

Science, Service, Stewardship



TESTING THE EFFICACY OF EM FOR DISCARD ESTIMATION IN THE SMALL VESSEL IFQ FLEET APPENDIX C AND D

NOAA

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FISHERIES
SERVICE**

SSC meeting February 2015

AFSC-FMA

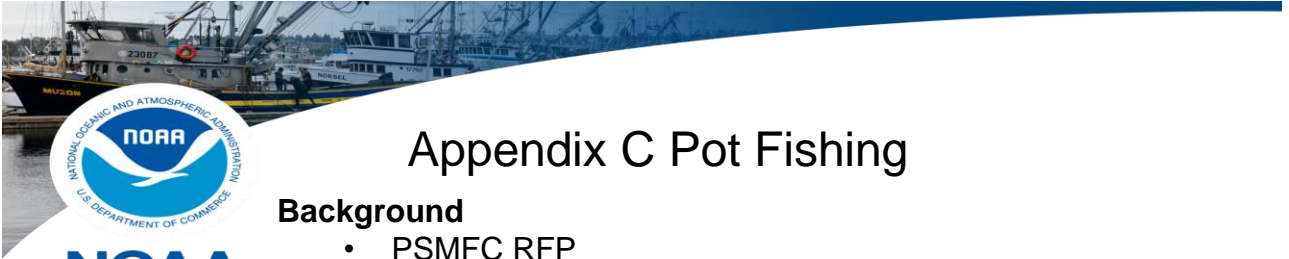


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Presentation Outline

Research and Development of EM Technologies

- Pot Fishery (Appendix C)
- Setline Fishery (Appendix D)



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Appendix C Pot Fishing

Background

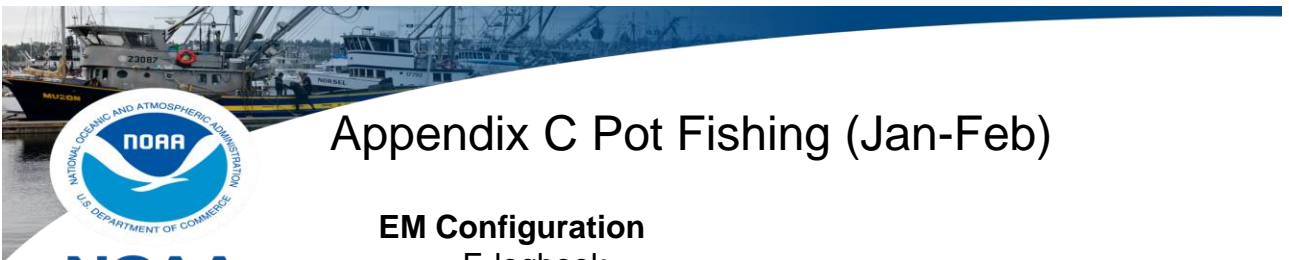
- PSMFC RFP
- Single Applicant (Northern Endurance)

Timing

- January-February Pot-cod Fishing
- March Setline IFQ Fishing (Appendix D)
- April return to Pot-cod Fishing

Location

- Sandpoint Marine Area



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Appendix C Pot Fishing (Jan-Feb)

EM Configuration

- E-logbook
- Hydraulic Sensor and GPS
- Camera chute (discards only)
- Standard camera
 - Sorting Table / Deck
 - Discard control point

Observer on sub-set of trips

- Standard Observer Sampling
 - ATLAS



Appendix C Pot Fishing (Jan-Feb)

Goals

- Initial testing for camera chute and standard camera configurations
- Make design and logistical adjustments
- Evaluate System(s) Reliability
 - Compare pot-level species counts and disposition to Observer data for observed trips
 - Compare trip level EM effort to e-logbook



