H.3 HMSMT REPORT ON DRIFT GILLNET HARD CAPS

PACIFIC FISHERY MANAGEMENT COUNCIL
November 2021

OVERVIEW

Advanced Briefing Book HMSMT Report

- Purpose and need
- Range of Alternatives
- Preliminary Evaluation of Alternatives

Supplemental Briefing Book HMSMT Report

- Additional Considerations
- HMSMT Recommendations

PURPOSE AND NEED

The purpose is: To incentivize fishing practices and tools in an effort to minimize bycatch and bycatch mortality, as well as to conserve other unmarketable non-target species, including Endangered Species Act-(ESA) listed species and marine mammals, in the drift gillnet fishery to the extent practicable

The need is: To ensure that take and bycatch of unmarketable non-target species, including ESA-listed species and marine mammals, in the DGN fishery is minimized to the extent practicable and that such take and bycatch does not result in limitations on the economic viability of the west coast swordfish fishery.

RANGE OF ALTERNATIVES

Alternative 1: No Action

Alternative 2: The Council 2015 FPA

Alternative 3: Annual Fleet-wide Hard Caps

- Options 1-5

Alternative 4: Individual Vessel and Fleet-wide Hard Caps

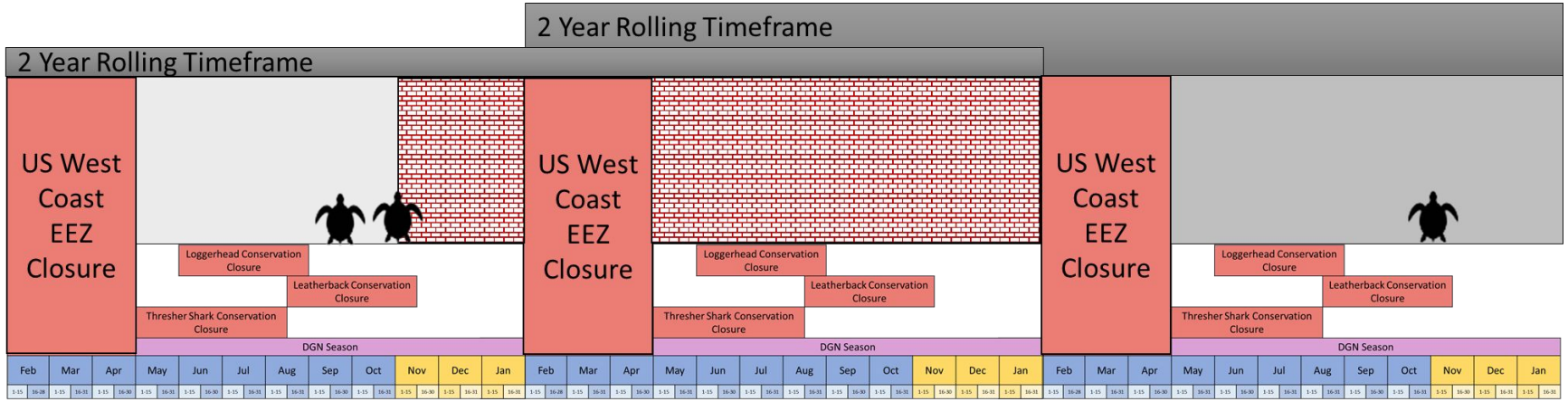
- Options 1-4

Alternative 2:
2 Year Rolling CAP (2015), Example 1

Turtle Hard Cap: 2

Mortality/Injury

Hard Cap Closure



Alternative 3, Options 1-5

Option 1: 14-day closure

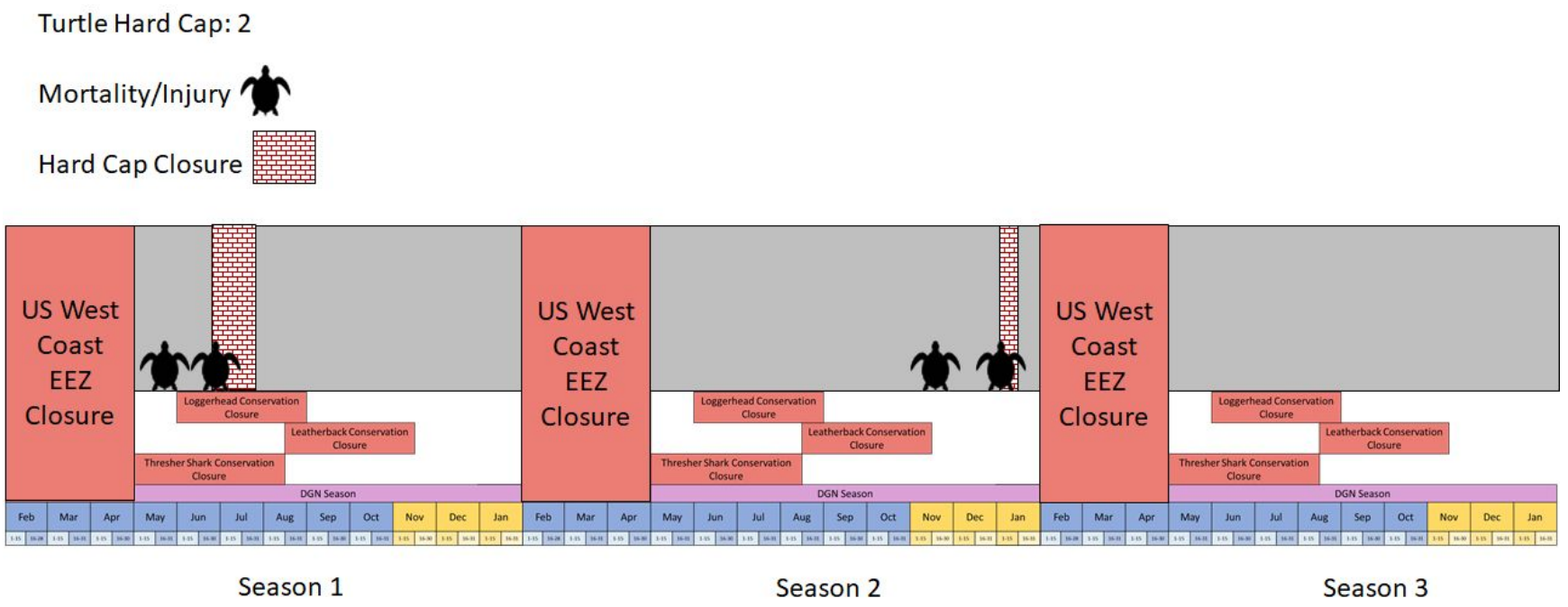
Option 2: 30-day closure

Option 3: Remainder of season

Option 4: 14-day, and season remainder if interaction following initial closure

Option 5: 30-day closure before November, 14 day closure after November

Alternative 3: Annual Fleet-wide Hard Caps Option 5 [30-day/14-day]

