DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 660

[Docket No. 201223–0354]

RIN 0648–BK13

Fisheries Off West Coast States; Coastal Pelagic Species Fisheries; Harvest Specifications for the Central Subpopulation of Northern Anchovy

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues this final rule to revise the annual reference points, including the overfishing limit (OFL), acceptable biological catch (ABC) and annual catch limit (ACL), for the central subpopulation of northern anchovy in the U.S. exclusive economic zone off the west coast under the Coastal Pelagic Species Fishery Management Plan. NMFS prepared this rulemaking in response to a September 2020 court decision (*Oceana, Inc.* v. *Ross et al.*) that vacated the OFL, ABC, and ACL for the central subpopulation of northern anchovy and ordered NMFS to promulgate a new rule in compliance with the Magnuson-Stevens Fishery Conservation and Management Act and Administrative Procedure Act. NMFS is implementing an OFL of 119,153 metric tons (mt), an ABC of 29,788 mt, and an ACL of 25,000 mt. If the ACL for this stock is reached or projected to be reached, then fishing will be closed until it reopens at the start of the next fishing season. This rule is intended to conserve and manage the central subpopulation of northern anchovy off the U.S. West Coast.

DATES: Effective February 1, 2021.

FOR FURTHER INFORMATION CONTACT: Joshua Lindsay, West Coast Region, NMFS, (562) 980–4034.

SUPPLEMENTARY INFORMATION: The coastal pelagic species (CPS) fishery in the U.S. exclusive economic zone (EEZ) off the West Coast is managed under the CPS Fishery Management Plan (FMP). The Pacific Fishery Management Council (Council) developed the FMP pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), 16 U.S.C. 1801 *et seq.* The six species managed under the CPS FMP are Pacific sardine, Pacific mackerel, jack mackerel, northern anchovy (northern and central subpopulations), market squid, and krill. The CPS FMP is implemented by regulations at 50 CFR part 660, subpart I. As required by the Magnuson-Stevens Act, the CPS FMP and its implementing regulations are consistent with the Act's 10 National Standards. Among other things, the National Standards require that conservation and management measures ''prevent overfishing while achieving, on a continuing basis, the optimum yield (OY) from each fishery'' (National Standard 1) and ''be based upon the best scientific information available'' (National Standard 2).[1]

Background on CPS Management for Monitored Stocks

Management unit stocks in the CPS FMP are classified under three management categories: Active, monitored, and prohibited harvest species. Stocks in the active category (Pacific sardine and Pacific mackerel) are managed under catch limits that are set periodically or annually based on regular stock assessments. Fisheries for these stocks have biologically significant levels of catch, or biological or socioeconomic considerations requiring this type of relatively intense harvest management procedure. In contrast, stocks in the monitored category (jack mackerel, northern anchovy, and market squid [2]) are managed under multi-year catch limits and annual quantitative or qualitative reviews of available abundance data without regular stock assessments or required annual adjustments to target harvest levels. This is in part due to the fact that fisheries for monitored stocks do not have biologically significant catch levels and, therefore, do not require intensive harvest management to ensure overfishing is prevented. Allowable catches for stocks in the monitored stock category are set well below maximum sustainable yield (MSY) levels to ensure overfishing does not occur. As a result, monitored stocks have been adequately managed by tracking landings and examining available abundance indices. In contrast, the annual catch limits (ACLs) for stocks in the active category are set much closer to their respective overfishing limit (OFL)/MSY levels due to the higher certainty in their OFLs. Species in both categories may be subject to management measures such as catch allocation, gear regulations, closed areas, or closed seasons. For example, trip limits and a limited entry permit program apply to all CPS finfish. The prohibited harvest species category is comprised only of krill, which is subject to a complete prohibition on targeting and retention.

In September 2011, NMFS approved Amendment 13 to the CPS FMP, which modified the framework process used to set and adjust fishery specifications and for setting ACLs and accountability measures (AMs). Amendment 13 conformed the CPS FMP with the 2007 amendments to the Magnuson-Stevens Act and the Magnuson-Stevens Act National Standard 1 guidelines at 50 CFR 600.310, which for the first time required ACLs be established for management unit species (with exceptions). Specifically, Amendment 13 maintained the existing reference points and the primary harvest control rules for the monitored stocks (jack mackerel, northern anchovy, and market squid), including the large uncertainty buffer built into the acceptable biological catch (ABC) control rule for the finfish stocks. Amendment 13 established a management framework under which the OFL for each monitored stock is set equal to its existing MSY value, if available, and ABC values are set at 25 percent of the OFL to provide a 75 percent scientific uncertainty buffer. It was recognized at the time that these OFLs would be uncertain, therefore the Council's Scientific and Statistical Committee (SSC) recommended that a large uncertainty buffer be used (*i.e.,* 75 percent reduction) to prevent overfishing. ACLs are then set either equal to or lower than the ABC; annual catch targets (ACTs), if deemed necessary, can be set less than or equal to the ACL, primarily to account for potential management uncertainty.

Compared to the management framework for stocks in the active category, which uses annual estimates of biomass to calculate annual harvest levels, the ACLs for the monitored finfish stocks are not based on annual estimates of biomass or any single estimate of biomass. As described previously, ACLs for monitored finfish are set at the ABC levels, which are no higher than 25 percent of the OFL. OFLs are set equal to estimates of MSY—an estimate that is intended to reflect the largest average fishing mortality rate or yield that can be taken from a stock over

[1] 16 U.S.C. 1851(a)(1) and (2); *see also,* 50 CFR 600.310 and 600.315.

[2] Market squid is statutorily exempt from the general requirement to be managed using an ACL because of its short life-cycle.

the long term (if available) or set based on a stock-specific method if deemed more appropriate. Although the control rules and harvest policies for monitored CPS stocks are simpler than the active category control rules, the inclusion of a large non-discretionary buffer between the OFL and ABC both protects the stock from overfishing and allows for a relatively small sustainable harvest. In recognition of the low fishing effort and landings for these stocks, the Council chose this type of management framework for some finfish stocks in the FMP because it has proven sufficient to prevent overfishing while allowing for sustainable annual harvests, even when the year-to-year biomasses of these stocks fluctuate. This management framework comports with Magnuson-Stevens Act's National Standard 1 guidelines, which provide Councils the jurisdiction to develop ABC control rules and risk policies according to their fishery management objectives (ecological, economic, and social) for the respective FMP. The extent of risk aversion the Council decides is based on social, economic, biological, and ecological factors. To comply with the Magnuson-Stevens Act's National Standard 1 guidelines, the Council's ABC must account for scientific uncertainty in the OFL and, at a minimum, their ABC risk policy must provide at least a 50 percent chance of preventing overfishing when the stock's catch is equal to the ABC. Although this ABC control rule is not subject to this rulemaking, NMFS has determined that the ABC control rule for the central subpopulation of northern anchovy (hereafter referred to as ''central anchovy'') appropriately takes into account uncertainty in its OFL level. Additionally, the central anchovy fishery is subject to strict catch accounting and monitoring, therefore the fishery is able to be closed before exceeding the ABC level further ensuring that overfishing does not occur.

Although the allowable catch levels are not required to be adjusted each year for stocks in the monitored category, the Council's Coastal Pelagic Species Management Team is required by regulation to provide the Council an annual Stock Assessment and Fishery Evaluation report, which documents significant trends or changes in the resource, marine ecosystems, and fishery over time, and assesses the relative success of existing State and Federal fishery management programs (see 50 CFR 600.315(d)).[3] The report documents trends in landings, changes in fishery dynamics and available population, and biological information for all CPS stocks and is available for Council review each November. The purpose of this report is to provide the Council the ability to react to the best scientific information available and propose new catch limits if and when changes to management are needed to prevent overfishing or achieve the OY. A similar process is used for other stocks managed throughout the U.S. for which catch limits are not adjusted annually.

