

Interim Report on the Halibut Deck Sorting EFP – October 2018

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Scope of the Report

- Covers deck sorting from January 20th to September 14th (as was done for other interim reports)
- Provides performance metrics and comparison to previous years (which cover different time periods and catch handing protocols/rules)
- We first summarize key changes to EFP rules and practices for 2018 to establish important context

A Refresher on Rules of the EFP

- Observer must be present on deck whenever deck sorting occurs
- Vessel cannot run fish from the stern tanks into the factory during deck sorting operations unless two observers are on duty
- Vessels have option of taking two to four observers (to avoid slowdowns due to inability to run fish during sorting)
 - Three observers would allow a 12 hour window of simultaneous deck sorting and running fish
 - Four observers would allow this to occur anytime

A Refresher on Rules of the EFP

- Seven day notice required to enter EFP
- Observer data collection on deck determines amount and mortality of deck sorted halibut
- Observer species composition samples in factory determine amount of halibut in factory
- Vessels may “opt out” of deck sorting a haul (e.g. in the event of poor weather)
 - Then only factory species composition samples are used to estimate halibut catch and mortality

New Elements of the 2018 EFP

- Deck sorting allowed in Gulf of Alaska
- Sampling of deck sorted halibut has two components:
 - Collection of length data from first 15 halibut (each fish)
 - Stratified random sample of one-in-five halibut (as in previous years)
- Annually-specified DMR for halibut (84% for this year) is applied to halibut accounted for in the factory
- Crew no longer collect halibut in the factory (no more census to compare to sampling)

New Elements of the 2018 EFP

- 35-minute time limit on deck sorting (from time the codend comes to stern ramp to time the observer handles the last halibut)
- Vessels must have a NMFS-approved safety plan
- Safety plan details how the observer will work safely on deck and access the sample table
 - Describes safe route to sample table
 - Describes how to avoid potential hazards
 - Explains protocol for poor weather
- Safety plan must be reviewed/briefed with observer whenever a new observer boards the vessel

Performance Metrics of Interest

- Increasing EFP participation
 - 9 CP vessels in 2015
 - 12 CP vessels in 2016
 - 17 CP vessels in 2017
 - 21 CP vessels in 2018
- All Amendment 80 boats now in the EFP, as well as some CDQ and TLAS non-pollock fishing
- EFP represents much of yellowfin sole / other flatfish harvest
- Increasing amounts of Pacific ocean perch and Atka mackerel (lower halibut encounter rate fisheries)

2018 Deck Sorting Performance (BSAI and GOA)

Vessel	Total Groundfish (MT)	Halibut Catch (Encounter) Rate	Halibut Mortality (MT)*	Halibut Mortality Rate	Halibut Mortality at 84% (MT)†	Halibut Savings (MT)
Alaska Spirit	3,378	1.7%	30	53%	48	17
Alaska Victory	1,811	1.6%	18	65%	24	6
Alaska Warrior	2,574	1.5%	23	58%	33	10
American No 1	7,351	1.6%	69	59%	99	30
Araho	5,855	1.4%	33	41%	67	34
Arica	15,003	1.0%	77	50%	129	52
Cape Horn	11,677	1.1%	65	51%	107	42
Constellation	12,563	0.9%	56	49%	96	39
Defender	9,585	1.2%	52	44%	99	47
Enterprise	14,462	1.2%	78	46%	144	66
Katie Ann	7,421	0.8%	31	51%	51	20
Legacy	9,679	1.4%	53	39%	113	60
Northern Glacier	17,819	0.7%	58	49%	100	42
Ocean Peace	3,743	1.7%	35	54%	54	19
Rebecca Irene	10,930	1.3%	61	44%	115	54
Seafisher	7,109	1.4%	47	48%	82	35
Seafreeze Alaska	26,517	0.8%	122	56%	184	62
Seafreeze America	19,121	0.8%	80	55%	124	44
Unimak	13,906	1.4%	87	45%	163	77
US Intrepid	13,717	1.3%	89	51%	148	59
Vaerdal	5,856	1.5%	46	52%	75	29
Total	220,078	1.1%	1,210	49%	2,054	844

