

PACIFIC FISHERY MANAGEMENT COUNCIL STAFF REPORT ON SPECIAL PROJECT
1: ADAPTIVE MANAGEMENT AND FLEXIBILITY – NATIONWIDE REVIEW OF
IF-THEN STATEMENTS AND INSEASON MANAGEMENT ACTIONS

Executive Summary

Some Pacific Fishery Management Council (Council or PFMC) management decisions can take years from initial development to final adoption, leading to Council action timelines that lag behind changes in the marine environment and other unexpected events. This misalignment can increase ecological risks (e.g., overfishing or impacts on protected species) and lead to suboptimal or negative socioeconomic outcomes (e.g., lost fishing opportunities or the need for more constraining management measures).

To address this challenge, the Council is implementing Special Project 1, *Adaptive Management and Flexibility*, to identify innovations that make development, analysis, review, and implementation of Council actions more timely, efficient, and responsive to a changing ocean environment and other unexpected events.

In September 2025, the Council identified two framework mechanisms for further exploration: if-then statements and inseason management actions. The Council tasked its Advisory Bodies (ABs) with identifying opportunities in fishery management plans (FMPs) where expanded use of these mechanisms could help to increase the speed, agility, and flexibility of Council decision-making without the need for a Council meeting. In April 2026, the Council further directed staff to conduct a review of if-then statements and inseason actions, including those used in other U.S. regions, and explore the expanded use of these tools with Council ABs, prioritizing the Groundfish and Highly Migratory Species (HMS) FMPs and excluding the Salmon FMP.

In response to the request for a nationwide review of if-then statements and inseason actions, Council staff developed a typology and documented key examples. The six general types of if-then fishery management statements include: A) harvest control rules; B) hard fishing stops; C) graduated response ladders; D) future-year corrections; E) environmental or oceanographic triggers; and F) permit-focused actions. All inseason examples identified in the review involved catch rates relative to catch limits but could trigger different responses, including changes to retention limits, fishing days or seasons, spatial measures, quota transfers, or combinations of these and other actions.

Recent Council Guidance

In September 2025, the Council directed staff to develop execution plans for if-then statements and inseason management actions for FMPs where appropriate, with a focus on allowing action to be taken outside of a Council meeting. At its April 2026 meeting, as part of a motion identifying priority actions under Special Project 1, the Council requested that staff review existing if-then statements used in National Marine Fisheries Service (NMFS) regulations and the Council process,

including examples from other U.S. regions. The Council also tasked ABs with identifying opportunities to develop new if-then statements, inseason actions, or both, with an initial focus on the Groundfish and HMS FMPs and excluding the Salmon FMP. Finally, the Council tasked ABs with investigating how if-then statements could support faster responses to changing environmental conditions, as [recommended by the Habitat Committee](#). This report responds to the Council’s request for a broad review of if-then statements.

Background and Definitions

Because management decisions in the Council process often unfold over years, Council actions can lag behind changes in the marine environment and other unexpected events. A multiyear decision timeline may be suitable for a complex regulatory amendment but is poorly aligned with rapidly changing ocean conditions or unexpected events. This misalignment can result in ecological risks (e.g., overfishing or impacts on protected species) and suboptimal or negative socioeconomic outcomes (e.g., lost fishing opportunities or the need for more constraining management measures). These potential harms may be mitigated or avoided through framework mechanisms that accelerate decision making or establish pre-analyzed flexibility to allow timely and adaptive responses without reopening the full Council process.

NMFS Operational Guidelines¹ describe “frameworking” as “establishing in an FMP/amendment or regulations a mechanism for implementing recurrent, routine, or foreseeable actions in an expedited manner.” Regional councils have recommended and NMFS has implemented various framework mechanisms, including if-then statements and inseason actions, to meet different fishery management needs.

- If-then statements predefine specific actions that will be taken when certain conditions are met. They consist of predetermined, generalized responses (and the thresholds that trigger them) to different scenarios, where analysis and review of those responses are completed in advance. As such, if-then statements are designed to anticipate a range of potential scenarios and allow for much faster management responses – usually without a Council meeting or a regulatory change. They are often codified in regulation, allowing for an “automatic” management response in the event certain conditions are met.
- Inseason actions are management changes made while a fishing season is already in progress to respond quickly to new data or emerging conditions.

These mechanisms can overlap because if-then statements may trigger inseason actions. The section below on if-then types and examples includes several cases where if-then statements can be implemented inseason. The inseason actions section of the report focuses on examples where the authority to act has been established but no highly specific (often quantitative) trigger is identified, allowing for discretionary action.

¹ National Marine Fisheries Service. (2017). [Operational guidelines for the Magnuson-Stevens Fishery Conservation and Management Act fishery management process \(Procedure 01-101-03\)](#). National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

“If-Shall” Statements and “If-May” Statements

To help provide the Council with a broad range of if-then statement examples that could increase the speed, agility, and flexibility of Council action, staff identified two classes of if-then statements: “if-shall” statements and “if-may” statements.

