Fishery-Independent Setline Survey (FISS) design and implementation in 2019

Agenda item 6.1
IPHC-2020-AM096-06
Primary objective

Standardised, fishery-independent data collection for the Pacific halibut annual stock assessment

- Pacific halibut distribution and abundance trends – CPUE
- Collection of biological structures (determining sex and maturity and age)
- Data from U32 Pacific halibut
Coastwide weights at-sea

Photos by Jonathan Turnea

- Weights taken at-sea along with lengths on all vessels
Standardisation

Gear
• Fixed gear
Each skate
• 548.64 metres (1800 feet) with 100 hooks spaced 5.49 metres (18 feet) apart
• No.3 (16/0) circle hooks threaded through the front on 61 to 122 centimetres (24 to 48 inch) gangions
• 3 to 5 kilogram (7-10 pound) weights on each non-anchored skate end

Bait
• Frozen chum salmon
• Number 2 semi-bright or better
• Cut 1/10 to 1/6 kilogram (1/4 to 1/3 pound)
• Captains sign off on bait quality
2019 Fishery-Independent Setline Survey (FISS)

27 May – 29 Sep (similar to 2018 – 28 May to 15 Sept)
18 vessels (record with 5 new, 12 in 2018)
1,558 stations (record, 1,489 in 2018)
IPHC Regulatory Area 3A and 3B expansion
IPHC Regulatory Area 2C gear comparison
FISS expansions in 2019

- **IPHC Regulatory Area 3A**
  - Addition of deep (>275 fm) and shallow (10-20 fm) stations
  - Other coverage gaps, including:
    - Cook inlet
    - Inside and outside Prince William Sound

- **IPHC Regulatory Area 3B**
  - Addition of deep (>275 fm) and shallow (10-20 fm) stations
  - Other coverage gaps, including:
    - Waters around the Shumagin and Sanak Islands
2019 FISS expansions

89 Expansion stations
463 Total
Fairweather – 51 (2 expansion)
Yakutat – 70 (19 expansion)
PWS – 68 (23 expansion)
Seward – 52 (4 expansion)
Gore Pt. – 48 (3 expansion)
Portlock – 50 (4 expansion)
Albatross – 52 (7 expansion)
Shelikof – 72 (27 expansion)
2019 FISS expansions

66 Expansion stations
297 total
Trinity – 58 (11 expansion)
Semidi – 60 (13 expansion)
Chignik – 49 (4 expansion)
Shumagin – 55 (11 expansion)
Sanak – 75 (27 expansion)
2019 gear comparison - fixed and snap

- IPHC Regulatory Area 2C
- Each station fished twice in random order
  - once with fixed-gear
  - once with snap-gear.
2019 FISS gear comparison

Fixed and snap gear stations
Timing is for fixed gear
Ineffective stations in 2019

<table>
<thead>
<tr>
<th>Description</th>
<th>2A</th>
<th>2B</th>
<th>2C</th>
<th>3A</th>
<th>3B</th>
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<th>4B</th>
<th>4CDE</th>
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<td>2</td>
<td>26</td>
<td>4</td>
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<td>Soak time exceeds 24 hours</td>
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</tbody>
</table>

- Predation: Orca
- Predation: Sperm Whale
- Sand Flea activity
- Gear issues
- Soak time exceeds 24 hours
- Moved Station > 3m

© 2019 Map courtesy of OceanviewMap.com
FISS stations with killer or sperm whale sightings
Secondary objectives

- Platform for data collection projects
  - Genetics, reproduction and condition factors
  - Oceanographic data
  - Prior hooking injuries
  - Marine mammal and seabird interactions
  - Environmental Contamination (ADEC)
Tertiary objectives

Collaboration

– **Canada**
  - Fisheries and Oceans
    - Rockfish biological samples
    - 100% hook occupancy
    - Shark sampling

– **United States of America**
  - NOAA Fisheries
    - Pacific cod sampling
    - Electronic monitoring system tests
    - Shark sampling (spiny dogfish and six gill)
    - NOAA Fisheries trawl sampling
  - WDFW and ODFW
    - Rockfish sampling cooperation
IPHC Regulatory Area 3A
2019 – FISS results

• Explore the website for;
  – *FISS Catch-Per-Unit-Effort (CPUE) data maps and plots*
  – *FISS Biologicals*
  – *FISS Performance*
  – *Data set downloads*
2020 – request for tender process

• Tender specs to be online in January.
• Special attention to station counts and locations
• Submission of the tender online.
• Due by 15 February 2020.
INTERNATIONAL PACIFIC

HALIBUT COMMISSION
New Vessels in 2019

Borealis I (BOR)
New for 2019
Early Snap South 2C (33 stations)
New Vessels in 2019

Heather Rae (HRA)

New for 2019
Early Snap North 2C (30 stations)
New Vessels in 2019

Hanna Lio (HAN)
New for 2019
Late Snap North 2C (30 stations)
New Vessels in 2019

Southern Seas (SNS)
New for 2019
Shelikof (73 stations)
New Vessels in 2019

Cindria Gene (CDG)
New for 2019
Trinity and Yakutat (54 stations)