*Mortality for deck and factory halibut in the EFP (using haul-specific and fixed 84% mortality rates, respectively)

†Mortality using a the specified DMR of 84%

2018 EFP in the Gulf of Alaska and Bering Sea / Aleutian Islands

Region	Total Groundfish (MT)	Halibut Catch (Encounter) Rate	Halibut Mortality (MT)	Halibut Mortality Rate	Halibut Mortality at 84% (MT)	Halibut Savings (MT)
Overall	220,078	1.1%	1,210	49%	2,054	844
BSAI	214,671	1.1%	1,141	50%	1,926	786
GOA	5,407	2.8%	69	46%	128	58

EFP Performance Across Years*

Year	Total Groundfish Catch (MT)	Halibut Catch (Encounter) Rate	Halibut Mortality (MT)	Mortality Rate	Halibut Mortality at 84% (MT)	Halibut Savings (MT)
2015	38,561	1.3%	234	49%	409	176
2016	79,905	0.9%	331	45%	620	290
2017 (to Sep 15)	206,768	0.8%	900	54%	1,418	519
2018 (to Sep 14)	220,078	1.1%	1,210	49%	2,054	844

*Differences in numbers of boats, timeframe for EFP operations, changes in target fisheries, and inclusion of GOA in 2018 should be kept in mind when comparing performance between years

Other Metrics of Interest

- Halibut bycatch “catch rate” increased slightly from last year
 - 1.3% in 2015
 - 0.9% in 2016
 - 0.8% in 2017
 - 1.1% in 2018
- Overall halibut mortality rate decreased slightly from last year
 - 49% in 2015
 - 45% in 2016
 - 54% in 2017
 - 49% in 2018

Potential Elements of the 2019 EFP

- Consolidation of all observer program inspections in one report (e.g. A80 monitoring cameras, EFP cameras, scale, and EFP work station tables)
- Requirement for an indicator (e.g. red cone, sign, etc.) in the factory adjacent to flow scale to make it clear that deck sorting is taking place
- Use of data from first 15 fish only if needed to obtain discard estimate (more on that below)
- Continue 35 minute limit but timing starts when codend is opened (clearer start time)

