Draft Addendum I to Amendment 3

Commercial Allocations, Episodic Event Set Aside Program, and Incidental Catch/Small-Scale Fisheries

November 2022

Overview

- Management Options & Public Comment Summary *(J. Boyle)*
- AP Report *(M. Lapp)*
- Consider Final Approval of Draft Amendment 3

Draft Addendum I Timeline

August 2021	Board initiates development of Addendum I
August 2021-January 2022	PDT develops Draft Addendum I for Board review
January and May 2022	Board provides PDT additional guidance
Feb-April and May-July 2022	PDT continues edits to Draft
August 2022	Board reviews Draft and considers its approval for public comment
August-October 2022	Public Comment/Hearings
November 2022	**Board reviews public comment, selects management options and considers final approval of Addendum I**

Public Comment Overview

Public Hearings

- Conducted 10 hearings for 11 jurisdictions
- ME (x2), NH, MA, RI, NY, NJ, DE-MD-PRFC, VA, NC
- 246 individuals attended the hearings

Written Comment

- A total of 121 comments received
- 34 comments received through form letters
- 23 organizations submitted comments
- Remaining (64) generally came from individual stakeholders, including comm. fishermen, rec fishermen, and concerned citizens

Option Categories

Allocation Step 1: Fixed Minimum *(3.1.1)*

Option A: (SQ) All 0.5%

Option B: Three-tiered (0.01, 0.25, 0.5%)

Allocation Step 2: Timeframe *(3.1.2)*

Option 1. (SQ) 2009-2011

Option 2. 2018, 2019, 2021

Option 3A: Combination. Sub-1: 25/75; Sub-2: 50/50

Option 4: Moving Average. A: all landings; B: limits if TAC exceeded

Episodic Event Set Aside *(3.2)*

Option 1: (SQ) EESA is 1% of TAC

Option 2: Increase up to 5%: Sub-option 1: Static value OR Sub-option 2: Set during Specifications

Incidental Catch/Small-Scale Fisheries *(3.3)*

3.3.1 Timing: 1. (SQ) States choose; 2. sector allocation is met; 3. state allocation is met

3.3.2 Permitted Gear Types: 1. (SQ); 2. No purse seines; 3. Non-directed only

3.3.3 Directed Trip Limits: 1. (SQ) 6,000lbs for all gears 2. 4,500 lbs; 3. 3,000 lbs

3.3.4 Catch Accounting: 1. (SQ) IC/SSF does not count against TAC; 2. Counts against TAC and acts as management trigger

3.1 Commercial Allocation

Objective: Allocations should be adjusted to:

1) Align with recent availability of the resource
2) Enable states to maintain current directed fisheries with minimal interruptions during the season
3) Reduce the need for quota transfers and;
4) Fully use the annual TAC without overage

Allocation: Step 1 Fixed Minimum

- **Option A. Status Quo:** All states get .50% fixed minimum allocation
  - 8% of TAC goes to fixed min
- **Option B. Three-tiered Fixed Minimum**
  - 1st Tier of .01%: PA, SC, GA
  - 2nd Tier of .25%: CT, DE, NC, FL
  - 3rd Tier of .50%: ME, NH, MA, RI, NY, NJ, MD, PRFC, and VA
  - 5.53% of TAC goes to the fixed min
- Majority support for Option B
  - Assigns more quota to Step 2, thereby distributing to states with larger fisheries
- Minority support for Option A
  - Equity
  - Reserve quota for other ecological purposes

Allocation: Step 2 Timeframe of Landings

Option 1. Status Quo (2009-2011)

Option 2. (2018, 2019, and 2021)

- Reflects recent landings, stock distribution, but not the past

Option 3. Weighted Allocation (25/75, 50/50)

- **Option 3A: 2009-2011/2018, 2019, 2021**
  - **Sub-Option 1 25% 2009-2011/75% 2018, 2019, 2021**
  - **Sub-Option 2 50% 2009-2011/50% 2018, 2019, 2021**

Option 4. Moving Average

- **4A. Use the most recent 3 year moving average to annually adjust allocations as the stock and fishery dynamics change**

- **4B. Provisions to limit shifts in the moving average: All landings <= the TAC for the most recent 3 years regardless of source. If the TAC is exceeded then only a portion of the landings will count**

Overage Paybacks

- Option 1. Status Quo: Any overage is subtracted in the subsequent year on a pound for pound basis.
- Option 2. Second Year After Overage: Any overage is subtracted in the second year following the overage on a pound for pound basis.

3.2 : Episodic Event Set-Aside Program

Objective: Ensure sufficient access to episodic changes in regional availability in order to minimize in-season disruptions and reduce the need for quota transfers and IC/SSF landings.

EESA Management Options

3.2.1 Increase the Set-Aside

- Option 1. Status Quo (1%)
- Option 2. Increase up to 5%
  - Sub Option 1. EESA is set as a static amount 1-5%.
  - Sub Option 2. Set EESA between 1-5% during Specifications. Can be an annual or multi year spec.

3.3 Incidental Catch & Small-Scale Fisheries (IC/SSF)

Objective: Sufficiently constrain landings to achieve overall management goals of:

1) meeting the needs of existing fisheries,
2) reducing discards, and
3) indicating when landings can occur and if those landings are part of the directed fishery.