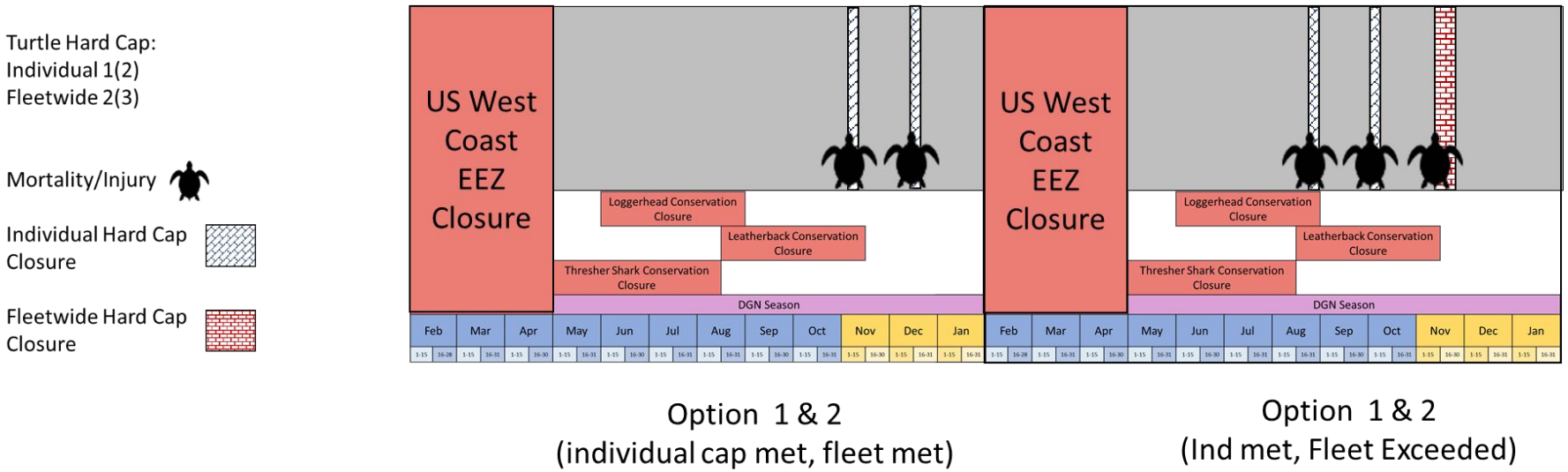


Alternative 4, Options 1-3

Option 1: individual closure period 7 days, fleetwide closure period 14 days

Option 2: individual closure period 14 days, fleetwide closure period 30 days

Option 3: individual closure period 30 days, fleetwide closure until May 1st (i.e., the remainder of the fishing season)- Example not shown



Option 1 & 2
(individual cap met, fleet met)

Option 1 & 2
(Ind met, Fleet Exceeded)

Alternative 4, Option 4 (HMSMT Report 1)

Option 4: As in Options 1-3, but when fishery reopens in the same fishing season,

1) if a vessel that previously reached/exceeded an individual vessel cap again hits any of the caps, that vessel plus all unobservable vessels are prohibited from fishing for the remainder of the current season, and
2) if any of the fleetwide caps are reached, the entire fishery closes for the remainder of the current season.

Alternative 4, Option 4 (HMSMT Report 1)

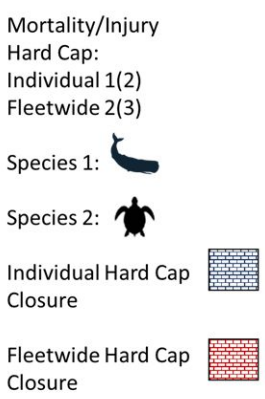
Option 4: As in Options 1-3, but [illegible] reopens in t[illegible] fishing season,

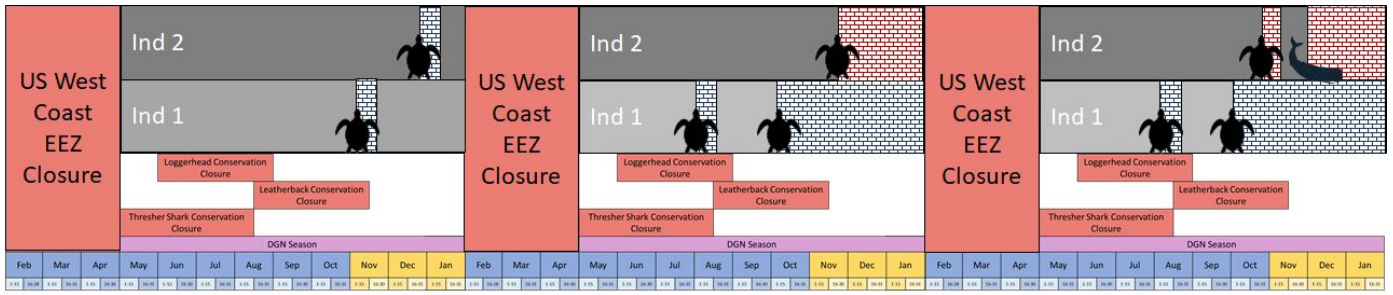
1) if a vessel that previ[illegible] ach[illegible]eded an i[illegible]al vessel cap again hits any of the caps, that vessel plus [illegible]bserv[illegible]els are [illegible]ted from fishing for the remainder of the current season,
2) if any of the fleetwid[illegible] are reache[illegible]ti[illegible]ery closes for the remainder of the current season.

Alternative 4, Option 4 (Revised)

Option 4 Revised: As in Options 1-3, but when fishery reopens in the same fishing season,

1) if an injury/mortality of ANY hard cap species occurs on the same vessel, that vessel plus all unobservable vessels are prohibited from fishing for the remainder of the current season, and
2) if an injury/mortality of ANY hard cap species occurs after the fishery reopens from a fleet-wide closure, the entire fishery closes again for the remainder of the current season.





Example 1: Option 1&2 in conjunction with Option 4

Example 2: Option 3 in conjunction with Option 4

Example 3: Option 1&2 in conjunction with Option 4

PRELIMINARY EVALUATION OF THE ALTERNATIVES

Assessing Potential Economic Impacts: 14-day and 30-day closure periods

Table 4. Maximum minimum, and average ex-vessel revenue for 14- and 30-day closure periods. Average daily inflation-adjusted ex-vessel revenue during the May-January fishing season, 2011-2020 was used.

Closure length	Maximum		Minimum		Average
	Amount	Date Range	Amount	Date Range	
14-day	$186,454	Nov 26-Dec 10	$2,340	Aug 28-Sep 11	$78,201
30-day	$350,557	Nov 19-Dec 19	$10,313	Aug 16-Sep 15	$173,682

PRELIMINARY EVALUATION OF THE ALTERNATIVES

Assessing Potential Economic Impacts: Closures for the remainder of the fishing season

Table 5. Cumulative potential revenue on the first day of each month during the fishing season.