- If-shall statements: A mandatory action occurs when specified conditions are met. This structure provides the greatest speed and predictability because the trigger and response are predetermined. It requires a clear relationship between the trigger, response, and management goal(s). The trigger must appropriately indicate when action is needed, and the response must achieve the management objective(s).
- If-may statements: The authority for action is established, but action is discretionary, often by the NMFS Regional Administrator (RA). These statements can authorize a specific action or provide a range of potential actions. They emphasize responsiveness, while allowing adaptability and flexibility to account for uncertainty or other considerations.

Research Approach

Research for this report identified a broad range of uses of if-then statements² and inseason actions. Council staff determined that a typology illustrated by at least one example of each type would best support the Council’s continued efforts to identify opportunities to apply these mechanisms for more responsive management. Staff developed an extensive list of examples but did not identify and document every individual example in use across U.S. regions, given the purpose and timeline for this work.

Staff conducted a brief literature review and online research, including review of FMPs and the electronic Code of Federal Regulations across regions. Staff then identified and cataloged initial examples of if-then statements and inseason actions across regions and developed a draft typology for each. Lastly, we held discussions with regional experts, including staff from other regional fishery management councils and NMFS, to better understand the context and use of the various examples and to refine the typology.

I. Overview: If-Then Statement Typology

Table 1 categorizes the types of if-then statements currently used in U.S. fisheries into six different types, with subtypes for several of the categories. The types are: A) harvest control rules; B) hard fishing stops; C) graduated response ladders; D) future-year corrections; E) environmental or oceanographic triggers; and F) permit-focused actions. The table provides a brief description of each type. Other, more customized examples exist, but they are less relevant to PFMC-managed fisheries and are not highlighted in this report.

² For if-then statements, Council staff documented examples with both a trigger/condition and an action/response, even if the statement was not explicitly structured using the exact words “if” and “then” and structured in that sequence.

Table 1: If-Then Statement Types

#	Type	Description
A	Harvest Control Rules	Predefined rules that describe how harvest is managed based on specified conditions.
B	Hard Fishing Stops	Reaching a predefined threshold results in some type of fishery closure.
C	Graduated Response Ladders	Crossing early thresholds triggers more restrictive management measures (e.g., possession limits) before a full closure.
D	Future-Year Corrections	Results from one season (e.g., underharvest or overharvest) trigger an action for a future season.
E	Environmental or Oceanographic Triggers	The trigger relates to specific environmental or oceanographic conditions (e.g., sea surface temperature [SST]).
F	Permit-Focused Actions	Focus on fishery access through fishing permits (e.g., issuance of new permits or review of thresholds related to a minimum number of permits).

For this typology, “automatic” refers to a statement or action that: 1) is triggered by specified conditions; 2) is required (i.e., regulations use words like “shall” or “will”); 3) requires only a determination that the conditions have been met (e.g., an RA’s determination); and 4) can typically be implemented within about a month.

If-Then Statement Types and Examples

A. Harvest Control Rules

Harvest control rules (HCRs) can function as if-then statements because they establish pre-agreed guidelines for managing harvest based on the status of a stock indicator. Free et al. (2023)³ synthesized the HCRs used to manage all 507 U.S. federally managed fish stocks and stock complexes and classified them into seven types.⁴ They also evaluated the advantages and disadvantages of each type for managing fisheries under climate change and provided recommendations for improving the resilience of U.S. fisheries.

³ Free, C. M., Mangin, T., Wiedenmann, J., Smith, C., McVeigh, H., & Gaines, S. D. (2023). [Harvest control rules used in US federal fisheries management and implications for climate resilience](#). *Fish and Fisheries*, 24, 248–262.

⁴ The seven types of HCRs identified by Free et al. include: (1) catch-based; (2) constant catch; (3) constant escapement; (4) constant F; (5) stepped F; (6) ramped F; and (7) both stepped and ramped F.

In addition to the PFMC, other regional fishery management councils use if-then statements to determine which HCR applies during the harvest specification process. These examples use tiered frameworks with multiple if-then statements accounting for different scenarios. A Council may predefine the type of HCR based on specified parameters. While these if-then statements can provide more predictability, they are used within a regional council's harvest specifications process and are not designed to trigger action outside that process.

The North Pacific Fishery Management Council (NPFMC) assigns certain groundfish and crab stocks to a tier based on the scientific information available for each stock. The assigned tier predetermines the formula for harvest limits, allowing more precaution when scientific uncertainty is high (see the [Bering Sea and Aleutian Islands \(BSAI\) Groundfish FMP](#), the [Gulf of Alaska Groundfish FMP](#), and [BSAI Crab FMP](#)). This provides the NPFMC with a predefined decision framework for the specifications process rather than requiring it to determine the appropriate approach every time.

The Mid-Atlantic Fishery Management Council (MAFMC) uses a *Percent Change Approach* for summer flounder, scup, and black sea bass to determine recreational harvest measures. They sought to account for stock biomass and uncertainty in recreational harvest data while providing more management stability. To accomplish this, the MAFMC created a decision matrix that considers two conditions (expected harvest and stock biomass) to determine a management response (liberalize, maintain, or reduce harvest) (see the [Interim Final Rule](#) for Framework Adjustment 19). The structured set of predefined if-then statements supports a more predictable specifications process and allows management measures to respond proportionally to biological risk while providing greater stability in recreational measures.