The 2016 Rule and *Oceana I*

On October 26, 2016, NMFS published a final rule (hereafter referred to as the ''2016 Rule'') (81 FR 74309) that established ACLs and, where necessary, other reference points (*i.e.,* OFL and ABC) for stocks in the monitored category of the CPS FMP. The 2016 Rule included an ACL of 25,000 mt for central anchovy.[4] As described earlier in Background on CPS Management for Monitored Stocks ACLs for the monitored finfish stocks are not based on annual estimates of biomass or any single estimate of biomass. Accordingly, the OFL for central anchovy established in Amendment 13 to the CPS FMP was set equal to the long-term MSY estimate previously established in Amendment 8 to the CPS FMP. This long-term MSY estimate was calculated based on biomass estimates from 1964–1990 (Conrad 1991[5]). In accordance with the ABC control rule for monitored stocks, the ABC was then reduced to 25,000 mt by a precautionary 75 percent buffer to account for scientific uncertainty in the OFL, which is primarily tied to the population volatility of small pelagic fishes. This buffer and resulting ABC were recommended by the Council's SSC and approved by the Council (see 16 U.S.C. 1852(g)).[6] The ACL was set equal to the ABC at 25,000 mt because there was no additional management uncertainty to justify setting the ACL lower than the ABC.

Oceana subsequently challenged the 2016 Rule in *Oceana* v. *Ross, et al.,* Case No. 16–CV–06784–LHK (N.D. Cal.) (hereafter referred to as ''*Oceana I*''), in part, because a recent publication at the time, MacCall et al. 2016[7] (hereafter referred to as the ''MacCall publication''), purported that recent biomass levels (2009–2011) had been below the ACL implemented in the 2016 Rule and remained low in 2015. In approving the ACL for the 2016 Rule, NMFS considered this information, but ultimately rejected the low biomass estimates in the MacCall publication despite their being the only estimates for the more recent time period, because NMFS determined that the biomass estimates were not credible estimates for the entire central anchovy stock. The primary rationale for NMFS making this determination was that multiple public scientific reviews by NMFS and other outside scientists, including the Council's SSC, had determined that the statistical method used in the MacCall publication to calculate adult anchovy biomass from counts of anchovy eggs and larvae was not suitable for estimating the total abundance of anchovy (which is necessary in this context for calculating an OFL) and that using data from only a portion of the California Cooperative Fisheries Investigation (CalCOFI) survey also does not allow for estimating total anchovy biomass. The reason for this latter point is that the spatial scale of the data used does not encompass the entire population range of central anchovy. The authors of the MacCall publication themselves reported high uncertainty in the estimates and cautioned against using them as independent measures of biomass. Additionally, at the time of the 2016 Rule, the actual anchovy catch by the fishery in certain years had exceeded the publication's biomass estimate for those years, reinforcing NMFS' determination that the estimates were not reliable.

The Court found, however, that the 2016 Rule for central anchovy, including the ACL it established, violated the Magnuson-Stevens Act and the Administrative Procedure Act (APA). The Court also found that the values for the OFL and ABC on which the ACL was based were arbitrary and capricious because, in the Court's determination, they were outdated. In particular, the Court found that, ''the OFL, ABC, and ACL are arbitrary and capricious because Plaintiff has presented substantial evidence that the OFL, ABC, and ACL are not based on the best scientific information available.'' The Court also found that, ''it was arbitrary and capricious for the

[3] *See* 50 CFR 600.315(d).

[4] The 2016 Rule only implemented an ACL for central anchovy. The OFL and ABC for central anchovy were implemented via Amendment 13 to the CPS FMP in 2011 based on values established in Amendment 8 to the CPS FMP in 2000. However, since the 2016 ACL was calculated based on the previously implemented OFL and ABC, the Court vacated all three reference points.

[5] Conrad, J.M. 1991. A Bioeconomic Model of the Northern Anchovy. Administrative Report LJ–91–26. La Jolla, CA: NMFS Southwest Fisheries Science Center.

[7] MacCall, A.D., W.J. Sydeman, P.C. Davison, and J.A. Thayer. 2016. Recent collapse of northern anchovy biomass off California. *Fisheries Research* 175: 87–94.

Service to fail to consider whether the OFL, ABC, and ACL still prevented overfishing in light of their direct reliance on a [maximum sustainable yield] estimate from a 1991 study that evidence in the administrative record indicated was out of date.'' On January 18, 2018, the Court granted Oceana's motion for summary judgment. On January 18, 2019, the Court granted Oceana's motion to enforce the judgment and ordered NMFS to promulgate a new rule in compliance with the Magnuson-Stevens Act and the APA by April 18, 2019.

The 2019 Rule and *Oceana II*

As a result of the Court's decision in *Oceana I,* which vacated the 2016 Rule, NMFS was charged with determining and implementing a new OFL, ABC and ACL unilaterally (*i.e.,* outside of the Council process). In determining these new reference points, NMFS considered the District Court's opinion, which indicated that the vacated reference points were not reflective of recent biomass levels. This conclusion was despite the fact that the vacated 2016 reference points were set using long-term information and thus were representative of the long-term population structure and variability of central anchovy. To address the Court's concern, NMFS examined ways to use recent abundance estimates in the 2019 Rule (84 FR 25196). However, NMFS also determined that a new OFL and ABC that significantly deviated from the management approach set in the CPS FMP for stocks in the monitored category would not be in accordance with the CPS FMP. After reviewing various methods and data, NMFS determined that with the limited time available to analyze more complex approaches for setting new reference points, the most appropriate path for setting an OFL for central anchovy in accordance with the CPS FMP was to use an approach similar to the one used by the Council and approved by NMFS for developing an OFL and ABC for the northern subpopulation of northern anchovy (NSNA) in 2010. This method had been previously approved by the Council's SSC and NMFS and would allow the use of recent biomass estimates.

Consistent with the approach used to set NSNA reference points, the OFL, ABC, and ACL set in the 2019 Rule were based on averaging three of the four estimates of relative abundance for central anchovy available from recent NMFS surveys and a recent estimate of the rate of fishing mortality for central anchovy at MSY or E_{MSY}.[8] The three abundance estimates NMFS used were from NMFS' 2016 and 2018 acoustic-trawl method (ATM) surveys, which were 151,558 mt and 723,826 mt respectively, and NMFS' 2017 daily egg production method (DEPM) survey, which was 308,173 mt. NMFS excluded from further consideration a fourth available abundance estimate, an ATM estimate for 2017, because the ATM survey in the summer of 2017 was focused on the northern portion of the U.S. West Coast as well as the west coast of Vancouver Island, British Columbia, Canada, and was not designed to sample the complete range of central anchovy. The principal objectives of that survey were to gather data on the northern stock of Pacific sardine and, to some extent, the NSNA, and therefore the survey chose not to sample south of Morro Bay, California, which is an area where central anchovy are typically found.

The fishing mortality rate estimate was from an analysis that the Southwest Fisheries Science Center (SWFSC) completed in 2016 as part of an effort examining minimum stock size thresholds for CPS. For potentially deriving an E_{MSY}, this analysis used the most current time-series data available, which comes from the last model-based stock assessment for central anchovy completed for formal management purposes (Jacobson et al. 1995 [9]). This analysis produced estimates of F_{MSY} based on eight alternative models. NMFS used the average of the four best fitting models from that work to calculate an E_{MSY} of 0.239. This methodology resulted in an OFL of 94,290 mt, an ABC of 23,573 mt, and an ACL of 23,573 mt.

In determining whether to use the previously described abundance estimates to develop the reference points for the 2019 Rule, NMFS considered scientific reviews presented to the Council at its April 2018 meeting,[10] which stated that ATM estimates cannot be considered absolute estimates of biomass and should not be used to directly inform management on their own. Specifically, these reviews concluded that, unless ATM estimates are used as a data source in an integrated stock assessment model, two things would need to occur before they could be used to directly inform management: (1) Addressing the area shoreward of the survey that is not sampled; and (2) conducting a management strategy evaluation to determine the appropriate way to incorporate an index of abundance into a harvest control rule. However, NMFS was comfortable at that time with using the ATM estimates from 2016 and 2018, because they represent recent information on the stock and can be considered minimum estimates of the total stock size, and using these estimates in a time series to set an OFL, in combination with reducing the OFL by 75 percent to set the ABC and ACL, would prevent overfishing. Therefore, NMFS determined that using these ATM estimates in the manner described earlier represented use of the best scientific information available for determining the reference points in the 2019 Rule and took the concerns previously expressed by the Court into account.