Effects of Measuring First 15 Halibut in 2018

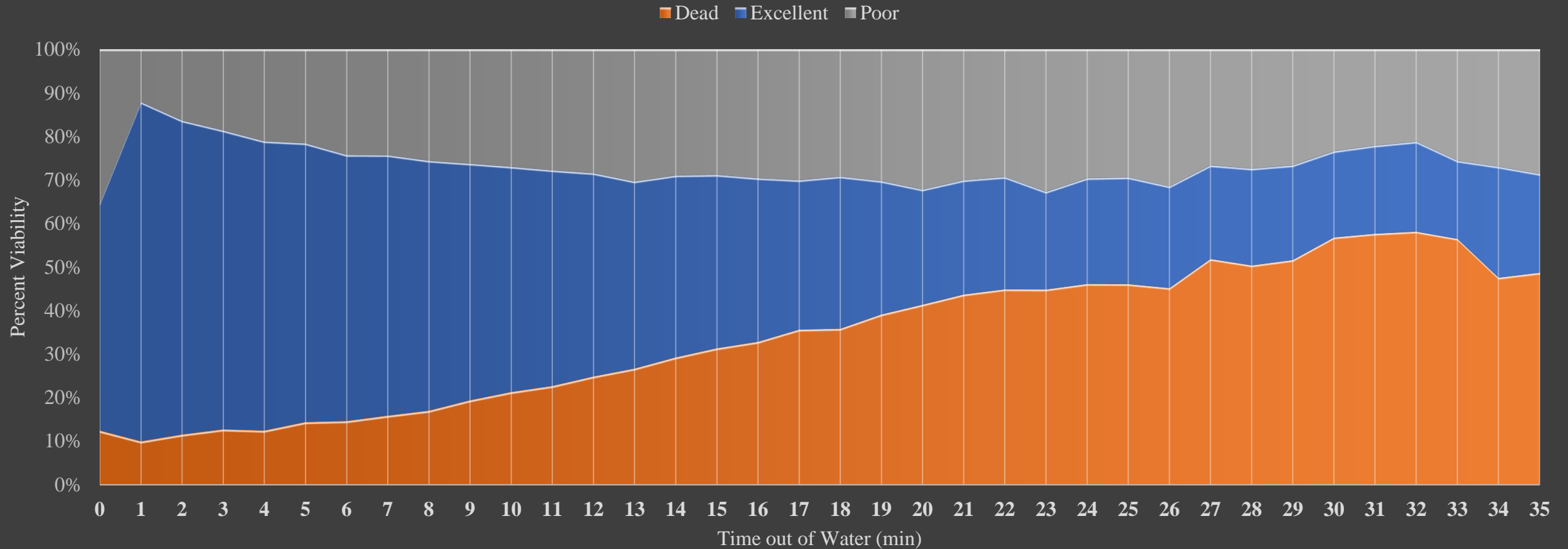
- Data were compiled and shared with NMFS in our discussions about sampling design
- Uses information from this year and applies “2017 method” and “2018 method”
- 2017 method: uses only stratified random one-in-five halibut
- 2018 method: uses above in addition to first 15 halibut (i.e. the actual accounting method for this year)

Effects of Measuring First 15 Halibut in 2018

Vessel	2018 Weight (MT)	2018 Mortality (MT)	2017 Weight (MT)	2017 Mortality (MT)	Weight Difference (MT)		Mortality Difference (MT)	
Alaska Spirit	45.4	20.6	42.8	19.6	2.6	6%	1.0	5%
Alaska Victory	20.8	12.0	20.2	11.4	0.6	3%	0.5	4%
Alaska Warrior	27.3	13.0	25.7	12.2	1.6	6%	0.8	7%
American No 1	86.0	43.7	79.6	40.9	6.4	8%	2.8	7%
Araho	65.4	20.5	59.2	18.5	6.2	10%	2.0	11%
Arica	120.0	49.6	112.2	46.9	7.7	7%	2.7	6%
Cape Horn	100.8	44.2	98.3	43.1	2.5	3%	1.1	3%
Constellation	100.4	45.4	95.9	43.3	4.5	5%	2.0	5%
Defender	85.8	27.1	84.6	26.8	1.1	1%	0.2	1%
Enterprise	144.9	56.3	137.1	53.4	7.8	6%	2.9	5%
Katie Ann	47.4	20.2	45.1	19.2	2.3	5%	1.0	5%
Legacy	114.6	36.8	110.1	35.3	4.5	4%	1.5	4%
Northern Glacier	94.7	39.0	90.1	37.1	4.6	5%	1.9	5%
Ocean Peace	50.6	23.4	48.8	22.6	1.9	4%	0.8	4%
Rebecca Irene	109.7	38.8	105.7	37.5	4.1	4%	1.3	4%
Seafisher	78.9	31.8	74.6	30.0	4.4	6%	1.8	6%
Seafreeze Alaska	155.1	74.6	150.0	71.8	5.1	3%	2.8	4%
Seafreeze America	113.8	53.7	101.5	48.4	12.3	12%	5.3	11%
Unimak	153.8	53.6	149.0	51.8	4.9	3%	1.8	3%
US Intrepid	124.6	48.9	122.7	48.8	1.9	2%	0.2	0%
Vaerdal	64.1	25.8	61.6	24.8	2.5	4%	1.0	4%
Total	1,904.3	778.9	1,814.8	743.4	89.6	5%	35.5	5%

