

(2) *Trip limits.* There are limits on the maximum number of allowable physical interactions that occur during a single fishing trip between leatherback and North Pacific loggerhead sea turtles and individual vessels registered for use under Hawaii longline limited access permits while engaged in shallow-set fishing. For purposes of this section, a shallow-set fishing trip commences when a vessel departs port, and ends when the vessel returns to port, regardless of whether fish are landed. For purposes of this section, a calendar year is the year in which a vessel reaches a trip limit.

(i) The trip limit for leatherback sea turtles is 2, and the trip limit for North Pacific loggerhead sea turtles (*Caretta caretta*) is 5.

(ii) Upon determination by the Regional Administrator that a vessel has reached either sea turtle limit during a single fishing trip, the Regional Administrator will notify the permit holder and the vessel operator that the vessel has reached a trip limit, and that the vessel is required to immediately retrieve all fishing gear and stop fishing.

(iii) Upon notification, the vessel operator shall immediately retrieve all fishing gear, stop fishing, and return to port.

(iv) A vessel that reaches a trip limit for either turtle species during a calendar year shall be prohibited from engaging in shallow-set fishing during the 5 days immediately following the vessel's return to port.

(v) A vessel that reaches a trip limit a second time during a calendar year, for the same turtle species as the first instance, shall be prohibited from engaging in shallow-set fishing for the remainder of that calendar year. Additionally, in the subsequent calendar year, that vessel shall be limited to an annual interaction limit for that species, either 2 leatherback or 5 North Pacific loggerhead sea turtles. If that subsequent annual interaction limit is reached, that vessel shall be prohibited from engaging in shallow-set fishing for the remainder of that calendar year.

(vi) Upon determination by the Regional Administrator that a vessel has reached an annual interaction limit, the Regional Administrator will notify the permit holder and the vessel operator that the vessel has reached the limit, and that the vessel is required to immediately stop fishing and return to port.

(vii) Upon notification, the vessel operator shall immediately retrieve all fishing gear, stop fishing, and return to port.

(i) A vessel registered for use under a Hawaii longline limited access permit may not be used to engage in shallow-setting north of the Equator any time during which shallow-set fishing is prohibited pursuant to paragraphs (b)(1) or (b)(2) of this section.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 660

[Docket No. 200127-0031]

RIN 0648-BI04

Fisheries Off West Coast States; West Coast Salmon Fisheries; Rebuilding Chinook Salmon Stocks

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

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes to approve and implement rebuilding plans recommended by the Pacific Fishery Management Council (Council) for two overfished stocks: Klamath River fall-run Chinook salmon (KRFC) and Sacramento River fall-run Chinook salmon (SRFC). NMFS determined in June 2018 that these stocks were overfished. This document also announces the availability for public review and comment of a draft environmental assessment (EA) analyzing the environmental impacts of implementing these rebuilding plans.

DATES: Public comments must be received by March 5, 2020.

ADDRESSES: You may submit comments on this document, identified by NOAA-NMFS-2019-0080, by any of the following methods:

- *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to www.regulations.gov/ #!docketDetail;D=NOAA-NMFS-2019-0080, click the "Comment Now!" icon, complete the required fields, and enter or attach your comments
- *Mail:* Peggy Mundy, NMFS West Coast Region, Sustainable Fisheries Division 7600 Sand Point Way NE, Seattle, WA 98115.

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 considered 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, *etc.*), 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).

The Council and NMFS prepared a draft environmental assessment (EA) which includes a regulatory flexibility analysis (RFA). Electronic copies of these documents may be obtained from the West Coast Regional Office website at <https://www.fisheries.noaa.gov/west-coast/laws-and-policies/west-coast-region-national-environmental-policy-act-documents>.

FOR FURTHER INFORMATION CONTACT: Peggy Mundy at 206-526-4323.

SUPPLEMENTARY INFORMATION:

Background

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) established a national program for the conservation and management of the fishery resources of the United States to prevent overfishing and to rebuild overfished stocks. To that end, the MSA requires fishery management plans to specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (MSA section 303(a)(10)). The MSA includes national standards which must be followed in any FMP. NMFS has developed guidelines, based on the national standards, to assist in the development and review of FMPs, amendments, and regulations prepared by the Councils and the Secretary (50 CFR 600.305(a)(1)). National Standard 1 (NS1) addresses the need under the MSA for FMPs to specify conservation and management measures that shall prevent overfishing while achieving, on a continuing basis, the optimum yield (OY) from each fishery for the U.S. fishing industry (50 CFR 600.310). The NS1 guidelines include status determination criteria (SDC) and other reference points that are used to determine if overfishing has occurred, or if the stock or stock complex is overfished (50 CFR 600.310(e)(2)) and specifies Council actions required to address overfishing and rebuilding for stocks and stock complexes (50 CFR 600.310(j)).