In determining whether the new reference points were based on the best scientific information available and that the best scientific information available supported that they would prevent overfishing, NMFS again considered the data in the MacCall publication, as well as other existing data sources, including a publication by Thayer et al. 2017 [11] (hereafter referred to as the ''Thayer publication''), historical estimates of biomass from the last stock assessment NMFS completed for central anchovy in 1995, and more recent estimates of relative abundance from NMFS' ATM and DEPM surveys. Additionally, by this time NMFS also had a better understanding of the anomalous oceanographic conditions that had occurred between 2013–2016 that had caused major shifts in fish distributions during that time.[12]

After NMFS' second review and consideration of the MacCall publication and its results, NMFS found

[8] The calculation uses an E_{MSY}, which is the exploitation rate for deterministic equilibrium MSY and although similar in context is slightly different than a calculation of F_{MSY}.

[9] Jacobson L.D., N.C.H. Lo, and S.F. Herrick Jr. 1995. Spawning Biomass of the Northern Anchovy in 1995 and Status of the Coastal Pelagic Fishery During 1994. Administrative Report LJ–95–11. La Jolla, CA: NMFS Southwest Fisheries Science Center.

[10] *See* Methodology Review Panel Report: Acoustic Trawl Methodology Review for use in Coastal Pelagic Species Stock Assessments. This report is available on the Pacific Fishery Management Council website at: *https://www.pcouncil.org/documents/2018/04/agenda-item-c-3-attachment-2.pdf/.*

See Center for Independent Experts Independent Peer Review of the Acoustic Trawl Methodology (ATM). This report is available on the Pacific Fishery Management Council website at: *https://www.pcouncil.org/documents/2018/04/agenda-item-c-3-supplemental-attachment-3.pdf/.*

[11] Thayer, J.A., A.D. MacCall, and W.J. Sydeman. 2017. California anchovy population remains low, 2012–2015. CalCOFI Report Vol. 58.

[12] *See* New Marine Heatwave Emerges off West Coast, Resembles ''the Blob'' Available at: *https://www.fisheries.noaa.gov/feature-story/new-marine-heatwave-emerges-west-coast-resembles-blob.*

that it was not the best scientific information available on historical and recent abundance, nor on annual changes in abundance over time. NMFS maintained that the flaws identified in the 2016 review rendered the biomass estimates as unreliable and too uncertain. NMFS also found the Thayer publication was not the best scientific information available for determining appropriate 2019 reference points because the Thayer publication used the same methodology as the MacCall publication to calculate biomass estimates, and so suffered from the same deficiencies. NMFS concluded that its own, more recent estimates of abundance, which contained high and low abundance estimates, constituted the best scientific information available for setting 2019 reference points and preventing overfishing. Oceana once again challenged the OFL, ABC, and ACL established in the 2019 Rule, in *Oceana* v. *Ross, et al.,* Case No. 19–CV–03809–LHK (N.D. Cal.) (hereafter referred to as ''*Oceana II*''). The Court ultimately vacated the 2019 Rule, finding that: (1) NMFS failed to discredit the evidence put forth by Oceana (*i.e.,* the MacCall and Thayer publications); (2) the OFL, ABC, and ACL were not based on the best scientific information available and therefore violated National Standard 2; and (3) the 2019 Rule violated National Standard 1's requirement to prevent overfishing. The Court also concluded that, based on the record presented of the 2019 Rule, the MacCall and Thayer publications constituted the best scientific information available regarding recent anchovy abundance estimates and anchovy population fluctuations and that the OFL, ABC, and ACL set in the 2019 Rule were therefore arbitrary and capricious because they did not account for this best scientific information available. The Court further concluded that NMFS' dismissal of McCall and Thayer was arbitrary and capricious because it is ''so implausible that it could not be ascribed to a difference in view or the product of the agency's expertise.'' The Court pointed specifically to one of the reasons NMFS had cited for dismissing McCall and Thayer; namely, that Thayer is unreliable because it updated MacCall's estimate for 2015 but failed to correct its estimates for 2009–2014. Finally, the Court concluded that, ''the fact that NMFS calculated unchanging OFL, ABC, and ACL values for an indefinite period of time based on data from 2016 to 2018 (years in which the anchovy population was drastically increasing) demonstrates that NMFS did not consider the best scientific information available from MacCall and Thayer.''

Purpose of the Final Rule

On September 2, 2020, in *Oceana II,* the U.S. District Court for the Northern District of California vacated and remanded to NMFS the May 31, 2019 final rule (hereafter referred to as the ''2019 Rule'') (84 FR 25196) setting the OFL, ABC, and ACL for central anchovy. The Court ordered NMFS to promulgate a new rule in compliance with the Magnuson-Stevens Act and the APA within 120 days of the Court's order. As described above, NMFS had issued the 2019 Rule pursuant to a 2018 decision from the same Court in *Oceana I,* in which the Court had vacated the ACL established in a 2016 final rule. NMFS provided additional background information on *Oceana I* and *Oceana II* in the preamble to the proposed rule (85 FR 73446).

NMFS is issuing this rule in accordance with the Court's order in *Oceana II* to promulgate a new rule in compliance with the Magnuson-Stevens Act and the APA. To ensure compliance, NMFS is setting an OFL, ABC, and ACL for central anchovy in accordance with the CPS FMP and in a manner that will protect the stock from overfishing and accommodate the needs of fishing communities. Although NMFS is issuing this rule and revising the values from the 2019 Rule as required by the *Oceana II* order, NMFS has appealed that order to the Ninth Circuit Court of Appeals. If the Court of Appeals reverses the decision in *Oceana II,* then NMFS will reinstate the reference points from the 2019 Rule through a notice in the **Federal Register**.

NMFS' 2020 Review of the MacCall and Thayer Publications

Although reference points implemented in this rule are similar to those previously vacated, NMFS has determined that they are based on the best scientific information available and that the best scientific information available shows that they will prevent overfishing, in compliance with National Standard 1. In making this determination, NMFS carefully reviewed and considered estimates of abundance from the MacCall and Thayer publications. The purpose of this review was to determine whether those estimates could or should be considered the best scientific information available regarding recent anchovy abundance estimates and anchovy population fluctuations. NMFS also looked at other historical and recent anchovy biomass estimates that had been previously determined to be the best scientific information available on anchovy biomass for years that the MacCall and Thayer publications also calculated estimates.

As stated earlier, for multiple reasons, previous reviews by NMFS and other independent scientists determined that the abundance estimates from the MacCall publication do not represent the best scientific information available for annual estimates of total central anchovy population. Specifically, NMFS and other outside scientists had valid concerns regarding the method used to try to estimate the total abundance of all adult (or spawning adult) anchovy in any one year from counts of anchovy eggs and larvae from only a portion of the California coast where anchovy are found and without using biological information collected from adult anchovy that same year. These conclusions are documented in a report from a May 2016 workshop [13] that included CPS experts from around the world, as well as in an October 2016 report [14] from NMFS scientists. Both of these reports were also subsequently endorsed by the Council's independent scientific review body (*i.e.,* the SSC).