IC/SSF Management Options

3.3.1 Timing of IC/SSF Provision

Option 1. Status Quo (no change)

Option 2. States may split quota by sector/fishery/gear type

Option 3. Entire state's allocation met

IC/SSF Management Options Cont'd

3.3.2 Permitted Gear Types of the IC/SSF

Option 1. Status Quo (no change)

i. Sub-Option 1. Status Quo

ii. Sub-Option 2. Fyke nets removed from small-scale directed gear type category

iii. Sub-Option 3. Fyke nets removed from small-scale directed gear type category and trammel nets reclassified as non-directed gear type

Option 2. No purse seines, all other small-scale and non-directed gears maintained

Option 3. Non-directed gears only

IC/SSF Management Options Cont'd

3.3.3 Trip Limit for Directed Small-Scale Fisheries of IC/SSF

Option 1. Status Quo (no change to trip limit): 6,000 lbs for all eligible gear types

Option 2. 4,500 lbs for directed gear types

Option 3. 3,000 lbs for directed gear types

Directed gears: cast nets, traps (excluding floating fish traps), pots, haul seines, fyke nets, hook and line, bag nets, hoop nets, hand lines, trammel nets, bait nets, and purse seines which are smaller than 150 fathom long and 8 fathoms deep

IC/SSF Management Options Cont'd

3.3.4 Catch Accounting of IC/SSF

Option 1. Status Quo: landings don't count against state quota or TAC

Option 2. IC/SSF landings are evaluated against the annual TAC

Option 2A. Modify Trip Limit for Permitted Gear Types in IC/SSF provision

Sub-Option 1. The trip limit will be adjusted for one or more permitted gear types in the IC/SSF provision via Board action.

Option 2B. Modify Permitted Gear Types in the IC/SSF : Board will evaluate the permitted gear types in the IC/SSF provision and take action to eliminate one or more gear types from the IC/SSF provision

Sub-Option 1. Permitted gear types in the IC/SSF provision will be adjusted via Board action.

Additional Comments

Allocation

- Concentration of quota
- Size of fish landed

IC/SSF

- Disparity of landings between states and use in determining allocation

Additional Comments

- Harvest in sensitive areas, spatial concentration
- Concentration of fishing pressure causing declines in other marine species
- Complexity of the document and fishery regulations

Atlantic Menhaden Advisory Panel Report

3.1.1 Fixed Minimum

- **7 AP Members Supported Option B: Three-tiered fixed minimum**
  - 1 AP member: tiered approach best aligns with the goals and objectives of the addendum.
  - 1 AP member: supports Option B, but disagrees that the availability of the resource has changed and warrants modifying allocations

3.1.2 Allocation Timeframe

- **4 AP members support Option 2: 2018, 2019, & 2021**
  - 2 AP members: Option represents the current cycle of menhaden distribution and aligns with public sentiment from hearings.
  - 2 AP members: would accept Option 3A Sub-option 1 (75/25) as backup.
    - Specifically opposed Options 4A and 4B due to the wide variations in menhaden availability from year to year.
- **3 AP members support Option 3A Sub-option 2 (50/50)**

3.2.1 EESA

- **3 AP Members Supported Option 1: Status Quo (1%)**
  - 1 AP member: feels that the allocation options already address increasing quota in the northeast.
  - 1 AP member: 1% of a large quota is plenty of fish
- **2 AP members support Option 2: Increase the set aside (1-5%)**
  - 1 AP member: supports Sub-option 2 and believes increasing the set aside would suit the objective of the EESA to respond to the northern influx of fish.

3.3.1 IC/SSF Timing

- **2 AP member supports Option 1: Status Quo**
  - Another AP member commented that their state does not separate quota by sector, and they do not oppose Option 2 if it helps other states that wish to separate quota.

3.3.2 IC/SSF Gear Types

- **1 AP member supports Option 1: Status Quo**
  - Purse seines restricted in size
  - Critical for lobster industry, especially late in season
  - Noted the large turnout in hearings to support this option
- **3 AP members support Option 2: Remove Purse Seines**
  - 2 AP members: prefer Option 2, but would accept Option 1.
    - Strongly opposed to Option 3 as it would eliminate IC/SSF fishery in the state
  - 1 AP member: believes purse seines do not conform to the goals of IC/SSF provision and leads to overuse of the provision.

3.3.3 IC/SSF Trip Limits & 3.3.4 IC/SSF Catch Accounting

- **Trip Limits**
  - **4 AP members support Option 1: Status Quo**
    - 1 comment that current limit reduces regulatory discards

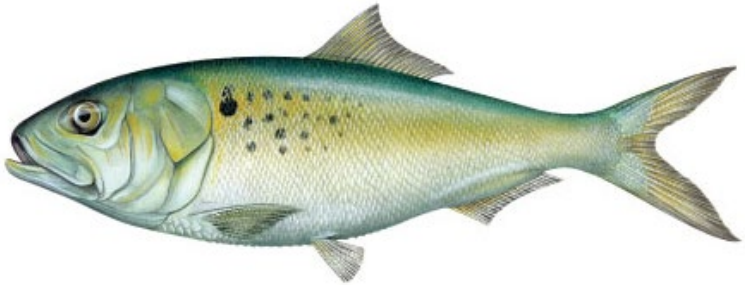
- **Catch Accounting**
  - **1 AP member supports Option 1: Status Quo**
  - **1 AP member supports Option 2 (no sub-option specified)**

AP General Comments

- 1 AP member requested separation of beach seines and haul seines

Questions?