Month	Cumulative revenue	Percent of total revenue
May	$924,756	100%
June	$912,477	99%
July	$909,021	98%
August	$908,484	98%
September	$900,815	97%
October	$871,689	94%
November	$753,841	82%
December	$505,416	55%
January	$223,397	24%

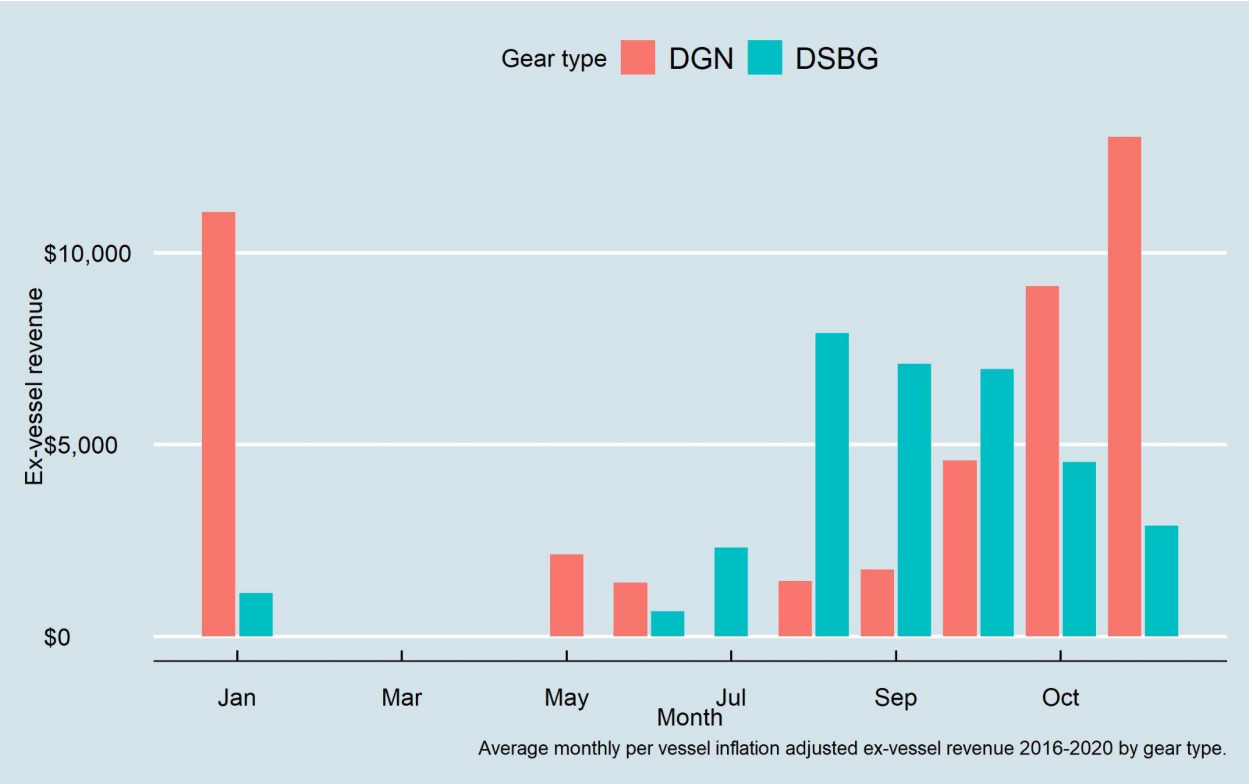
ADDITIONAL CONSIDERATIONS

1) **DGN fishery stability over the most recent decade**

2) **Potential for DSBG fishery to offset financial losses if DGN fishery closes**

3) **Difference in timing of DGN and DSBG fishing seasons**

Figure 1. Average monthly inflation-adjusted ex-vessel revenue per vessel, 2016-2020, for DGN and DSBG landings.



HMSMT RECOMMENDATIONS

1) **Adopt a final ROA, and:**
   - **Clarify whether an individual vessel should cease fishing when an individual cap is reached, or when it is exceeded,**
   - **Clarify whether the entire fleet would cease fishing when the fleet cap is met or when it is exceeded,**
   - **Standardize terminology when referring to the hard cap time frame, preferably "fishing year" (April 1 - March 31) to remain consistent with regulatory language,**
   - **Clarify whether hard caps apply only to fishing within the EEZ, or to the entire DGN fleet regardless of geographic fishing location,**
   - **Narrow the range of options included under Alternative 3 to only option 5,**
   - **Include Alternative 4 Options 1-3, including the provisions of Option 4 in the final ROA, and modify Alternative 4 Option 4, so that if another injury/mortality of ANY hard cap species occurs after the fishery reopens (i.e., not just the species that resulted in the initial closure), the fishery would close for the remainder of the season to ensure another cap is not reached.**

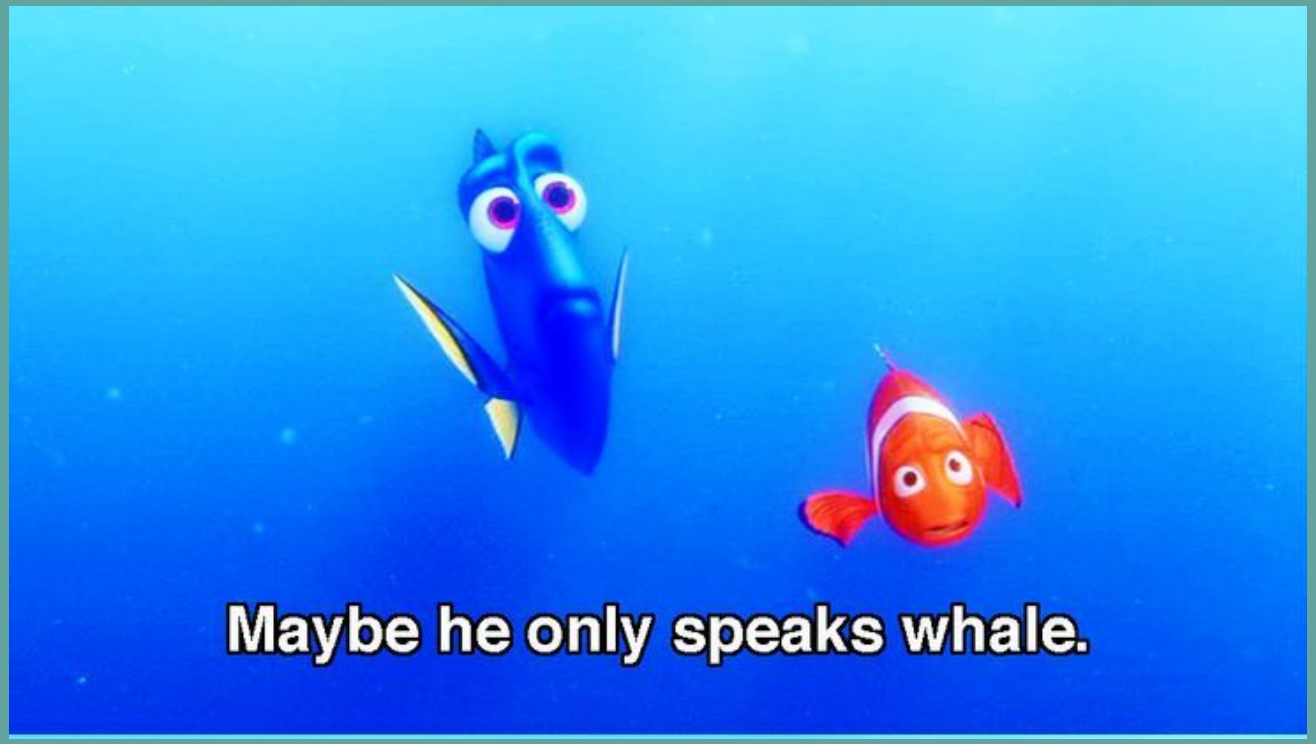
HMSMT RECOMMENDATIONS cont.

2) Task the HMSMT with conducting an analysis of a range of alternatives to support Council consideration for selecting a PPA at a future meeting

3) Identify reasonably foreseeable future actions (e.g., DSBG authorization, fishery transition program, etc) that it expects the HMSMT to consider in its analysis to inform Council selection of a PPA.

4) Consider HMSMT concerns for scheduling work to develop an analysis of the alternatives.

Questions ?

