

Herring FMP Update



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Marine Resources Committee Meeting
Sacramento, Ca Mar 20, 2019

Overview



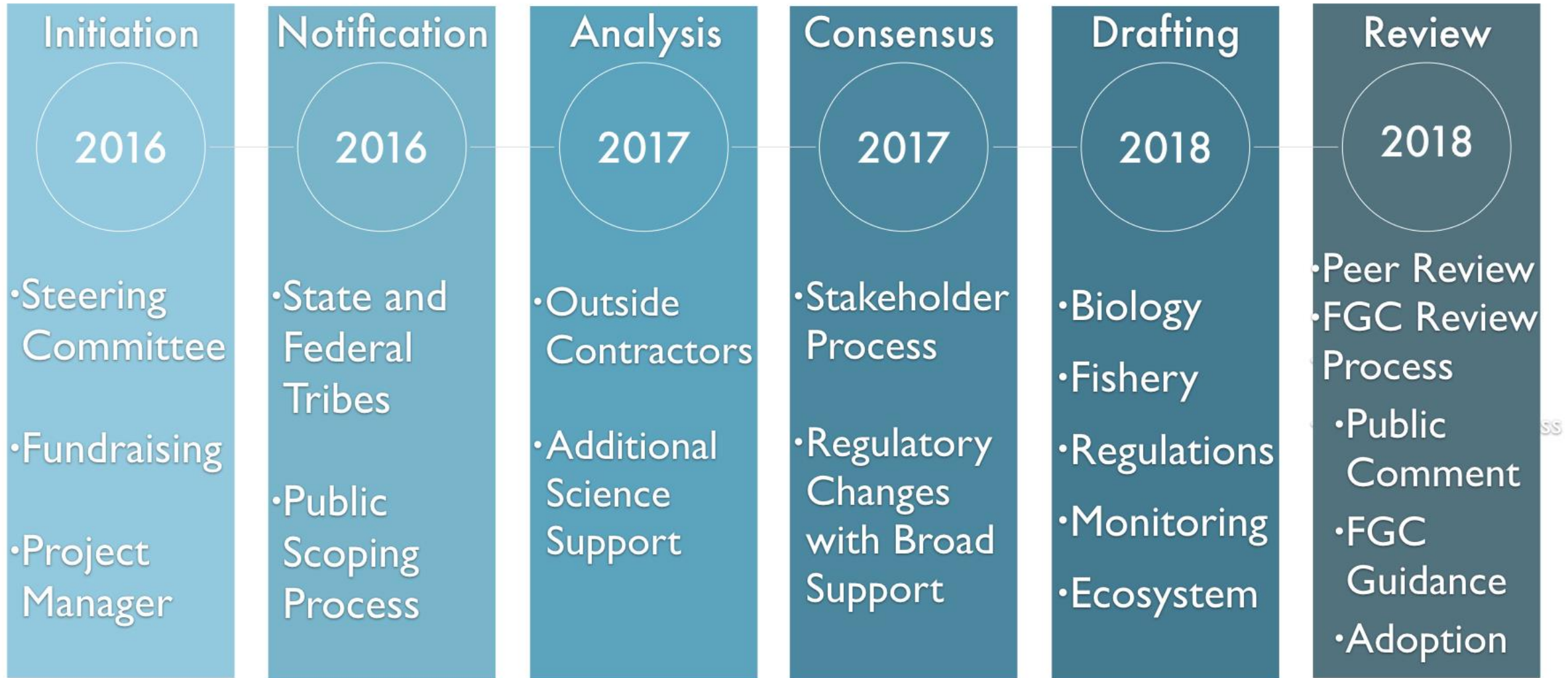
Today

FMP progress since the last Commission update

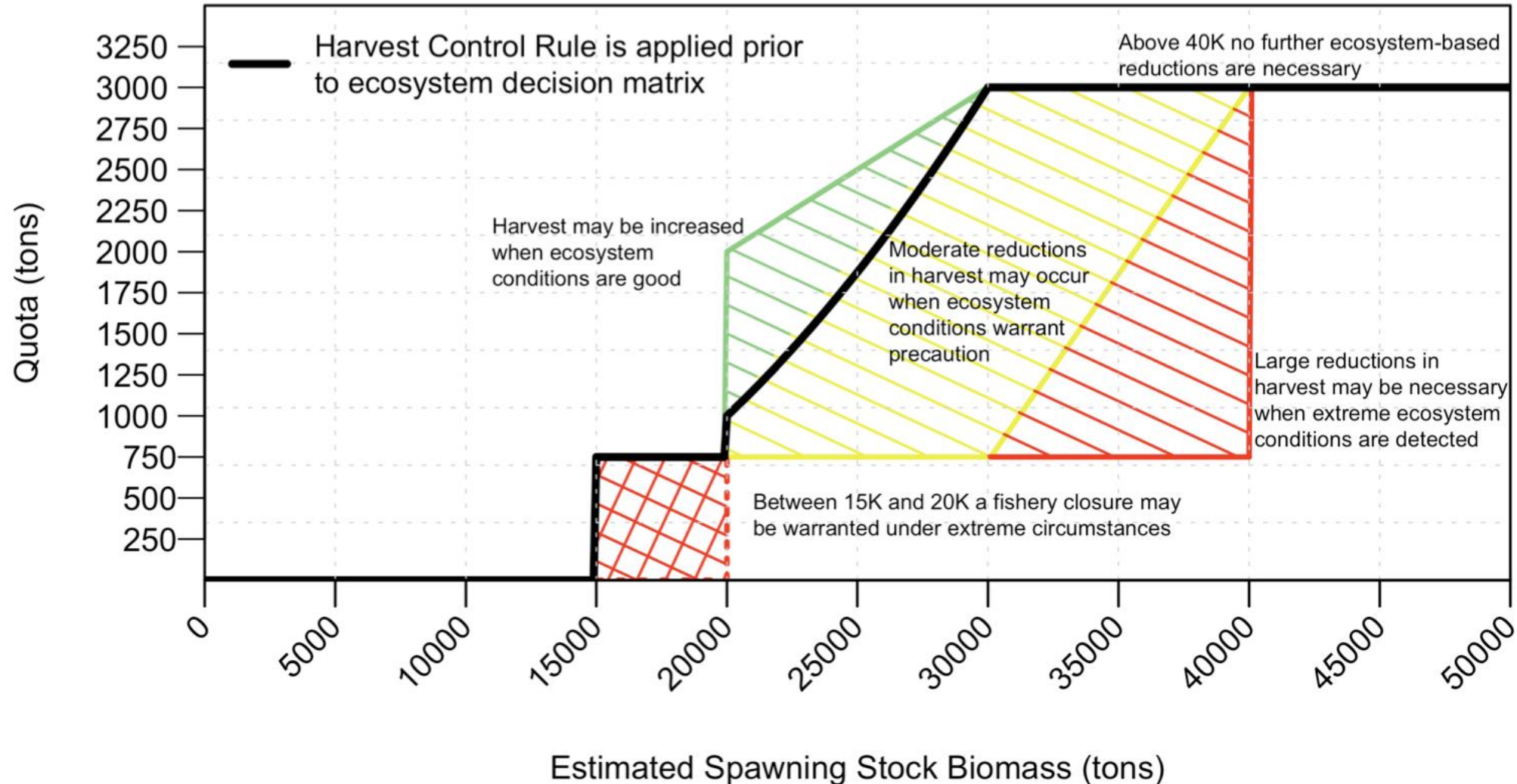
Status of the herring fishery in recent years

Anticipated timeline to FMP adoption

FMP Development Process



Proposed Harvest Control Rule Framework



Peer Review

Key Findings

Supported the use of the proposed HCR to set quotas in San Francisco Bay.

Had concerns about use of qualitative ecosystem indicators to adjust quotas without clear thresholds and recommendations.

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1. Use HCR to set quota, and describe status of ecosystem indicators in yearly report to provide ecological context.
2. Develop a transparent, reproducible process with quantitative thresholds for adjusting quotas in response to ecosystem indicators.

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Revised Management Strategy

Setting Herring Quotas in San Francisco

- 1) The biomass is estimated and the HCR is used to set a preliminary quota.
- 2) A decision tree is used to assess current forage conditions.
- 3) If an ecosystem threshold is crossed, the Department may consider a 1% adjustment to the harvest rate.
- 4) The final quota is set, and a season summary is produced detailing ecosystem status.