Ocean salmon fisheries in the exclusive economic zone (EEZ) (3 to 200

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nautical miles offshore) off Washington, Oregon, and California are managed under the Pacific Fishery Management Council's (Council) Pacific Coast Salmon Fishery Management Plan (FMP). The FMP identifies stocks that are in the fishery and the SDC and reference points that are used to determine when a stock is overfished and when it is rebuilt. For salmon, these metrics are based on the stock's spawning escapement (*i.e.*, fish that escape the ocean and in-river fisheries to spawn) and the abundance of adult spawners that is expected, on average, to produce maximum sustained yield (MSY), which is expressed as S_{MSY} .

The SDC for overfished is defined in the FMP to be when the three-year geometric mean of a salmon stock's annual spawning escapements falls below the reference point known as the minimum stock size threshold (MSST), where MSST is generally defined as

$0.5 \cdot S_{MSY}$ or $0.75 \cdot S_{MSY}$ —depending on the stock. The default SDC in the FMP for determining that an overfished stock is rebuilt is when the three-year geometric mean spawning escapement exceeds S_{MSY} . Stock-specific values for the S_{MSY} and MSST reference points are listed in Table 3–1 of the FMP, which is available on the Council's website (www.pcouncil.org). The status of salmon stocks is assessed annually. When NMFS determines that a stock is overfished, by virtue of meeting the overfished criteria in the FMP, described above, NMFS notifies the Council. The MSA requires Councils to develop and implement a rebuilding plan within two years of being notified by NMFS that a stock is overfished.

Overfished Determination for KRFC and SRFC

The annual stock assessments for KRFC and SRFC in 2018 used

escapement data for 2015 through 2017 to determine if the stocks were overfished. The three-year geometric mean spawning escapement for KRFC for the period 2015–2017 was 19,358, which is less than the stock's MSST of 30,525 (Table 1). The three-year geometric mean spawning escapement for SRFC for the period 2015–2017 was 76,714, which is less than the stock's MSST of 91,500 (Table 1). NMFS notified the Council that these stocks were overfished on June 18, 2018, and the overfished determination was announced in the **Federal Register** on August 6, 2018 (83 FR 38292). To be determined to be rebuilt, these stocks must achieve a three-year geometric mean escapement of S_{MSY} or greater. S_{MSY} for KRFC is 40,700. S_{MSY} for SRFC is 122,000.

TABLE 1—REFERENCE POINTS AND 2015–2017 GEOMETRIC MEAN SPAWNING ESCAPEMENT FOR KRFC AND SRFC

Stock	Spawning escapement		
	2015–2017 Geometric mean	MSST (overfished threshold)	S_{MSY} (target for rebuilt)
KRFC	19,358	30,525	40,700
SRFC	76,714	91,500	122,000

Fishery Management for KRFC and SRFC

Ocean salmon fisheries impact both KRFC and SRFC stocks in the EEZ off Oregon and California. The Council uses the same harvest control rule for KRFC and SRFC, to manage impacts from ocean salmon fisheries on both stocks. This control rule was implemented under FMP Amendment 16 (76 FR 81851, December 29, 2011). The control rule provides a multi-step, exploitation rate-based model (exploitation rate is the proportion of a stock's abundance—fishery mortality plus escapement—that occurs as mortality across all fisheries throughout the range of the stock) that allows some harvest impact at all abundance levels, providing opportunity to access more abundant salmon stocks that are typically available in the Council management area when the status of one stock may otherwise preclude all ocean salmon fishing in a large region. This type of control rule is referred to in the FMP as providing *de minimis* fishing provisions; *i.e.*, allowing fisheries that will have minimal impact on a stock that is forecast at low abundance. Under this control rule, as stock size declines, the allowable exploitation rate declines,

stepwise, as both stock size and exploitation rate approach zero. Details of the control rule are found in the FMP which is available on the Council's website (www.pcouncil.org).