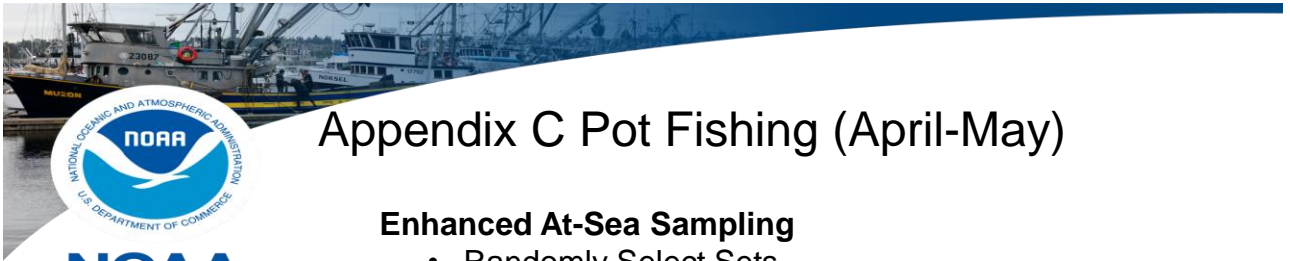
Appendix C Pot Fishing (April-May)

EM Configuration

- E-logbook
- Hydraulic Sensor and GPS
- Camera chute (Discard Control Point)
 - Improved design
- Standard camera
 - Sorting Table / Deck View
- **Stereo camera**
 - **Sorting Table**

Observer on all trips

- Enhanced At-Sea Sampling
- ATLAS



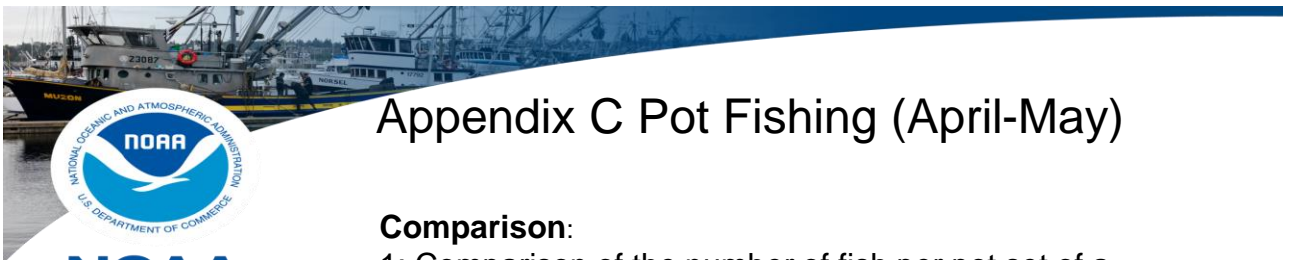
Appendix C Pot Fishing (April-May)

Enhanced At-Sea Sampling

- Randomly Select Sets
 - Random starting point then every nth pot
- For each Selected Pot
 - Whole pot sampling
 - Species count
 - Disposition

As Time Allows

- Length composition
 - On selected pots
- Weight sample
 - On selected pots



Appendix C Pot Fishing (April-May)

Comparison:

1: Comparison of the number of fish per pot set of a given species collected using each EM system (standard camera; stereo camera + chute-camera) and collected by an at-sea biologist.

2: Comparison of observations of pot-specific species identification made remotely by a video reviewer (based on data collected from camera system(s)) with those made by a biologist stationed on the vessel.



Appendix C Pot Fishing (April-May)

Comparisons:

3: Compare pot-specific species identification from a subsample of all video made by two video reviewers.

Additional:

Comparison 4: Compare estimates generated using EM data from estimates generated using at-sea observer data.

Comparison 5: Compare pot specific length frequency distributions generated using EM data to at-sea observer data.



Appendix D Setline Fishing

Background

- Northern Endurance
 - Specific Sampling and EM configuration
- IPHC Survey
 - Specific Sampling and EM configuration

