

INTERNATIONAL PACIFIC



HALIBUT COMMISSION

# 2026-28 FISS Designs

Agenda item 5.2.2

IPHC-2025-RAB026-08

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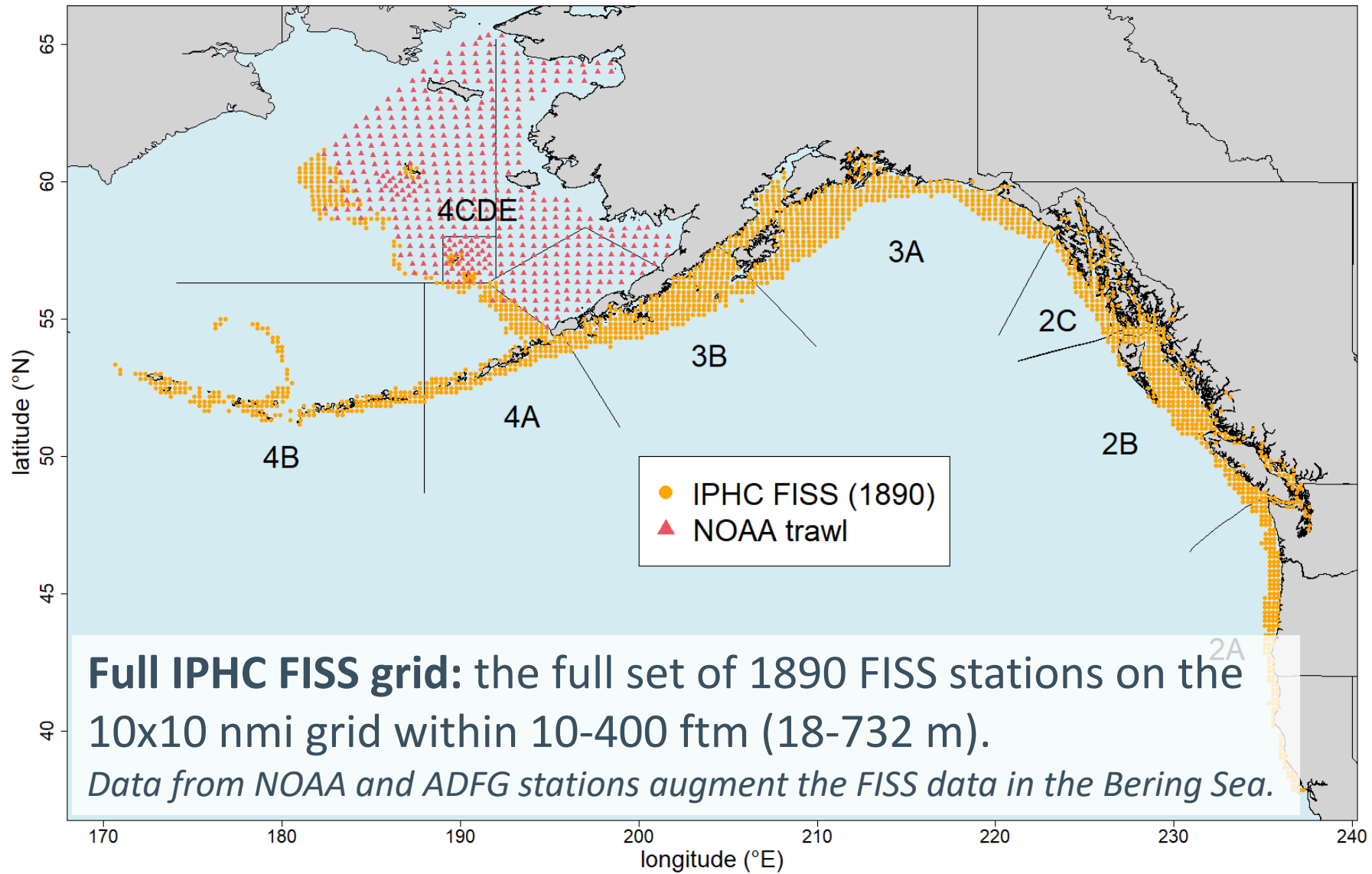


# IPHC FISS

- Our most important source of data on Pacific halibut
- Provides data for estimating weight and numbers per unit effort (WPUE and NPUE) indices of density and abundance of Pacific halibut
  - Used to estimate stock trends
  - Used to estimate stock distribution
  - Important input in the IPHC stock assessment
- Provides biological data for use in the stock assessment
- An annual FISS has been undertaken since 1993
  - Design expanded from 1993-2000 to include sampling in all IPHC Regulatory Areas
  - Further expansion into previously unsampled waters during 2011-2019 period



