

**Final Regulatory Impact Review and
Final Regulatory Flexibility Analysis for the
Protected Species Hard Caps for the California/Oregon
Large-Mesh Drift Gillnet Fishery Proposed Rule, RIN 0648-BG23**

National Marine Fisheries Service, West Coast Region

May 2017

Rulemakings must comply with Executive Order (EO) 12866 and the Regulatory Flexibility Act (RFA). The National Marine Fisheries Service (NMFS) undertakes a regulatory impact review (RIR) for all regulatory actions of public interest. The RIR provides a comprehensive review of the changes in net economic benefits to society associated with proposed regulatory actions. The RIR also provides an economic analysis of the expected effects of each selected alternative relative to the no action alternative. The RFA, 5 U.S.C. 603 *et seq.*, requires government agencies to assess the effects that regulatory alternatives would have on small entities. When an agency proposes regulations, the RFA requires the agency to prepare and make available for public comment an Initial Regulatory Flexibility Analysis (IRFA) and a Final Regulatory Flexibility Analysis (FRFA) that describes the impact on small businesses, non-profit enterprises, local governments, and other small entities. The IRFA and FRFA is to aid the agency in considering all reasonable regulatory alternatives that would minimize the economic impact on affected small entities.

Management Objectives of the Rule and Statement of the Problem

During its September 2015 meeting, the Pacific Fishery Management Council (Council) recommended NMFS implement regulations for the California/Oregon large-mesh drift gillnet (DGN) fishery. These regulations would address concerns about interactions with high-priority protected species (HPPS), including sea turtles and ESA-listed marine mammals, bottlenose dolphins, and short-finned pilot whales. The Council transmitted proposed regulations to implement its recommendation to NMFS on September 23, 2016. The Council's proposed regulations would establish hard caps (i.e., limits) on the number of certain protected species caught, and, if a limit is met or exceeded, the DGN fishery would close for at least the remainder of the fishing season,¹ which is defined as May 1 through January 31.

The Council proposed the regulations to address Section 303(b)(12) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to conserve non-target species to the extent practicable. The purpose of the action is to better integrate fishery management under the Fishery Management Plan for U.S. West Coast Fisheries for Highly Migratory Species (HMS FMP) with enhanced protection of ESA-listed species and other marine mammals.

¹ The DGN fishery would close for the remainder of a single fishing season if the cap were reached during the second year of the two-year cap window. The DGN fishery would close for the remainder of the current fishing season plus the entire following season if the cap were reached in the first year of the two-year cap window.

Description of the Impacted Fishery

California's swordfish fishery transformed from primarily a harpoon fishery to a DGN fishery in the early 1980s; landings soared to a historical high of 2,198 metric tons (mt) by 1985. Initial development of the DGN fishery in the late 1970s was founded on catches of common thresher shark. The thresher shark fishery rapidly expanded, with 228 vessels landing more than 1,000 mt in 1985. In the years following, swordfish replaced thresher shark as the primary target species. Greater consumer demand for swordfish brought harvesters a higher price-per-pound, and annual thresher shark landings declined as vessels switched to targeting swordfish to maximize economic returns. In 1986, the California Legislature restricted the DGN thresher shark fishing season to 30 days in May, which may have further accelerated the shift towards targeting swordfish. From 2012 through 2014, thresher shark landings ranged from 10 mt to 48 mt in the DGN fishery.²

The DGN fishery is managed by a limited entry permit system, with mandatory gear standards and seasonal area closures to address various conservation concerns. About 150 permits with DGN gear endorsements were issued when the State of California limited entry program was established in 1980. The number of permits in the fishery reached a peak of 251 permits in 1986. In recent years, the number of extant permits has declined below 80.

Fishing activity is highly dependent on seasonal oceanographic conditions that create temperature fronts which concentrate feed for swordfish. Because of the seasonal migratory pattern of swordfish and seasonal fishing restrictions, nearly all of the fishing effort in recent years has occurred from August 15 through January 31 off the California coast.

The DGN fishery has been subject to a number of seasonal closures over the years. Since 1982, the DGN fishery has been closed inside the entire U.S. West Coast exclusive economic zone (EEZ) from February 1 to April 30. In 1986, a closure was established within 75 miles of the California mainland from June 1 through Aug 14 to conserve common thresher sharks; this closure was extended to include May in 1990 and later years. In 2001, NMFS implemented two Pacific sea turtle conservation areas on the U.S. West Coast with seasonal DGN restrictions to protect endangered leatherback and loggerhead sea turtles. The larger of the two closures spans the EEZ north of Point Conception, California (34°27' N. latitude) to mid-Oregon (45° N. latitude) and west to 129° W. longitude. DGN fishing is prohibited annually within this conservation area from August 15 to November 15 to protect leatherback sea turtles. A smaller closure was implemented to protect Pacific loggerhead turtles from DGN gear during a forecasted or concurrent El Niño event, and is located south of Point Conception, California and west of 120° W. longitude from June 1 to August 31 (72 FR 31756). The number of active vessels in the DGN fishery has remained under 50 vessels since 2003, and the fishery has seen an average of 20 active vessels per year from 2010 through 2015.

Both vessel participation and fishing effort (measured by the number of sets) have declined over the years. Industry representatives attribute the decline in vessel participation and annual effort to regulations implemented to protect marine mammals and endangered sea turtles. Figure 1 below shows the overall trend in participation and ex-vessel revenue in the DGN fishery from

² Pacific Fishery Management Council. 2016. HMS SAFE Report.

2000 through 2015. Despite a temporary increase in participation and ex-vessel revenue from 2004 through 2007, a general downward trend exists for both. Real ex-vessel revenues declined from \$3,790,000 in 2000 to \$454,000 in 2015. Similarly, the number of participating vessels declined from 72 in 2000 to 18 in 2015. From 2010 through 2015, an average of 20 vessels participated in the DGN fishery.

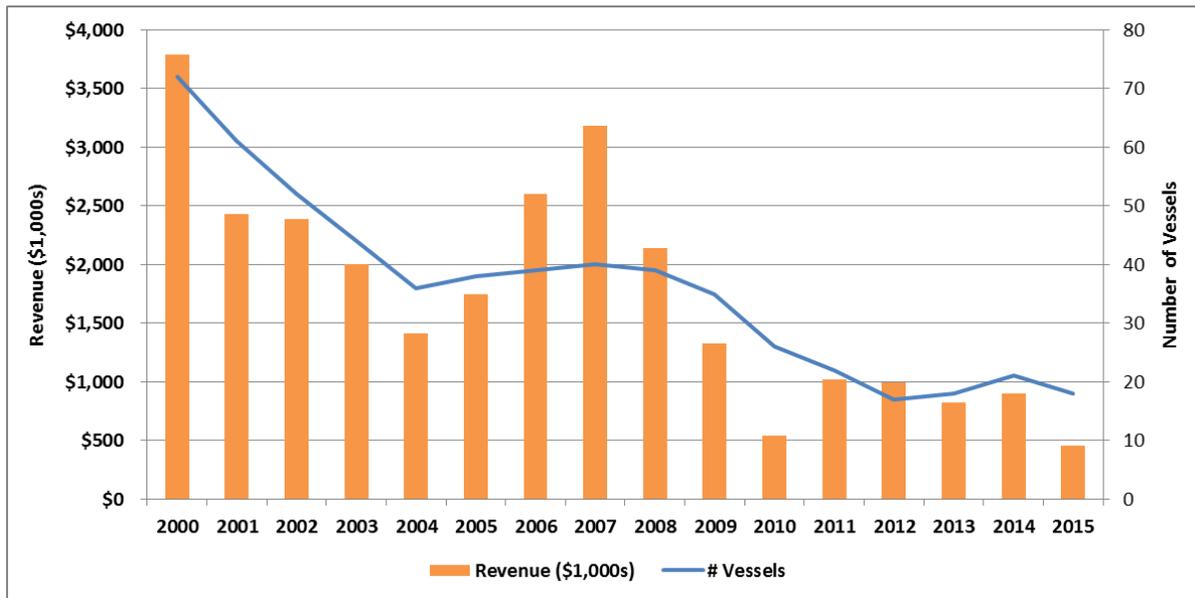


Figure 1. Real (inflation adjusted, 2015) ex-vessel revenue (\$1,000s) and number of vessels in the U.S. West Coast drift gillnet fishery, 2000-2015.