Timing

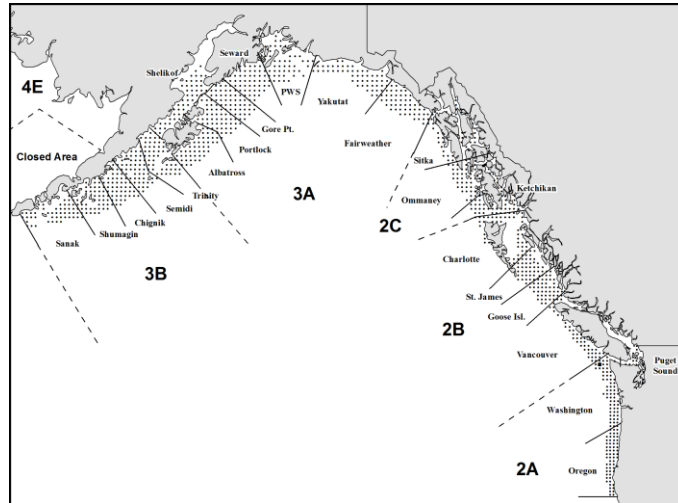
- March
- May-August

Location

- Sandpoint/Kodiak Area
- IPHC survey areas TBD



Appendix D Setline Fishing



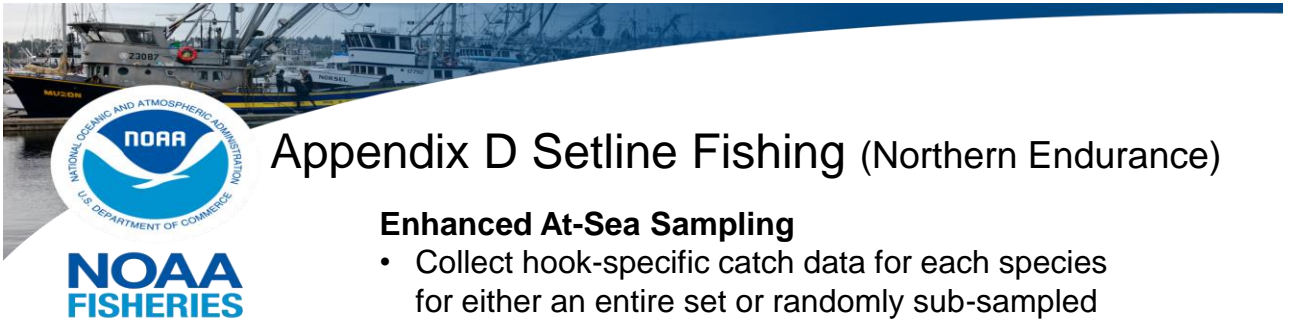
Appendix D Setline Fishing (Northern Endurance)

EM Configuration

- E-logbook
- Hydraulic Sensor and GPS
- Camera chute (Discard Control Point)
 - Improved design
- Standard camera
 - View of rail (wide view)
 - Deck view
- Stereo camera
 - Camera Deployment System
 - View of rail (narrow view)

Observer on all trips

- Enhanced At-Sea Sampling
- ATLAS

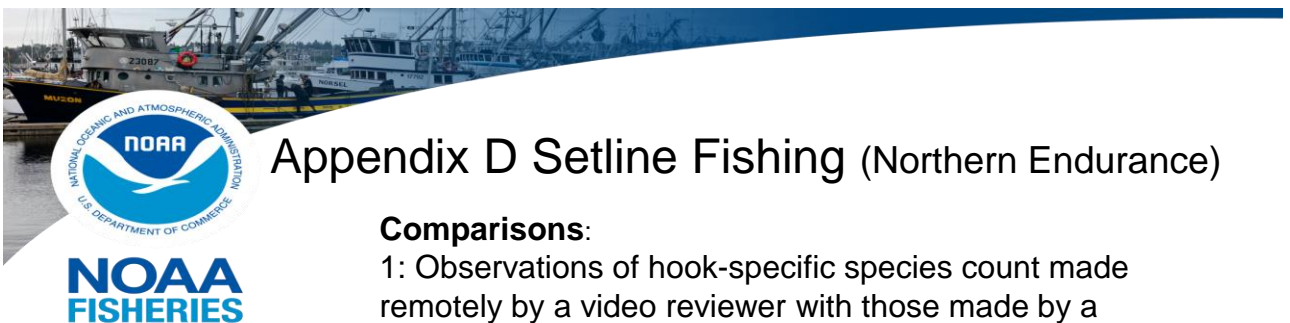


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Appendix D Setline Fishing (Northern Endurance)

Enhanced At-Sea Sampling

- Collect hook-specific catch data for each species for either an entire set or randomly sub-sampled sets as necessary.
 - Species count
 - Disposition
- For randomly sub-sampled sets Chute camera
 - Length composition
 - Disposition



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Appendix D Setline Fishing (Northern Endurance)

Comparisons:

1: Observations of hook-specific species count made remotely by a video reviewer with those made by a sampler stationed on the vessel, to the extent practicable. (sub-set)

2: Number of fish per longline set (for a given species) derived from data collected using EM and data collected by an at-sea sampler.



