of prey near brown pelican breeding colonies in southern California appears to have improved in 2016 relative to 2015 and the previous several years, resulting in increased nest attendance, productivity, and number of young fledged. At Anacapa Island, the total number of young fledged was approximately 2,846, slightly above the long-term (1983-2003) mean of 2,717, and at Santa Barbara Island, the total number of young fledged was approximately 682, about 14 percent above the long-term (1983-2003) mean for Santa Barbara Island of 597.<sup>2</sup> While the portion of the California brown pelican population breeding in the Southern California Bight is approximately 17 percent (Anderson et al. 2013), these breeding

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<sup>1</sup> It was suggested during Council discussion ([ftp://ftp.pcouncil.org/pub/R1611\\_November\\_2016\\_Recordings/11-19-16pm3Copy.mp3](ftp://ftp.pcouncil.org/pub/R1611_November_2016_Recordings/11-19-16pm3Copy.mp3)) that brown pelican breeding success in southern California was potentially being depressed by some factor other than food availability. What this other factor might be was not specified, but we interpret the statement to be a potential reference to eggshell thinning caused by residual dichlorodiphenyldichloroethylene (DDE). Eggshell thinning has not been a significant factor for brown pelicans breeding in southern California since 1985 (USFWS 2007). From 1986 to 1990, mean eggshell thickness was 4.6 percent less than the pre-1947 mean (Gress 1995), a level that is expected to reduce fledging success in some individuals but to have negligible effects at the population level (USFWS 2007). It is likely that DDE continues to have low-level effects, but no evidence of nest failure due to eggshell thinning (broken eggs) has been detected during surveys at Anacapa Island or Santa Barbara Island in recent years (M. Parker, California Institute of Environmental Studies, pers. comm. 2017).

<sup>2</sup> The 2016 numbers remain preliminary and should not be used or cited without the permission of M. Parker, California Institute of Environmental Studies. The long-term average for Anacapa Island is derived from data reported in Table 7 of Harvey and Gress (2008). The long-term average for Santa Barbara Island is derived from data reported in Table 1 of Burkett et al. (2007). No fledging data are available for 1994-1995, so the average given here excludes those years.

colonies provide an important buffer for the population as a whole, which saw catastrophic breeding failures from 2014-2016 in the Gulf of California (Anderson et al. 2017).

Improved breeding success at the southern California breeding colonies in 2016 is an encouraging sign, but it does not decrease the need for management that is sufficiently responsive to extreme fluctuations in northern anchovy biomass and the spatial needs of place-based foragers. The supplemental SSC report notes that “in contrast to actively-managed CPS, there are currently no set procedures for setting and updating OFLs and acceptable biological catches for monitored species, including CSNA” and that “[d]evelopment of such procedures would be a useful addition to the fishery management plan” (SSC 2016). This problem could be remedied by moving CSNA to actively managed status. We encourage the Council to ensure the availability of northern anchovy to the numerous marine predators that depend on it, particularly during those times when northern anchovy biomass is low and populations of other coastal pelagic species are similarly depressed.

We thank the Council for its commitment to ecosystem-based management of fisheries. If you have questions regarding this letter, please feel free to contact Lilian Carswell, of my staff, at (805) 677-3325 or by electronic mail at [Lilian\\_Carswell@fws.gov](mailto:Lilian_Carswell@fws.gov).

Sincerely,



Stephen P. Henry  
Field Supervisor

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