Description of the Proposed Action

As described above, the Council’s proposed regulations would establish hard caps (i.e. limits) on the number of certain protected species caught in the DGN fishery. If a limit is met or exceeded, the DGN fishery would close for at least the remainder of the fishing season, which is defined as May 1 through January 31. The Council considered six action alternatives, which are described in detail in the following section. The proposed regulations were based on Alternative 6, which is the Council’s preferred alternative.

Summary of Significant Issues Raised in Comments Received on the Initial RIR and IRFA

NMFS published a proposed rule to implement the Council’s recommendation, along with a draft Environmental Assessment (EA), IRFA, and draft RIR in the Federal Register on October 13, 2016. NMFS accepted public comment on these documents through December 28, 2016. NMFS received 20 public comments on the proposed rule and associated documents; 14 supported the regulations and 6 opposed them. Supporters, including individuals and non-governmental environmental organizations, claimed the action would increase protection for non-target species and incentivize industry to practice clean fishing techniques. Additionally, many urged NMFS to adopt a more stringent hard caps alternative than the Council’s recommendation. Those in opposition to the proposed rule, including affected individuals, the

Marine Mammal Commission (MMC), and a commercial fishing association through its legal counsel, submitted comments which claimed that hard caps would have minimal conservation benefits while imposing unnecessary economic hardship, that NMFS had underestimated the economic effects to DGN participants in the draft EA, that incidental catch of protected species by the fishery is adequately managed under the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA), and that the action is not legally authorized.

In their comment on the proposed rule, the Ventura County Commercial Fishermen's Association (VCCFA), through Nossaman LLP, stated that the ESA Section 7 consultation process is the appropriate framework to address DGN impacts to ESA-listed species and that the MMPA Take Reduction Team (TRT) process is the proper way to protect marine mammals. The VCCFA claimed that hard caps are not legally authorized and fail to comply with MSA National Standards, specifically standards 1 (preventing overfishing while achieving optimum yield), 2 (basing management decisions on the best available science), 8 (minimizing adverse economic impacts), and 9 (minimizing bycatch). The VCCFA also asserted that NMFS had misstated the economic impacts in the draft EA and IRFA, and it provided information showing DGN participants had little opportunity to participate in other fisheries to mitigate DGN losses. The VCCFA further asserted that a temporary DGN closure could lead to a permanent closure of the fishery because participants would not be able to recover from the adverse economic effects.

The MMC also submitted a comment on the proposed rule and associated documents. The MMC was established under the MMPA to recommend to the Secretary of Commerce and to other Federal officials such steps as it deems necessary or desirable for the protection and conservation of marine mammals. In its comment, the MMC recommended that NMFS not implement the proposed hard caps in the DGN fishery. The MMC emphasized the current ESA Section 7 and MMPA TRT processes as appropriate for managing DGN interactions with marine mammals.

The MMC claimed that while the proposed action is to implement management measures for the DGN fishery to further reduce: 1) interactions with ESA-listed species and other marine mammals; and 2) bycatch including bycatch mortality, it is not clear that closure of the fishery would have the desired effects. They note that long-term bycatch rates for ESA-listed species are very low and no bycatch is observed in most years. Further, when the DGN fishery reopens after a closure, the probability of an interaction that results in the death or serious injury to a whale will be unchanged. In contrast, management and conservation actions taken under the ESA Section 7 process and through the TRT process have the potential to lower the probability of bycatch and mortality occurring in subsequent years without closing the fishery, as has been demonstrated in the past.

No comments were filed by the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule.

Response to Comments and Statement of Any Changes to the Proposed Action Resulting from Comments

As documented in the draft RIR and IRFA prepared for the hard caps proposed rule (<https://www.regulations.gov/docket?D=NOAA-NMFS-2016-0123>) and included below, the analysis demonstrated negative economic impacts to the fleet and average participants in the

fishery under each of the hard caps alternatives compared to the “no action” alternative, even under the assumption that the fishery would always reopen after a closure. The analyses suggested that DGN participants might be able to offset some losses during DGN closure periods by engaging in other fisheries.

The economic analysis in the draft EA, draft RIR, and IRFA used data on the recent operation of the fishery to simulate the direct economic impact of hard caps regulation on the fleet as a whole and the average impact on individual participants. The analysis assumed that recent data on fishery operations would remain representative of the economic performance and protected species interaction risk in the fishery following the imposition of hard caps,³ and that the fishery would reopen as soon as possible with the same number of participants if it closed due to reaching a hard cap. The resulting metrics should be interpreted as the expected long-term direct effects of hard cap closures on the economic and conservation performance of the current fleet, assuming ongoing operations. The draft analyses did not consider individual participant demographics, vessel-level heterogeneity, permit transferability, or the indirect impacts of attrition or permanent closure if operation becomes unprofitable or other fishing opportunities become relatively more attractive than large-mesh DGN fishing due to the negative economic impacts of the proposed hard cap regulations. Further, the short-term effects on individual DGN participants of a DGN closure of up to two fishing seasons was not considered in the analysis.

In response to public comment regarding the short-term economic impacts of a DGN closure when the fishery reaches a protected species hard cap, NMFS conducted further economic analysis. As evidenced in NMFS’ final RIR and FRFA analyses below, a majority of DGN participants rely on the fishery for over half of their annual landings and revenue, and they would experience significant adverse economic impacts during a DGN closure that were not identified in the draft EA, draft RIR, and IRFA. Additionally, while the draft analyses suggested that DGN participants may be able to offset a portion of their economic losses by engaging in other fisheries, further review of all fishing permits held by DGN participants and the seasonal operation of those fisheries indicates that their ability to offset DGN losses is minimal without significant investments in other fisheries or employment options, as shown in FRFA analysis below.

Based on the analyses in the final RIR, EA, and FRFA, NMFS found that implementing the Council’s proposed regulations to establish protected species hard caps for the DGN fishery would have minor beneficial effects to target and non-target fish species and protected species at the cost of significant adverse economic effects to the participants in the fishery if and when closures would occur. As has been demonstrated in the past, NMFS has successfully managed DGN protected species interactions through the ESA Section 7 and MMPA TRT processes to non-jeopardy levels for ESA-listed species and below PBR for all marine mammal stocks. Based on historic DGN performance, NMFS projected that the proposed regulations would have led to a DGN fishery closure only once in the past 15 years and that the fishery would not be expected to close often in the future if protected species interaction rates remain the same. Nonetheless, implementing hard caps under MSA offers little additional benefit to protected

³ For example, rare event protected species interactions are assumed to occur with the same frequency after hard caps are implemented as seen in recent experience.

species beyond what has been achieved by implementing regulations based on recommendations developed through ESA Section 7 and MMPA TRT processes.

While the DGN fishery would not be expected to close often under the proposed regulations, the adverse economic effects to DGN participants in the event of any closure would be significant. The final EA, FRFA, and RIR demonstrate that DGN participants are highly dependent on the fishery for their annual landings and revenue and they have little opportunity to offset economic losses by participating in other fisheries during a DGN closure.

Pursuant to MSA National Standard 7 (i.e., conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication) and given the findings above, implementing protected species hard caps for the DGN fishery under MSA authority is not warranted at this time. NMFS is making a negative determination on the Council's proposed regulations, and will withdraw the proposed rule, in favor of the No Action Alternative described in both the final EA and the RIR and FRFA analyses below.