Setting 2023-2025 Specifications



Atlantic Menhaden Board

November 9, 2022

Background: TAC Specification

- Set an annual or multi-year TAC through Board action
  - Based on best available science (e.g. projection analysis)
  - Previous TACs:
    - 170,800 mt (2013-2014)
    - 187,880 mt (2015-2016)
    - 200,000 mt (2017)
    - 216,000 mt (2018-2020)
    - 194,400 mt (2021-2022)
- In setting a TAC, the Board should consider the level of risk they are willing to accept

Background: TAC Specification

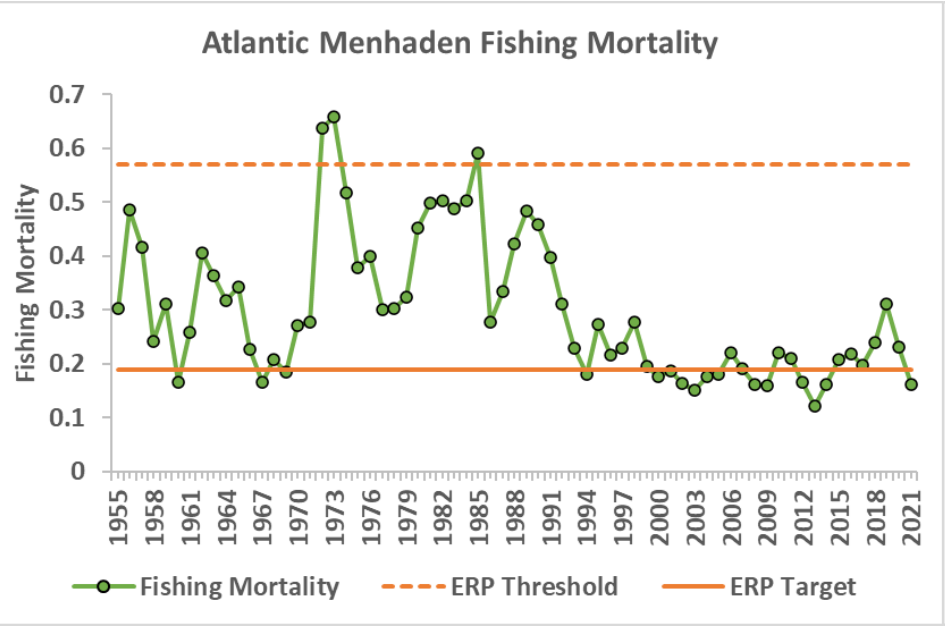
- 2022 stock assessment update presented to Board at August meeting
- Board requested the TC examine a range of TACs and associated risk to reference points
  - 40-60% probability of exceeding ERP target (5% increments)
    - 2023-2025 combined, and as separate years
  - Percent risk of exceeding ERP target within +/- 10% of current TAC, including status quo (5% increments)

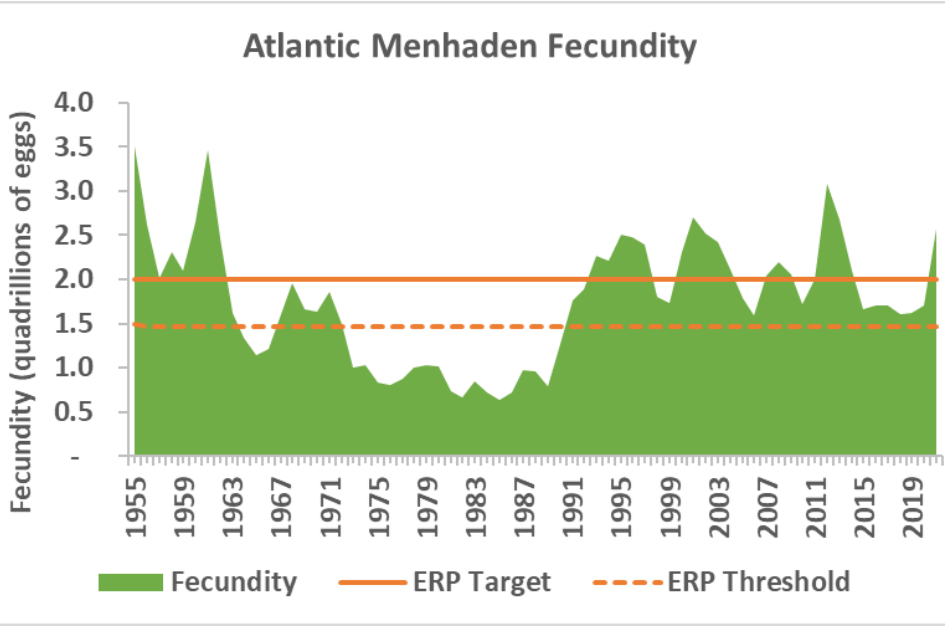
Current Reference Points

- **ERP target**: the maximum fishing mortality rate (*F*) on Atlantic menhaden that sustains Atlantic striped bass at their biomass target when striped bass are fished at their *F* target
- **ERP threshold**: the maximum *F* on Atlantic menhaden that keeps Atlantic striped bass at their biomass threshold when striped bass are fished at their *F* target.