In light of the Court's finding in *Oceana II* that, based on the record at the time, the MacCall and Thayer publications constituted the best scientific information available regarding recent anchovy abundance estimates and anchovy population fluctuations, NMFS re-examined the conclusions of the previously discussed 2016 scientific reviews of those publications. Specifically, NMFS reviewed the results of the May 2016 workshop, which was focused on anchovy and the data available to assess the status of the population. This workshop included experts from around the world on coastal pelagic species and was held as a direct result of the MacCall publication, as well as other evidence at the time that anchovy abundance was likely low (*e.g.,* Leising et al. 2015 [15]). The focus of the workshop was to review the available information on the abundance of

[13] *See* Report of the NOAA Southwest Fisheries Science Center & Pacific Fishery Management Council Workshop on CPS Assessments (May 2–5, 2016). This report is available on the Pacific Fisheries Management Council website, at *https://www.pcouncil.org/documents/2016/09/e2a_workshop_rpt_sept2016bb.pdf/.*

[14] *See* Egg and Larval Production of the Central Subpopulation of Northern Anchovy in the Southern California Bight (October 24, 2016). This report is available on the Pacific Fisheries Management Council website at *https://www.pcouncil.org/documents/2016/11/agenda-item-g-4-a-swfsc-report.pdf/.*

[15] Leisling, A.W. et al. State of the California Current 2013–14: El Nino Looming. CalCOFI Report Vol. 55.

anchovy and provide recommendations for conducting stock assessments or other ways of estimating total anchovy abundance that could be used for management, as well as to potentially provide input to the Council on the status of anchovy for their upcoming November 2016 meeting. One of the conclusions of this workshop was that although information on the total abundance of anchovy did not currently exist, and the best way to assess the population would be through a full stock assessment that integrates multiple data sources, there was nevertheless value in attempting to turn trends from eggs and larvae information from the CalCOFI survey into estimates of total anchovy abundance. This approach, called DEPM-lite, was viewed as an extension of the approach used by the MacCall publication, but with an attempt to correct for various issues identified in the calculations contained in the MacCall publication. Between May 2016 and October 2016, NMFS scientists attempted to correct for some of the technical issues originally expressed at the May 2016 workshop. Ultimately, however, NMFS scientists determined that the technical weaknesses could not be overcome and that it would be inappropriate to expand the egg and larval data from CalCOFI into adult biomass in the manner done in the MacCall publication. NMFS presented this analysis to the Council at its November 2016 meeting,[16] and the Council's SSC agreed with NMFS' analysis of the technical weaknesses.[16] Specifically, the SSC stated:

> The egg and larval production indices presented in the SWFSC report represent the best available science for trends in spawning biomass in the CalCOFI survey area. However, the report did not expand the trend information to estimate absolute spawning biomass in that area. The SSC agrees that this expansion is not appropriate, because it would require scaling the egg and larval indices using the Daily Egg Production Methods estimates for the 1980s. Neither the winter nor spring survey is conducted at the right time to fully capture spawning of CSNA, and the degree of mismatch may vary through time due to changing oceanographic conditions. A proper expansion from eggs and larvae to spawning biomass would require data on sex ratio, mean female weight, and fecundity. Variability in the timing of spawning may also complicate interpretation of the egg and larval time series as an index of relative abundance. The spatial extent of the CalCOFI survey is limited (by depth and latitude) relative to the distribution of the broader CSNA population. The proportion of the population contained in the survey area at any given time is unknown and changes through time due, in large part, to oceanographic conditions. As trends in the CalCOFI survey area may not be representative of the broader population, it is difficult to infer population-level trends.

After this review, NMFS remains confident that those scientific reviews from 2016 were thorough and unbiased and finds no reason to disagree with their logic or conclusions.

Although the previously-discussed technical rationale is sound in concluding that neither the MacCall publication nor the Thayer publication using the same methods is the best scientific information available, NMFS acknowledges that those publications contain the only explicit biomass estimates from 2009–2014. NMFS also acknowledges that those publications show that the stock during that time decreased to a very low level and that the ''drastic anchovy population fluctuations'' contained in the publications ''are only (emphasis added) documented by MacCall (2016) and Thayer et al. (2017).'' NMFS notes that it has never disputed whether the anchovy population was relatively low during the 2009–2014 time period, at least in the core CalCOFI region; rather, NMFS disputes whether the population was as low as the flawed MacCall and Thayer estimates suggest and whether the adult population was as high as reported in the year preceding the purported decline. The methodological concerns with the MacCall and Thayer publications, combined with the additional uncertainty added by instances of combined fishery catches and predator consumption estimates (Warzybok et al. 2018) [17] well exceeding MacCall and Thayer estimates for some years, have led NMFS to consistently conclude that the year-specific estimates in the MacCall and Thayer publications are not appropriate to use as independent measures for determining reference points for central anchovy and whether those reference points will prevent overfishing.

The authors of the MacCall and Thayer publications themselves cautioned against using their annual estimates as independent measures, stating, ''. . . . therefore estimates for recent single years are imprecise and should not be used individually for interpretation.'' Because of this, the Thayer publication suggests looking at the average of the last 4 years (2012–2015) provided in that publication, which is 24,300 mt, as evidence of the extremely low level of the stock. In 2018, however, as a result of newer data, the authors of the Thayer publication revised their estimated biomass for 2015,[18] which increased the 4-year average for 2012–2015 to approximately 46,000 mt. While 46,000 mt may still be considered relatively low, that low average is driven mainly by the anomalously low 2012 and 2013 estimates of 9,400 mt and 7,500 mt, respectively. It is also worth noting that 2013 is the year in which fishery catches of central anchovy exceeded the Thayer publication estimate of 7,500 mt—in other words, fishermen actually caught more anchovy than Thayer had estimated even existed. The estimates for the other years in Thayer's 4-year average were the 2014 estimate of 75,300 mt and the revised 2015 estimate of 92,100 mt. NMFS originally raised the point of the revised 2015 estimate to the Court because it changed the narrative of how low the stock may have been, and for how long, and the importance of having accurate estimates, not, as the Court suggested, because it made other estimates unreliable.

During the preparation of the proposed rule, NMFS again examined the MacCall and Thayer publications to ensure their complete consideration in making a determination on appropriate new reference points for central anchovy and whether they would prevent overfishing. Specifically, NMFS freshly reviewed the publications' annual estimates to determine whether, notwithstanding the high degree of uncertainty NMFS has previously determined those estimates contain, they should be relied on as evidence of both: (1) Anchovy abundance for the extraordinarily low years for which NMFS does not have comparable competing estimates; and (2) anchovy population fluctuations for the recent large annual changes in biomass.

As part of this review, NMFS compared overlapping estimates of biomass from the 1961–1994 time series of spawning stock biomass produced in NMFS' 1995 central anchovy stock assessment and recent NMFS ATM and

[16] *See* Scientific and Statistical Committee Report on Northern Anchovy Stock Assessment and Management Measures. This document is available on the Pacific Fishery Management Council website at: *https://www.pcouncil.org/documents/2016/11/agenda-item-g-4-a-supplemental-ssc-report.pdf/.*

[17] Warzybok P., J.A. Santora, D.G. Ainley, R.W. Bradley, J.C. Field, P.J. Capitolo, R.D. Carle et al. 2018. Prey switching and consumption by seabirds in the central California Current upwelling ecosystem: Implications for forage fish management. *Journal of Marine Systems* 185: 25–39.

[18] *See* Updated Biomass Estimates of CSNA. This document is available on the Pacific Fishery Management Council website at: *https://pfmc.psmfc.org/CommentReview/DownloadFile?p=e982e162-4ec2-4b3b-8f1a-1da42a0bb81e.pdf&fileName=FI%20Letter%20to%20PFMC%20for%20Nov%202018%2C%20CSNA%20biomass%20update.pdf.*

DEPM estimates with estimates in the 1951–2017 Thayer publication's time series. The referenced NMFS stock assessment had been subject to a formal scientific review and determined to be the best scientific information available on the biomass of central anchovy. Although NMFS does not have alternative or competing estimates for 2009–2014, the years in which the Thayer publication estimated historically low anchovy abundance, NMFS does have competing estimates for 24 other years between 1961 and 2017. For these overlapping years, NMFS can find no reason that the estimates from the MacCall or Thayer publications should be considered the best scientific information available over existing NMFS estimates. In comparing the estimates for the historical time period (pre-1994), NMFS found that the average per-year difference in biomass estimates between Thayer and NMFS' estimates is over 550,000 mt, with the largest difference in any given year being nearly 1.8 million mt. The significant differences in these comparable estimates raises additional valid concerns about the reliability of the estimates found in the MacCall and Thayer publications, and further supports NMFS' rationale for concluding that, for those years for which data only exist from the MacCall and Thayer publications, that data cannot be considered the best scientific information available for making determinations about catch limits for anchovy.