Effect of Time-Out-of-Water on Halibut Viability 2018

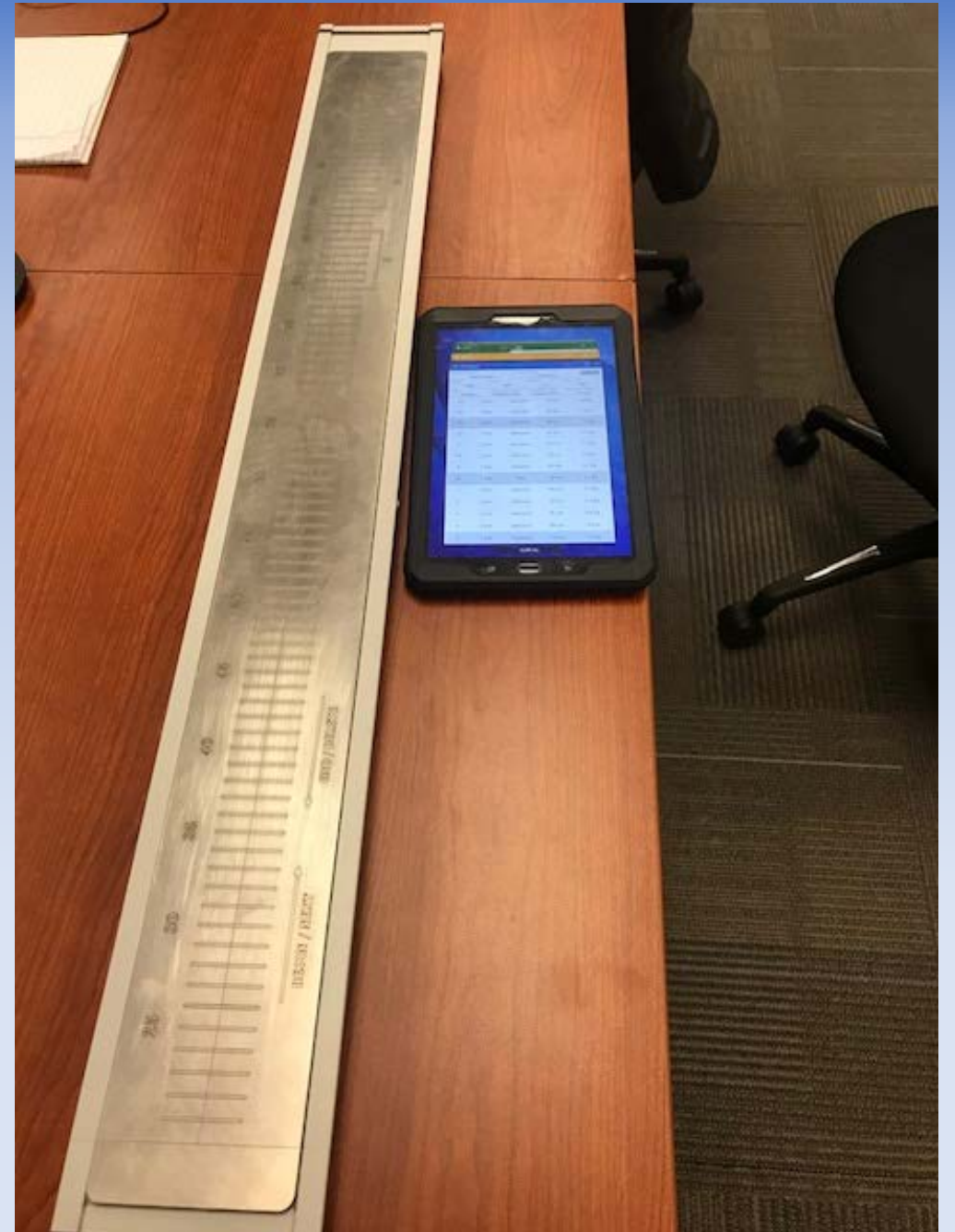
Viability Based on Time Out of Water for 2018 EFP: Jan 20 - Aug 31