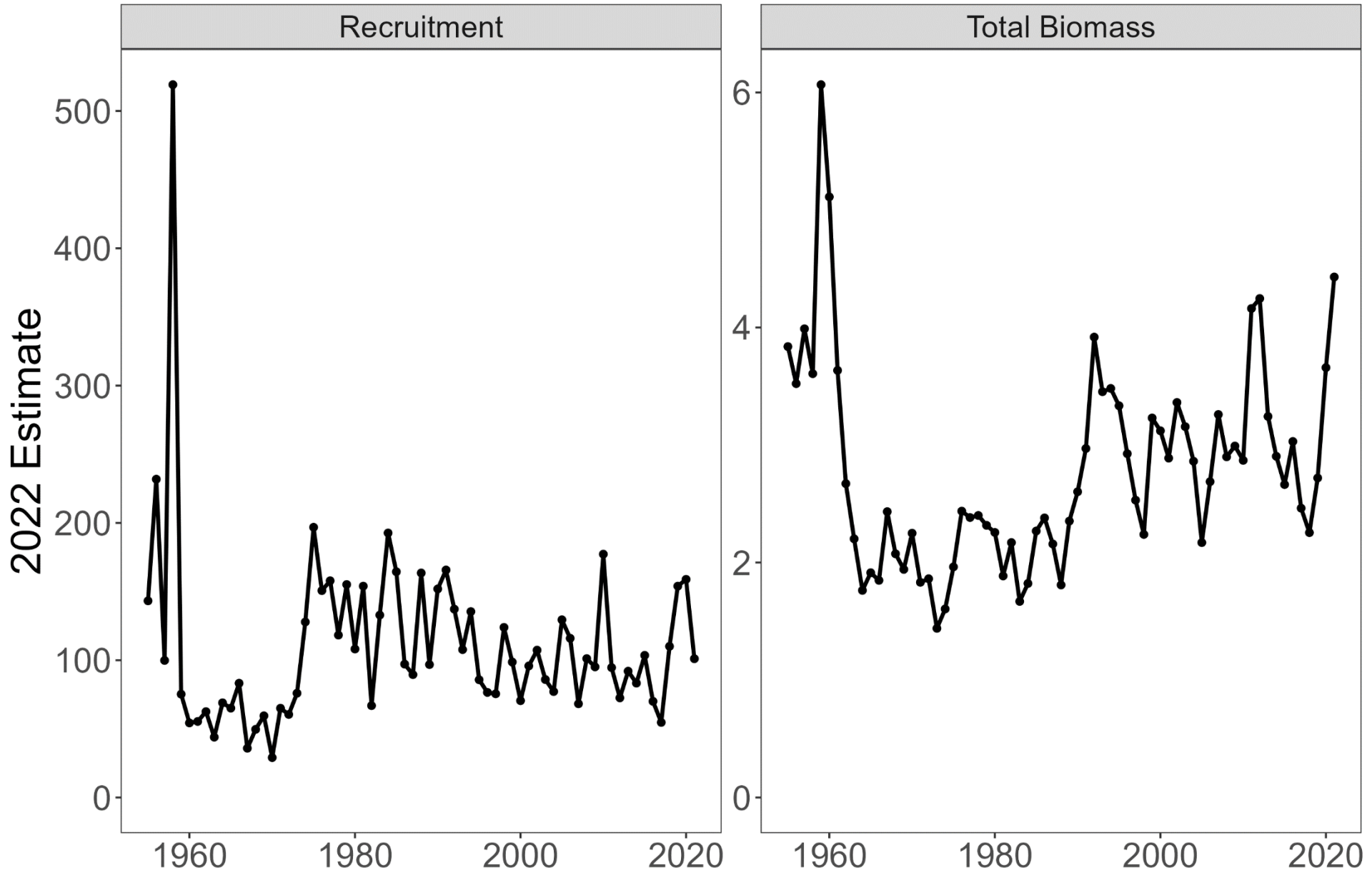
Current Status

Below the F target, above the FEC target





Biomass and Recruitment



Projection Methods

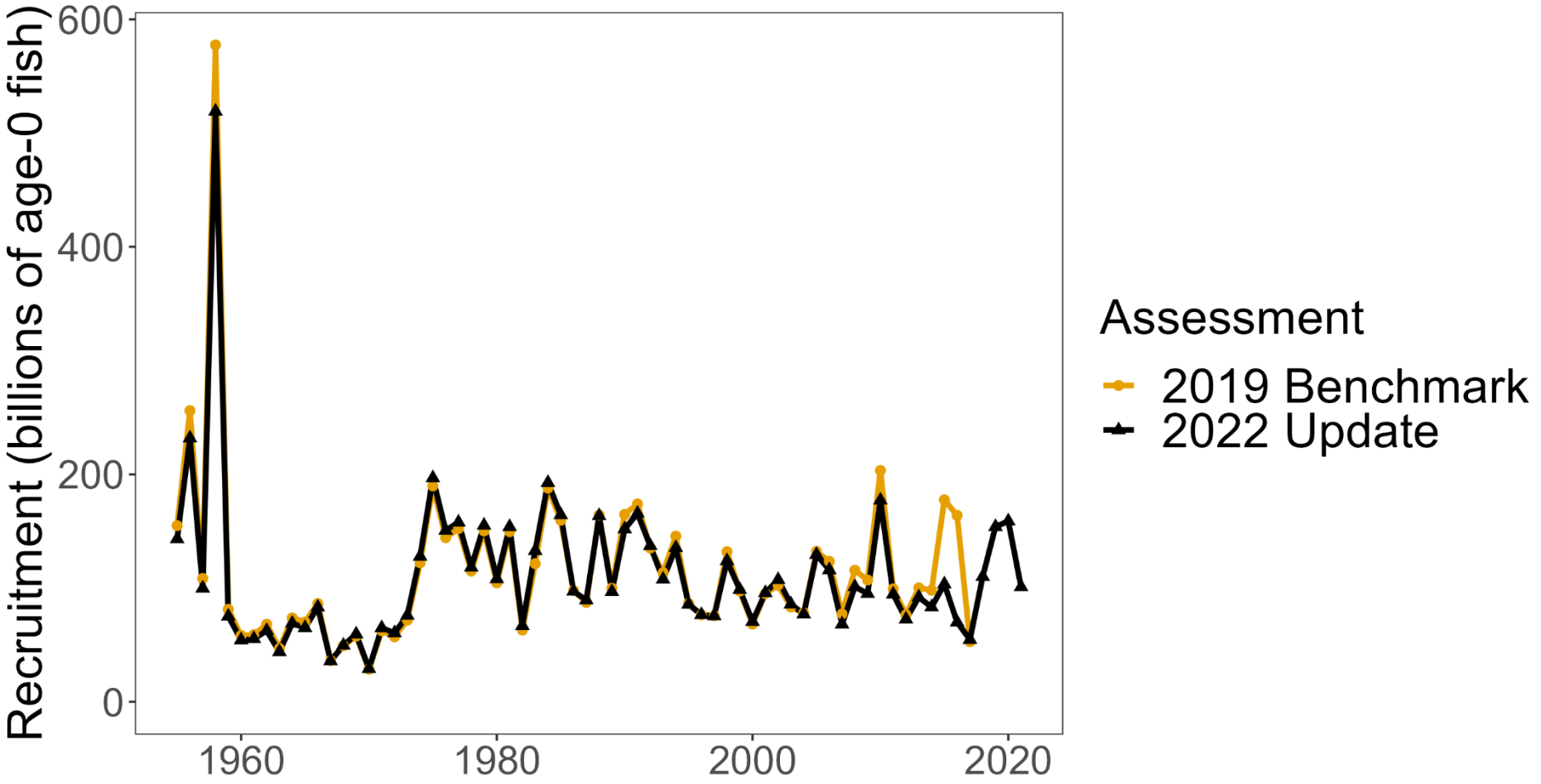
- Monte Carlo bootstrap runs of the Beaufort Assessment Model (BAM) used as the basis for projections (see 2022 Update)
  - Same methods as benchmark
- Uncertainty accounted for using best scientific methods available
- As usual, projections are highly uncertain and subject to model assumptions (i.e., no changes in fishing effort, seasonality of the fishery is not modeled, there is no structural model uncertainty in projections)

Uncertainty

- Potential impacts of the 2020 and 2021 data issues on the terminal year estimates of abundance is an additional source of uncertainty
  - Several surveys used in BAM had missing data points
  - Reduced commercial sampling (e.g., lengths and ages)