# Full FISS grid



# FISS objectives and design layers

Priority	Objective	Design Layer
Primary	Sample Pacific halibut for stock assessment and stock distribution estimation	Minimum sampling requirements in terms of: <ul style="list-style-type: none"><li>• Station distribution</li><li>• Station count</li><li>• Skates per station</li></ul>
Secondary	Cost effectiveness without compromising the scientific integrity of the FISS design.	Balance operational feasibility/logistics, cost/revenue, and scientific needs. Includes an aspirational target reserve of US\$2,000,000.
Tertiary	Minimize removals, assist others where feasible on a cost-recovery basis, address specific Commission informational needs.	Removals: minimize impact on the stock while meeting primary priority Assist: assist others to collect data on a cost-recovery basis IPHC policies: ad-hoc decisions of the Commission regarding the FISS design

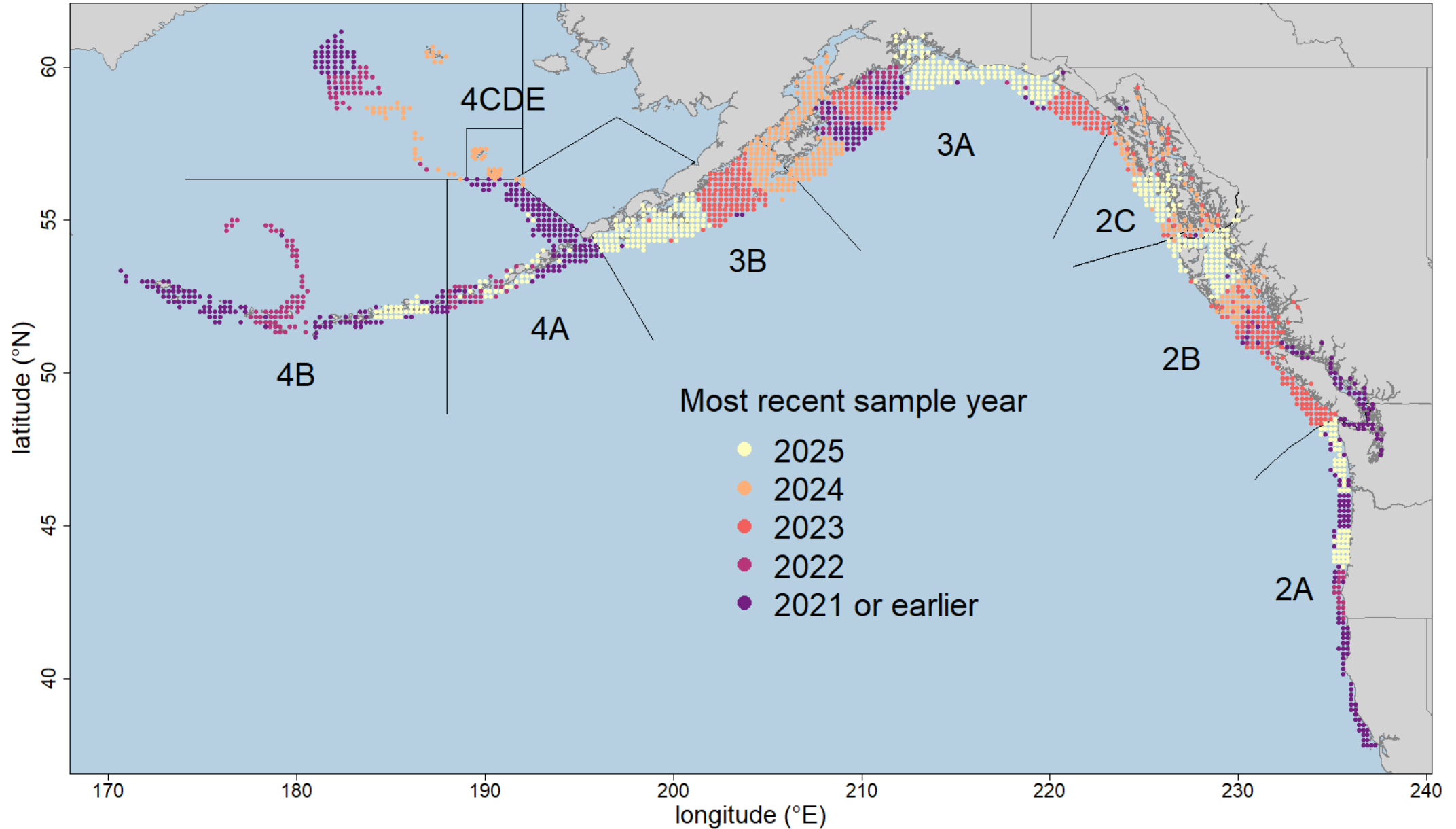


# IPHC FISS 2020-25

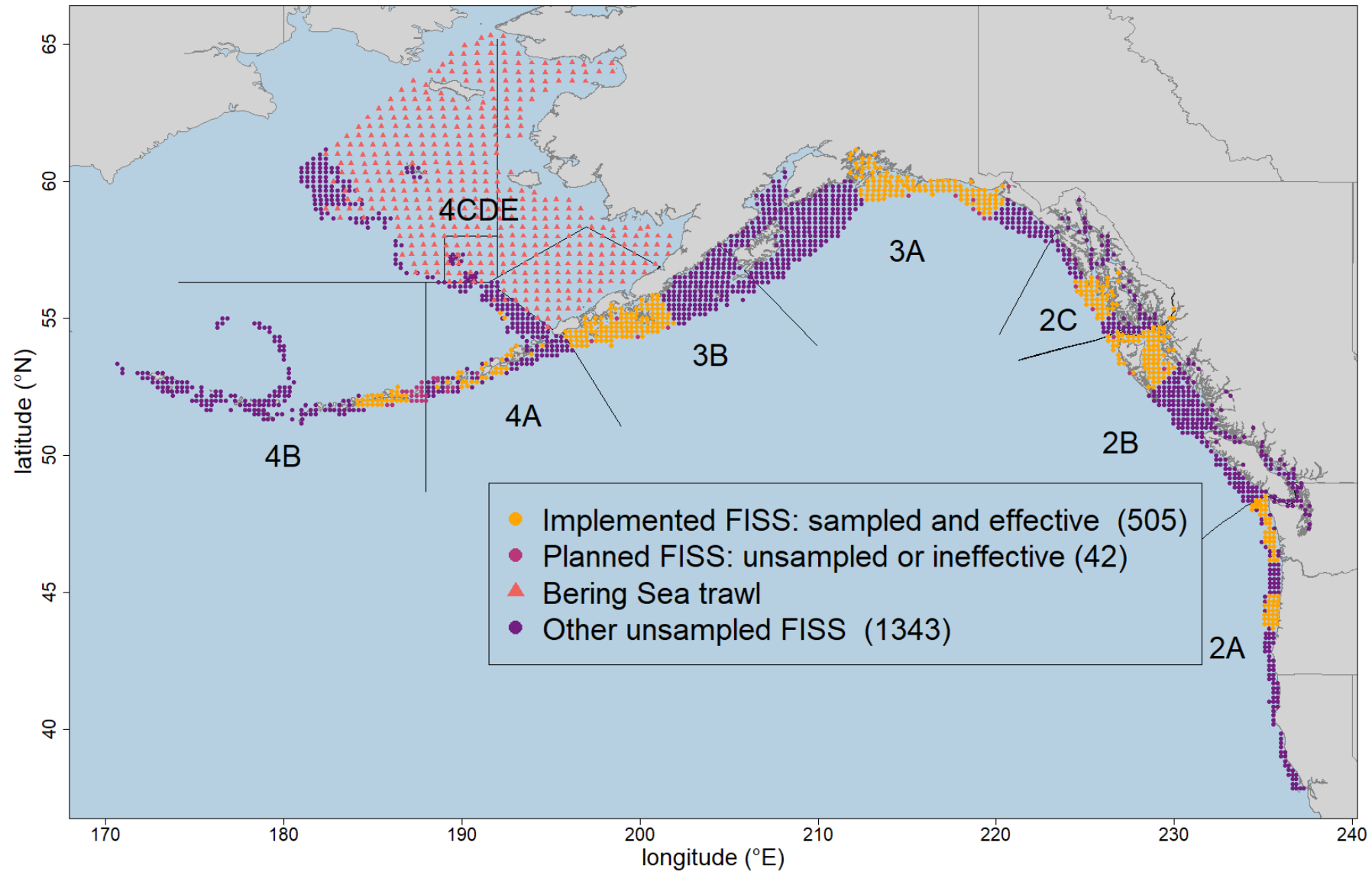
- 2020: Rationalized FISS design approved
  - Random sampling in core areas (2B, 2C, 3A, 3B)
  - Sampling of blocks of stations elsewhere prioritized to maintain precise estimates with low bias
  - FISS reduced to core areas only due to COVID19
- 2021-22: Proposed design largely implemented
  - Western 4B not sampled in 2022 due to lack of viable bids
- 2023-25: Reduced designs implemented to lower costs
  - Little sampling outside core areas in 2023, with no FISS sampling in 4A, 4B or 4CDE
  - Further reductions in 3A and 3B in 2024, but some sampling in 4CDE
  - 2025 sampling in 3A and 3B to complement 2023-24 sampling; sampling higher density parts of 2A and 4A/4B for first time since 2022