REGULATORY IMPACT REVIEW

The President of the United States signed EO 12866, Regulatory Planning and Review on September 30, 1993. This order established guidelines for promulgating new regulations and reviewing existing regulations. The EO covers a variety of regulatory policy considerations and establishes procedural requirements for analysis of the benefits and costs of regulatory actions. The EO stresses that in deciding whether and how to regulate, agencies should assess all of the costs and benefits across all regulatory alternatives. Based on this analysis, they should choose those approaches that maximize net benefits to society. NMFS requires the preparation of an RIR for all regulatory actions of public interest.

The purpose of an RIR is to determine whether any of the actions could be considered "significant regulatory actions" according to EO 12866, to enhance planning and coordination between new and existing regulations, and to design regulations in a cost effective manner. The Federal agency is to assess both the costs and the benefits of the action recognizing that some costs and benefits are difficult to quantify, and then propose or adopt a regulation only after reasoned determination that the benefits of the intended regulation justify the costs.

Description of the Alternatives

The alternatives include a No Action Alternative and six Action Alternatives. Hard cap values and species included for each alternative are listed in Table 1.

Table 1. Summary of hard cap levels under the action alternatives (blank cells indicate there is no cap for that species proposed under the alternative).

	Alternative 1	Alternative 2	Alternative 3	Alternative 4		Alternative 5		Alternative 6
Number of Years	1	1	1	1	2-Year Average	1	2-Year Average	2-Year
Fin Whale	1			2	2	1	1	2
Humpack Whale	2	11	5	2	2	1	1	2
Sperm Whale	2	2	3	2	2	1	1	2
Leatherback Turtle	3	3	4	3	3	1	1	2
Loggerhead Turtle	3	3	4	3	3	1	1	2
Olive Ridley Turtle	1			2	2	1	1	2
Green Turtle	1			2	2	1	1	2
Short-fin Pilot Whale CA/OR/WA stock		5		5	5	2	2	4
Bottlenose Dolphin CA/OR/WA stock				6	6	2	2	4
Pinniped Group		4,316						
Dolphin Group		13,582						

No Action Alternative: There are currently no Federal requirements for hard caps on incidental catch of protected species for the DGN fishery. NMFS currently manages DGN incidental catch of ESA-listed marine mammals and sea turtles relative to the ITS in the May 2, 2013, BO for the fishery. If the DGN fishery exceeds the ITS for any species, NMFS is required by the ITS to re-initiate an ESA Section 7 consultation to determine if the amount of take expected in the fishery jeopardizes the continued existence of ESA-listed species.

NMFS currently manages incidental catch of marine mammals under the MMPA. The catch of each marine mammal stock is compared to that stock’s PBR. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. The Pacific Offshore Cetacean Take Reduction Team (POCTRT) established for the DGN fishery evaluates the fishery’s performance relative to PBR for each marine mammal stock and recommends measures to keep the catch of any marine mammal stock below the corresponding PBR. The POCTRT is also tasked with identifying measures to reduce human-caused mortality and serious injury (M&SI) of each stock of marine mammal to below its Zero Mortality Rate Goal (ZMRG). ZMRG is defined as 10 percent of a stock’s PBR.

Alternative 1: A Federal requirement to establish annual hard caps for HPPS, which are species listed in the ITS in the May 2, 2013, BO for the DGN fishery.⁴ The hard cap values are equal to the estimated total amount of expected take listed in Table 12 in the 2013 DGN fishery BO. Annual hard caps are based on each fishing season. These would be assessed based on total estimated M&SI beginning on May 1 each year.

M&SI to protected species are counted towards the hard cap. The cap numbers are expressed as estimated total M&SI in Table 1. If fishery monitoring is below 100 percent, then observed

⁴ National Marine Fisheries Service. 2013. Biological Opinion on continued management of the drift gillnet fishery under the Fishery Management Plan for U.S. West Coast Fisheries for Highly Migratory Species. Southwest Region, 158 p.

M&SI would be expanded based on the level of monitoring to estimate total take to determine whether a cap has been reached or exceeded. If the hard cap on any species is reached or exceeded, the DGN fishery would be closed for the remainder of the fishing season.

Alternative 2: A Federal requirement to establish annual hard caps for marine mammals based on documented recent (2001-2013) encounters with the DGN fishery and selected ESA-listed sea turtles for which population status is of greatest concern. For non-ESA listed marine mammals, other than short-fin pilot whales, hard caps are established for grouped dolphins and pinnipeds. Annual hard caps are based on each fishing season. These would be assessed based on total estimated M&SI beginning May 1 each year.

Marine mammal hard caps are based on PBR from the 2013 U.S. Pacific Marine Mammal Stock Assessment Report.⁵ For non-ESA listed marine mammals, hard caps are established for grouped dolphins and pinnipeds. Hard cap values for ESA-listed sea turtles are based on the expected amount of take of individuals shown in Table 12 in the 2013 DGN fishery BO. Hard caps would not be revised as PBR values for species or groups change.

M&SI to protected species are counted towards the hard cap. The cap numbers are expressed in Table 1 as estimated total M&SI. The cap numbers are expressed as estimated total M&SI. If fishery monitoring is below 100 percent, then the numbers of observed M&SI would be expanded based on the level of monitoring to estimate total take to determine whether a cap has been reached or exceeded. If the hard cap on any species is reached or exceeded, the DGN fishery would be closed for the remainder of the fishing season.

Alternative 3: A federal requirement to establish annual hard caps for ESA-listed marine mammals (sperm and humpback whales) and sea turtles (leatherback and loggerhead turtles) for which population status is of particular concern. Annual hard caps would be based on each fishing season. These would be assessed based on total estimated M&SI beginning May 1 each year.

Hard cap values are based on levels for which takes are unlikely to trigger a jeopardy determination under an ESA section 7 consultation. A jeopardy determination is made on a case-by-case basis. If actual estimated takes exceed the expected take levels listed in the ITS, then consultation under section 7 of the ESA is reinitiated. Through that process the jeopardy determination is made. There is no specific guidance in place stating what specific levels of take above the expected take listed in the BO would result in a jeopardy determination. Therefore, the hard cap values under this alternative have been determined based on estimated fishery M&SI for marine mammals at values slightly above the expected take listed in the BO.

M&SI to protected species are counted towards the hard cap. The cap numbers are expressed in Table 1 as estimated total M&SI. If fishery monitoring is below 100 percent then observed M&SI would be expanded based on the level of monitoring to estimate total take to determine

⁵ Carretta, J. V., E. Oleson, D. W. Weller, A. R. Lang, K. A. Forney, J. Baker, B. Hanson, K. Martien, M. M. Muto, A. J. Orr, H. Huber, M. S. Lowry, J. Barlow, D. Lynch, L. Carswell, R. L. Brownell Jr., and D. K. Mattila. 2014. U.S. Pacific Marine Mammal Stock Assessments: 2013. 414 pages.

whether a cap has been reached or exceeded. If the hard cap on any species is reached or exceeded, the DGN fishery would be closed for the remainder of the fishing season.

Alternative 4: A Federal requirement to establish hard caps for HPPS and marine mammal species with an annual fishery M&SI of greater than or equal to 10 percent of PBR. In addition, a hard cap is set for short-fin pilot whale. This stock is not ESA-listed and the fishery M&SI is below 10 percent of PBR. However, its PBR of 4.6 animals is low. Marine mammals where annual fishery M&SI (from all fisheries) exceeds 10 percent of PBR were identified based on information provided in Appendix 3 to the 2013 Pacific Marine Mammal Stock Assessment Report. Fishery M&SI takes into account the effect of all fisheries, not just the DGN fishery.