Uncertainty

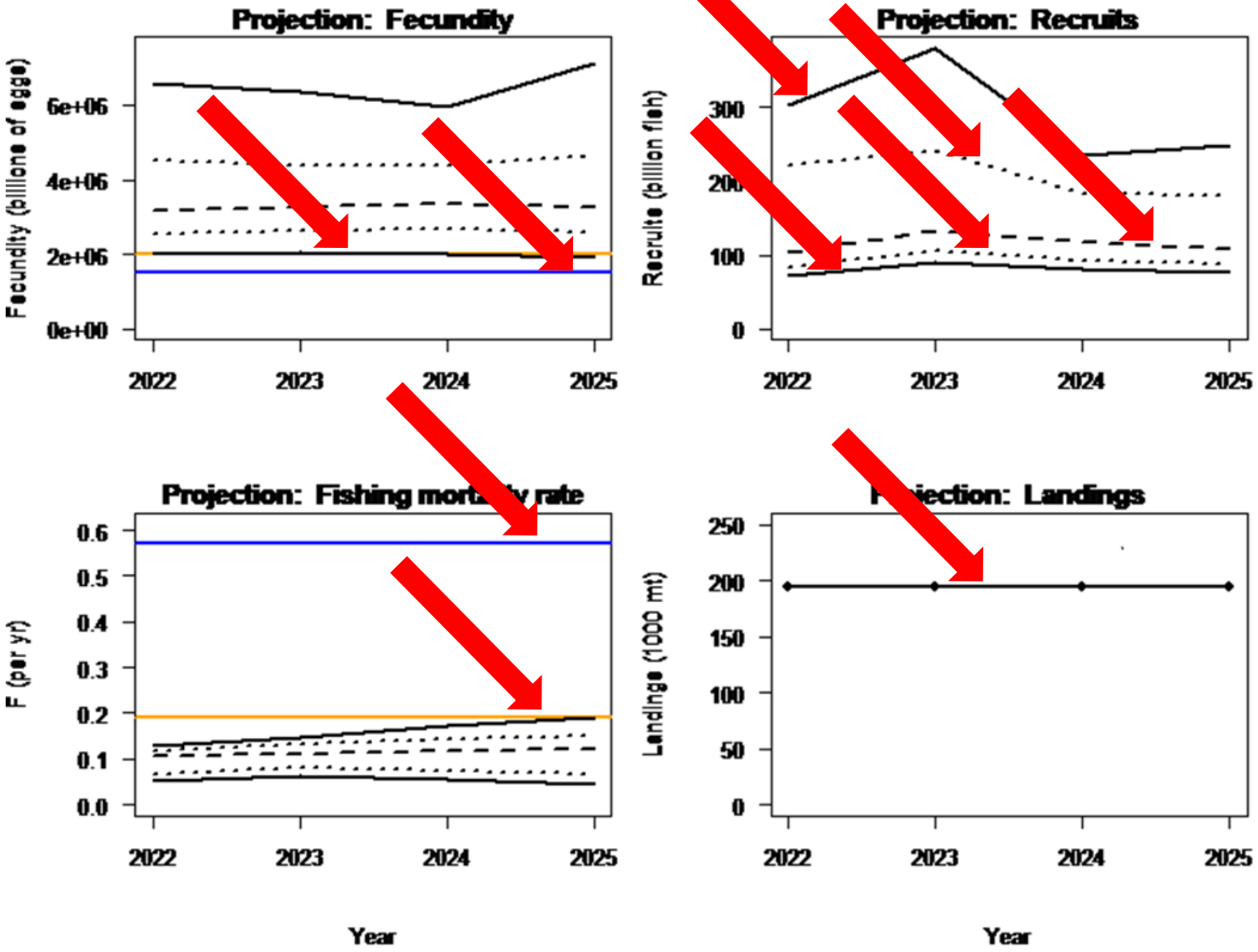
- Retrospective pattern in 2022 Update



Uncertainty

- Retrospective pattern in 2022 Update
  - Model underestimates *F* and overestimates fecundity in the terminal year (also in benchmark)
  - TC considered adjusting projections to account for retrospective pattern using two methods (NEFSC and ICES)
  - TC does not recommend adjusting projections at this time
  - ASC should consider a policy for retrospective adjustments
  - Board may want to adjust risk tolerance accordingly

Key To Graphs



Projections Performed

Probability of Exceeding the ERP Target (0.19)	TAC for 2023-2025	TAC for 2023	TAC for 2024	TAC for 2025
40%	259,500	290,900	271,100	259,500
45%	270,500	303,800	281,800	270,500
50%	284,600	318,600	294,100	284,600
55%	301,000	335,100	308,200	301,000
60%	326,500	350,200	326,500	329,700

Recent TACs:

- 216,000 mt (2018-2020)
- 194,400 mt (2021-2022)