# Most recent sampling year by station



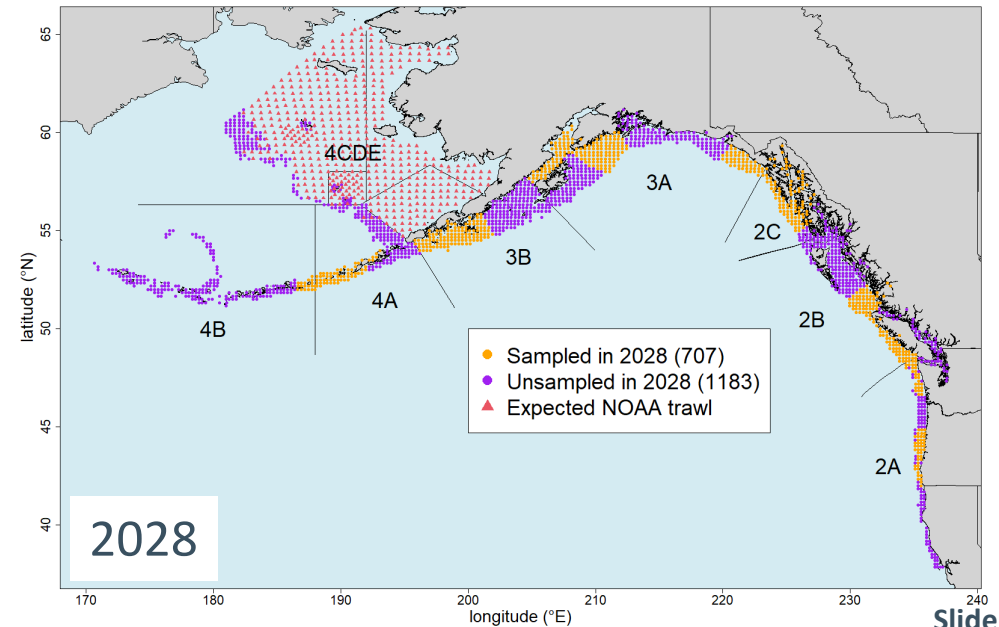
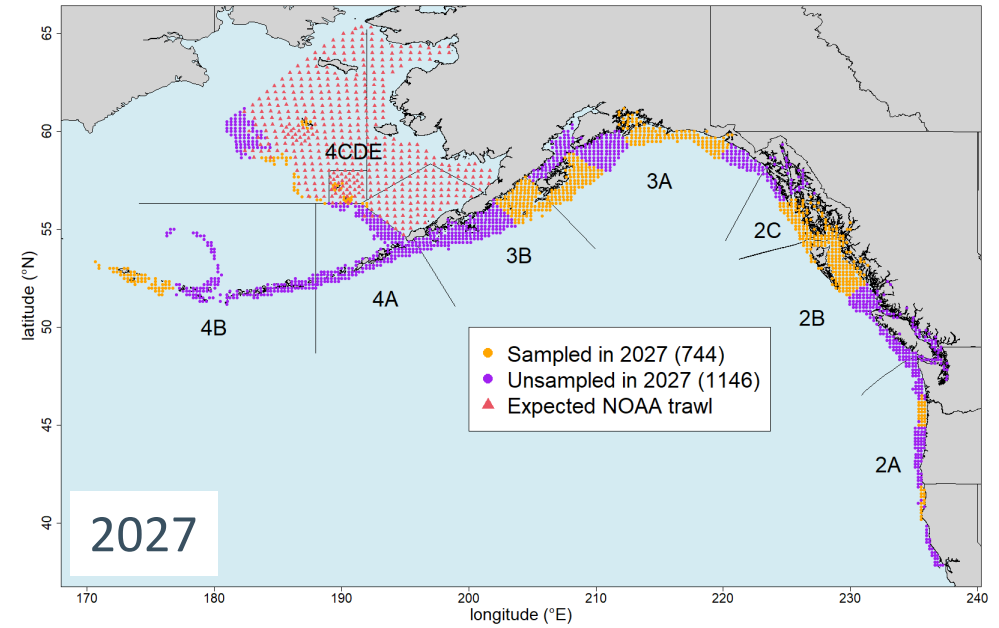
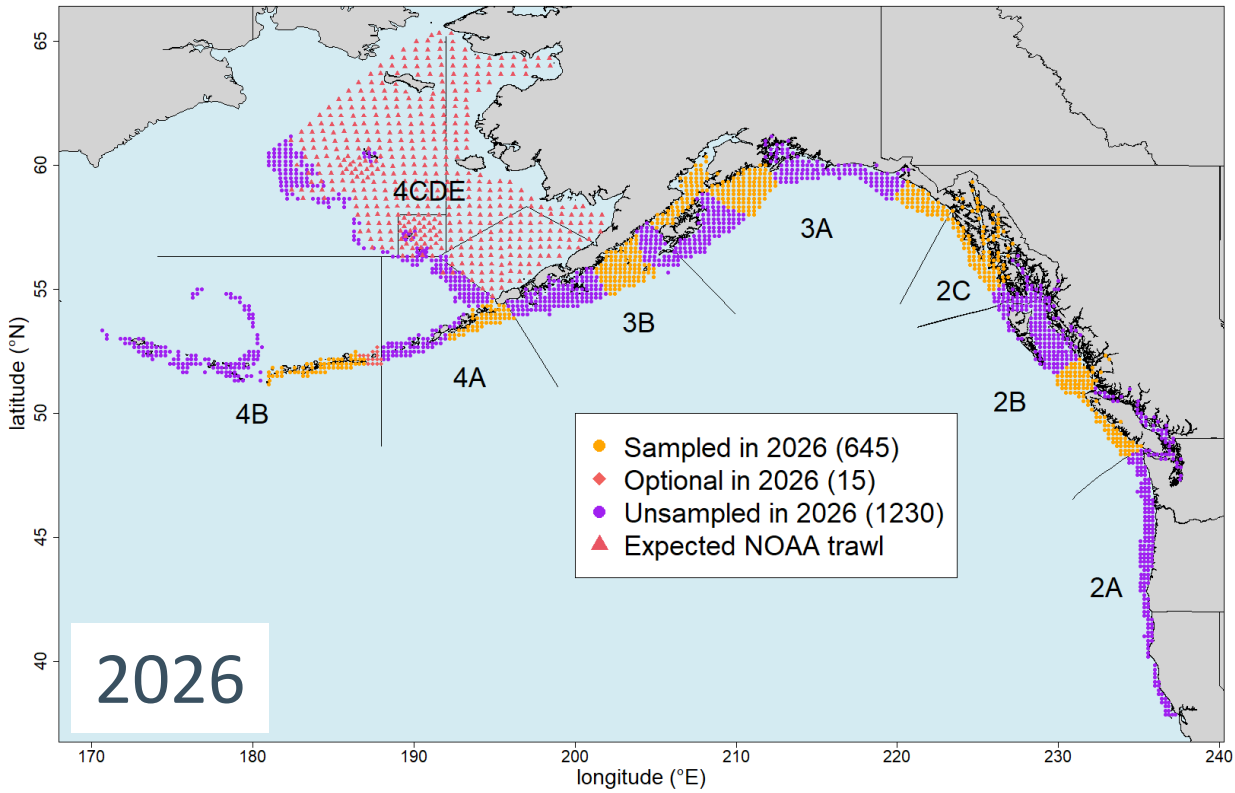
# Implemented 2025 design