Hard cap values for ESA-listed species are based on the expected amount of take of individuals shown in Table 12 in the 2013 DGN fishery BO. However, the hard caps for fin whale, olive ridley sea turtle, and green turtle are set above the estimated one-year take in the ITS, recognizing that these species are infrequently encountered in the DGN fishery so expected take is less likely to trigger a jeopardy determination. For non-ESA listed marine mammals, PBR is used for the hard cap values.⁶

M&SI to protected species are counted towards the hard cap. The cap numbers are expressed in Table 1 as estimated total M&SI. If fishery monitoring is below 100 percent then observed M&SI would be expanded based on the level of monitoring to estimate total take to determine whether a cap has been reached or exceeded. If the hard cap on any species is reached or exceeded under this alternative, the DGN fishery would be closed for the remainder of the fishing season. Under the two-year sub-option below, the fishery would remain closed until the two-year average catch of all HPPS is less than the two-year hard cap value.

There are two sub-options:

Alternative 4 Sub-option 1: annual hard caps based on each fishing season. These would be assessed based on total estimated M&SI beginning May 1 each year.

Alternative 4 Sub-option 2: two-year hard caps. The two-year caps are the average of estimated M&SI over the biennial management cycle or two consecutive fishing seasons.

Alternative 5: A Federal requirement to establish hard caps for the same HPPS as in Alternative 4. Observed entanglement of a protected species, rather than estimated M&SI, would count towards a hard cap. Entanglement is defined under this alternative as an animal captured in any part of the DGN gear, regardless of its condition.

The hard caps under this alternative are calculated based on 30 percent observer coverage, which is the NMFS DGN Observer Program target coverage level. The cap numbers are derived by applying a ratio of 0.3 to the cap numbers under Alternative 4 and rounding up the fractional results. These caps would not change if observer coverage levels differed from 30 percent.

⁶ Carretta, J. V., E. Oleson, D. W. Weller, A. R. Lang, K. A. Forney, J. Baker, B. Hanson, K. Martien, M. M. Muto, A. J. Orr, H. Huber, M. S. Lowry, J. Barlow, D. Lynch, L. Carswell, R. L. Brownell Jr., and D. K. Mattila. 2014. U.S. Pacific Marine Mammal Stock Assessments: 2013. 414 pages.

While the hard cap values under this alternative are calculated based on an expected 30 percent observer coverage level, this alternative does not require NMFS to maintain 30 percent observer coverage, nor does it contain provisions for years when actual observer coverage is less than 30 percent. NMFS increased its target DGN observer coverage level from 20 percent to 30 percent in 2013 to implement a recommendation of the National Bycatch Report⁷ and expects to maintain this target for the foreseeable future. If the hard cap on any species is reached or exceeded under this alternative, the DGN fishery would be closed for the remainder of the fishing season. Under the two-year sub-option below, the fishery would remain closed until the two-year average catch of all HPPS is less than the two-year hard cap value.

There are two sub-options:

Alternative 5 Sub-option 1: annual hard caps based on each fishing season. These would be assessed based on total observed entanglement beginning May 1 each year.

Alternative 5 Sub-option 2: two-year hard caps. The two-year caps are the average of observed entanglements over the biennial management cycle or two consecutive fishing seasons. Table 9 shows the hard cap values for this alternative.

Alternative 6 (Preferred Alternative): A Federal requirement to establish two-year hard caps on observed mortality/injury for the same HPPS as in Alternatives 4 and 5. The two-year caps are aligned with a rolling two-year window. The rolling window would always consider observed mortality/injury during the previous fishing season along with the current fishing season to determine whether a two-year hard cap has been met or exceeded, and whether the DGN fishery is closed. If closed, the fishery would remain closed until the two-year average catch of all HPPS is less than the two-year hard cap value.

An economic analysis of the expected effects of each selected alternative relative to the No Action Alternative

The focus of the RIR is on the incremental changes in net economic benefits or any economic impacts expected from the proposed alternatives relative to the status quo or no action alternative. The DGN fishery is expected to be affected by the proposed action.

Under the No Action Alternative, the DGN fishery would operate as status quo. Hard caps would not be established for HPPS, and fishing practices and catch rates would be expected to remain the same as past performance. In the absence of hard caps, expected ex-vessel fishing revenues would be \$1,779,241, with \$559,033 in total variable profits. Participation and effort would likely reflect current trends. Given the current scale of the fishing revenue for the DGN fleet, any benefits from DGN fishing might be jeopardized by the potential risks of direct financial penalties or litigation costs in compliance with the provisions in the ESA or MMPA. Under the “No Action” alternative, the direct value of fishery may be reduced by potential costs associated with these risks.

⁷ National Marine Fisheries Service. 2011. U.S. National Bycatch Report [W. A. Karp, L. L. Desfosse, S. G. Brooke, Editors]. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/SPO-117E, 508 p.

Alternative Actions 1 through 4 would implement hard caps based on M&SI of protected species. Among Alternatives 1 through 6, Alternatives 1 and 3 would have the least amount of impact to the DGN fleet, both in terms of effort and economic loss (see Table 2). Similarly, Alternatives 2 and 4 would have less deleterious effects on the fleet when compared to Alternatives 5 and 6. However, in analyzing these alternatives, the Council’s Highly Migratory Species Management Team (HMSMT) identified a number of concerns regarding the feasibility of implementation, which would result in considerable costs to the agency and the public. The current M&SI determination process is a multi-step process that requires coordination between the Regional Office, NMFS Science Center Staff, and a NMFS Scientific Review Group and takes multiple months to complete. The final assessment occurs at the end of the calendar year, and is therefore not responsive enough to inseason interactions with protected species. The HMSMT⁸ determined that implementing Alternatives 1 through 4 would require that NMFS develop a new methodology for M&SI assessments, which would be costly and delay implementation of the proposed action. Additionally, observer coverage levels vary between and within fishing seasons, and many DGN vessels participate in multiple fisheries. These factors make it difficult to determine the coverage rate at the time an interaction occurs, thus influencing the hard cap limits. Therefore, Alternative 6 would produce an outcome similar to Alternatives 1 through 4 (i.e., conservation of HPPS) and would require less time to implement.

Under both sub-options of Alternative 5, observed entanglement of a protected species would count towards a hard cap. While no implementation issues exist, these alternatives would have a severe adverse impact to the fleet (see Table 2). The fishery would expect to close with greater frequency under Alternative 5 than the other alternatives, resulting in an \$859,194 loss in ex-vessel revenue under sub-option 1 and a \$527,810 loss under sub-option 2 when compared to the No Action Alternative. By comparison, Alternative 6 only results in a \$273,239 revenue loss against the No Action Alternative (see Table 2).

Due to the implementation issues associated with Alternatives 1-4 and the adverse economic impacts associated with Alternative 5 sub-options 1 and 2, Alternative 6 was chosen as the preferred alternative.

Table 2. Bootstrap mean results for two-year hard caps alternatives using post-2000 data.

Bootstrap Mean Results for Hard Caps Alternatives vs. No Action Alternative Using Post-2000 Data								
	No Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5 Sub-option 1	Alternative 5 Sub-option 2	Alternative 6
Sets	1,210	-44	-60	-44	-66	-551	-346	-180
Total Revenue	\$1,779,241	(\$73,158)	(\$97,575)	(\$73,158)	(\$108,286)	(\$859,194)	(\$527,810)	(\$273,239)
Total Variable Profits	\$559,033	(\$29,362)	(\$37,871)	(\$29,362)	(\$42,201)	(\$303,998)	(\$178,998)	(\$91,913)
Average Variable Profits	\$27,952	(\$1,468)	(\$1,894)	(\$1,468)	(\$2,110)	(\$15,200)	(\$8,950)	(\$4,596)
Landings	286.1	-11.1	-15.0	-11.1	-16.7	-136.0	-83.9	-43.4

As stated above, NMFS conducted further analyses following the public comment period for the proposed rule to assess DGN participants’ degree of dependence on the DGN fishery versus other fisheries and to determine which other fisheries they could participate in to offset losses during a DGN closure. To gauge dependence on DGN fishing, PacFIN landings data were

⁸ Pacific Fishery Management Council. March 2015. Highly Migratory Species Management Team Report on Proposed California Drift Gillnet Fishery Management and Monitoring Plan Including Management Alternatives. [Agenda Item H.4.b.](#)

analyzed for the twenty vessels most likely to be impacted by the proposed action. These vessels made DGN landings between 2012 and 2015, and most fished DGN every year during that time period. Landings from 2011 were not considered because PacFIN data show that although several vessels fished in 2011, they have not fished since. Landings from 2016 were not considered because PacFIN data was not complete when the vessel list was generated.