Table 2: Harvest Control Rule If-Then Statement Examples

Council	Species/Fishery	Class	If → Then (Summarized)	Auto-matic?	Citation(s)
NPFMC	Alaska groundfish	if-may	A stock qualifies for a tier based on the information available → catch limits are set by a formula specific to that tier	No	BSAI Groundfish FMP ; GoA Groundfish FMP
NPFMC	BSAI crab	if-may	A stock qualifies for a tier based on the information available → catch limits are set by a formula specific to that tier	No	BSAI Crab FMP
MAFMC	Summer flounder, scup, black sea bass	if-may	Expected harvest and stock biomass falls within one of the predefined decision categories in the Recreational Measures Setting table → apply the corresponding predetermined management response (liberalize, maintain, or reduce) by the percentage specified in the decision matrix	No	Interim final rule; Framework Adjustment 19

B. Hard Fishing Stops

The hard fishing stops type was the largest category of if-then statements identified in this research. Many are associated with annual catch limits (ACLs) and accountability measures (AMs), which are central requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (see MSA section 303(a)(15)). The National Standard 1 (NS1) guidelines (50 CFR 600.310(g)) identify inseason controls, such as fishery or area closures, as AMs to prevent ACLs from being exceeded and to correct or mitigate overages (addressed below in Section D). A hard stop generally follows a simple structure: if a specified threshold or condition is reached or projected to be reached, then fishing stops, either through a sector or a fishery closure, a spatial restriction, an individual-vessel fishing prohibition, or another measure.

The Gulf Fishery Management Council (Gulf Council) provides examples of target-species closures triggered by catch limits. For example, under 50 CFR 622.41, if commercial or recreational landings for several reef fish such as greater amberjack and gray triggerfish reach or are projected to reach the applicable annual catch target (ACT), NMFS closes the relevant sector (commercial or recreational) for the remainder of the fishing year. Other Gulf Council provisions extend the hard stop to the stock level, closing both commercial and recreational sectors when combined landings reach or are projected to reach a stock's ACL.

Atlantic HMS⁵ regulations provide an example of cascading measures. For North Atlantic swordfish, if the directed fishery quota is reached or projected to be reached, NMFS closes the directed fishery and implements incidental retention limits and other restrictions (e.g., 15 swordfish per trip for pelagic longline vessels, two swordfish per trip for handgear vessels, no retention for vessels with a Swordfish General Commercial open-access permit, etc.) (50 CFR 635.28(c)(1)). Thus, a single trigger can generate actions affecting different fisheries and gear types.

Individual Fishing Quota (IFQ) programs provide hard stops at the individual-vessel level rather than at the sector level or fishery level. Under the West Coast Shorebased IFQ Program (50 CFR 660.140(b)(1)(iv)), if a vessel account has a negative balance, the vessel is prohibited from fishing within the scope of the Shorebased IFQ Program until sufficient quota pounds (QP) or Individual Bycatch Quota (IBQ) pounds are transferred to eliminate the deficit. The fishery remains open, but the individual fishing vessel cannot continue fishing until its catch is covered by available quota. IFQ programs across regions use other provisions, including some written as if-then statements, governing issues such as eligibility to fish, quota transfers and leasing, accumulation limits, and quota deficits and carryover.⁶

Hard stops are also used to manage bycatch species, allowing a directed fishery to operate while limiting its impact on another stock or species. For example, the MAFMC established a butterfish discard cap for the longfin squid fishery, allocated among three trimesters. If the RA projects that

⁵ Atlantic and Gulf of Mexico HMS are managed by the NMFS HMS Management Division and not through a regional council. For this reason, the Atlantic HMS Management Division is referenced throughout this report and included in tables, despite not being a regional fishery management council.

⁶ See various IFQ provision examples in the West Coast Shorebased IFQ Program (50 CFR 660.140) and the IBQ Program for Atlantic bluefin tuna (50 CFR 635.15).

95 percent of a trimester's butterflyfish discard-cap allocation has been harvested, NMFS will close the directed longfin squid fishery in the exclusive economic zone (EEZ) (50 CFR 648.24(c)(3)). The 95-percent trigger provides a buffer below the cap to account for uncertainty in catch and discard estimates and reduce the risk that the cap will be exceeded.

The Gulf shrimp fishery provides an example of a discretionary bycatch-related trigger that implements spatial measures. Under 50 CFR 622.55(d)(1), the RA may establish a seasonal area closure for the Gulf shrimp fishery when an annual assessment indicates that shrimp effort and associated red snapper bycatch mortality warrant a closure. The assessment compares recent shrimp effort and red snapper bycatch mortality in the 10-30 fathom area of statistical zones 10-21 with the FMP's target reduction in red snapper mortality. The RA determines whether a closure is necessary as well as its geographic scope and duration.