| Table 7-3. Decision tree to assess predator-prey conditions in the CCE | | | |
|--|---|-----|----------------------------|
| Herring | 1. Is the biomass estimate greater than 20,000 tons? | No | Do not adjust quota. |
| | | Yes | Proceed to 2. |
| Predators | 2. Is there an unusual mortality event in progress in California for one of the following species: Common Murre, Rhinoceros Auklet, Harbor Seals, or California Sea Lions? | No | Proceed to 5. |
| | | Yes | Proceed to 3. |
| | 3. Is the mortality event occurring in Central California (e.g., Sonoma, Marin, San Francisco, San Mateo, Santa Cruz, Monterey counties)? | No | Proceed to 5. |
| | | Yes | Proceed to 4. |
| | 4. Is the cause of the mortality event attributed to or exacerbated by lack of forage, and the Herring biomass estimate is < 40,000 tons? | No | Proceed to 5. |
| | | Yes | Consider reducing quota. |
| | 5. Is the forecasted ocean abundance of Sacramento River fall-run Chinook Salmon < 180,000, and the Herring biomass estimate < 40,000 tons? | No | Proceed to 6. |
| | | Yes | Consider reducing quota. |
| Regional Forage | 6. Calculate whether YOY Hake, YOY Rockfish, YOY Sanddab, Market Squid, and krill in the central CCE are more than 1 standard deviation below the long term mean. These indicators are classified as "unusually low". | | Proceed to 7. |
| | 7. Calculate whether central CCE Adult Pacific Sardine and Adult Northern Anchovy are below 50% of the long term mean. These indicators are classified as "unusually low". | | Proceed to 8. |
| | 8. Calculate the number of forage indicators that are more than 1 standard deviation above the long term mean. These indicators are classified as "unusually high". | | Proceed to 9. |
| | 9. Are there currently > 5 forage indicators that are unusually low, and the Herring biomass is < 40,000 tons? | No | Proceed to 10. |
| | | Yes | Consider reducing quota. |
| | 10. Are there currently > 3 forage indicators that are unusually high, and the answer to lines 2, 5, and 6 is no? | No | Do not adjust quota. |
| | | Yes | Consider increasing quota. |