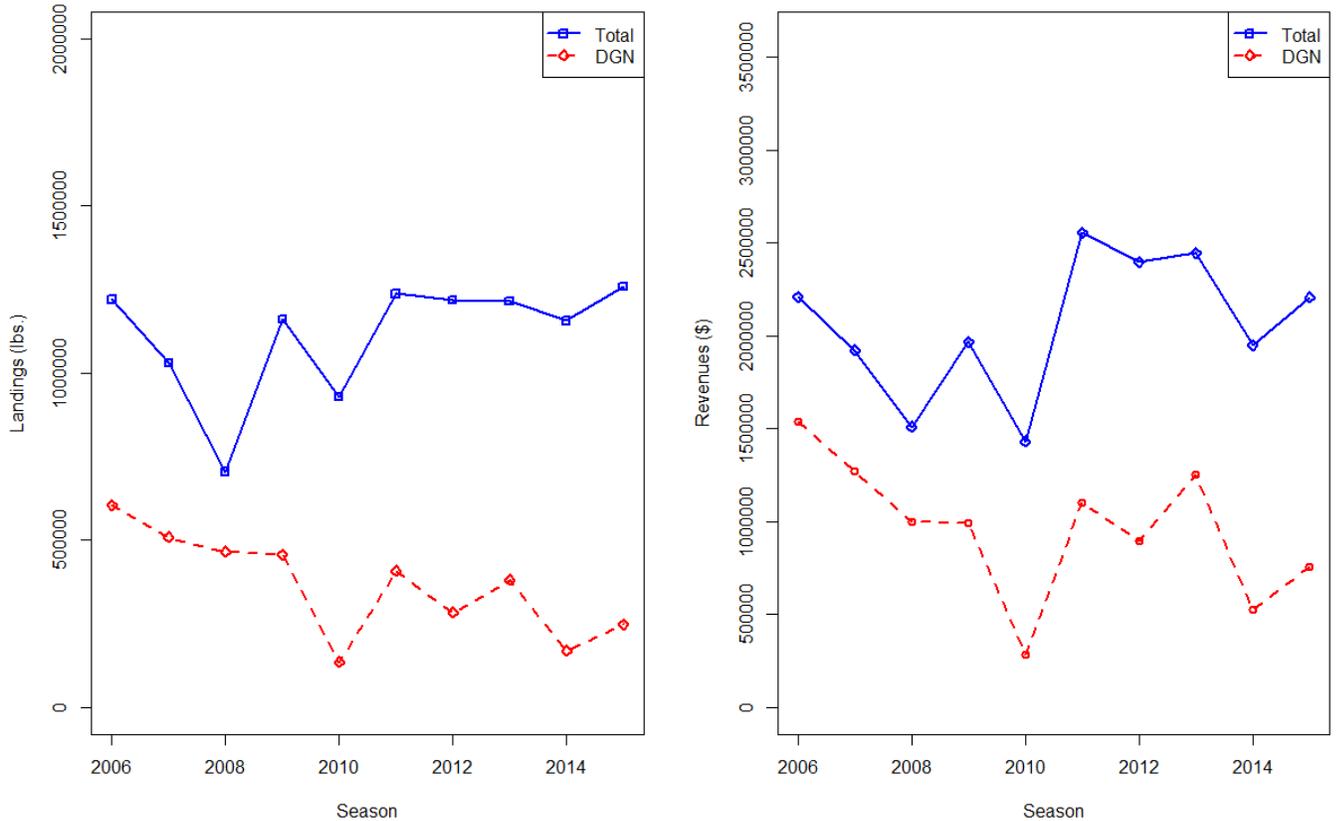


Figure 2: Fleet output by season.

Figure 2 displays total output over recent seasons for the current DGN fleet measured by pounds of landings (left panel) and dollar revenues (right panel). Total production, defined as landings or revenues due to all methods of fishing, including DGN plus catch from other methods such as albacore hook and line, set gillnet, crab pot, etc., is represented with blue solid lines and square markers; DGN-specific production is shown with red dashed lines and diamond markers. Though DGN output represents a significant fraction of the total in each year, it has constituted less than fifty percent of output in most years, both by weight and dollar value. For the overall fleet, other fishing methods besides DGN contributed a share of vessel production.

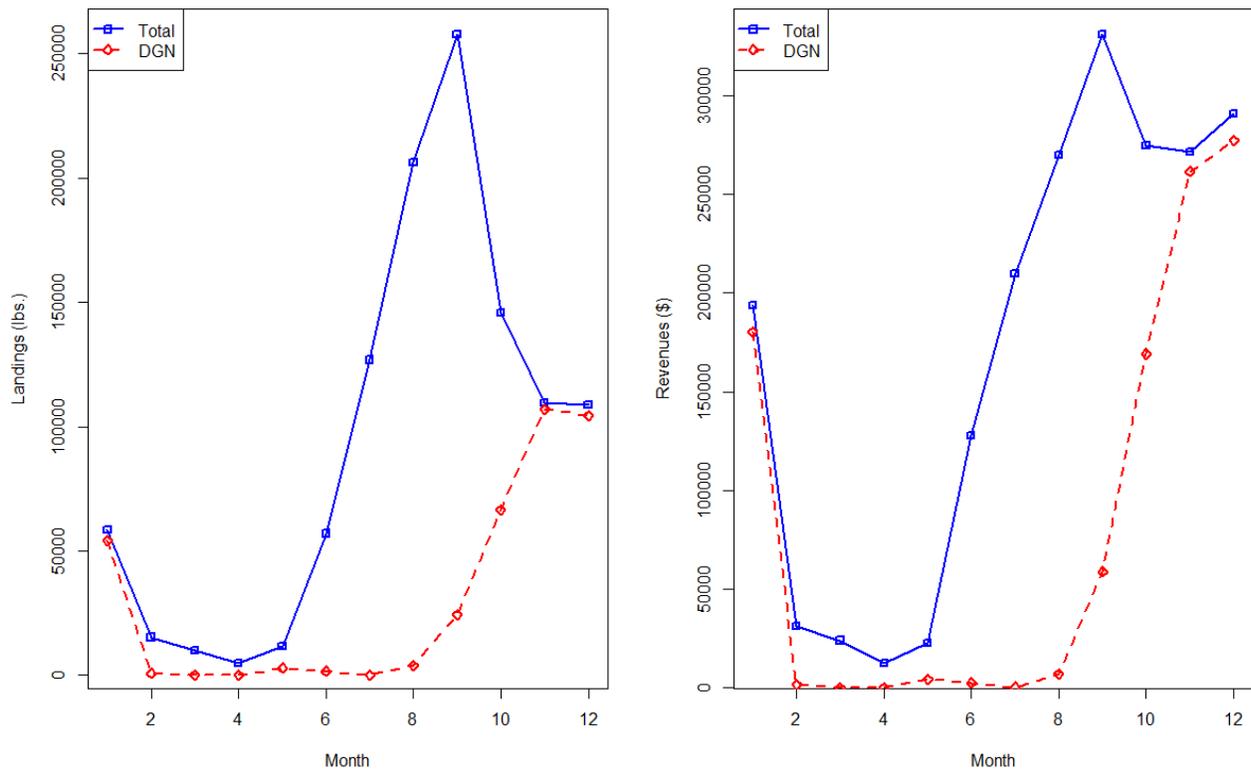


Figure 3: Average monthly fleet output, 2006-2015.