# Potential designs for 2026-28

- In 2023-24, a **Base Block design** was evaluated for the Commission's consideration for the subsequent three-year period:
  - Prioritizes some annual sampling in each Biological Region for stock assessment purposes.
  - Ensures all charter regions in the core of the stock (2B, 2C, 3A and 3B) are sampled over a three-year period
  - Coverage in other areas is prioritized to minimize bias potential and maintain relatively precise estimates
- The sampled blocks (charter regions) would be rotated over time.
- The **Base Block design** is considered the optimal long-term FISS design in terms of balancing scientific needs and cost-effectiveness, and will be referred to as **Option 1**.





# Potential Base Block designs 2026-28

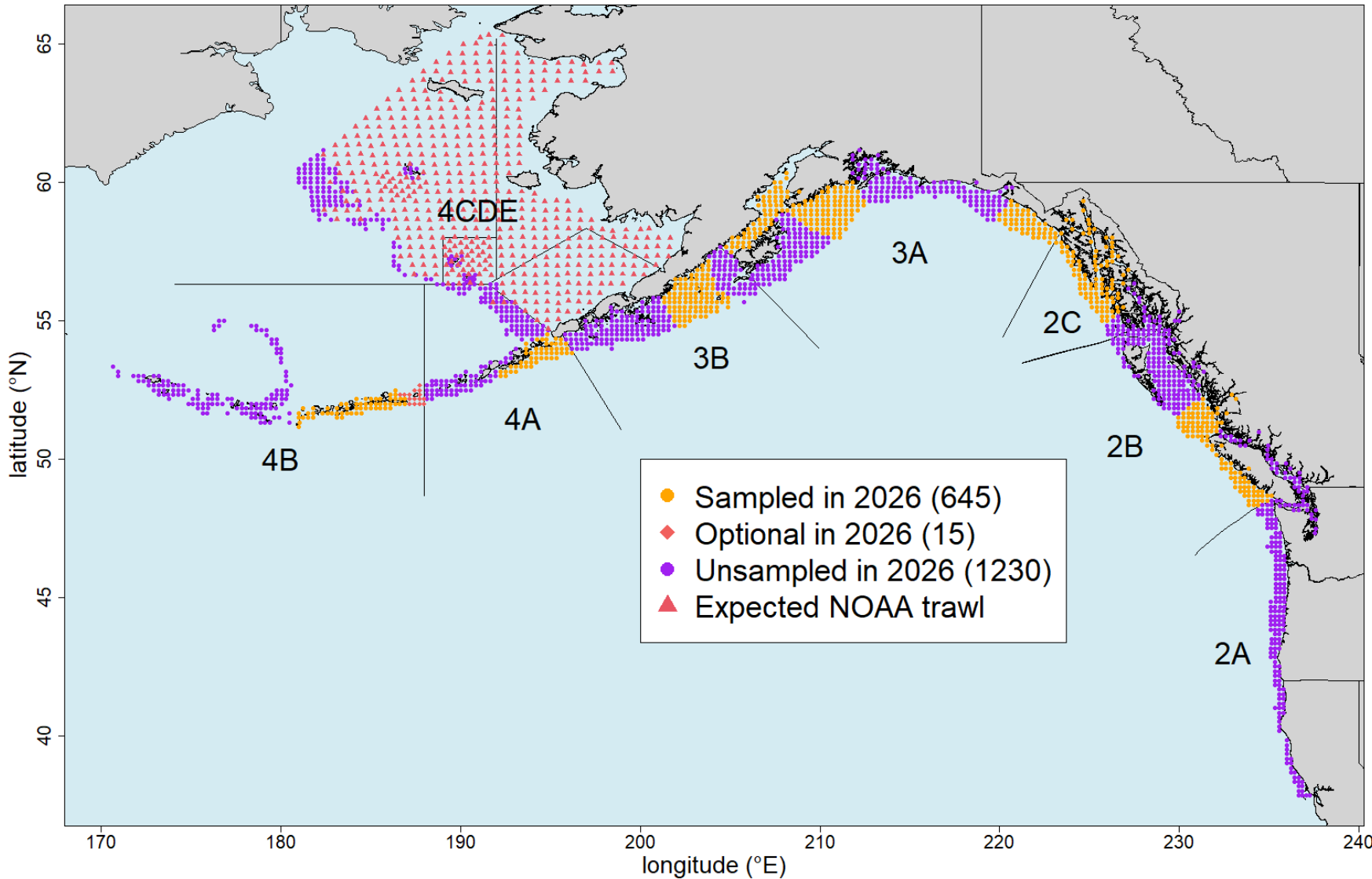


# Cost evaluation

- Projected costs for 2026 design options were estimated assuming:
  - Designs are optimized for numbers of skates, with 4, 6 or 8 skate-sets used, depending on projected catch rates and bait costs
  - Pacific halibut price will decline by 10% from 2025 values
  - Pacific halibut landings will decline by 5% from 2025 values
  - The price of chum salmon bait increases to US\$2.50 per pound from \$1.65 per pound in 2025
- Revenue projections include a US\$513,000 voluntary contribution from the USA to support the 2026 FISS



# Option 1: Base Block design



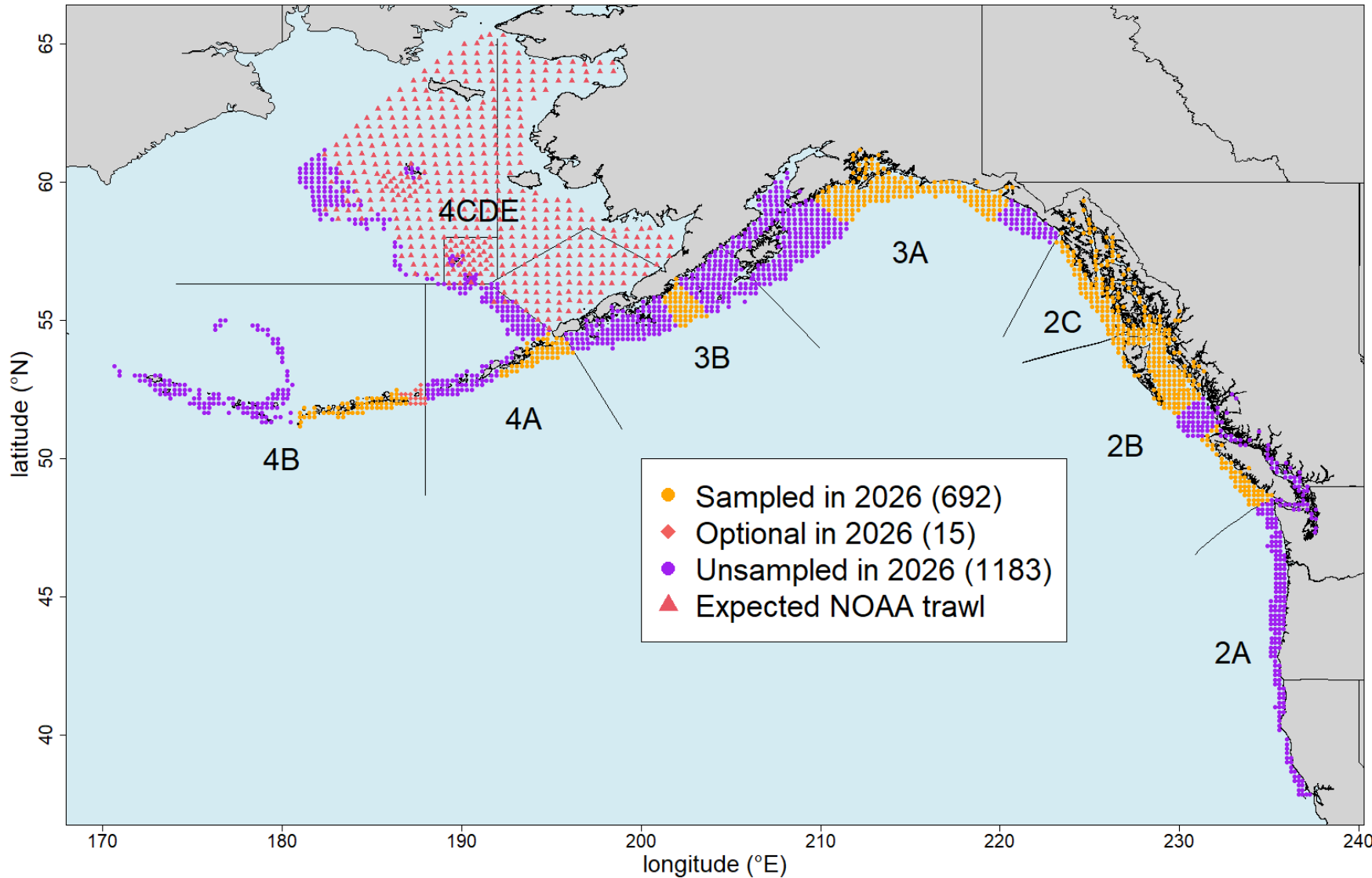
Projected net revenue  
(US\$):  
**(\$1,155,000)**