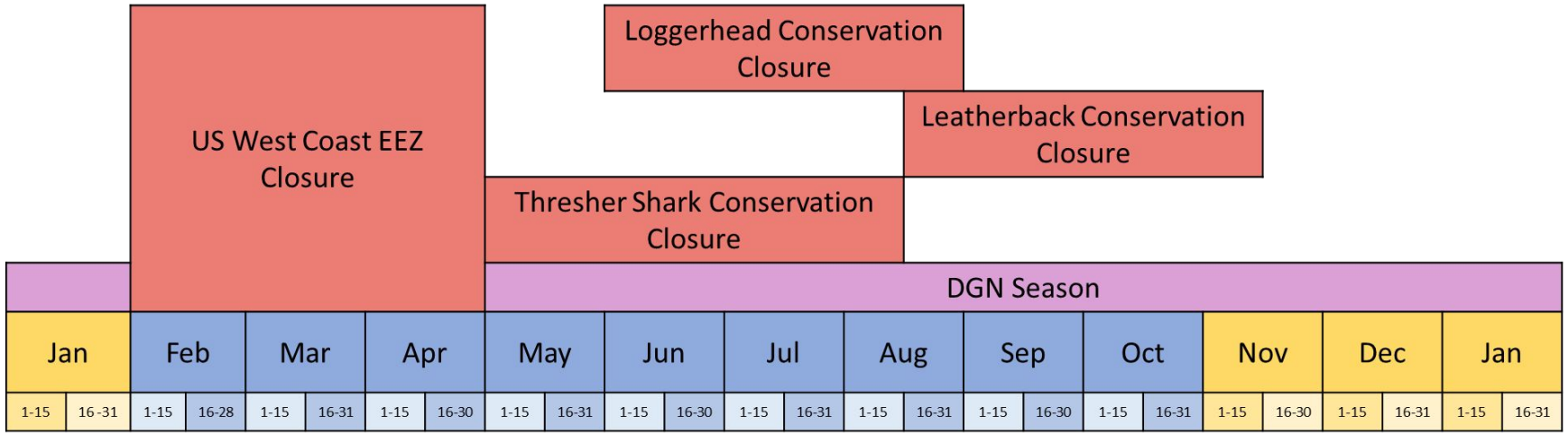


SCHEMATICS FOR HARD CAP ALTERNATIVES

This schematic depicts the largest time and area closures for the DGN fishery. These include:

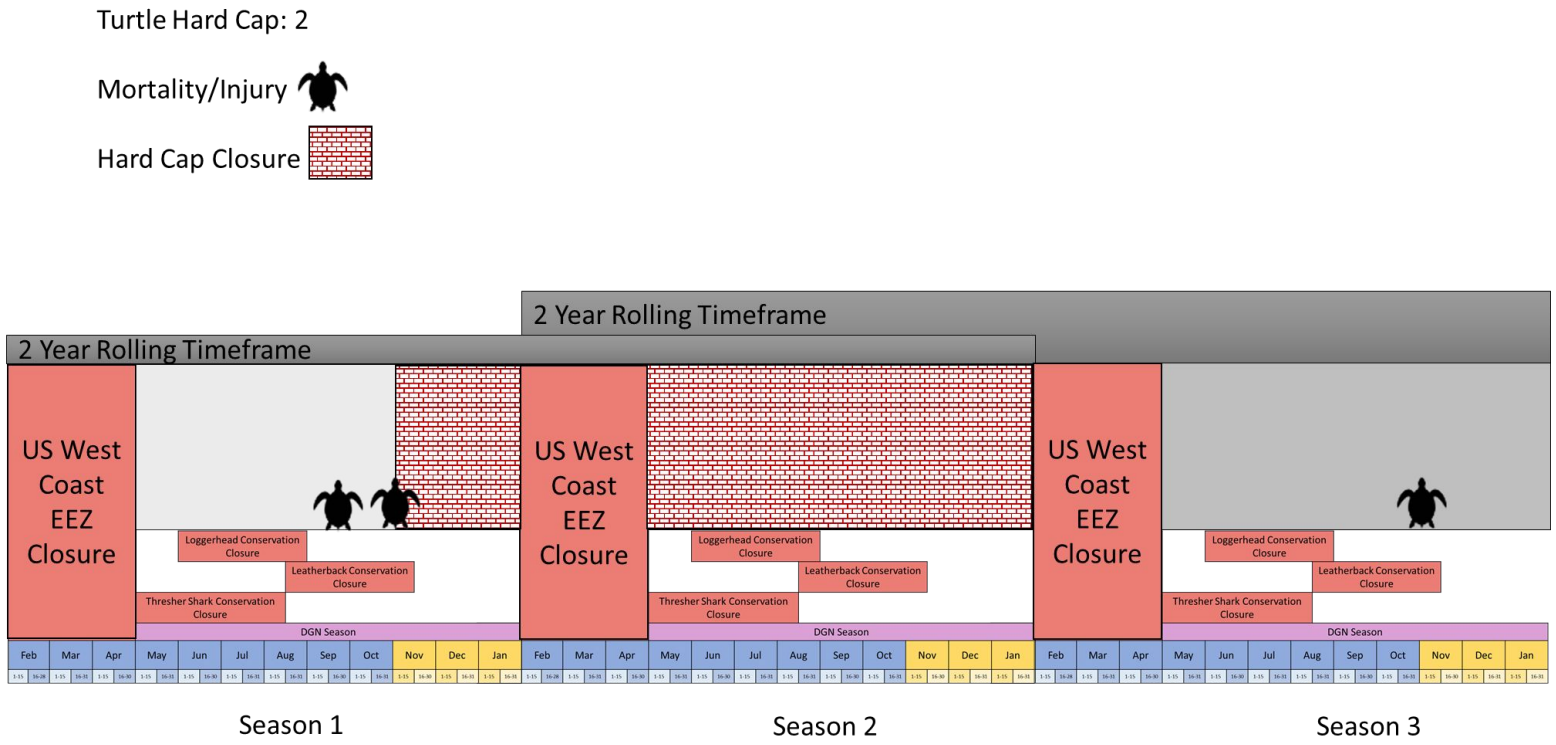
1) US West Coast EEZ Closure: inside the entire U.S. West Coast EEZ from Feb 1 - April 30
2) Thresher Shark Conservation Closure: within 75 m of the CA mainland from May 1 - Aug 14
3) Loggerhead Conservation closure: SCB June 1 – August 31 during a NOAA declared El Nino year
4) Pacific Leatherback Conservation Closure (PLCA): north of Point Conception, CA to mid-OR from Aug 15 - Nov 15.

The DGN season (May 1- January 31) is denoted with months of high catch/revenue highlighted in yellow.



Alternative 2: 2 Year Rolling CAP (2015) (*HMSMT* Report 1) Example 1

In this example, the hard cap closure would again go into effect once the second turtle mortality/injury was observed and would last for the remainder of the rolling 2-year timeframe. Given the timing of these observed mortalities/injuries, the later part of season 1 (when revenues are high) would be closed as would all of season 2. This closure would overlap with the US West Coast EEZ Closure. The fishery would then reopen in season 3, which could allow an additional observed mortality/injury of a turtle without triggering a closure of the fishery since the rolling 2-year timeframe would only include the one interaction.