Figure 3 documents average monthly output for the current DGN fleet over the 2006-2015 period, again measured in terms of pounds of landings (left panel) and dollar revenues (right panel).

Total production from all fisheries in which the DGN fleet participates (blue solid lines) is very limited from February through May, when spatial closures prohibit DGN fishing and swordfish availability is low within the U.S. EEZ. Production steadily increases over the June through September period, reaching peak volume of landings and revenues in September. While production tapers off over the October through January period, it remains relatively high over these months compared to the off-season, particularly when measured in terms of revenues (right panel). DGN-specific production (red dashed lines) follows a similar pattern when the swordfish fishing season opens in August. DGN production generally increases over the September through December period, with the highest levels occurring in November through December.

While the open-access albacore hook and line fishery (for which seventeen of the twenty analyzed DGN vessels hold gear endorsements) is important to DGN participants from June through September, DGN accounts for nearly 100 percent of the share of total landings and revenues over the November through January period. These months are particularly important in terms of revenues (right panel) for the DGN fleet. While other fisheries are seasonally available during the late part of the season, the high DGN share of output reveals a preference for DGN

fishing during the end of the season. The high dependence on DGN during the last three months of the season and the relatively higher value of landings during this period demonstrates the value of the DGN fishing opportunity that would be lost in the event of a closure, particularly during the November through January period.

The alternatives may result in a direct minor beneficial effect to target and non-target fish species and protected species during fishing seasons when a hard cap is met or exceeded. The DGN fishery would close, making certain that no more individuals of these species would be caught with DGN gear for the remainder of the closure period. These effects are expected to occur once during fifteen future fishing seasons under the preferred alternative based on historic data, and assuming catch rates remain the same as in the past. The fishery may close less often than this since fewer sets are now observed than in the past to achieve 30 percent observer coverage. The amount of the beneficial effect would depend on when during the fishing season a hard cap is met or exceeded. A hard cap met or exceeded early in a fishing season would have a greater beneficial effect to the species than if a hard cap were met or exceeded late in a fishing season.

Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any federal action involves the expenditure of public and private resources that can be expressed as costs associated with the regulation. However, there are no direct costs associated with this action, such as communications materials, public outreach, and additional law enforcement. The costs associated with 30 percent observer coverage expected under the preferred alternative are within NMFS' allocated annual budgetary provision. Costs to manage the fishery would likely increase under the proposed action given the potential need for additional temporary fishery closures. Any such closures would likely precipitate revenue losses to otherwise participating vessel owners and operators. Should fishermen decide not to renew their permits based on extended fishery closures or uncertainty over fishing opportunities or both, the California Department of Fish and Wildlife would collect fewer permit fees. Any research costs for stock assessments to determine, monitor, and update biological reference points would also be incurred under the status quo in an effort to attain the best scientific information available, and to make that information available for making management decisions.

RIR-Determination of Significant Impact

As mentioned above, the RIR is designed to determine whether the proposed action could be considered a significant regulatory action according to EO 12866. Because NMFS is making a negative determination on the Council's proposed regulations, and will withdraw the proposed rule, none of the EO 12866 test requirements for significant regulatory actions are triggered. This decision will not have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities. Taking into account other federal authorities to manage populations of marine mammals and endangered or threatened species (e.g., MMPA and ESA), making a negative determination on the Council's proposed regulations does not create a serious inconsistency or otherwise interfere with actions taken or planned by other agencies or under other authorities. Lastly, NMFS' decision to not take action will not materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof

or raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the EO.

REGULATORY FLEXIBILITY ANALYSIS

Under the RFA, the term small entities includes small businesses, small organizations, and small governmental jurisdictions.

Small businesses. The United States Small Business Administration (SBA) defines a “small business” (or “small entities”) as one with annual revenue that meets or is below an established size standard. On December 29, 2015, NMFS issued a final rule establishing a small business size standard of \$11 million in annual gross receipts for all businesses primarily engaged in the commercial fishing industry (NAICS 11411) for Regulatory Flexibility Act (RFA) compliance purposes only (80 FR 81194, December 29, 2015). The \$11 million standard became effective on July 1, 2016, and is to be used in place of the U.S. SBA current standards of \$20.5 million, \$5.5 million, and \$7.5 million for the finfish (NAICS 114111), shellfish (NAICS 114112), and other marine fishing (NAICS 114119) sectors of the U.S. commercial fishing industry in all NMFS rules subject to the RFA after July 1, 2016. Id. at 81194.

Small organizations. The RFA defines small organizations as any nonprofit enterprise that is independently owned and operated and is not dominant in its field.

Small governmental jurisdictions. The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of less than 50,000.

Description and estimate of the number of small entities to which the rule applies.

There are currently 73 individual permit holders with valid California Department of Fish and Wildlife permits⁹; however, many permits remain inactive. On average, 20 vessels participated in the fishery each year from 2010 through 2015. In 2015, 19 vessels participated in the fishery with total landings equaling 141 mt (round weight), about 7.4 mt on average per vessel. Total landings included 31 mt of common thresher shark, 7 mt of shortfin mako shark, 97 mt of swordfish, and 6 mt of tunas.¹¹

Under the action alternatives, when a hard cap limit is met or exceeded, the entire fishery would close for a specified amount of time; therefore, all participants in the fishery are subject to the proposed action. As conveyed above, all participants in the fishery are considered small

⁹ As of Monday, August 22, 2016, 66 DGN permits have been renewed. An additional seven permit holders have until May 31st, 2017.

¹⁰ California Department of Fish and Wildlife, personal communication, August 25, 2016.

¹¹ Pacific Fishery Management Council. 2016. HMS SAFE Report. [Table 12: Number of vessels and commercial landings \(round mt\) in the West Coast drift gillnet fishery, 1990-2015.](#)

businesses since average annual per vessel revenues persist well below the \$11 million threshold (see Figure 1).

Estimate of economic impacts on small entities, by entity size and industry.

In all alternatives, the economic performance of the fishery declines compared to the No Action Alternative (as shown in Table 1), while impacts on capped species in terms of average M&SI decrease with the adoption of hard caps. This is due to both the direct effect of shutting down the fishery once a cap is reached and to the indirect effect of less allowable fishing effort.

Compared to the No Action Alternative, Alternative 6 (the proposed regulatory action) would result in an estimated reduction of 180 sets and 43 mt in fewer landings, resulting in a \$273,239 loss in total revenue and \$91,913 loss in total variable profits (or a \$4,596 loss per vessel based on a DGN fleet size of 20) (see Table 2 in the RIR). However, DGN effort is variable over the course of a fishing season. Vessels may choose to fish for salmon, albacore, and other marketable species based on abundance and environmental conditions, which may mitigate the anticipated economic losses. The imposition of hard caps may also lead to more cautious fishing practices or innovations, thus reducing the number of protected species interactions. If vessel operators are successful in reducing the frequency of hard cap species catch in the future, the DGN fishery would close less often. However, given the many existing regulatory measures to reduce protected species interactions in the DGN fishery to minimal levels, the degree to which further take reductions can be realized through fishermen's deliberate effort to avoid reaching caps cannot be determined.

Given the assumption that fishermen will continue to participate in the DGN fishery following closure periods, potential adverse economic effects appear to be limited over the long-term except for in the case of Alternative 5, which is expected to result in a large loss of allowable fishing effort, total revenues, total and average variable profits, and market species landings, due to more frequent shutdown of the fishery if caps are administered based on all entanglements (i.e., Alternative 5) rather than counts of mortalities plus injuries (i.e., Alternatives 1 through 4 and 6).