# Supplemented Reduced Loss Design

- The Base Block design (Option 1) is projected to result in a **substantial operating loss** for the FISS and would require additional supplementary funding
- We developed an alternative design with a more feasible projected net operating loss of close to US\$0.5 million, with the revenue again supplemented by the voluntary USA contribution of US\$513,000.
- The **Supplemented Reduced Loss design (Option 2)** differs from Option 1 as follows:
  - Replaces one revenue-negative charter region in IPHC Regulatory Area 2B with two regions projected to be revenue-positive
  - Adds one revenue-positive region to IPHC Regulatory Area 2C
  - Replaces three high-cost regions in IPHC Regulatory Area 3A with two regions that ensure projected overall losses are maintained close to US\$0.5 million
  - Has one fewer charter region in IPHC Regulatory Area 3B



# Option 2: Supplemented Reduced Loss design



Projected net revenue  
(US\$):  
**(\$502,000)**

# Supplemented Reduced Loss Design

- Similar number of FISS stations to the Base Block design
- Prioritizes some regions that have been fished recently over others that were included in the Base Block design because they lacked recent sampling.
  - Helps ensure cost-effectiveness
  - Reduces coverage in Region 3 over 2025-26, increasing the chance of bias in estimates for that region
- Nevertheless, the Option 2 represents a substantial improvement in coverage over the implemented 2025 design, and complements the 2025 design by including seven charter regions not sampled this year:
  - Two each in 2B and 2C; one each in 3A and 3B; one in 4A.
- Compared with 2024 and 2025, this design will result in more representative biological data, more precise indices of abundance and stock distribution, and an assessment model that is less reliant on commercial data.