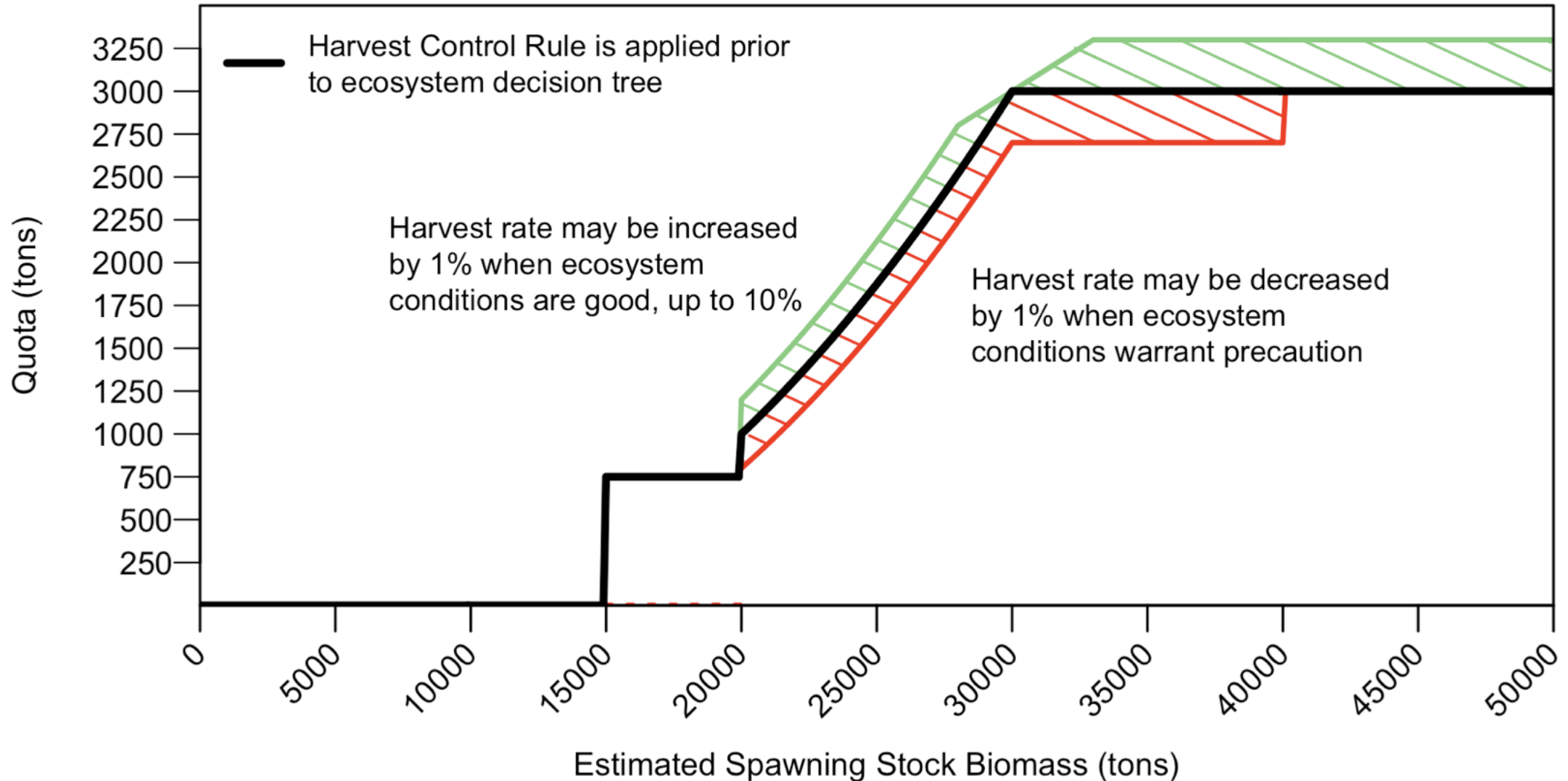
Decision Tree for Adjusting Quotas

Designed to detect unusual ecosystem conditions

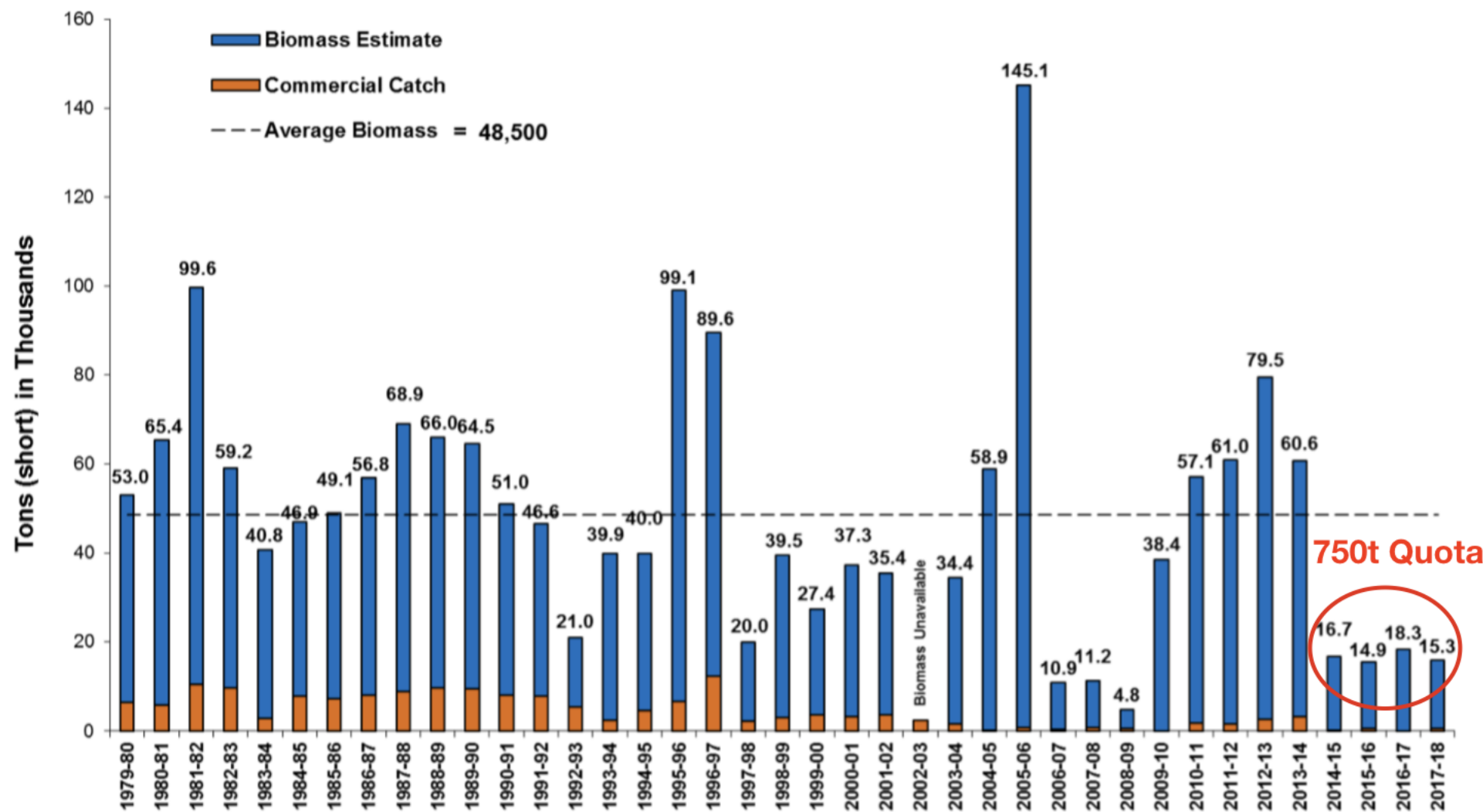
Relies on readily available data from ongoing monitoring programs