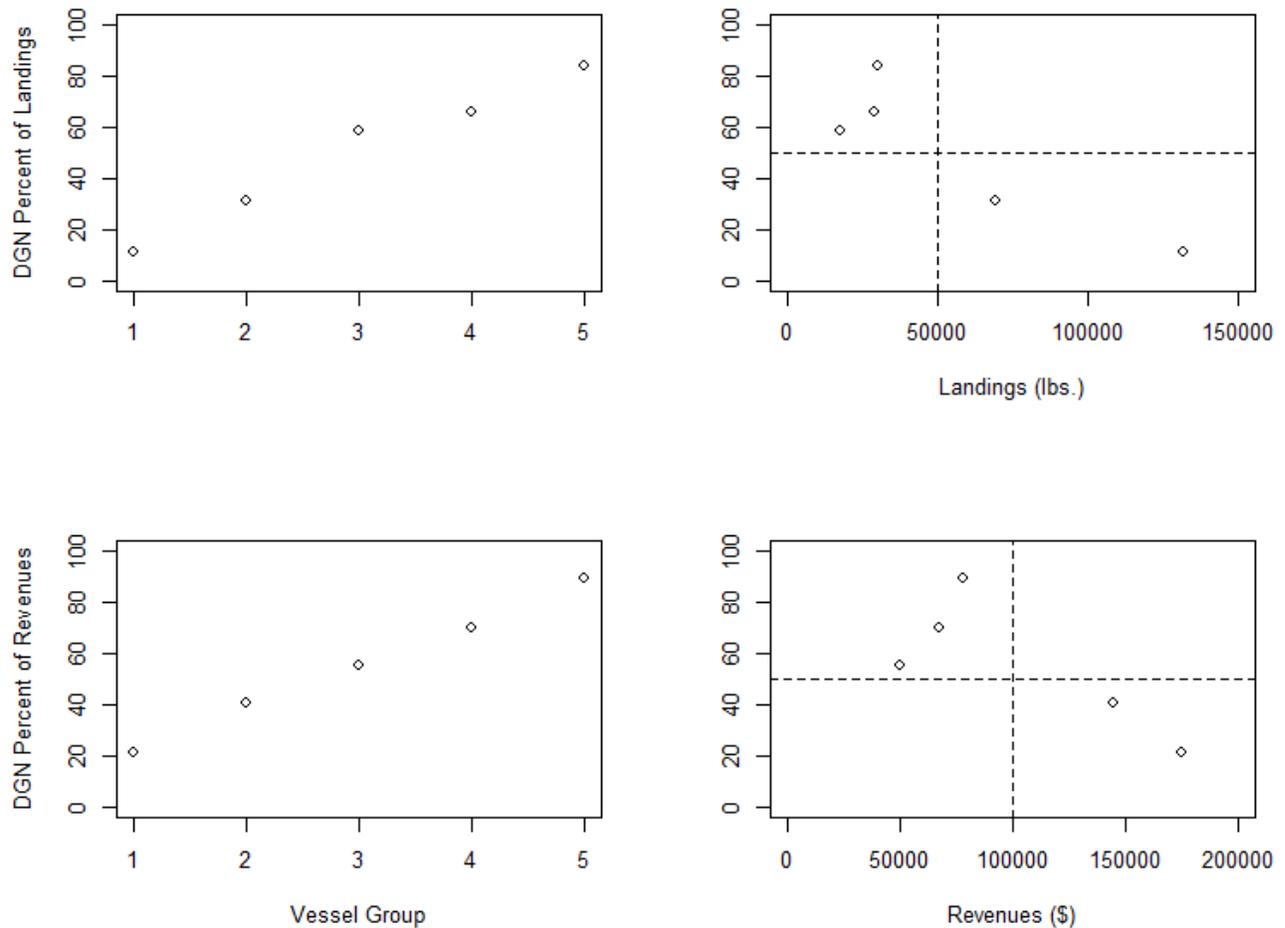


Figure 4: Vessel dependency on DGN output.

In response to significant issues raised in comments received on the initial RIR and IRFA (described above), NMFS conducted further economic analysis of the short-term effects of fishery closures. To consider active DGN participants' ability to offset the economic harm of a DGN closure when a hard cap is reached, an analysis was conducted to measure current participants' dependency on DGN fishing. Five groups of four vessels each were created,¹² ranked by increasing DGN revenues as a percent of total vessel revenues over the 2006-2015 seasons. Figure 4 documents dependency on DGN output measured by landings (top panels) and revenues (bottom panels) across the five vessel groups.

The left panels show the percentages of output contributed by DGN fishing activity ranked from lowest (left) to highest (right). By both measures of output, the dependence on DGN fishing

¹² Due to MSA confidentiality requirements to disclose information for no fewer than three individual vessels, vessels were ranked by increasing DGN revenues as a share of total revenues, and then broken out into five groups of four vessels each.

varies nearly uniformly across the fleet from levels averaging near twenty percent for the lowest dependency group all the way up to near one hundred percent for the highest dependency group. This suggests that the short-term negative impacts of a regulatory closure on current DGN participants would range from low, for those with less dependence on DGN fishing compared to all fishing, to high, for those with a higher degree of DGN dependence. More than half of the DGN fleet relies on the DGN fishery for over 50 percent of their annual revenue.

The right panels again show percentages of output contributed by DGN fishing on the vertical scale, but the horizontal scales show average annual landings (top right) and revenues (bottom right) within the vessel groups over the 2006 through 2015 fishing seasons. The top right panel documents that two groups of high-producing vessels have less than fifty percent dependency on DGN landings. The remainder of the fleet averaged less than 50,000 pounds of landings from 2006 through 2015. This group was far more dependent on DGN landings, with dependency over 50 percent. A similar picture emerges in terms of revenues (lower right panel), but with a greater average dependence on DGN fishing for the two groups of high-producing vessels. For example, the vessel group with the highest annual landings and revenue relies on the DGN fishery for approximately 15 percent of its landings and 20 percent of its revenue.

Given recent participation in non-DGN fishing, there is reason to expect at least some increased participation in other fisheries if a DGN closure went into effect. To offset lost opportunity during a closure period, DGN fishermen would need to possess or obtain permits for another fishery to participate in that fishery. Fishermen may incur significant costs when purchasing an additional permit, especially if that permit allows participation in a limited entry fishery. For example, publicly-sold limited entry California Dungeness crab, California lobster, and groundfish longline permits cost from \$100,000 to over \$200,000 each, depending on vessel size. Additionally, the cost of purchasing fishing gear for an additional fishery may also be significant.

Review of state and federal fishing permits already held by those individuals most likely to be affected by a DGN closure shows limited opportunity to offset economic losses, especially during November through January, when the majority of DGN landings occur. The limited entry Dungeness crab trap and lobster fisheries are high value fisheries that operate during this period; however, of the twenty individuals who recently participated in the DGN fishery, only one holds a Dungeness crab permit and none hold lobster permits. Further, none of the individuals possess a federal limited entry groundfish or coastal pelagic species permit, and none is endorsed for the federal HMS longline fishery.

All DGN participants possess California general gillnet permits that allow them to fish with set gillnet and small-mesh drift gillnet gear. These fisheries target white seabass, yellowtail and barracuda primarily during summer months, offering little opportunity for DGN participants to offset economic losses from November through January in the event of a DGN closure. The set gillnet fishery targets California halibut year-round, offering some economic opportunity during November through January in the event of a DGN closure.