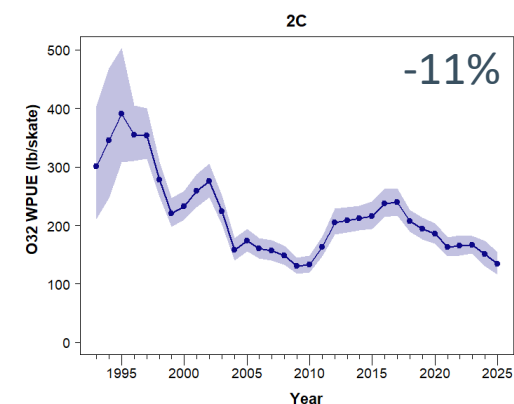
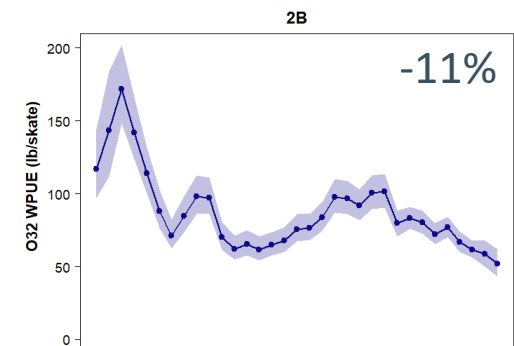
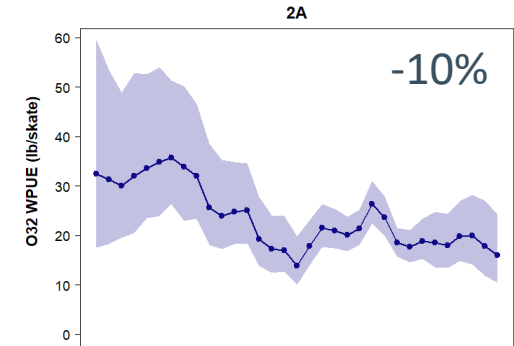
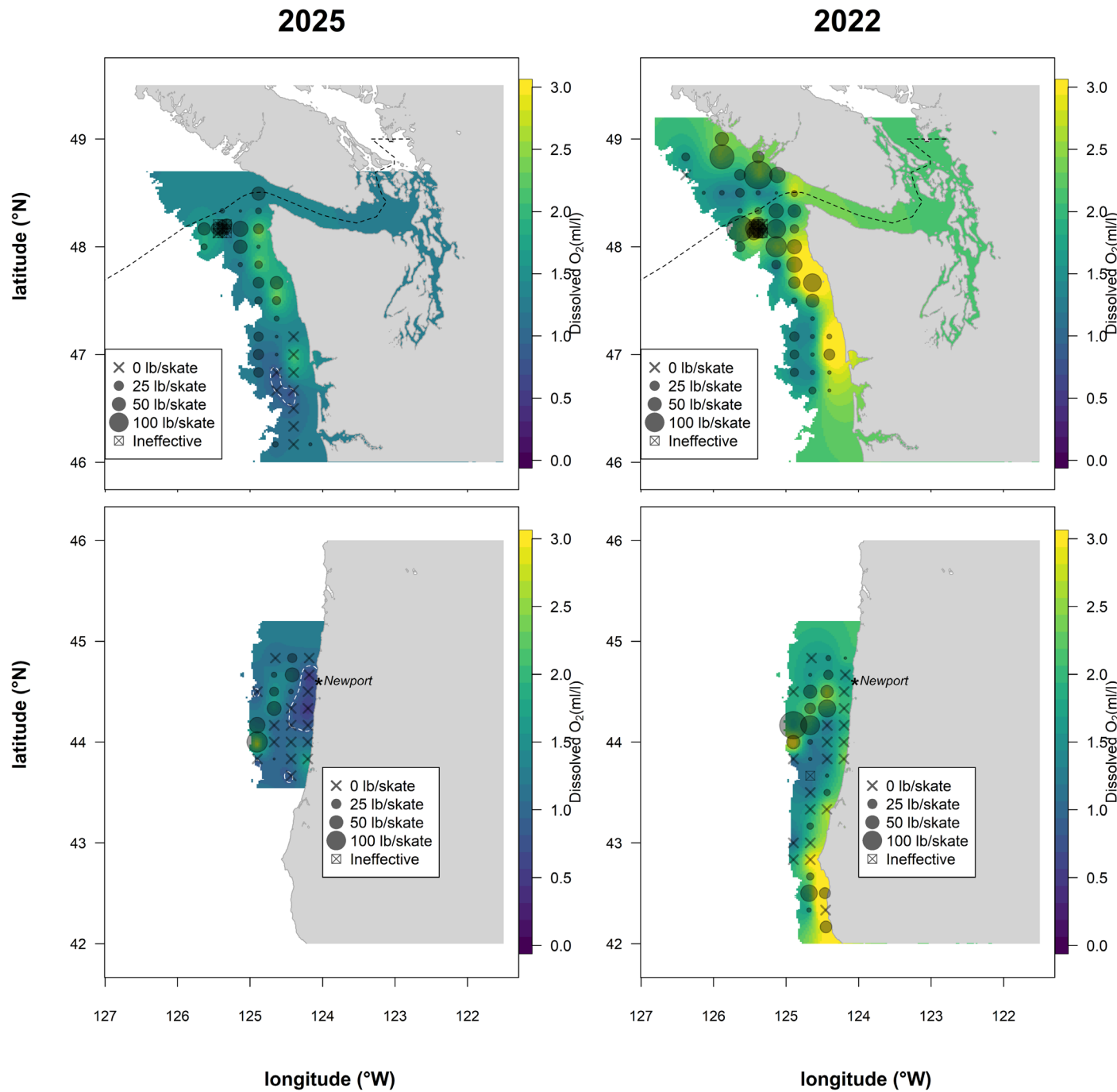


# Modular design changes

- Costs have also been projected for several modular changes and add-ons that lead to designs intermediate to Options 1 and 2 in terms of cost
- Other modular add-ons that would expand 2026 FISS coverage beyond the footprint of Options 1 and 2 will also be presented to the Commission at IM101
  - Includes options in IPHC Regulatory Area 2A, which is not otherwise part of either Option 1 or Option 2
  - Lower observed levels of dissolved oxygen (DO) in 2025 has led to concerns regarding the potential impact on FISS catch rates in 2A



# Dissolved oxygen in 2A

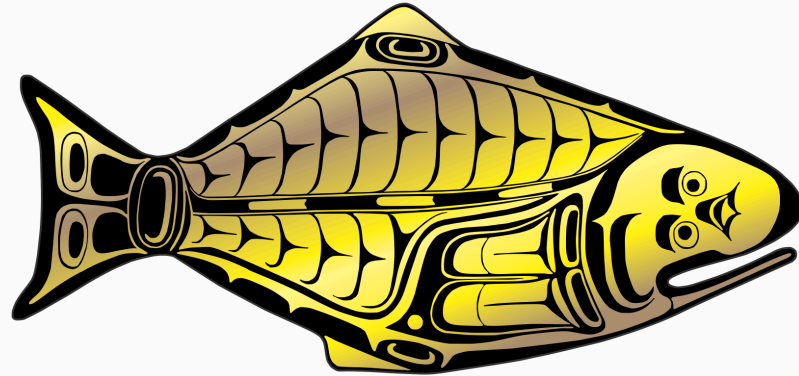


# Recommendation

That the Research Advisory Board **NOTE** paper IPHC-2025-RAB026-08, that provides potential FISS designs for 2026-2028.



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