Appendix D Setline Fishing (Northern Endurance)

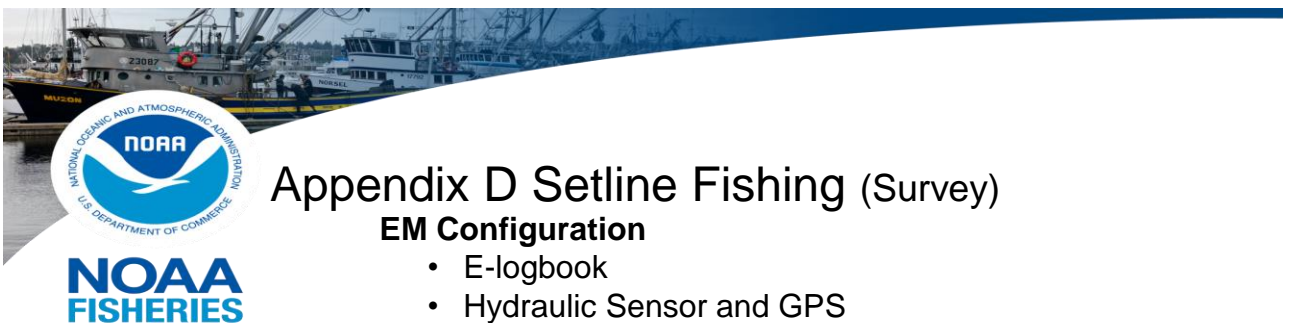
Comparisons:

3: Hook-specific species identification made by two video reviewers.

Additional:

4: Compare length frequency distributions generated between Stereo and Camera chute data from a subsample of sets.

5: Compare species counts between Stereo, Camera chute and at-sea data from a subsample of sets.



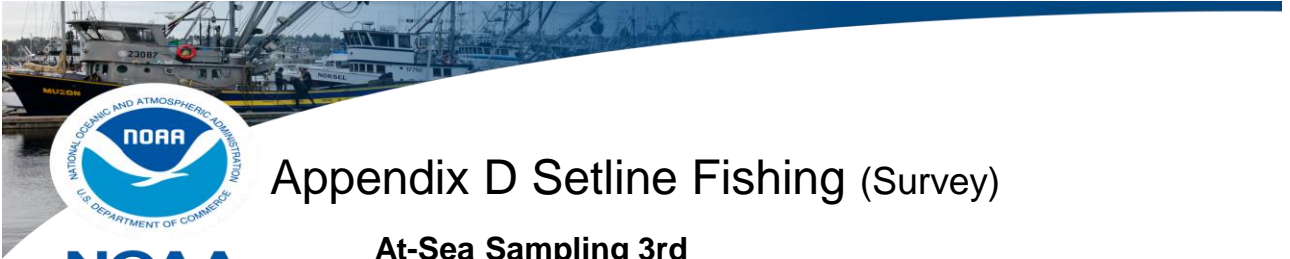
Appendix D Setline Fishing (Survey)

EM Configuration

- E-logbook
- Hydraulic Sensor and GPS
- Standard camera
 - View of rail (wide view)
- Stereo camera
 - Camera Deployment System
 - View of rail (narrow view)

At-Sea Sampler (3rd sampler) on all trips

- Enhanced At-Sea Sampling
- ATLAS



Appendix D Setline Fishing (Survey)

At-Sea Sampling 3rd

- Collect hook-specific catch data for each species for either an entire set or randomly sub-sampled sets when necessary.
 - Species count
 - Disposition



Appendix D Setline Fishing (Survey)

Comparisons:

1: Observations of species identification made remotely by a video reviewer with those made by a sampler stationed on the vessel per set

2: Number of fish per longline set (for a given species) derived from data collected using EM and data collected by an at-sea sampler.



Appendix D Setline Fishing (Survey)

Comparisons:

3: Hook-specific species identification made by two video reviewers.

Additional:

4: Compare length estimates generated between Stereo and at-sea sampler data from a subsample of sets.

5: Conduct simulation analyses to evaluate species specific catch estimates/precision for various "What-If" scenarios.