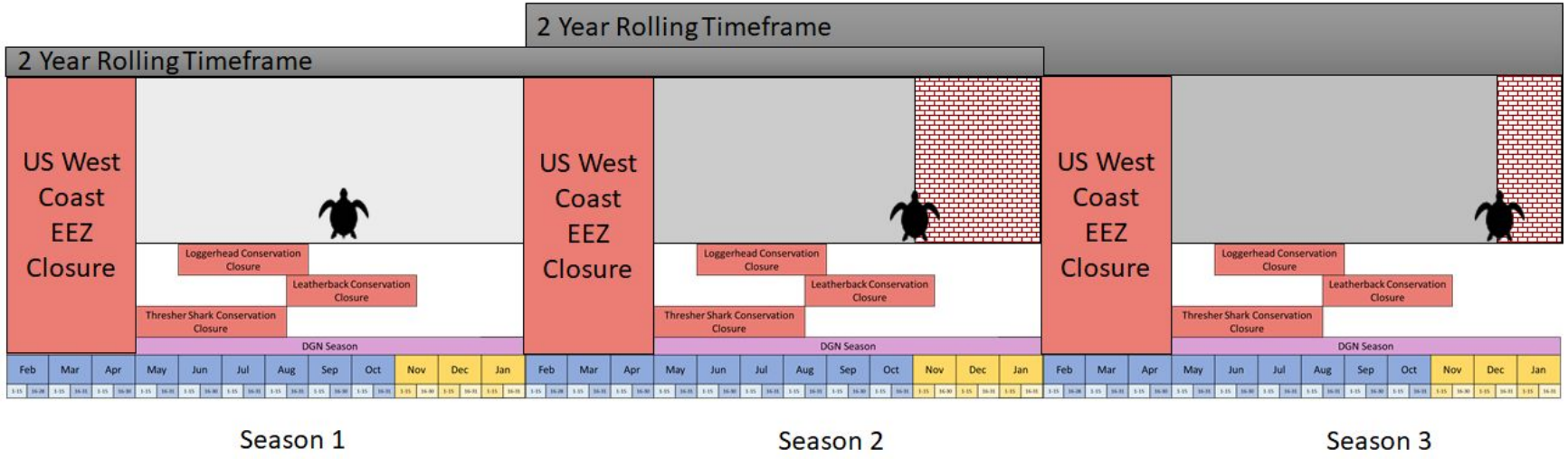
Alternative 2: 2 Year Rolling CAP (2015) (*HMSMT* Report 1) Example 2

In this example,the hard cap would again go into effect once the second turtle mortality/injury was observed and would last for the remainder of the rolling 2-year timeframe. Given the timing of these observed mortalities/injuries, the later part of season 2 and 3 (when revenues are high) would be closed. This closure would overlap with the US West Coast EEZ Closure. The fishery would then reopen in season 4.

Turtle Hard Cap: 2

Mortality/Injury

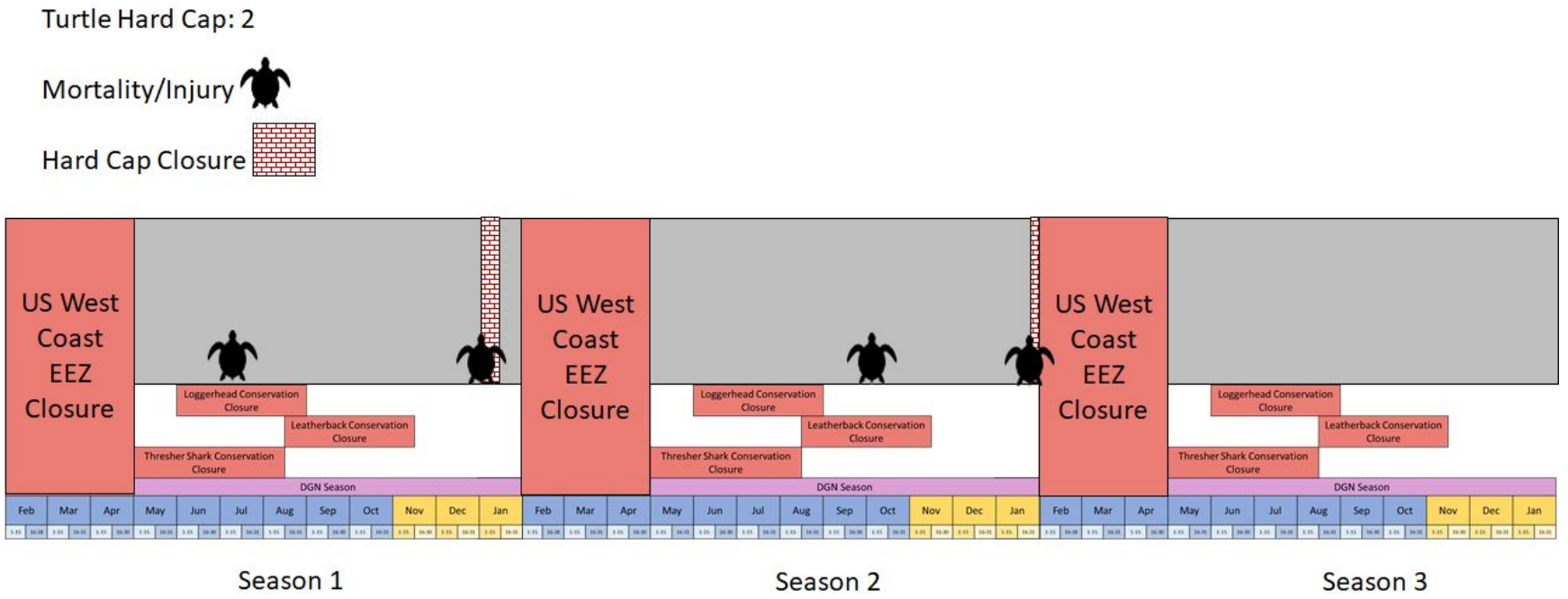
Hard Cap Closure



Alternative 3: Annual Fleet-wide Hard Caps

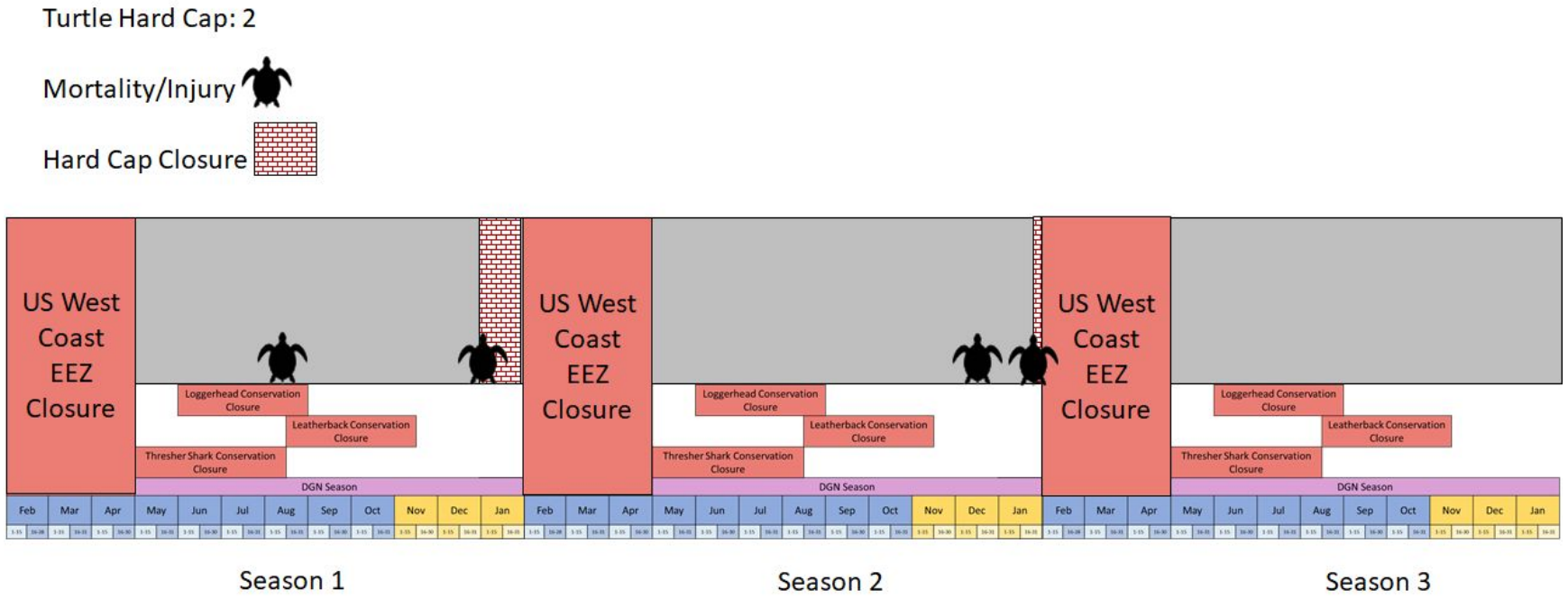
Option 1: [14-day closure] (*HMSMT* Report 1)