KRFC. The FMP describes KRFC as a major contributor to ocean salmon fisheries from Humbug Mountain, OR, to Horse Mountain, CA, as well as to in-river tribal and recreational fisheries in the Klamath River Basin. For the period 1986–2017, harvest of KRFC was distributed as follows: Ocean fisheries—56 percent, tribal in-river fisheries—36 percent, and recreational in-river fisheries—8 percent.

SRFC. The FMP describes SRFC as the single largest contributor to ocean salmon fisheries off California and a significant contributor to ocean salmon fisheries off southern and Central Oregon. The primary impact of ocean salmon fisheries on SRFC is south of Point Arena, CA, with a considerable overlap with KRFC between Point Arena, CA, and Horse Mountain, CA. The SRFC stock is also targeted in in-river recreational fisheries in the Sacramento River Basin. For the period 1986–2017, harvest of SRFC was distributed as follows: Ocean fisheries—92 percent, and recreational in-river fisheries—8 percent.

Rebuilding Plans

The Council transmitted their recommended rebuilding plans to NMFS on August 14, 2019. The plans were developed over the course of several Council meetings in 2018 and 2019 and were informed by the analyses of the Council's Salmon Technical Team (STT). The STT held public meetings and work sessions with state and Federal agencies, tribal governments, and the general public to assess available information on various factors that could impact the productivity of these stocks and lead to the overfished determination. These factors included: Freshwater survival, marine survival, harvest impacts, and assessment and fishery management errors.

Overfishing on KRFC and SRFC, defined as the exploitation rate on a stock exceeding the maximum fishing mortality threshold (MFMT), did not occur during the years that lead to the overfished determination. The STT's report concluded that the overfished situation for these stocks was caused by: (1) Low flows and high water temperatures in the freshwater environment which resulted in low smolt survival for both stocks, disease issues in the Klamath River, and pre-

spawn mortality of migrating adults in the Sacramento River; (2) warm, unproductive ocean conditions that compromised survival in the marine environment for both stocks; (3) hatchery practices in the Sacramento River that resulted in straying of migrating salmon which lead to higher than expected in-river fishing mortality for SRFC; and (4) stock assessment errors that resulted in over-forecasting of SRFC and underpredictions of both ocean and in-river fishery mortality rates. Because SRFC would not have met the criteria for overfished status in the absence of assessment and management error, aspects of the fishery assessment and management process contributed to the stock's overfished status. The STT's report is contained within the draft EA (see **ADDRESSES**).

The Council considered three alternatives for the rebuilding plan for each stock: (1) Existing control rule, (2) buffered exploitation rate and escapement goal, and (3) no fishing that affects the overfished stocks (including in state waters). The Council's recommendation for both KRFC and SRFC, which NMFS proposes to approve, is continuation of the existing control rule, as it meets the MSA requirement to rebuild the stock as quickly as possible, taking into account the status and biology of any overfished stock and the needs of fishing communities (50 CFR 600.310(j)(3)(i)). This alternative would continue to use the existing control rule to manage fishery impacts to KRFC and SRFC when setting annual management measures (76 FR 81851, December 29, 2011).

When a stock or stock complex is overfished, a Council must specify a time period for rebuilding the stock or stock complex based on factors specified in MSA section 304(e)(4). This target time for rebuilding (T_{target}) shall be as short as possible, taking into account: The status and biology of any overfished stock, the needs of fishing communities, recommendations by international organizations in which the U.S. participates, and interaction of the stock within the marine ecosystem. In addition, the time period shall not exceed 10 years, except where biology of the stock, other environmental conditions, or management measures under an international agreement to which the U.S. participates, dictate otherwise (50 CFR 600.310(j)(3)(i)). The NS1 guidelines also describe the following rebuilding benchmarks: the minimum time to rebuild (T_{min}) and the maximum time to rebuild (T_{max}) (50 CFR 600.310(j)(3)(i)). These benchmarks serve to establish the range of target

times to rebuild that the Council may consider. Under the NS1 guidelines, T_{min} is calculated by assuming no fishery mortality, regardless of the source of the mortality. It is not possible, however, for the Council and NMFS to implement a T_{min} scenario, because the MSA only provides regulatory authority over fisheries in the EEZ. Therefore, the Council and NMFS have no authority to suspend fisheries in state waters; however, the Council analyzed a no fishing alternative to identify T_{min} and to serve as a bookend in the analysis of rebuilding probabilities.