If-then statements can also trigger hard fishing stops in specific areas (i.e., spatial management measures). In the Pacific whiting fishery, if NMFS projects that a sector will exceed its allocation for a non-whiting groundfish species before its whiting allocation is reached,⁷ NMFS may implement bycatch reduction area closures inseason through automatic action (50 CFR 660.131(c)(3)).

The Western Pacific Regional Fishery Management Council (WPFMC) provides examples of quota-triggered hard stops that apply spatially. Under 50 CFR 665.166 (American Samoa), 665.268 (Hawaii), and 665.466 (Mariana Archipelago), if the RA determines that the harvest quota for different species of precious coral in a specific bed will be reached before the end of the fishing year, NMFS must publish an area closure notice identifying the bed and effective date. The regulations provide that a harvest closure is also effective for a permit holder upon the permit holder's actual harvest of the applicable quota.

Alaska groundfish regulations contain numerous prohibited-species bycatch hard stops. Under 50 CFR 679.21, when a sector is projected to catch its specified prohibited species catch (PSC) limit for species such as halibut, crab, herring, or salmon, NMFS will close directed fishing for the relevant gear type, area, or sector. The PSC limits can trigger restrictions in the directed fishery even when the catch limit for the target species has yet to be reached. Effective catch monitoring and data collection are essential for implementing these measures.

In addition to other measures to protect Steller sea lions, Alaska groundfish management includes a biomass-based hard stop for key prey species. Under 50 CFR 679.20(d)(4), if projected spawning biomass for pollock, Pacific cod, and Atka mackerel is projected in the stock assessment to be at or below a specific reference point (20 percent of projected unfished spawning biomass), directed fishing is prohibited. The closure remains until a subsequent stock assessment projects spawning biomass above 20 percent of the projected unfished spawning biomass. In 2019, the depressed status of Gulf of Alaska Pacific cod, due to environmental conditions, triggered a closure of the directed fishery for 2020.

⁷ There are no allocations for non-whiting species for the at-sea sectors at the time of this report.

Finally, Amendment 15 of the Atlantic HMS FMP established a hard stop on fishing in specific areas based on fishing effort rather than catch. Under certain conditions, limited pelagic longline fishing can occur in designated monitoring areas that were previously closed to fishing (the Charleston Bump and the East Florida areas), allowing for data collection to support analyses on the effectiveness of the spatial management measures. Under 50 CFR 635.35(d)(4), if an effort cap is reached or projected to be reached during the effective period of the monitoring area, NMFS will close the monitoring area. The same provision also allows NMFS to close a monitoring area before the cap is reached when warranted by conservation and management concerns, such as unexpectedly high bycatch or concentrated fishing effort.⁸ Amendment 15 combines a quantitative if-shall effort cap with discretionary if-may triggers that allow NMFS to respond to conditions as needed.

Subtypes:

- B1. Target-Species Closures
- B2. Cascading Measures
- B3. Individual/Vessel-Level Cutoffs
- B4. Bycatch/Protected Species/Prohibited Species Measures
- B5. Spatial Measures (Area Closures, Gear Restricted Areas, Area Trip Limits)
- B6. Effort Caps

Table 3: Hard Fishing Stop If-Then Statement Examples

Council	Species/Fishery ⁹	Subtype ¹⁰ / Class	If → Then (Summarized)	Auto-matic?	Citation(s)
Gulf Council	Multiple reef fish species	B1; if-shall	Landings reach or are projected to reach the applicable ACT → NMFS closes the sector (commercial or recreational) for the remainder of the fishing year	Yes	50 CFR 622.41
Atlantic HMS Management Division	Atlantic swordfish	B1, B2; if-shall	Directed quota is reached → fishery closes and incidental retention limit automatically activates (15 fish for longline, 2 fish for handgear, etc.)	Yes	50 CFR 635.28(c)(1)
PFMC	Pacific Groundfish	B3; if-shall	Any vessel with a deficit (negative balance) in its vessel account → it is prohibited from fishing that is within the scope of the Shorebased IFQ Program until sufficient QP or IBQ pounds are transferred into the vessel account to remove any deficit	Yes	50 CFR 660.140(b)(1)(iv)

⁸ If NMFS determines that an effort cap has not been reached or the closure is no longer needed to address the conservation and management concerns that prompted it, NMFS may reopen the monitoring area during the closure's effective period in that calendar year (50 CFR 635.35(d)(4)).

⁹ Bycatch species are indicated in parentheses.

¹⁰ The subtypes in this section overlap when a single if-then statement addresses multiple management objectives or uses multiple types of responses.