A primary reason for the discrepancy between NMFS' estimates and the MacCall and Thayer estimates is likely the various methodological issues with the calculations found in those publications, which are described earlier in this preamble. These methodological issues are best highlighted when looking at the discrepancy in the estimates for 2017. In 2017, NMFS scientists estimated the spawning biomass of central anchovy to be 308,173 mt using DEPM. The Thayer publication's spawning biomass estimate for this same year is 1,169,400 mt—a difference of more than 860,000 mt. The DEPM method used by NMFS, like the method used in the MacCall and Thayer publications, uses egg and larval data; however, unlike the method used in the MacCall and Thayer publications, the DEPM method uses information from adult fish and eggs and larvae from the same year, and therefore does not need to expand egg and larval data into adult biomass using biological data from a different time period (which in the case of MacCall and Thayer, was the 1980s). This method of expansion was the primary technical flaw identified with the MacCall and Thayer methodology, rendering the estimates from those publications unreliable for estimating total biomass. NMFS' 2017 DEPM estimate does not suffer from this same deficiency because it is a direct calculation derived using reproductive information from adult fish collected in the same year and same ship-based survey as the egg and larval information.

By using biological data from adult fish and eggs collected in the same year, as NMFS did in 2017, there was no need to expand the egg data into estimates of biomass-based adult information from a different time period, as done in the MacCall and Thayer publications. In addition, the 2017 DEPM estimate developed by NMFS was derived using egg data from more than just the core CalCOFI region, as was used in the MacCall and Thayer publications. The survey data used for this estimate was from north of San Francisco, California, to San Diego, California, and therefore covered the majority of the U.S. range of central anchovy. By comparison, the northern extent of the CalCOFI data used in the MacCall and Thayer estimates is near Point Conception, California, which is well south of San Francisco, and therefore includes less than half of the coastline covered in the NMFS survey. Despite using survey data from a larger region and using a scientifically-validated method to calculate the biomass of small pelagics, NMFS' biomass estimate for 2017 was nevertheless over 860,000 mt lower than the Thayer estimate for that year. This degree of difference in abundance can have a large impact when explicit values are needed to calculate reference points like is being done through this action. Which is why previous scientific reviews of the estimates in MacCall and Thayer stated that although they provided information on trends or relative abundance levels, they should not be used as total estimates. For example, if NMFS were to replace the 2017 estimate used in this rulemaking with that from the Thayer publication it would result in a nearly 13,000 mt difference in the ABC calculation.

These discrepancies in comparable data from both the historical and recent estimates, as well as the other biological and technical issues stated above, render the estimates from MacCall and Thayer unreliable as a measure of the actual population size of central anchovy. These estimates are therefore not the best scientific information available on the historical annual biomass estimates of anchovy in any given year to be used for management purposes. However, even if NMFS were to consider the 1951–2015 time series from MacCall and Thayer as best scientific information available for the annual abundance of central anchovy, which it does not, NMFS notes that during that 57-year time frame over which the MacCall and Thayer publications presented biomass estimates, the biomass only dropped below 100,000 mt 15 times, or 26 percent of the time, and more importantly, only stayed below 100,000 mt for more than one year twice over those 57 years: Once during the referenced 2009–2015 time period and once during the early 1950s. NMFS notes further, however, that for the period of purported low abundance in the early 1950s, catch of central anchovy in one of those years was over double the estimated biomass and three times greater in another. Therefore, those biomass estimates are likely underestimated. Given the infrequency of such low biomass, NMFS' proposed referenced points would have at least a 50 percent chance of preventing overfishing over the long term.[19]

Final Reference Points

As noted previously, the Court ordered NMFS to promulgate a new rule within 120 days of its September 2, 2020, order. NMFS therefore determined that, with such limited time available to develop and analyze more complex approaches for setting these reference points, the most appropriate path at this time for setting an OFL for central anchovy in accordance with the CPS FMP is to use the same method as in the 2019 Rule, however updated with the most recent information on the current status of central anchovy, the SWFSC's 2019 ATM estimate (810,634 mt). This approach included averaging four estimates of relative abundance for central anchovy available from recent NMFS surveys and a recent estimate of the rate of fishing mortality for central anchovy at MSY or E_{MSY}.[20] The four abundance estimates NMFS used were from NMFS' 2016, 2018, and 2019 ATM surveys, which were 151,558 mt, 723,826 mt, and 810,634 mt respectively, and NMFS' 2017 DEPM survey, which was 308,173 mt. The fishing mortality rate estimate was from an analysis that the Southwest Fisheries Science Center (SWFSC) completed in 2016 as part of an effort examining minimum stock size thresholds for CPS.

[19] *See* 50 CFR 600.310(f)(2).

[20] The calculation uses an E_{MSY}, which is the exploitation rate for deterministic equilibrium MSY and although similar in context is slightly different than a calculation of F_{MSY}.

For potentially deriving an E_{MSY}, this analysis used the most current time-series data available, which comes from the last model-based stock assessment for central anchovy completed for formal management purposes (Jacobson et al. 1995).[21] This analysis produced estimates of F_{MSY} based on eight alternative models. NMFS used the average of the four best fitting models from that work to calculate an E_{MSY} of 0.239. More information on the selection of this data and the calculations is provided in the preamble to the proposed rule.

In making this decision, NMFS considered the Court's two primary findings in *Oceana II*: That the McCall and Thayer publications constituted the best scientific information available and that NMFS's 2019 ACL would not prevent overfishing in all years, based on the evidence presented to the Court at that time. NMFS thoroughly reviewed the data in these two publications during the preparation of the proposed rule and this final rule, and has determined that they do not constitute the best scientific information available for setting or determining appropriate reference points for central anchovy. Additionally, even if NMFS were to consider that information as best scientific information available, it would not change NMFS' determination that the data we have used, in combination with the CPS FMP's ABC control rule risk policy for stocks in the monitored category, result in reference points that are consistent with the dual mandates of National Standard 1 (preventing overfishing while achieving, on a continue basis, OY) and other Magnuson-Stevens Act provisions.

The 2019 method for calculating reference points results in an OFL of 119,153 mt and an ABC of 29,788 mt. Although previous ACLs for northern anchovy have been set equal to the calculated AC level, for this action NMFS is implementing an ACL less than the ABC level at 25,000 mt. Although there is no management uncertainty that requires reducing the ACL from the ABC, prior environmental analyses have only analyzed an ACL up to 25,000 mt, which is also the Council's previous determination of OY for the stock.

In the proposed rule, NMFS notified the public that the proposed reference points might change if finalized ATM estimates for 2015 and 2017 could be incorporated into the OFL calculation. Although a reexamination and review of an estimate for 2015 has begun, that process is still ongoing to determine whether one can be finalized and therefore NMFS was not able to consider it as part of this rulemaking. As part of this process NMFS is also reexamining its 2016 ATM estimate, however at this point in time the 2016 estimate used to calculate the OFL in this rulemaking is still considered best scientific information available for that calculation. With regards to 2017 information, NMFS determined it was appropriate to only use the DEPM estimate from 2017 as was done in the 2019 rule. Therefore, NMFS is implementing the OFL, ABC and ACL from the proposed rule of 119,153 mt, 29,788 mt, and 25,000 mt.

If the ACL is reached, the fishery will be closed until the beginning of the next fishing season. The NMFS West Coast Regional Administrator will publish a notification in the **Federal Register** announcing the date of any such closure.

Potential Additional Management Measures for Central Anchovy

The CPS FMP states that ACLs for stocks in the monitored stocks category are specified for multiple years until such time as the species becomes actively managed or new scientific information becomes available to warrant a change to them. However, in the proposed rule, NMFS solicited public comment on the potential to limit the effectiveness of the final rule to 3 or 4 years. Additionally, NMFS solicited public comment on the potential of setting a biomass threshold whereby the ACL would automatically be reduced if the anchovy population were to fall below that threshold for a certain period of time. After further review of these potential measures, and in consideration of the public comments received, NMFS has decided not to explicitly limit the effective period of the ACL or implement a minimum biomass threshold in this rule. The primary reason for this decision is that NMFS has determined that the OFL, in combination with the ABC and ACL finalized in this rule, are sufficient to prevent overfishing over the long term and are based on the best scientific information available.