Council-area salmon fisheries are set annually each April. The Council's Stock Assessment and Fishery Evaluation Document for the Pacific Coast Salmon Fishery Management Plan (SAFE document) is released annually in February and provides escapement data for the previous year. Analyses to determine rebuilding times in the Council's recommended rebuilding plans used available escapement data in the SAFE document issued February 2019, which included escapement data for KRFC and SRFC through 2018. When the Council developed annual management measures for 2019, the same control rule was used to limit impacts to KRFC and SRFC as recommended in the Council's rebuilding plans; therefore, the plans set rebuilding year one as 2019.

KRFC

T_{min} . The Council's analysis determined that, with no fishing mortality, there was a 60 percent probability that KRFC would rebuild in one year. Therefore, T_{min} = one year or 2019.

T_{max} . NS1 guidelines state that if T_{min} for the stock or stock complex is 10 years or less, then T_{max} is 10 years (50 CFR 600.310(j)(3)(i)(B)(1)). Since T_{min} for KRFC is one year or 2019, T_{max} = 10 years or 2028.

T_{target} . The Council has recommended the existing control rule to rebuild KRFC. The control rule sets the annual allowable exploitation rate based on the forecast of potential spawners (*i.e.*, the adult escapement expected in the absence of fisheries) to achieve a minimum spawning escapement of 40,700 (S_{MSY} for this stock). This control rule has been in place since the 2012 fishing year. In the seven years for which we have escapement data for KRFC under this control rule (2012 through 2018), four of those years had escapement above S_{MSY} . As described in the EA, the years in which KRFC failed to meet escapement goals are the years that led to the overfished determination,

when cohorts were adversely affected by freshwater and marine environmental conditions (Table 2).

TABLE 2—KRFC SPAWNING ESCAPEMENT ACHIEVED UNDER THE EXISTING CONTROL RULE IN THE YEARS 2012 THROUGH 2018

Year	KRFC spawning escapement (S_{MSY} = 40,700 spawners)
2012	121,543
2013	59,156
2014	95,104
2015	28,112
2016	13,937
2017	19,904
2018	53,624

Source: Review of 2018 Ocean Salmon Fisheries, Council SAFE Document, February 2019.

The Council's analysis, contained in the draft EA (see **ADDRESSES**), used 2019 as year one in calculating T_{target} . Under the existing control rule, there is a 61 percent probability that KRFC will meet the rebuilt criteria by year two (T_{target} = 2020). This means that the three-year geometric mean of KRFC escapement for 2018–2020 is expected to meet or exceed S_{MSY} . The spawning escapement from 2020 will be included in the 2021 stock assessment.

MSA consistency. As mentioned above, the MSA requires overfished stocks to be rebuilt in as short a time as possible, while taking into account the needs of fishing communities. The Council considered an alternative that would buffer the existing control rule for KRFC by decreasing the maximum exploitation rate by 20 percent and increasing S_{MSY} escapement by 20 percent. The Council's analysis of this alternative demonstrated this would result in a reduction of up to 25 percent in ocean harvest-related economic activity each year during the rebuilding period over the existing control rule. However, this reduction in harvest would not rebuild KRFC sooner than the existing control rule; the Council's analysis indicates that T_{target} would be achieved in 2020 under either scenario. Under the no fishing alternative, which the Council could not implement in actuality, there would be a complete loss of ocean harvest-related economic activity in California and in Oregon, south of Cape Falcon, OR, during the rebuilding period, and rebuilding would only be achieved one year sooner than under the existing control rule. Therefore, due the negative economic impacts of the no fishing and buffered

control rule alternatives and negligible difference in rebuilding time, the existing control rule meets the MSA requirement to have a rebuilding period that is as short as possible while considering the needs of fishing communities.

SRFC

T_{min}. The Council’s analysis determined that, with no fishing mortality, there was a 90 percent probability that SRFC would rebuild in two years. Therefore, *T_{min}* = two years or 2020.

T_{max}. NS1 guidelines state that if *T_{min}* for the stock or stock complex is 10 years or less, then *T_{max}* is 10 years (50 CFR 600.310(j)(3)(i)(B)(1)). Since *T_{min}* for SRFC is two years or 2020, *T_{max}* = 10 years or 2028.