MAFMC	Longfin squid (butterfish)	B4; if-shall	The RA projects that 95 percent of each trimester's butterflyfish discard cap allocation has been harvested → NMFS shall close the directed fishery in the EEZ for longfin squid	Yes	50 CFR 648.24(c)(3)
Gulf Council	Shrimp (red snapper)	B4, B5; if-may	Shrimp fishing effort and bycatch mortality of red snapper in the 10-30 fathom area of statistical zones 10-21 exceeds the established threshold → NMFS may implement a seasonal closure of shrimp fishing in all or part of the affected area	No	50 CFR 622.55(d)(1)
PFMC	Pacific groundfish	B5; if-may	NMFS projects that a Pacific whiting sector will exceed an allocation for a non-whiting groundfish species specified for that sector before the sector's whiting allocation is projected to be reached → bycatch reduction area closures specified at 660.130(e) may be implemented inseason through automatic action	No	50 CFR 660.131(c)(3)
WPFMC	Western Pacific Precious Corals - American Samoa, Hawaii, and Mariana Archipelago	B5; if-shall	The NMFS RA determines a coral bed's harvest quota will be reached before the fishing year ends → NMFS closes the bed and publishes a notice to that effect in the Federal Register	Yes	50 CFR 665.166 ; 50 CFR 665.268 ; 50 CFR 665.466
NPFMC	Alaska groundfish (prohibited species)	B1, B4, B5; if-shall	A sector's PSC (halibut, salmon, herring or crab) limit is reached → NMFS closes directed fishing for the relevant gear type, area, or sector	Yes	50 CFR 679.21
NPFMC	Alaska groundfish (Steller sea lion)	B1, B4; if-shall	Projected spawning biomass for pollock, Pacific cod, and Atka mackerel is projected in the stock assessment to be at or below the specific B20% reference point → directed fishing is prohibited	Yes	50 CFR 679.20(d)(4)
Atlantic HMS Management Division	Atlantic swordfish - Atlantic/Gulf pelagic longline	B4, B5, B6; if-shall, if-may	An effort cap under paragraph (d)(3) of this section is reached, (or is projected to be reached within the monitoring area's effective time period for a given calendar year) → NMFS will file for publication in the Federal Register a closure for the monitoring area, which will be effective no fewer than five days from date of filing Conservation and management concerns are raised by unexpectedly high bycatch, high fishing effort, fishing effort that is overly clustered temporally or spatially, or other	Yes, No	50 CFR 635.35(d)(4)

			relevant considerations → NMFS may close the monitoring area before the effort cap is reached		
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C. Graduated Response Ladders

Unlike a single threshold that triggers a fishery closure, a graduated response ladder uses “early warning” thresholds to progressively reduce harvest as a fishery approaches a catch limit. A ladder can include one or more if-then statements as rungs of the ladder and can be based on one or more conditions.

In the scup fishery, the MAFMC divides the quota into three periods (defined as Winter 1, Summer, and Winter II), with possession limits that can ramp up or down depending on the status of a specific period’s harvest. For example, if 80 percent of the Winter 1 quota is harvested, NMFS drops the possession limit from 50,000 lbs. to 1,000 lbs. for the remainder of the period to prevent overages of the Winter 1 quota. This helps distribute fishing opportunities throughout the year among fleets, including the trawl and in-shore pot fleets. The ladder can also work in the other direction: if the Winter I quota is not fully harvested, as has been the case in recent years, the Winter II possession limit increases by 1,500 pounds for every 500,000 pounds of scup not landed during Winter I (50 CFR 648.122; MAFMC 2025 Scup Specifications Memo).

The PFMC has two examples of graduated response ladders if-then statements based on two conditions. For Pacific bluefin tuna, the trip limit depends on the time of year and how close cumulative catch is to the overall catch limit. For example, the 2026 bluefin trip limit regulations state that between January and June, the trip limit decreases from 60 mt to 40 mt if the total catch is within 400 mt of the annual limit; the trip limit decreases to 5 mt if the total catch is within 225 mt of the annual limit. Pacific bluefin tuna landings are typically less than 40 mt per trip, so the initial trip limit is not likely a constraint on effort. The lower trip limits are intended to preserve catch for smaller-scale gears if purse seine landings approach the annual limit.

The Pacific region also uses graduated response ladder if-then statements in the Halibut Catch Sharing Plan (CSP) to establish season structure, facilitate inseason adjustments, and manage suballocations without requiring a Council meeting for the recreational fishery. For example, the 2025 Area 2A Halibut CSP provides that the season may be open up to three days per week in May in the Washington North Coast subarea if the Area 2A Fishery Constant Exploitation Yield (FCEY)¹¹ is at least 1.3 million pounds. If the FCEY is less than that amount, the season may be open up to two days per week in May. This flexibility is needed in part because the halibut season is set by November of the preceding year, while quota is not available until January of the fishing year.

Subtypes:

- C1. Single Condition
- C2. Multi-Condition

¹¹ The Fishery Constant Exploitation Yield (FCEY) is the amount of halibut available for harvest by the directed fisheries.