For this option, two observed mortalities/injuries trigger a fleet-wide closure through the 14th day or January 31, whichever is earlier. For the second mortality/injury observed in this example, the closure occurs on January 1, so the fishery then reopens on the 15th day. However, as seen in the example in season 2, the second mortality/injury is observed after January 17th, so the hard cap closure would overlap with the US West Coast EEZ Closure and reopen May 1.



Alternative 3: Annual Fleet-wide Hard Caps Option 2: [30-day closure] (*HMSMT* Report 1)

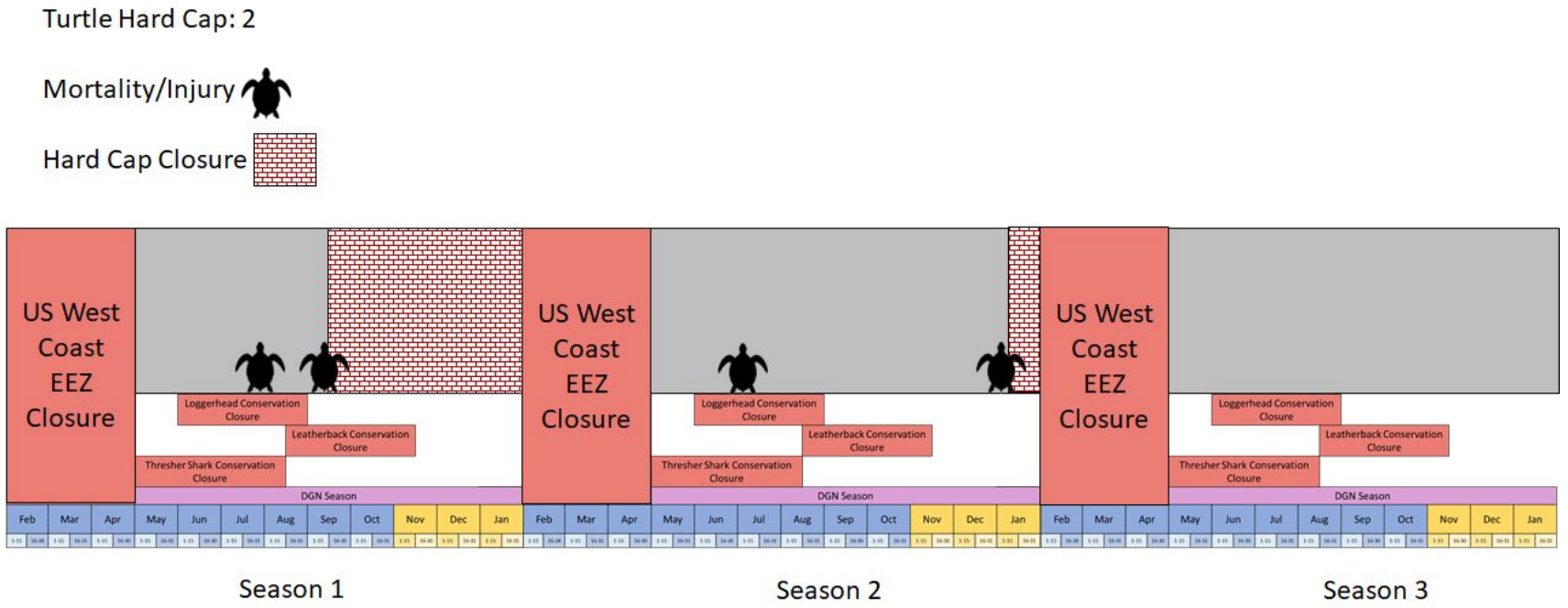
For this option, two observed mortalities/injuries trigger a closure through the 30th day or January 31, whichever is earlier. The second mortality/injury observed in this example occurs on January 1, so the fishery then reopens on January 31 depicted below in season 1. In season 2, the second mortality/injury is observed after January 17th the fishery would overlap with the US West Coast EEZ Closure and reopen May 1.



Alternative 3: Annual Fleet-wide Hard Caps

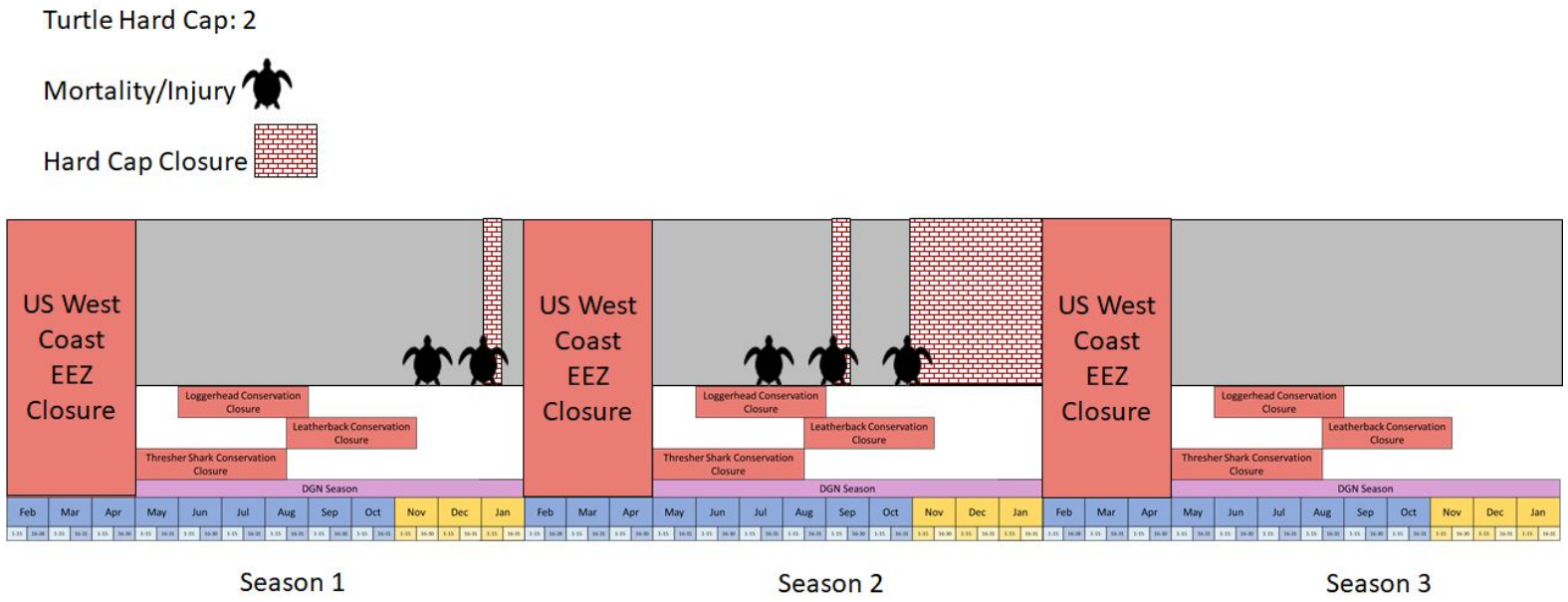
Option 3: [Remainder of the Season] (*HMSMT Report 1*)