The swordfish harpoon fishery also operates during the summer and offers little opportunity to offset economic losses due to a DGN closure. Sixteen of the twenty DGN vessels also hold federal HMS permits endorsed for harpoon fishing. Seventeen of the DGN participants also hold HMS permits endorsed for albacore hook and line fishing, and much of the DGN fleet participates in this fishery. The albacore fishery operates primarily from June through

September, based on albacore availability off the U.S. West Coast, but does not operate during the period of peak DGN landings (i.e., November through January). Eight DGN participants hold salmon fishing permits; however this fishery also offers little alternative economic opportunity during peak DGN fishing months since the traditional California salmon fishing season is May 1 through September 30.

DGN participants hold a variety of permits for other California fisheries, including commercial trap, rock crab trap, various trawl fisheries, herring gillnet, deeper nearshore rockfish, squid light boat, and sea urchin diving. However, these permits are not widespread among DGN participants. Three or less DGN participants hold any one of these permits. Most of these permits are held by no more than one individual.

Given that the majority of the DGN fleet relies on the fishery for over 50 percent of their annual revenue, DGN participants would experience significant adverse short-term economic effects in the case of a DGN fishery closure. Once a hard cap is reached, a closure could either last for the remainder of a single fishing season or extend through the end of the following fishing season. Although DGN participants may be able to offset a portion of their economic losses by engaging in other fisheries, a review of all fishing permits held by DGN participants and the seasonal operation of those fisheries indicates that their ability to offset losses of a DGN fishery closure is minimal.

Reporting and recordkeeping requirements.

This proposed rule does not contain new collection-of-information requirements.

Relevant Federal rules that may duplicate, overlap, or conflict with the proposed action.

The DGN fishery is currently managed under applicable laws including MSA, ESA, and MMPA. All current time and area restrictions will continue to apply under the No Action Alternative. NMFS strives to ensure consistency among the regulations, and NMFS' decision to not take action does not conflict with any other statutes or regulations, Federal or otherwise.

A description of any significant alternatives to the proposed rule that accomplish the stated objectives of applicable statutes and that minimize any significant economic impact of the proposed rule on small entities

Several other alternatives were considered for the proposed action. Descriptions of each of the alternatives are included in the RIR above, and reasons why other action alternatives were rejected are provided below.

Alternatives 1 through 4 presented significant challenges to implementation. Although Alternatives 1 through 4 vary in the list of included marine mammals and sea turtles for which hard caps are specified, the evaluation of the fishery against hard caps in each of these Alternatives is based on an estimated M&SI assessment derived from observer coverage levels. The current NMFS process under the MMPA for making M&SI determinations is an extensive and multi-step process that takes months to complete and occurs at the end of each calendar year. It was deemed that this process, therefore, would not be responsive enough to inseason interactions with protected species. NMFS would have to create an expedited M&SI assessment

process to make a more timely determination, which would have further delayed this action. Additionally, observer coverage rates for the DGN fishery vary between and within fishing seasons. This makes it difficult to determine the coverage rate at the time an interaction occurs, thus influencing the hard cap limits. Similarly, using a generalized observer coverage rate is problematic because DGN vessels often participate in multiple fisheries based on environmental factors and the presence of different species. This adds to the variance in observer coverage levels over the course of a fishing season. Lastly, because fishing effort has been low compared to historical levels, a small change in observed fishing effort can have a potentially big effect on the observer coverage rate if unobserved effort does not change commensurately.

In response to the identified implementation issues, the California Department of Fish and Wildlife proposed Alternative 5 with two sub-Alternatives. Based on Alternative 5 sub-option 1, the DGN fishery would be expected to meet or exceed a hard cap seven out of thirteen fishing seasons, using historical observations (there is, however, less fishing effort in recent years, so the fishery would be expected to close fewer than seven times under this Alternative). Using Alternative 5 sub-option 2, the fishery would be expected to close in 14.6 percent of simulated seasons, with the possibility of closing for more than one full fishing season. The economic analysis shows that Alternative 5 would not be conducive to supporting an economically viable swordfish fishery.

The no action alternative is the least cost alternative. Due to implementation issues identified with Alternatives 1 through 4, and the large decreases in effort, landings, revenue, and profits associated with Alternatives 5a and 5b, Alternative 6 was originally chosen as the preferred alternative. Alternative 6 was considered the least cost action alternative of those that did not present significant implementation issues. Following additional analysis, all of the action alternatives were determined to produce significant adverse short-term economic effects to the DGN fleet, which could lead to significant long-term economic effects that threaten the viability of the fishery if participants must seek alternative employment options during closure periods and do not return to the fishery after closure periods. The No Action Alternative is the only alternative that does not pose significant economic impacts to a substantial number of small entities.

RFA-Determination of a Significant Impact

The RFA requires Federal agencies to conduct a full RFA analysis unless the agency can certify that the proposed and/or final rule would not have a significant economic impact on a substantial number of small entities. This determination can be made at either the proposed or final rule stage. If the agency can certify, it need not prepare an IRFA, a FRFA, or a Small Entity Compliance Guide or undertake a subsequent periodic review of such rules. The NMFS Guidelines for Economic Analysis of Fishery Management Actions suggest two criteria to consider in determining the significance of regulatory impacts, namely, disproportionality and profitability. These criteria relate to the basic purpose of the RFA, i.e., to consider the effect of regulations on small businesses and other small entities, recognizing that regulations are frequently unable to provide short-term cash reserves to finance operations through several months or years until their positive effects start paying off. If either criterion is met for a substantial number of small entities, then the rule should not be certified for not having an effect

on small entities. These criterion raise two questions: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities? Do the regulations significantly reduce profit for a substantial number of small entities?

As stated above, this final regulatory flexibility analysis was developed for this action using a small business size standard of \$11 million in annual gross receipts for all businesses primarily engaged in the commercial fishing industry (NAICS 11411) for Regulatory Flexibility Act (RFA) compliance purposes only (80 FR 81194, December 29, 2015). An estimated 66 entities are potentially impacted by this rule; however, only 20 vessels, on average, have been active from 2010 through 2015. All of these entities are considered small businesses according to the guidelines stated above. The action alternatives are anticipated to have a substantial or significant economic impact on small entities, but do not place small entities at a disadvantage to large entities.

CONCLUSION

NMFS considered the action alternatives described above for the purpose of further conserving non-target species, including incidental take of ESA-listed species and marine mammals, in the DGN fishery below levels currently permitted by applicable law. Since additional analysis indicated that taking action as proposed would threaten the economic viability of the DGN fishery while providing minor environmental benefits, the agency decided to make a negative determination on the Council's proposed regulations and to withdraw the proposed rule in favor of the No Action Alternative described above. There are implementation issues with Alternatives 1 through 4 and more severe adverse long-term economic impacts associated with Alternatives 5a and 5b. Therefore, Alternative 6 was originally proposed as the least-cost alternative of the action alternatives that could be implemented in a timely manner and without significant additional costs to manage the fishery, despite an expectation that long-term landings, revenue, and variable profits would decrease under Alternative 6. Upon further analysis, NMFS expects significant short-term economic impacts to the small entities that participate in the fishery due to fishery closures for a prescribed period of time (1-2 fishing seasons depending on the level of observed M&SI) to result from implementing Alternative 6 (i.e., the originally proposed action), or any of the other action alternatives considered. If participants are not able to mitigate the significant short-term costs expected during closure periods and must seek alternative employment options or both, the significant short-term costs could lead to more significant long-term costs to the affected small entities. Because implementing any of the action alternatives is expected to result in significant costs to a substantial number of small entities and because no other alternatives have been analyzed at this time that would achieve the purpose of the proposed regulations, NMFS decided not to take further action (i.e., has selected the No Action Alternative). Given that the expected beneficial effects of the action alternatives are minor and the ability for DGN vessels to participate in multiple fisheries to help offset economic losses during fishery closures is minimal, NMFS has made a negative determination on the Council's proposed regulations.