Walks CDFW staff through reproducible, transparent procedure

Revised HCR Framework

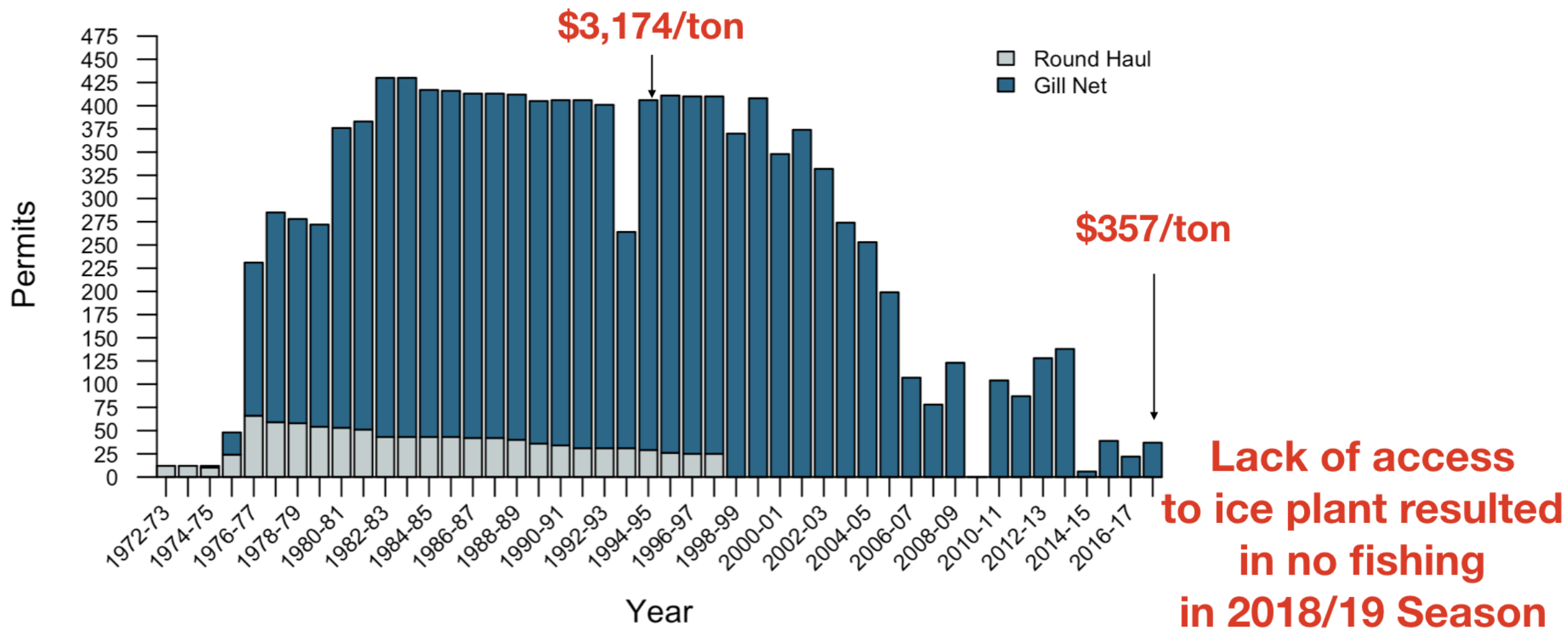


Herring Biomass



Declining Participation

Fishery Participation by Gear Type



Anticipated Timeline to FMP Adoption and Implementation



Thank You

Questions?