For this option, two observed mortalities/injuries trigger a closure through January 31. The fishery then reopens on May 1 or the beginning of the next season. This example shows two different lengths and impacts of closures based on when an observed mortality or injury occurs during the season.



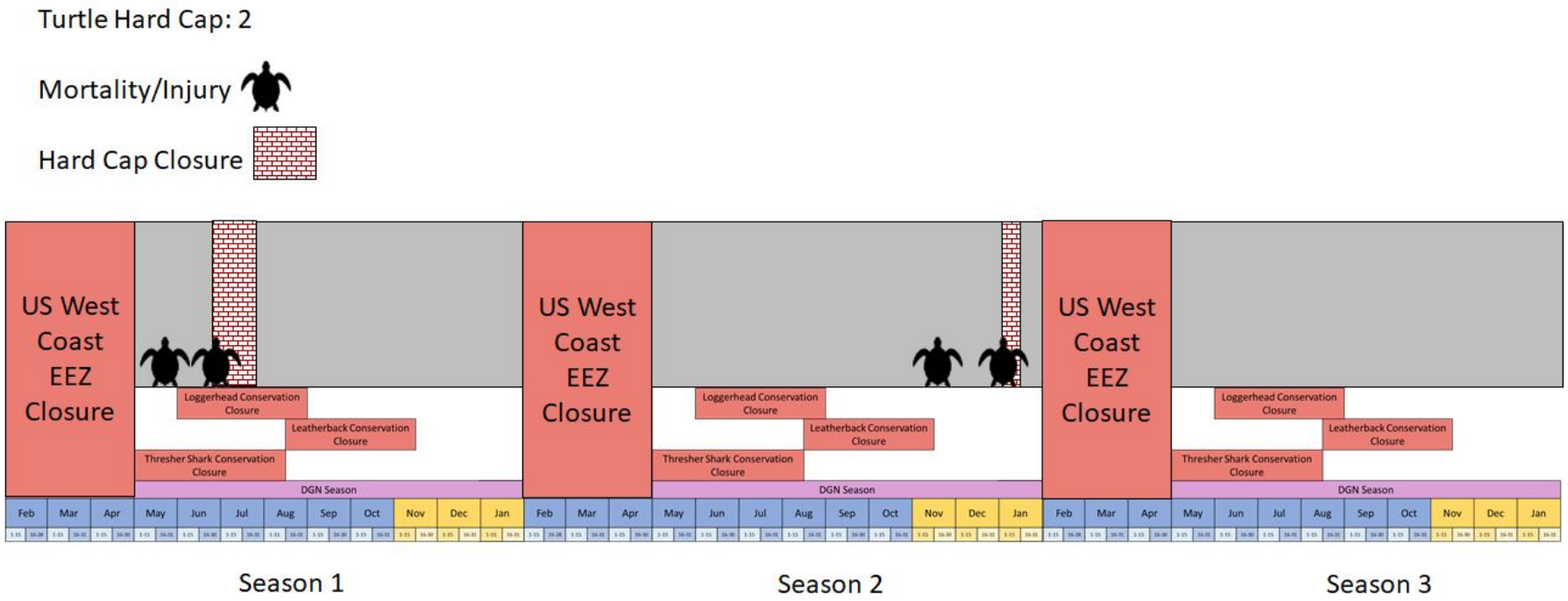
Alternative 3: Annual Fleet-wide Hard Caps Option 4: [14-day, and Remainder of the Season] (*HMSMT* Report 1)

For this option, two observed mortalities/injuries trigger the fishery to close for 14 days. The fishery then reopens, either on the 15th day, if the closure begins on or before January 17 (as is shown in season 1), or May 1, if the closure begins on or after January 18. If a third mortality/injury (as shown in season 2) with any hard cap species occurs within the same season after reopening, the fishery closes through January 31 before reopening on May 1 (shown in season 3).



Alternative 3: Annual Fleet-wide Hard Caps Option 5: [30-day in early season, 14-day in late season] (*HMSMT* Report 1)

For this option, if an observed mortality/injury occurs in the early part of the season (May through October) a 30-day closure is enacted (see season 1). If a cap is reached during the late season (November to January), a 14-day closure is enacted as is shown below in season 2.



Alternative 4: Individual Vessel and Fleet-wide Hard Caps (*HMSMT* Report 1) Options 1 & 2:

Individual closure period 7 days or 14 days, Fleet-wide closure period 14 days or 30 days

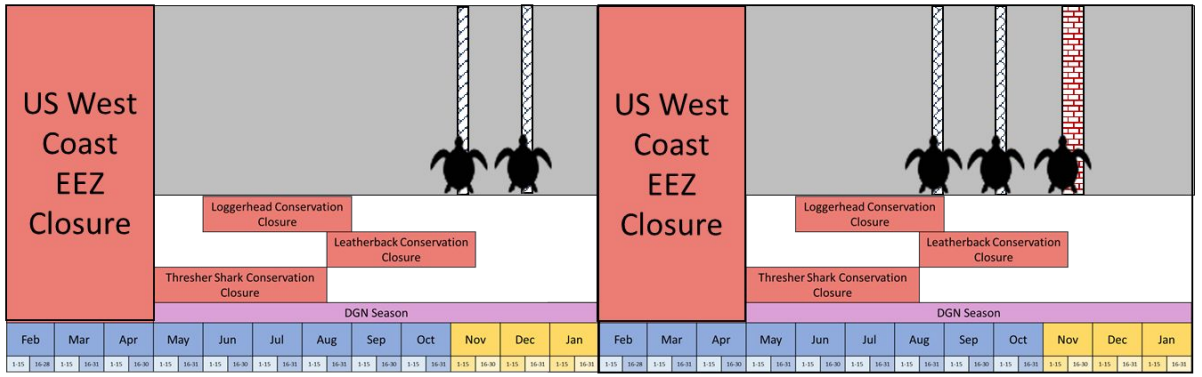
Under this alternative, hard caps apply both to individual vessels and the fleet as a whole based on the numbers shown in Table 3. For this example, we are using the turtle hard caps listed below. When an individual vessel reaches or exceeds an individual cap, both that vessel and all unobservable vessels would have to stop fishing. All vessels in the fishery would have to stop fishing when a fleet-wide cap is exceeded. The example below on the left shows options 1&2 of this alternative where the individual cap is met with the first interaction and exceeded with the second. The fleet cap is met, but not exceeded. This scenario would result in two individual closure periods for either a 7 day closure (option 1) or 14 day closure (option 2) for individual vessels and unobserved vessels, but not a closure for the fleet. In the example shown on the right, both the individual and fleet caps are exceeded. Therefore, in addition to the individual closures as in the previous example, there would also be a fleet-wide closure for 14 days (option 1) or 30 days (option 2).