T_{target}. The Council has recommended the existing control rule to rebuild SRFC. The control rule sets the annual allowable exploitation rate based on the forecast of potential spawners (*i.e.*, the adult escapement expected in the absence of fisheries) to achieve a minimum spawning escapement of 122,000 (*S_{MSY}* for this stock). This control rule has been in place since the 2012 fishing year. In the seven years for which we have escapement data for SRFC under this control rule (2012 through 2018), three of those years had escapement above *S_{MSY}*. As described in the EA, the years in which SRFC failed to meet the escapement goal are the years that led to the overfished determination, when cohorts were adversely affected by freshwater and marine environmental conditions, escapement greatly improved in 2018 compared with the previous two years, but still fell below *S_{MSY}* (Table 3).

TABLE 3—SRFC SPAWNING ESCAPEMENT ACHIEVED UNDER THE EXISTING CONTROL RULE IN THE YEARS 2012 THROUGH 2018

Year	SRFC spawning escapement (<i>S_{MSY}</i> = 122,000 spawners)
2012	285,429
2013	406,846
2014	212,468
2015	114,085
2016	89,699
2017	42,714
2018	105,739

Source: Council SAFE Documents, February 2018 and 2019

The Council’s analysis, contained in the draft EA (see **ADDRESSES**), used 2019 as year one in calculating *T_{target}*. Under the existing control rule, there is a 58

percent probability that SRFC will meet the rebuilt criteria by year three (*T_{target}* = 2021). This means that the three-year geometric mean of KRFC escapement for 2019–2021 is expected to meet or exceed *S_{MSY}*. The spawning escapement from 2021 will be included in the 2022 stock assessment.

MSA consistency. As mentioned above, the MSA requires overfished stocks to be rebuilt in as short a time as possible, while taking into account the needs of fishing communities. The Council considered an alternative that would buffer the existing control rule for SRFC by decreasing the maximum exploitation rate by 30 percent and increasing *S_{MSY}* escapement by 30 percent. The Council’s analysis of this alternative demonstrated this would result in a reduction of up to 32 percent in ocean harvest-related economic activity each year during the rebuilding period over the existing control rule. This reduction in harvest would rebuild SRFC only one year sooner than the existing control rule; the Council calculated *T_{target}* would be achieved in 2020 under the buffered control rule, compared to achieving *T_{target}* in 2021 under the existing control rule. Under the no fishing alternative, which the Council could not implement in actuality, there would be a complete loss of ocean harvest-related economic activity south of Cape Falcon, OR, during the rebuilding period, and rebuilding would only be achieved one year sooner than under the existing control rule. Therefore, due to the negative economic impacts of the no fishing and buffered control rule alternatives and negligible difference in rebuilding time, the existing control rule meets the MSA requirement to have a rebuilding period that is as short as possible while considering the needs of fishing communities.

National Environmental Policy Act (NEPA)

The draft EA for this action is an integrated document that includes the Council’s analysis of the overfished stocks, analysis of environmental and socioeconomic effects under NEPA, the regulatory impact review, and regulatory flexibility analysis. The draft EA for this action is posted on the NMFS West Coast Region website (see **ADDRESSES**).

Classification

Pursuant to section 304(b)(1)(A) of the MSA, the NMFS Assistant Administrator has determined that this proposed rule is consistent with the Pacific Salmon Fishery Management Plan, other provisions of the MSA, and

other applicable law, subject to further consideration after public comment.

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

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

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that this proposed rule, if adopted, would not have a significant economic impact on a substantial number of small entities.

Using the catch area description in the Pacific States Marine Fisheries Commission Information Network (PacFIN), the most recent year of complete fishing data, 2018, had 653 distinct commercial vessels land fish caught south of Cape Falcon. These vessels had a combined ex-vessel revenue of \$10 million; therefore, no vessel met NMFS’ threshold for being a large entity, which is \$11 million in annual gross receipts. The proposed rule would not change harvest policy; thus, by definition, there would be no direct or indirect economic impact from the rebuilding plan.

Because all directly regulated entities are small, these regulations are not expected to place small entities at a significant disadvantage to large entities. The Council recommended, and NMFS proposes approving, the status quo alternative rebuilding plans for KRFC and SRFC; therefore, this proposed rule is largely administrative, to establish the rebuilding plan parameters required under NS1. Because NMFS is proposing to approve the status quo alternative, these regulations do not change salmon harvest policy and economic activity is not expected to change from the baseline as a result of these regulations; therefore, this action is also not expected to significantly reduce profit for the substantial number of directly regulated entities.

As a result, an initial regulatory flexibility analysis is not required and none has been prepared.