Table 4: Graduated Response Ladder If-Then Statement Examples

Council	Species/ Fishery	Subtype / Class	If → Then (Summarized)	Auto- matic	Citation(s)
MAFMC	Atlantic scup	C1 / if-shall	80% of the Winter I quota has been landed → NMFS drops the possession limit to 1,000 pounds Winter I quota remains unused → Winter II increases by 1,500 lb for every 500,000 lb of unused Winter I quota rolled over	Yes for both	50 CFR 648.122 ; MAFMC 2025 Scup Specifications Memo
PFMC	Pacific bluefin tuna	C2 / if-shall	Between [certain time of year] AND the total catch is within X mt of the annual limit → the trip limit decreases to Y mt	Yes	50 CFR 300.25(g)(3)
PFMC	Pacific halibut	C2 / if-may	In the Washington North Coast subarea in May and the Area 2A FCEY is [more than, less than] 1.3 million pounds → the season may be open for X days per week	No	Area 2A 2026 Pacific Halibut Catch Sharing Plan ; Final Rule for CSP

D. Future-Year Corrections

If-then statements providing future-year corrections for either overharvest or underharvest are common across regions. Most are post-season AMs that address overage after they occur and therefore are not automatic. Some AMs specify a predetermined correction for the next fishing season or, when data are not available in time, the next feasible season. Some overage deductions hinge on a single condition (i.e., an ACL exceedance), as in the monkfish fishery managed by the New England Fishery Management Council (NEFMC) (50 CFR 648.96(d)(2)(i)).

Other regional councils require multiple triggers for future-year corrections. These provisions can consider whether a stock (or stock in a complex) is overfished and whether a sector allocation exceedance (commercial or recreational) or combined allocation exceedance (commercial and recreational) has occurred. The South Atlantic Fishery Management Council (SAFMC) has developed these types of if-then statements for the Snapper-Grouper, Dolphin-Wahoo, Coastal Migratory Pelagic, and Golden Crab FMPs. For commercial fisheries, the response for an overfished stock is a reduction in the ACL by the amount exceeded in the previous year. For recreational fisheries, the response for an overfished stock can be a reduction in the season length and ACL by the amount of the recreational overage or monitoring the landings for persistence in increased landings (50 CFR 622.193).

Fewer examples of underharvest or carryover if-then statements exist in fisheries management. The Atlantic/Gulf HMS Division has underharvest carryover provisions for swordfish, yellowfin tuna, albacore tuna, bluefin tuna, and sharks. In the directed shark fishery, NMFS can increase the following year's base annual quota by an equivalent amount of the underharvest (up to 50 percent above the base annual quota). This discretionary authority requires an underharvest in the previous

year and that the species (or all species in a management group) not be overfished, subject to overfishing, or have an unknown status (50 CFR 635.27(b)(2)(ii)). Annual underharvest carryovers are implemented through either full rulemaking or temporary final rules.

Subtypes:

- D1. Overage Deduction
- D2. Overage Deduction - Multi-Condition
- D3. Underharvest/Carryover - Multi-Condition

Table 5: Future Year Correction If-Then Statement Examples

Council	Species/ Fishery	Subtype / Class	If → Then (Summarized)	Auto- matic?	Citation(s)
NEFMC	Monkfish	D1 / if- shall	It is determined that the ACL was exceeded in any given year (based upon, but not limited to, available landings and discard information) → the Councils shall revise the ACT for the corresponding monkfish stock on a pound-for-pound basis	No	50 CFR 648.96(d)(2)(i)
SAFMC	Multiple species	D2 / if- shall	Commercial landings exceed the ACL and the stock (or a stock in the complex) is overfished → NMFS will reduce the commercial ACL for that following year by the amount of the commercial ACL overage in the prior fishing year	No	50 CFR 622.193
Atlantic HMS Management Division	Sharks	D3 / if- may	Underharvest occurs and the species (or all species in a management group) does not have an overfished, overfishing, or unknown status → NMFS may increase the following year's base annual quota, including regional quota, by an equivalent amount of the underharvest up to 50 percent above the base annual quota	No	50 CFR 635.27(b)(2)(ii)

E. Environmental or Oceanographic Triggers

At its April 2026 meeting, the Council's Habitat Committee discussed the possibility of using if-then statements to support faster responses to changing environmental or habitat conditions. The Council expressed interest in this concept, and this section discusses if-then statements with environmental or oceanographic triggers and identifies two examples currently in use.

To protect Pacific loggerhead sea turtles which are listed under the Endangered Species Act (ESA), the Pacific Council developed an if-then statement tied to El Niño conditions for the drift gillnet fishery that primarily targets Pacific swordfish. Loggerhead sea turtles are potential bycatch for the fishery and are more likely to be present in the Southern California bight during warm water

conditions. NMFS closes an area called the Pacific Loggerhead Conservation Area when El Niño conditions are forecasted or occurring.¹² NMFS typically monitors conditions in the months prior to June and issues a closure within weeks of trigger conditions being met. If surface temperatures return to normal or below normal, NMFS can reopen the area prior to August 31st (50 CFR 660.713(c)(2)).

Because colder water temperatures can increase white shrimp mortality off the southeastern U.S., the South Atlantic Shrimp FMP includes a cold-weather closure provision that allows NMFS to close federal waters off closed state waters for the shrimp fishery (50 CFR 622.206(a)). The trigger in this example is closure of the state and federal waters fishery to harvest. In practice, if a state closes its fishery, it will then request that NMFS close the adjacent EEZ area. If NMFS closes the area, the action is implemented in a matter of weeks and remains in effect until the ending date of the closure in state waters or earlier if requested by the state.