Turtle Hard Cap:
Individual 1(2)
Fleetwide 2(3)

Mortality/Injury

Individual Hard Cap Closure

Fleetwide Hard Cap Closure



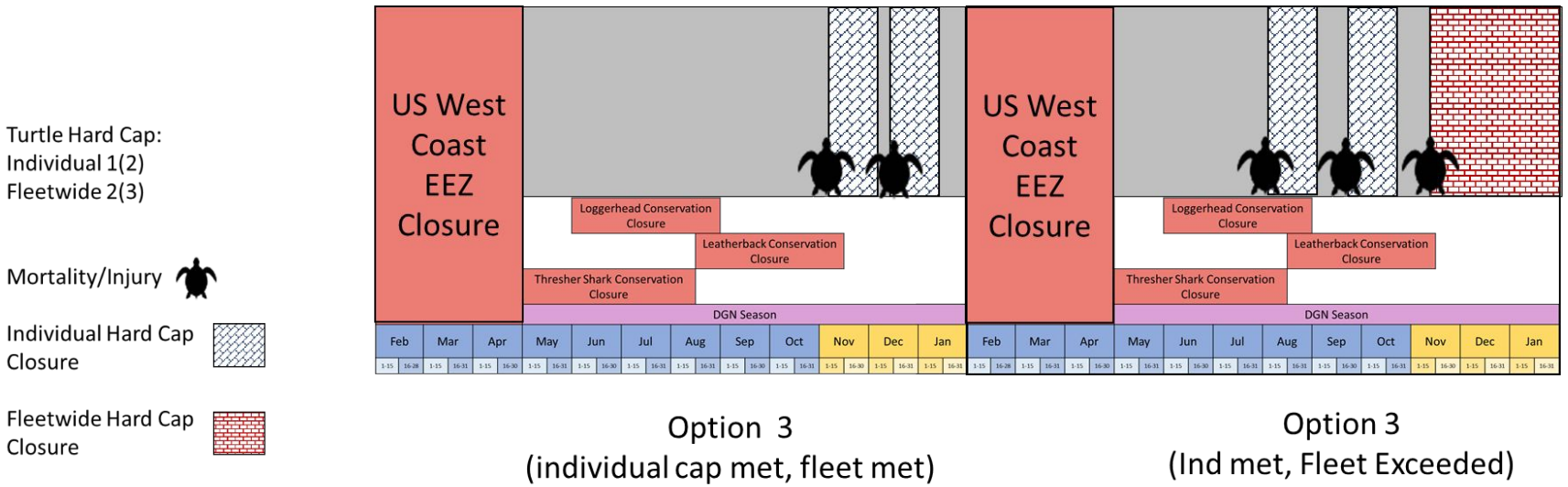
Option 1 & 2
(individual cap met, fleet met)

Option 1 & 2
(Ind met, Fleet Exceeded)

Alternative 4: Individual Vessel and Fleet-wide Hard Caps (*HMSMT* Report 1) Option 3:

Individual closure period 30 days, Fleet-wide closure period remainder of the season

Similar to the above example, this option includes individual and fleet-wide closures. The example below on the left shows option 3 of this alternative where the individual cap is met with the first interaction and exceeded with the second. The fleet cap is met, but not exceeded. This scenario results in 30-day closure periods for individual vessels and unobserved vessels, but not a closure for the fleet. In the example shown on the right both the individual and fleet caps are exceeded. Therefore, in addition to individual closures in the previous example there would also be a fleet- wide closure for the remainder of the season. Following, the fishery would reopen on May 1.



Option 3
(individual cap met, fleet met)

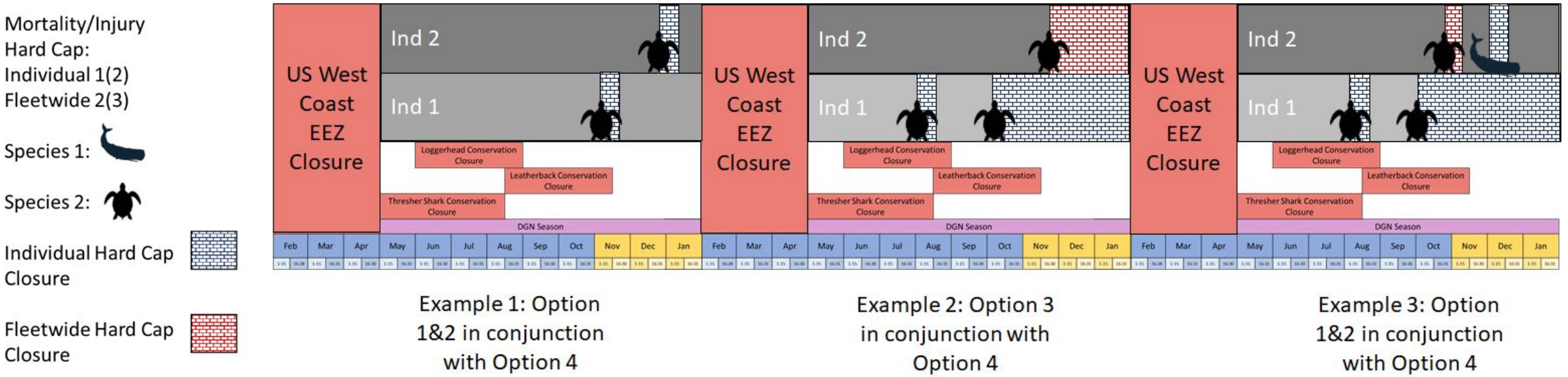
Option 3
(Ind met, Fleet Exceeded)

Alternative 4: Individual Vessel and Fleet-wide Hard Caps (*HMSMT* Report 1) Option 4:

Closure periods could range with the above options, and

1) when the fishery reopens during the same fishing season, should a vessel that previously reached/exceeded an individual vessel cap again hit any of the caps, that vessel plus all unobservable vessels are prohibited from fishing for the remainder of the current season, and

2) when the fishery reopens during the same fishing season, should any of the fleet-wide caps be reached, the entire fishery closes for the remainder of the current season.



Example 1: Option 1&2 in conjunction with Option 4

Example 2: Option 3 in conjunction with Option 4

Example 3: Option 1&2 in conjunction with Option 4

Alternative 4: Individual Vessel and Fleet-wide Hard Caps (*HMSMT* Report 1) Option 4:

The schematic option below shows the potential revised language for option 4 of alternative 4 is:

Closure periods as in any one of options 1-3, but 1) when a vessel returns to the fishery during the same fishing season after an individual hard cap closure, should injury/mortality of ANY hard cap species occur on the same vessel, that vessel plus all unobservable vessels are prohibited from fishing for the remainder of the current season, and 2) when the fishery reopens from a fleet-wide hard cap closure during the same fishing season, should injury/mortality of ANY hard cap species occur, the entire fishery closes for the remainder of the current season.