This proposed rule was developed after meaningful collaboration with the tribal representative on the Council who has agreed with the provisions that apply to tribal vessels.

List of Subjects in 50 CFR Part 660

Fisheries, Fishing, Recordkeeping and reporting requirements.

Dated: January 28, 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 proposed to be 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.* and 16 U.S.C. 773 *et seq.*

■ 2. Add § 660.413 to read as follows:

§ 660.413 Overfished species rebuilding plans.

For each overfished salmon stock with an approved rebuilding plan, annual management measures will be established using the standards in this section, specifically the target date for rebuilding the stock to its maximum sustainable yield (MSY) level and the harvest control rule to be used to rebuild the stock.

(a) *Klamath River Fall-run Chinook Salmon (KRFC)*. KRFC was declared overfished in 2018. The target year for rebuilding the KRFC stock is 2020. The harvest control rule during the rebuilding period for the KRFC stock is the *de minimis* control rule specified in the FMP and at § 660.410(c), which allows for limited fishing impacts when abundance falls below S_{MSY} . The control rule describes maximum allowable

exploitation rates at any given level of abundance. The control rule is presented in Figure 1 of subpart H of this part.

(1) The Klamath River fall-run Chinook salmon control rule uses reference points F_{ABC} , $MSST$, S_{MSY} , and two levels of *de minimis* exploitation rates, $F = 0.10$ and $F = 0.25$. The maximum allowable exploitation rate, F , in a given year, depends on the pre-fishery ocean abundance in spawner equivalent units, N . At high abundance the control rule caps the exploitation rate at F_{ABC} , at moderate abundance the control rule specifies an F that results in S_{MSY} spawners, and at low abundance (*i.e.*, when expected escapement is below S_{MSY}) the control rule allows for *de minimis* exploitation rates with the abundance breakpoints defined as: $A = MSST/2$; $B = (MSST + S_{MSY})/2$; $C = S_{MSY}/(1 - 0.25)$; $D = S_{MSY}/(1 - F_{ABC})$; as shown in Figure 1 of subpart H of this part. For N between 0 and A , F increases linearly from 0 at $N = 0$, to 0.10 at $N = A$. For N between A and $MSST$, F is equal to 0.10. For N between $MSST$ and B , F increases linearly from 0.10 at $N = MSST$, to 0.25 at $N = B$. For N between B and C , F is equal to 0.25. For N between C and D , F is the value that results in S_{MSY} spawners. For N greater than D , F is equal to F_{ABC} .

(2) [Reserved]

(b) *Sacramento River Fall-run Chinook Salmon (SRFC)*. SRFC was declared overfished in 2018. The target year for rebuilding the SRFC stock is 2021. The harvest control rule during

the rebuilding period for the SRFC stock is the *de minimis* control rule specified in the FMP and at 660.410(c), which allows for limited fishing impacts when abundance falls below S_{MSY} . The control rule describes maximum allowable exploitation rates at any given level of abundance.

(1) The Sacramento River fall-run Chinook salmon control rule uses the reference points F_{ABC} , $MSST$, S_{MSY} , and two levels of *de minimis* exploitation rates, $F = 0.10$ and $F = 0.25$. The maximum allowable exploitation rate, F , in a given year, depends on the pre-fishery ocean abundance in spawner equivalent units, N . At high abundance the control rule caps the exploitation rate at F_{ABC} , at moderate abundance the control rule specifies an F that results in S_{MSY} spawners, and at low abundance (*i.e.*, when expected escapement is below S_{MSY}) the control rule allows for *de minimis* exploitation rates with the abundance breakpoints defined as: $A = MSST/2$; $B = (MSST + S_{MSY})/2$; $C = S_{MSY}/(1 - 0.25)$; $D = S_{MSY}/(1 - F_{ABC})$; as shown in Figure 1 of subpart H of this part. For N between 0 and A , F increases linearly from 0 at $N = 0$, to 0.10 at $N = A$. For N between A and $MSST$, F is equal to 0.10. For N between $MSST$ and B , F increases linearly from 0.10 at $N = MSST$, to 0.25 at $N = B$. For N between B and C , F is equal to 0.25. For N between C and D , F is the value that results in S_{MSY} spawners. For N greater than D , F is equal to F_{ABC} .

(2) [Reserved]

Figure 1 to § 660.413 – Harvest Control Rule for Klamath River Fall-Run Chinook
Salmon and Sacramento River Fall-Run Chinook Salmon