Although NMFS is not implementing an explicit expiration of the ACL in this action, it is NMFS' expressed intent to work with the Council to have the reference points being implemented through this action be replaced by Council recommended ones sometime within the next two years. To accomplish this, NMFS intends to ask the Council to schedule an agenda item in the spring of 2022 to develop recommendations to NMFS. Under the timelines the Court imposed for promulgating both this rule and the 2019 Rule it replaced, it was not possible to thoroughly engage the Council in setting a multi-year ACL for this stock. Instead, NMFS had to develop and implement these actions unilaterally pursuant to the general Secretarial authority of the Section 305(d) of the Magnuson-Stevens Act (16 U.S.C. 1855(d)), without recommendation from the Council. NMFS views the Council process, both the public engagement and scientific review aspects, as important steps in determining and setting appropriate catch levels for a fishery. This is the expressed design and purpose of the Councils. Because of the compressed timelines under which NMFS had to promulgate both this rule and the 2019 Rule, the Council did not have the opportunity to conduct its normal public meeting process and make formal recommendations to NMFS. Additionally, the Council had limited time to review and provide feedback to NMFS on this rule or the 2019 Rule. The Council highlighted this time-constraint in their public comment on the 2019 Rule and during their November 2020 Council meeting where the proposed rule published mid-meeting, not allowing some advisory bodies to review and comment on the proposed rule, which led the Council to decline to provide public comments on this action. During both Council meetings the Council also generally expressed that they also would prefer that rulemakings such as this action go through the Council process instead of unilaterally by NMFS. Although NMFS cannot require the Council to take action over the next two years, NMFS intends to engage and work with the Council to move towards them taking their own action on this stock. Such a subsequent rule may not necessarily result in reference points that are different from those being implemented in this final rule, however they will have the benefit of having been recommended through the public Council process.

Related to NMFS' intention to work with the Council in the near future to develop a recommendation that would replace the reference points set through this action, is potential for new data and biological information on northern anchovy may become available over the next 6 to 18 months in the form of new or revised ATM estimates from 2015

[21] Jacobson L.D., N.C.H. Lo, and S.F. Herrick Jr. 1995. Spawning Biomass of the Northern Anchovy in 1995 and Status of the Coastal Pelagic Fishery During 1994. Administrative Report LJ–95–11. La Jolla, CA: NMFS Southwest Fisheries Science Center.

and 2016,[22] as well as through a research stock assessment. NMFS expects that if any of this work is completed it will raise questions as to whether the reference points finalized through this action will need to be revised. Although NMFS will review this information to determine whether it warrants a revision to the reference points set through this rule, as stated above, NMFS believes that the Council process is the more appropriate arena for decisions on these reference points to be made. If and when available, NMFS will present this information to the Council to allow them to make such a decision. NMFS hopes that, given there will likely be questions as to potential revisions to the catch levels based on this new information, having the Council take action in the near term will reduce some uncertainty in terms of the timing of a potential change for the affected fishing industry that relies on a certain level of stability to be able to plan for the future and maintain certain markets.

NMFS' desire to have the Council replace this rule in the near future however, should not be seen as an indication that NMFS has any concerns about the ability of the reference points being implemented through this action to protect against overfishing in 2023 and beyond or an indication that a subsequent rule will necessarily result in reference points that are different than those being implemented in this final rule. As always, the decision to revise the reference points will be guided by the best scientific information available and compliance with Magnuson-Stevens Act and other applicable laws.

Public Comments and Responses

On November 18, 2020, NMFS published a proposed rule for this action and solicited public comments (85 FR 73446), with a public comment period that ended on December 3, 2020. NMFS received only two comment letters on the proposed rule, each containing multiple comments. One letter was submitted by the California Wetfish Producers Association (CWPA) and expressed support for the proposed reference points. The other letter one was submitted jointly by two environmental non-governmental organizations, Oceana and Earthjustice, and expressed concern over aspects of the proposed rule and its ability to prevent overfishing. NMFS notes that some components of the comment letter from Oceana and Earthjustice included recommendations to change the default ABC control rule for monitored stocks and the central anchovy management framework, but such measures were not within the scope of this rulemaking, and therefore NMFS did not respond to those comments. NMFS encourages Oceana and Earthjustice to continue bringing concerns over the central anchovy management framework to the Council. NMFS summarizes and provides responses to the relevant components of both comments below. NMFS made no changes to the proposed rule in response to the comments received.

Comment 1: The CWPA, a primary CPS industry representative, submitted a public comment in support of the proposed reference points for central anchovy and NMFS's process for their development. In regards to the potential additional management measures, the CWPA stated that they are not opposed to the concept of additional management measures for central anchovy, but feel those concepts should be developed stepwise through the Council process with scientific and stakeholder input as opposed to enforced via a unilateral action by NMFS.

Response: NMFS agrees that the appropriate process for making changes to anchovy management, including the additional management measures described in the proposed rule, is through the traditional Council process.

Comment 2: Oceana and Earthjustice stated that the proposed reference points were not set using the best scientific information available, and the rule therefore violates Magnuson-Stevens Act National Standard 2. Specifically, the commenters faulted NMFS for not using the biomass estimates from 2009–2014 that were published in the MacCall and Thayer publications, which the commenters contend constitute the best scientific information available for past populations sizes of central anchovy and fluctuations in those sizes from one year to the next. The commenters spent considerable time in their submission explaining why they believe NMFS' reasoning for not using the biomass estimates in the McCall and Thayer publications is baseless.

Response: NMFS used the best scientific information available to determine the OFL for central anchovy and the best scientific information available supports NMFS determination that the reference points, in particular the OFL and ABC, being set by this action are consistent with the dual mandates of National Standard 1 (preventing overfishing while achieving, on a continuing basis, OY) and other Magnuson-Stevens Act provisions. As described in the preamble of the proposed rule, NMFS disagrees that the MacCall and Thayer publications constitute the best scientific information available for setting central anchovy reference points or that they provide novel information on the biology or population dynamics of northern anchovy, factors that are already included in the risk policy of the ABC control rule, that invalidate the reference points set through this rule. NMFS has repeatedly stated that it agrees that the MacCall and Thayer biomass estimates are useful in that they demonstrate and support the general trend that NMFS has also observed in the naturally fluctuating central anchovy abundance; however, their high degree of uncertainty, which the commenter regularly points out in their comment letter, makes them inappropriate for use as single point biomass estimates in any given year upon which to base catch levels. As stated in the preamble to this rule however, out of a desire to be deferential to the Court's decision and to ensure full consideration of all the information, NMFS re-reviewed both MacCall and Thayer publications to evaluate whether their biomass estimates could be used to calculate new reference points or whether the information included in them somehow invalidated NFMS reference points. To this end, NMFS provided new, extensive analysis to better explain its decision to not use the MacCall and Thayer biomass estimates—see NMFS' 2020 Review of the MacCall and Thayer Publications in the preamble to the proposed rule and this final rule. After a thorough review and additional consultation with the SWFSC, NMFS has found rational basis for not using their biomass estimates, and has determined that the biomass estimates in these publications do not invalidate the references being set through this action. NMFS has instead determined that the best scientific information available for setting new reference points under the timeline provided by the Court, as well as to address the Court's concerns from *Oceana I,* is the SWFSC' recent ATM and DEPM abundance estimates described in the Final Reference Points section of this rule.

[22] In the proposed rule, NMFS stated that the SWFSC was investigating the possibility to finalize an ATM estimate for 2015. Since the proposed rule was published, the SWFSC is also investigating the possibility of revising its 2016 ATM estimate. Despite this potential reexamination, it is NMFS' determination that the existing 2016 estimate, the one used in this rulemaking, represents the best scientific information for the population size in that year.