Table 6: Environmental or Oceanographic Trigger If-Then Statement Examples

Council	Species/Fishery ¹³	Class	If → Then (Summarized)	Auto- matic	Citation(s)
PFMC	Pacific HMS (loggerhead sea turtles)	if-shall	El Niño conditions are forecasted or occurring off the coast of southern California → no person may fish with, set, or haul back drift gillnet gear June through August in U.S. waters of the Pacific Ocean east of the 120° W. meridian	Yes	50 CFR 660.713(c)(2)
SAFMC	Shrimp	if-may	Florida, Georgia, North Carolina, or South Carolina closes all or part of its state waters to the harvest of brown, pink, or white shrimp under the FMP procedures and criteria → NMFS may concurrently close the South Atlantic EEZ adjacent to the closed state waters	No	50 CFR 622.206(a)

F. Permit-Focused Actions

Some if-then statements govern fishery access through permits. For example, the Western Pacific bottomfish fishery is a limited access fishery. The WPFMC established provisions allowing NMFS to issue additional permits if the RA determines (in consultation with the WPFMC) that stocks can support additional fishing effort in the Ho’omalū Zone. Once the RA has determined that additional permits may be issued, permits are issued based upon eligibility determined through a point system that prioritizes experience in the fishery, with greater weight given to experience in the Northwestern Hawaiian Islands (50 CFR 665.203(f) and (g)). This framework allows the RA to issue additional permits without further Council action.

¹² Under 50 CFR 660.713(c)(2)(ii), the Assistant Administrator (AA) is to rely on information developed by NOAA offices, including monthly SST anomaly charts, to determine whether SSTs off southern California are warmer than normal. The AA uses SST data from the third and second months preceding the closure month.

¹³ Bycatch species are indicated in parentheses.

The Gulf of America shrimp permit program includes two linked if-then triggers established through Amendment 17B to the FMP to prevent the fishery from contracting to a level that could undermine its long-term economic viability. If the number of valid or renewable Federal shrimp permits falls to 1,175, the Gulf Council convenes a review panel to evaluate whether the minimum permit threshold remains appropriate and review details of a reserve pool or other management measures before the minimum threshold is reached. If the number of valid or renewable permits subsequently falls to the FMP minimum permit threshold of 1,072, any permit that is not renewed within a year of expiration is transferred into a reserve pool for potential future reissuance through subsequent rulemaking (50 CFR 622.50(b)(3)(iii)). Because the first trigger prompts review before a second threshold is reached, these provisions could also be considered a graduated response ladder (Type C).

Table 7: Permit-Focused If-Then Statement Examples

Council	Species/Fishery	Class	If → Then (Summarized)	Auto-matic	Citation(s)
WPFMC	Western Pacific bottomfish	if-may	The RA determines, in consultation with the Council, that bottomfish stocks in the Ho'omalū Zone are able to support additional fishing effort → the RA may issue new Ho'omalū Zone limited access permits under 665.13	No	50 CFR 665.203(f) and (g)
Gulf Council	Shrimp	if-shall	The number of valid or renewable Federal shrimp permits falls to 1,175 → the Council convenes a review panel to evaluate the minimum permit threshold and details of a reserve pool or other management measures The number of valid or renewable Federal shrimp permits falls to 1,072 → expired permits automatically become reserve pool permits	Yes for both	Amendment 17B; 50 CFR 622.50(b)(3)(iii)

II. Overview: Inseason Action Typology

Inseason actions are regulatory changes made while a fishing season is underway to respond quickly to new data or emerging conditions. Because if-then statements can trigger inseason actions, several examples were included in the preceding section. This section focuses on actions for which the authority to act is established but the trigger is more general and discretionary, allowing greater flexibility to consider factors such as implementation timelines and uncertainty.

Inseason Action Types and Examples

A primary use of inseason actions in the examples reviewed is to respond to catch rates relative to catch limits and optimize harvest. A fishery may be harvesting target species faster or slower than expected, prompting the need for changes in management measures. Different sectors may also harvest at different rates, requiring actions like quota transfers to meet fishery management goals.

Atlantic bluefin tuna is a high-value commercial and recreational species managed through a suite of adaptive management tools to keep U.S. harvest within domestic and international harvest limits. Based on factors such as quota availability, projected landings, and seasonal distribution, NMFS may take different types of inseason actions. In the commercial General Category fishery, NMFS may increase, decrease, or suspend the daily bluefin tuna retention limit, including setting the limit at zero retention (50 CFR 635.23(a)(3)). NMFS may also modify or waive Restricted Fishing Days (RFDs) (50 CFR 635.23(a)(7)). Further, NMFS may transfer quota among fisheries or categories and time periods to address any subquota overharvest or underharvest and ensure the full utilization of U.S. quota across sectors (50 CFR 635.27(a)). These mechanisms allow NMFS to manage the pace and timing of harvest, respond quickly to conditions on the water, reduce risk of catch limit exceedances, and optimize the use of U.S. quota.