Exploring New Tools for Automating Observer Data Collections



August 2018 Field Test of an Electronic Length Board



Length Board Installed into Observer Table/Chute System

- Field test on Constellation
- Test included NMFS FMA Dutch Harbor office lead and AKSC project manager
- Development and pre-test technical assistance from Archipelago Marine Resources



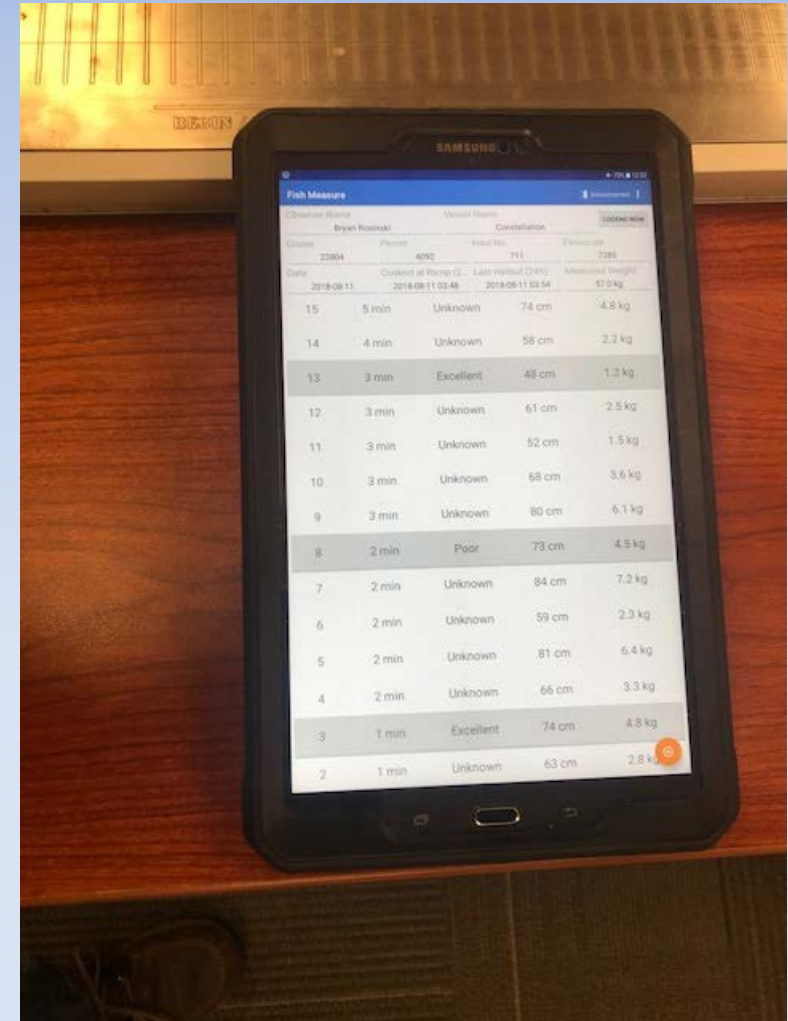
Length Board in Action

- Goal: Collect census of lengths and enter viability data on every 5th fish
- Assess speed- and work-saving potential of device
- Data entered by touching magnetic wand to length strip
- Data communicated from board to tablet via bluetooth



Length Board in Action

- Tablet converts data into various formats for user convenience
 - Creates electronic version of observer deck form
 - Creates data file that observers can easily input to ATLAS and vessel personnel can enter into their databases



Conclusions: Electronic board has significant potential to speed up data collections, reduce data entry errors, and reduce observer workload relative to current manual data entry methods. Additional work underway and more trials of electronic board and chute cameras in 2019.

Short video of electronic board in action