Contrary to Oceana and Earthjustice's assertion, these values were not chosen arbitrarily and include both relatively high *and* low abundance estimates. For example, the 2016 ATM estimate (151,558 mt) and the 2017 DEPM estimate (308,173 mt) are lower than 60 and 50 percent of the 57 years of biomass estimates in the Thayer publication, respectively. NMFS also points out that if we were to use the average from the biomass estimates provided in appendix I of Oceana and Earthjustice's comment letter (500,293 mt) it would result in an OFL of 119,570 mt; a value slightly higher than the OFL being implemented by NMFS.

Comment 3: Oceana and Earthjustice stated that the proposed reference points will not prevent overfishing over the long term without the implementation of additional management measures, and the rule therefore violates Magnuson-Stevens Act National Standard 1. Oceana and Earthjustice specifically stated that the proposed reference points should be effective for only one year, or at most two, and if the effective period is greater than one year, then NMFS should include a minimum biomass threshold below which the directed fishery is closed and the ACL is reduced.

Response: The commenters misunderstand the requirements of the Magnuson-Stevens Act and the intent of the National Standard 1 guidelines. Under Oceana and Earthjustice's premise, if NMFS sets a multi-year ACL, it must set a drastically low ACL simply because the stock dropped to low levels once in the last 63 years to ensure that over the next 63 years, there is a 100 percent chance that overfishing will never occur. The National Standard 1 guidelines state that, ''the Council's risk policy for the ABC control could be based on an acceptable probability (at least 50 percent) that catch equal to the stock's ABC will not result in overfishing, but other appropriate methods can be used.'' NMFS demonstrated in the preamble to the proposed rule and this final rule that the new reference points more than satisfy this legal requirement. As part of the commenters' claim that the reference points set through this rule will not prevent overfishing is a statement that central anchovy biomass frequently drops to less than 10 percent of long-term averages; however, based on the long-term average biomass estimate from the Thayer publication, the biomass only dropped below that long-term average in 9 over the 57-year time series, which does not seem to qualify as ''frequently.'' Therefore, even if NMFS were to consider the MacCall and Thayer biomass estimates as the best scientific information available for analyzing long-term trends in central anchovy abundance, the 25,000-mt ACL would still meet the mandates of Magnuson-Stevens Act standards. Furthermore, if the 1951–2015 published time series from MacCall and Thayer was used, NMFS notes that during that 57-year time frame over which the MacCall and Thayer publications presented biomass estimates, the biomass only dropped below 100,000 mt 15 times, or 26 percent of the time, and only stayed below 100,000 mt for more than one year twice over those 57 years: Once during the referenced 2009–2015 time period and once during the early 1950s. Although the ABC control rule used in this action is not subject to this rulemaking, it is NMFS' determination that the risk policy incorporated into that control rule, more than accounts for the infrequent potential for the stock to decline to such low levels.

Regarding Oceana and Earthjustice's specific requests for additional management measures, see the Potential Additional Management Measures section earlier in this preamble. Although NMFS solicited public comment on potential additional management measures, NMFS has determined that they are not necessary to prevent overfishing, for all the reasons stated in that section.

Comment 4: Oceana and Earthjustice stated that the reference points will not provide adequate forage for marine predators, including ESA-listed marine predators when central anchovy abundance is low.

Response: Per the Magnuson-Stevens Act's National Standard 1, NMFS must set catch limits such that the fishery achieves OY, which is defined as, ''the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems.'' The 119,153-mt OFL was already substantially reduced to an ABC of 29,788 mt because of the 75 percent scientific uncertainty buffer, which includes ecological considerations like predator consumption. The ABC was then further reduced to an ACL of 25,000 mt. NMFS reasonably determined that no further reduction to the ACL was necessary because there is no evidence that harvest up to the ACL over the long term will cause harm to anchovy predator species through prey removal. Central anchovy biomass is driven primarily by environmental conditions, not by the small commercial take in the central anchovy fishery. Oceana has in multiple instances claimed that NMFS's central anchovy reference points do not provide adequate forage for marine predators, yet has never presented any direct evidence that the small commercial fishery for central anchovy results in a lack of forage availability for any species, even in circumstances of low anchovy biomass. For example, there was no evidence of direct competition between the fishery and anchovy predators during the years Oceana and Earthjustice purport that the anchovy population was low. Although it is true that some predators in southern california experienced decreased food availability during the 2014–2015 time period, these predators, such as the Brown Pelican and California sea lions, neither of which are endangered species, have evolved explicit reproductive and foraging strategies in response to the natural fluctuations of their prey. NMFS notes that the time frame for which the commenters highlight adverse effects to some marine predators are the same years when highly unusual environmental conditions shifted many fish stocks out of their typical geographic range, as was the case for central anchovy in 2014 and 2015.

Much of Oceana and Earthjustice's commentary about ESA analysis addresses concerns beyond the scope of the proposed action. Relevant to this action, the commenters did not introduce any new scientific information that would require NMFS to reinitiate consultation under ESA. NMFS determined that these harvest specifications fall well within the scope of impacts to ESA-listed species, including listed marine predators, considered under prior consultations for the CPS FMP, and that fishing activities pursuant to this rule are not likely to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS or result in the destruction or adverse modification of critical habitat of any such species.

Comment 5: Oceana and Earthjustice criticized NMFS' decision to base the proposed catch limits on biomass estimates from 2016–2019, claiming that NMFS purposefully omitted data from the previous 7 years of low abundance—*i.e.,* MacCall and Thayer's biomass estimates from 2009–2014 and NMFS' own ATM estimate from 2015.

Response: After extensive scientific review and additional consultation with the SWFSC, NMFS has determined that the SWFSC's 2016, 2018, and 2019 ATM abundance estimates and 2017 DEPM abundance estimate constitute the best

scientific information available for setting new central anchovy reference points that will prevent overfishing over the long term. The commenters are correct that NMFS omitted the SWFSC's draft 2015 ATM estimate and the 2009–2014 MacCall/Thayer biomass estimates. NMFS did not use the SWFSC's 2015 ATM estimate because that 2015 estimate was the SWFSC's first attempt at an ATM estimate for central anchovy, and that estimate did not complete NMFS' formal review process to be finalized. However, the SWFSC is currently reviewing a new 2015 estimate, which may make it available for use in a potential future revision to central anchovy reference points if finalized. NMFS has stated in many previous instances that NMFS has determined that biomass estimates from the MacCall and Thayer publications do not constitute the best scientific information available for setting new central anchovy reference points. The commenters are also correct that NMFS does not have its own 2009–2014 biomass estimates; NMFS stated this in the preamble to the proposed rule and this final rule. However, NMFS has enough information on the biology and historical population sizes of central anchovy to support its determination that the reference points in this rule can prevent overfishing. As NMFS has also repeatedly stated, the idea that the central anchovy population can go to very low levels and that its size can fluctuate are not new concepts: This type of biology is the reason the risk policy included in the ABC control rule for this stock and other similar stocks in the CPS FMP includes the unprecedented buffer that it has.

Classification

NMFS is issuing these regulations under Magnuson-Stevens Act 305(d), 16 U.S.C. 1855(d), without a recommendation from the Council. The reason for using this regulatory authority is because this final rule must be published under an extremely aggressive timeline ordered by the U.S. District Court for the Northern District of California, which does not allow for compliance with the framework provisions of the CPS FMP.

This final rule has been determined to not be significant for purposes of Executive Order 12866.

This final rule is not an Executive Order 13771 regulatory action because this rule is not significant under Executive Order 12866.

A final regulatory flexibility analysis (FRFA) was prepared pursuant to 5 U.S.C. 604(a), and is included in this final rule. The FRFA incorporates the initial regulatory flexibility analysis (IRFA). NMFS did not receive any public comments on the IRFA or regulatory flexibility analysis (RFA) process. The FRFA describes the economic impact this final rule may have on small entities. The results of the analysis are stated below. A copy of this analysis is available from NMFS (see **ADDRESSES**).

Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996 states that, for each rule or group of related rules for which an agency is required to prepare a FRFA, the agency shall publish one or more guides to assist small entities in complying with the rule, and shall designate such publications as ''small entity compliance guides.'' The agency shall explain the actions a small entity is required to take to comply with a rule or group of rules. As part of this rulemaking process, a notification email to relevant stakeholders that also serves as small entity compliance guide (the guide) was prepared. Copies of this final rule are available from the West Coast Regional Office, and the guide, *i.e.,* the notification letter, will be emailed to all stakeholders.

For RFA purposes only, NMFS has established a small business size standard for businesses, including their affiliates, whose primary industry is commercial fishing (*see* 50 CFR 200.2). A business primarily engaged in commercial fishing (NAICS code 11411) is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $11 million for all its affiliated operations worldwide.

The action being implemented through this rule is the establishment of a new OFL, ABC, and ACL for the central anchovy subpopulation.

The small entities that would be affected by this action are primarily the vessels that harvest central anchovy as part of the West Coast CPS purse seine fleet. The average annual per vessel revenue in 2017 for the West Coast CPS finfish small purse seine fleet was below $11 million; therefore, all of these vessels are considered small businesses under the RFA. Because each affected vessel is a small business, this rule is considered to equally affect all of these small entities in the same manner. Therefore, this rule would not create disproportionate costs between small and large vessels/businesses. To evaluate whether this rule could potentially reduce the profitability of affected vessels, NMFS compared current and average recent historical landings to the proposed ACL (*i.e.,* the maximum fishing level for each year). The final ACL for central anchovy is 25,000 mt, which is slightly higher than the vacated ACL (23,573 mt). In 2019, approximately 10,162 mt of central anchovy were landed. The annual average harvest from 2010 to 2019 for central anchovy was approximately 7,950 mt. Central anchovy landings have been well below the proposed ACL in 8 of the past 10 years. Therefore, although the establishment of a new ACL for this stock is considered a new management measure for the fishery, this action should not result in changes in current fishery operations. As a result, the ACL implemented in this rule is unlikely to limit the potential profitability to the fleet from catching central anchovy and therefore would not impose significant economic impacts.

The central anchovy fishery is a component of the CPS purse seine fishery off the U.S. West Coast, which generally fishes a complex of species that also includes the fisheries for Pacific sardine, Pacific mackerel, jack mackerel, and market squid. Currently there are 58 vessels permitted in the Federal CPS limited entry fishery off California. Annually, 32 of these 58 CPS vessels landed anchovy in recent years.

CPS finfish vessels typically harvest a number of other species, including Pacific sardine, Pacific mackerel, and market squid, making the central anchovy fishery only one component of a multi-species CPS fishery. Therefore, the revenue derived from this fishery is only part of what determines the overall revenue for a majority of the vessels in the CPS fleet, and the economic impact to the fleet from the action cannot be viewed in isolation. CPS vessels typically rely on multiple species for profitability because abundance of the central anchovy stock, like the other CPS stocks, is highly associated with ocean conditions and seasonality. Variability in ocean conditions and season results in variability in the timing and location of CPS harvest throughout the year. Because each species responds to ocean conditions in its own way, not all CPS stocks are likely to be abundant at the same time. Therefore, as abundance levels and markets fluctuate, the CPS fishery as a whole has relied on a group of species for its annual revenues.

NMFS reviewed and evaluated options for other methods and data sources to update the estimate of MSY or develop a new long-term OFL. However, NMFS had limited time to fully review these types of methods; therefore, an alternative such as this was

not fully developed. Additionally, this action maintains the management approach set in the FMP for stocks in the monitored category, which dictates how the OFL and ABC can be set, thereby limiting the alternatives for these values. The CPS FMP states that the ACL is set equal to the ABC or lower if determined necessary to prevent overfishing or for other OY considerations not already built into the ABC control rule. Although there is no management uncertainty that requires reducing the ACL from the ABC, prior environmental analyses have only analyzed an ACL up to 25,000 mt, which is also the Council's previous determination of OY for the stock. As previously stated, NMFS does not expect the proposed reduction in the ABC to negatively impact regulated fishermen, as the proposed ACL (25,000 mt) is higher than the vacated ACL (23,573 mt).

During the proposed rule stage, NMFS proposed the option of implementing a biomass threshold whereby, if the best scientific information available indicates the stock's abundance drops below this threshold, then the ACL would be automatically reduced. A reduced ACL resulting from the this type of management measure would have potential to impact regulated fishermen through a consequent reduction in fishing opportunity, but the extent of economic impact would depend on a variety of factors, including the percentage of the reduction. NMFS decided to not to implement this management measure because NMFS determined it was not necessary in order to prevent overfishing over the long term. Therefore, NMFS did not further analyze potential economic impacts from this type of management measure during the final rule stage.

Thus, no significant alternatives to this final rule exist that would accomplish the stated objectives of the applicable statutes while minimizing any significant economic impact of this final rule on the affected small entities. However, as stated above, this final rule is not expected to have a significant economic impact on the regulated fishermen.

This final rule contains no information collection requirements under the Paperwork Reduction Act of 1995.

Authority: 16 U.S.C. 1801 *et seq.*

List of Subjects in 50 CFR Part 660

Fisheries, Fishing, Indians, Recreation and recreation areas, Reporting and recordkeeping requirements, Treaties.

Dated: December 23, 2020.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 660 is amended as follows:

PART 660—FISHERIES OFF WEST COAST STATES

■ 1. The authority citation for part 660 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.,* 16 U.S.C. 773 *et seq.,* and 16 U.S.C. 7001 *et seq.*

■ 2. In § 660.511, revise paragraph (k)(1) to read as follows:

§ 660.511 Catch restrictions.

* * * * *

(k) * * *

(1) Northern Anchovy (Central Subpopulation): 25,000 mt.

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[FR Doc. 2020–28901 Filed 12–30–20; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 200221–0062; RTID 0648–XA759]

Fisheries of the Exclusive Economic Zone Off Alaska; Pacific Cod in the Gulf of Alaska

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; modification of closure.

SUMMARY: NMFS is opening directed fishing for Pacific cod by various sectors in the Gulf of Alaska (GOA). This action is necessary to fully use the 2021 total allowable catch (TAC) of Pacific cod in the GOA.

DATES: Effective 0001 hours, Alaska local time (A.l.t.), January 1, 2021 through 2400 hours, A.l.t., December 31, 2021. Comments must be received at the following address no later than 4:30 p.m., A.l.t., January 15, 2021.

ADDRESSES: You may submit comments, identified by *NOAA–NMFS–2019–0102,* by either of the following methods:

- *Federal e-Rulemaking Portal:* Go to *https://www.regulations.gov/docket?D=NOAA-NMFS-2019-0102,* click the ''Comment Now!'' icon, complete the required fields, and enter or attach your comments.
- *Mail:* Submit written comments to Glenn Merrill, Assistant Regional Administrator, Sustainable Fisheries Division, Alaska Region NMFS, Attn: Records Office. Mail comments to P.O. Box 21668, Juneau, AK 99802–1668.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous).

FOR FURTHER INFORMATION CONTACT: Obren Davis, 907–586–7228.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fishery in the GOA exclusive economic zone according to the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP) prepared by the North Pacific Fishery Management Council (Council) under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

Pursuant to the final 2020 and 2021 harvest specifications for groundfish in the GOA (85 FR 13802, March 10, 2020), NMFS closed directed fishing for Pacific cod in the GOA in accordance with § 679.20(d)(1)(iii) through December 31, 2021.

As of December 17, 2020, NMFS has determined that 5,590 metric tons (mt) in the Western Regulatory Area and 10,242 mt in the Central Regulatory Area of the GOA of Pacific cod TAC is available in 2021. This is based on the Council's December 2020 recommendation for the 2021 Pacific cod TAC in the GOA. NMFS issued an inseason adjustment to adjust the 2021 Pacific cod TAC to reflect the Council's recommendations (85 FR 83834, December 23, 2020). The adjusted 2021 Pacific cod TACs are sufficient to allow for directed fishing for Pacific cod by vessels using jig gear, vessels using pot gear, and catcher/processors (CPs) using hook-and-line gear in the Western Regulatory Area of the GOA. The adjusted 2021 Pacific cod TACs also are