The PFM's salmon inseason management process takes place largely outside of Council meetings but is authorized by the Salmon FMP through fixed and flexible inseason measures. Fixed measures are analogous to pre-specified if/then statements, while flexible measures require consideration of various factors such as realized effort compared to preseason predictions. Flexible inseason actions are taken by the RA in consultation with the PFM Chair and the appropriate State Directors and with input from members of the Salmon Advisory Subpanel, Salmon Technical Team, and Council. The RA can modify quotas, season length, locations fished, and gear type based on current information, catch monitoring, and daily and/or weekly projections (50 CFR 660.409).

The New England groundfish fishery uses adaptive inseason management to respond to changing catch conditions in the common pool fishery, which consists of permit holders who have not joined a sector or cooperative. The common pool sub-ACL is apportioned into four-month trimesters to establish trimester total allowable catch (TACs) (50 CFR 648.82(n)(2)(i)(A)), helping distribute effort across the fishing year. The RA may adjust possession limits based on catch relative to the trimester TAC (50 CFR 648.86(a)). This discretionary authority helps prevent catch limits from being exceeded while providing flexibility to optimize harvest opportunities when catch rates are lower than expected.

Subtypes:

- A1. Retention Limits
- A2. Fishing days/season
- A3. Quota adjustments
- A4. Multiple Potential Actions

Table 8: Catch Rate Response Inseason Action Examples

Council	Species/Fishery	Subtype	Inseason Action (Summarized)	Citation(s)
Atlantic HMS Management Division	Atlantic bluefin tuna	A1	Catch rates, quota availability, estimated landings, fish availability, or other management considerations warrant → NMFS may increase, decrease, or suspend the daily retention limit (including zero retention)	50 CFR 635.23(a)(3)
Atlantic HMS Management Division	Atlantic bluefin tuna	A2	After considering various factors, NMFS determines that RFDs should be modified or waived → NMFS may waive or modify RFDs through Federal Register notice	50 CFR 635.23(a)(7)
Atlantic HMS Management Division	Atlantic bluefin tuna	A3	Based on specific criteria and other relevant factors → NMFS may make inseason and annual adjustments to quotas	50 CFR 635.27(a)
PFMC	Pacific salmon	A4	In consultation with the Chair of the Council and the appropriate State Directors, the RA determines that flexible inseason management provisions are warranted → NMFS may take various actions (see 50 CFR 660.409(b)(1))	50 CFR 660.409
NEFMC	Groundfish	A4	Catch information indicates that a common pool sub-ACL or trimester TAC is being harvested faster or slower than expected, or that catch is approaching a management threshold → the RA may adjust common pool possession limits, trip limits, or other effort controls inseason	50 CFR 648.86(a)

Cross-Cutting Observations

- *If-then statements are used for diverse management needs across U.S. regions.* Regional fishery management councils often tailor these mechanisms to the specific fishery and regional circumstances. These examples illustrate that if-then statements can be highly customizable.
- *Fewer examples identified to “greenlight” fishing.* Most if-then statements and inseason actions identified in this research are designed to stop or slow fishing, with fewer examples designed to provide additional fishing opportunities when warranted. Greater use of if-then statements and inseason actions to greenlight fishing when appropriate may help address underutilization of stocks.
- *Mechanisms can be time-intensive to develop and implement.* Although if-then statements can save fishery managers time once established, developing and implementing them can require substantial upfront effort. The potential time savings of a proposed if-then statement should be clearly articulated before intensive development begins.

- *A broad range of alternatives in supporting analyses increases future flexibility.* Upfront analytical work and strategic thinking are critical to anticipate and plan for a range of viable scenarios. Analyses should encompass diverse scenarios, including ones that may be difficult to predict, while being specific enough to be feasibly analyzed. Developing a broad range of alternatives upfront may also save time if future changes are needed because relevant options have already been analyzed.
- *Timely implementation depends on process design and sufficient capacity.* If-then statements and inseason actions should be designed to minimize process constraints that could delay implementation. For example, where legally permissible, alternative notification mechanisms, such as a listserve or website posting, may be preferable when Federal Register publication timelines do not align with the intended implementation timeframe. Many actions also depend on timely catch monitoring and data collection, requiring sufficient staff capacity and resources.
- *Framework mechanisms must comply with all applicable laws.* This report does not describe all the relevant statutory requirements, including requirements affecting procedures (e.g., public comment periods) and timelines. See the recent NMFS Office of Sustainable Fisheries report, [Using Frameworks to Facilitate Responsive Management](#), for a description of statutory procedural and timing requirements, the implications for different responsive management approaches, the implementation processes typically used by different regions, and additional examples of framework uses.

Conclusion and Potential Next Steps

Framework mechanisms, including if-then statements and inseason actions, are an important part of the responsive management toolbox. Regional councils across the country, including the Pacific Council, have already implemented a variety of these measures. Organizing these examples in a typology can support continued deliberations about where expanded use of these mechanisms could increase the Council's adaptive capacity and better align decision making with changing ocean conditions. This document is intended to be a reference and a resource for the Council and its ABs when developing future actions that may include the use of new if-then statements or inseason actions.

PFMC
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