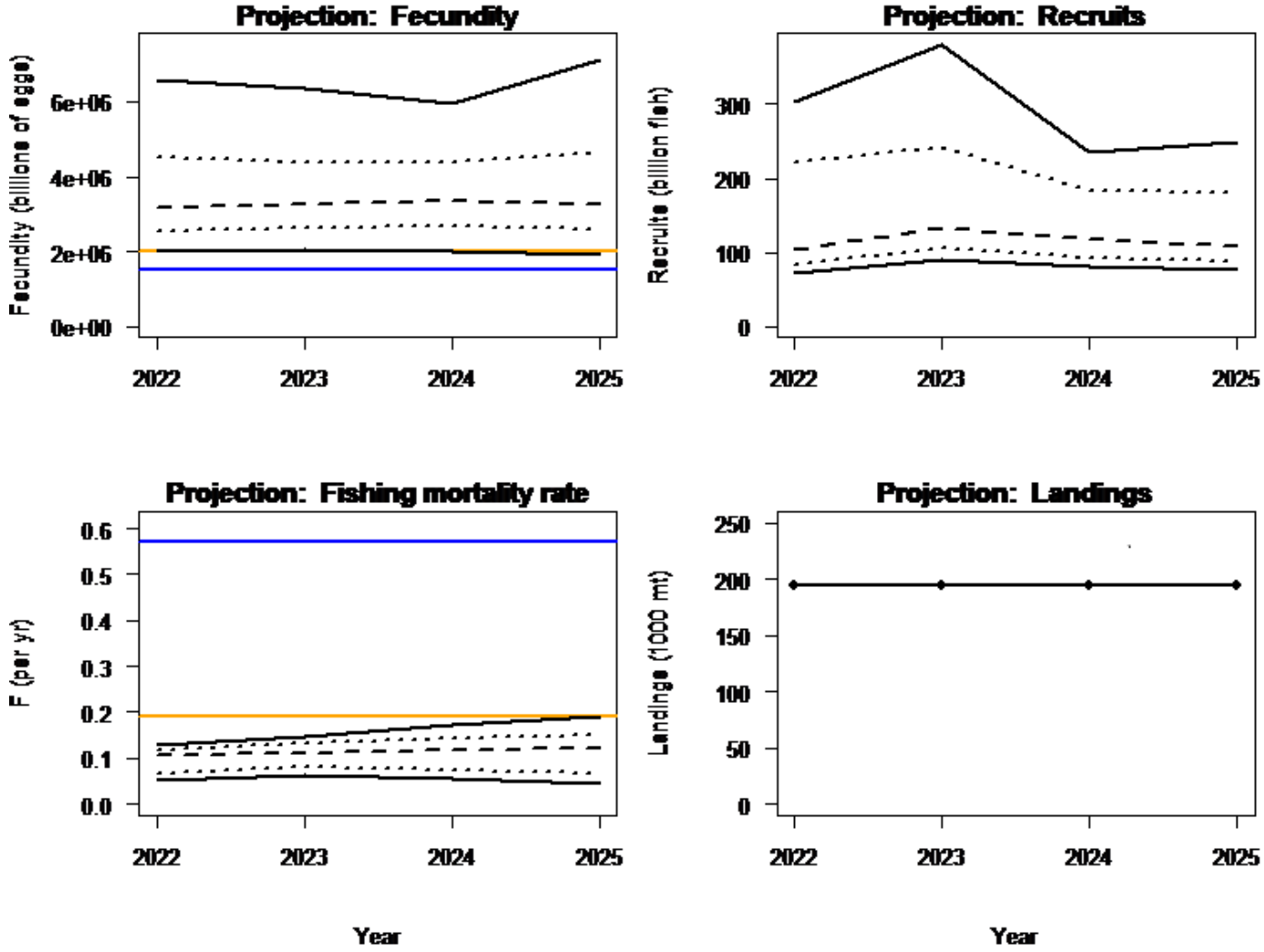
Projections Performed

TAC	Probability of Exceeding ERP Target (0.19)			Probability of Exceeding ERP Threshold (0.57)		
	2023	2024	2025	2023	2024	2025
174,960 mt (-10%)	0%	0%	2%	0%	0%	0%
184,680 mt (-5%)	0%	1%	3%	0%	0%	0%
194,400 mt (current TAC)	0%	1%	6%	0%	0%	0%
204,120 mt (+5%)	0%	4%	10%	0%	0%	0%
213,840 mt (+10%)	0%	8%	14%	0%	0%	0%

Questions?

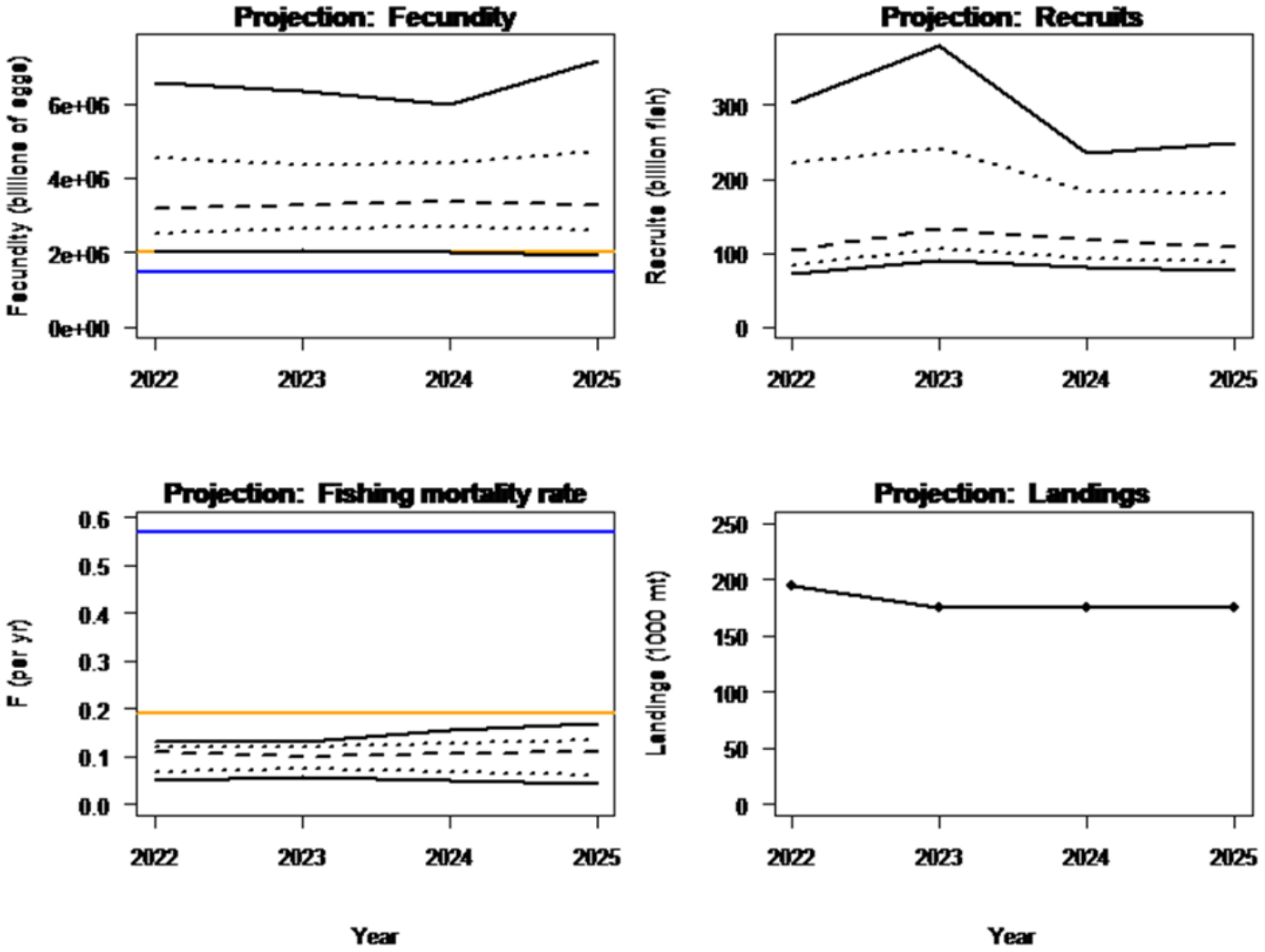
Projection Graphs

- Status quo (194,400 mt)



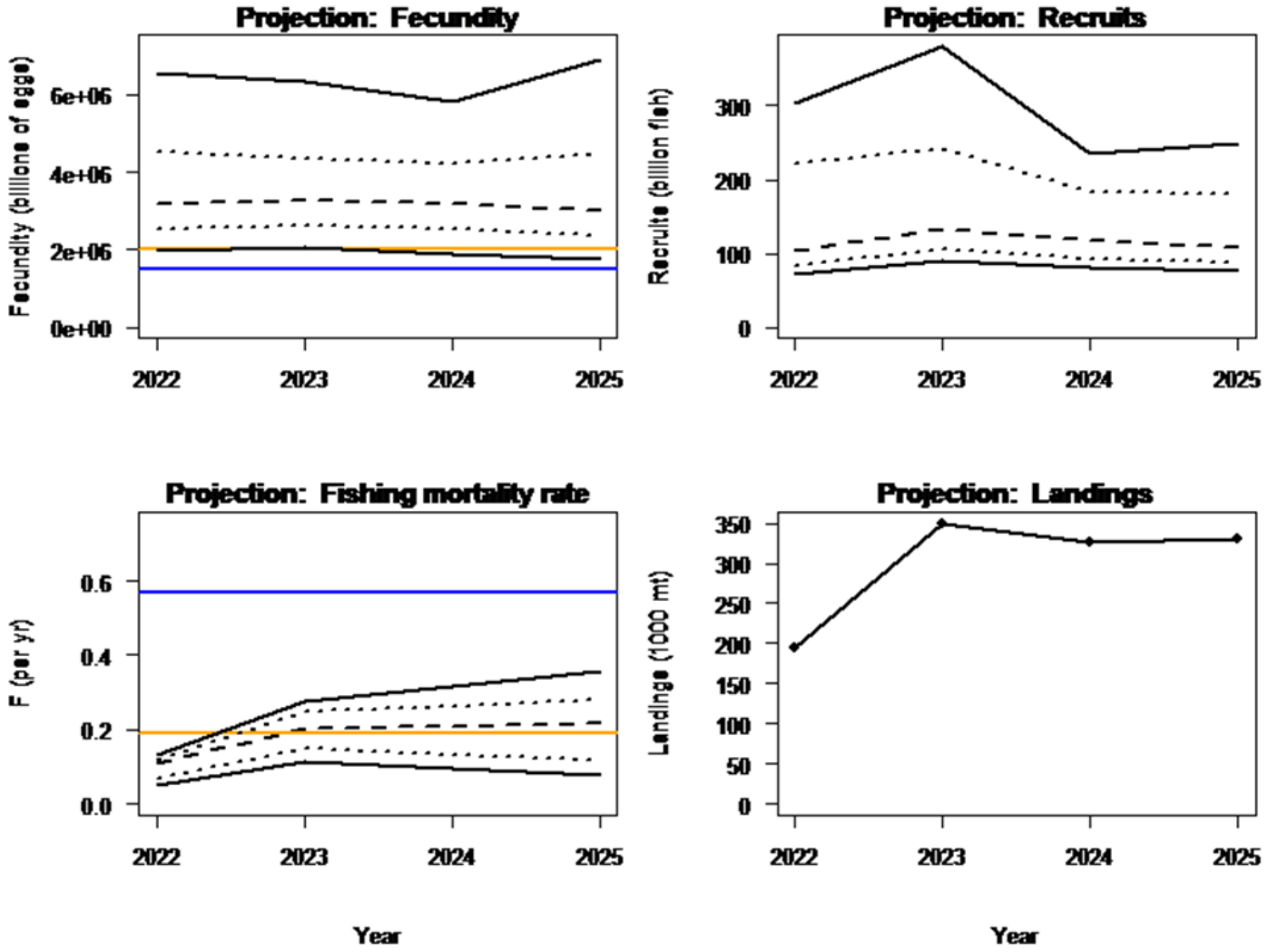
Projection Graphs

- 10% decrease (174,960 mt)



Projection Graphs

- 60% chance of exceeding ERP target



Projection Methods

- Numbers at age after the initial year:

$$N_{a+1,y+1} = N_{a,y} e^{-Z_{a,y}}$$

- a = age; y = year
- Z = age and year specific total mortality; equals natural mortality for each age for that year plus fishing mortality times selectivity at age

Projection Methods

- Natural mortality for each projection was the vector from each MCB run
- Selectivity is a vector from each MCB run for each fishery; northern and southern fishery selectivities are values from last time period
- Fishing mortality estimated to match annual landings

Projection Methods

- Annual landings calculated using the Baranov catch equation and weight of landings

- Recruitment projected without underlying stock-recruitment function
  - Uncertainty in recruitment accounted for by using nonlinear time series analysis for each MCB run
  - Recruitment is projected based on prior recruitment variability under similar fishery conditions

Projection Caveats

- If future recruitment is characterized by runs of large or small year classes, possibly due to environmental or ecological conditions, stock trajectories may be affected
- Projections apply the Baranov catch equation
  - Assumes mortality occurs throughout the year
  - If assumption is violated (e.g., seasonal closures), additional, unquantified uncertainty will be introduced, impacting projection performance