

Interim Report on Deck Sorting EFP (EFP 16-01) December, 2016



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Report Covers Data from May – November 15, 2016

Some EFP Boats Still Fishing after Nov 15th cut off...



Metrics of Interest

- Increase in EFP participation from 9 boats in 2015 to 12 boats in 2016
- Participants tended to do a far greater percentage of their flatfish/related fishing inside the EFP than occurred in 2015
- Deck sorting expanded greatly to fisheries beyond flathead sole and ATF. 2016 had a much higher frequency of EFP trips in Yellowfin sole, Pacific cod, Pacific Ocean Perch, Atka mackerel in 541.

2016 Deck Sorting Performance

| Vessel | Dates in EFP | EFP Groundfish (MT) | Halibut Catch (MT) | EFP Halibut Mortality (MT)* | EFP Mortality Rate | IPHC Mortality (MT)** | Net Savings (MT) |
|-------------------|--------------|---------------------|--------------------|-----------------------------|--------------------|-----------------------|------------------|
| Arica | May - Oct | 10,728 | 73.27 | 33.48 | 46% | 62.28 | 28.80 |
| Cape Horn | Jun - Oct | 6,608 | 49.96 | 26.85 | 54% | 42.47 | 15.62 |
| Constellation | May - Oct | 9,901 | 62.75 | 31.61 | 50% | 53.34 | 21.73 |
| Defender | Jun - Oct | 7,889 | 75.08 | 33.71 | 45% | 63.81 | 30.10 |
| Katie Ann | Sep - Nov | 2,174 | 30.46 | 13.27 | 44% | 25.89 | 12.62 |
| Legacy | Jun - Nov | 6,632 | 118.54 | 44.42 | 37% | 100.76 | 56.34 |
| Northern Glacier | Jul - Oct | 7,872 | 66.69 | 25.61 | 38% | 56.69 | 31.08 |
| Rebecca Irene | Jun - Nov | 10,703 | 79.11 | 32.48 | 41% | 67.24 | 34.76 |
| Seafisher | Aug - Sep | 2,647 | 32.56 | 13.14 | 40% | 27.67 | 14.53 |
| Seafreeze America | Oct - Nov | 1,766 | 23.89 | 13.86 | 58% | 20.31 | 6.45 |
| Unimak | May - Oct | 9,601 | 97.62 | 46.62 | 48% | 82.97 | 36.35 |
| Seafreeze Alaska | Nov - Dec | | | | | | |
| Total | | 76,522 | 709.92 | 315.05 | 44% | 603.43 | 288.38 |

*EFP Halibut Mortality for Deck and Factory Halibut

**IPHC Mortality (MT) uses an 85% mortality rate for all target fisheries

Note: “EFP Halibut Mortality” includes the haul-specific mortality rate applied to deck sorted halibut and a fixed (90%) mortality rates factory halibut.

Performance from 2015 Deck Sorting EFP

(Table 1 from 2015 Final Report Revised)

| Vessel | Groundfish | Halibut | EFP mortality | EFP mortality | IPHC mortality | Net Savings | Dates in EFP |
|--|---------------|--------------|---------------|---------------|----------------|--------------|-------------------------------|
| | MT | catch MT | MT | rate | MT* | MT | |
| Constellation | 9,818 | 117 | 58.5 | 50% | 99.5 | 41.0 | May 24-July 4; July 17-Oct 24 |
| Legacy | 794 | 21.6 | 9 | 41% | 18.4 | 9.4 | May 16-June 4 |
| Arica | 11,130 | 140.4 | 68.2 | 49% | 119.3 | 51.1 | June 9-Nov 17 |
| Cape Horn | 5,589 | 74.2 | 34.4 | 46% | 63.1 | 28.7 | June 3-July 26; Sept 14-Nov 6 |
| Rebecca Irene | 944 | 15 | 6.5 | 43% | 12.8 | 6.3 | July 20-Sept 2 |
| Defender | 5,153 | 65.4 | 34.2 | 52% | 55.6 | 21.4 | June 22-Oct 16 |
| Unimak | 3,656 | 21.3 | 10.7 | 50% | 18.1 | 7.4 | Aug 29-Oct 11 |
| Ocean Peace | 1,318 | 26.6 | 12.2 | 46% | 22.6 | 10.4 | Aug 12-Sept 2 |
| Enterprise | 159 | 0.2 | 0.1 | 70% | 0.2 | 0.1 | Sept 17-Sept 19 |
| Totals | 38,561 | 481.7 | 233.8 | 49% | 409 | 175.6 | |
| *Using 85% mortality rate as per Oct 2016 DMR analysis | | | | | | | |

Note: “EFP Mortality” includes the haul-specific mortality rate applied to deck sorted halibut and a fixed (90%) mortality rates factory halibut.

Comparing 2016 EFP to 2015 EFP

Comparison of key performance indicators 2015 to 2016

| | Groundfish | Halibut | EFP | EFP | IPHC | Net |
|--------------------|---------------|----------|--------------|----------------|---------------|------------|
| | MT | catch MT | mortality MT | mortality rate | mortality MT* | Savings MT |
| 2015 Totals | 38,561 | 481.7 | 233.8 | 49% | 409.4 | 175.6 |
| 2016 Totals | 76,522 | 709.9 | 315.0 | 44% | 603.4 | 288.4 |
| Delta | 37,961 | | | -5% | | 113 |

Other Metrics of Interest

- Halibut bycatch “catch rate” in EFP fishing, not accounting for mortality rates, was lower in 2016 (1.3% in 2015 and 0.9% in 2016)
- Halibut excluders and deck sorting used together extensively (some hiccups, siltation with new device)
- Fraction of total halibut catch sorted on deck ~85%, same as 2015
- Crews did a better job keeping sorting times to under 20 minutes (some exceptions especially for boats new to deck sorting)

Other Metrics of Interest

continued

- Inclusion of CDQ into EFP was successful from operational and NMFS catch accounting perspective (huge effort by NMFS)
- Trawl limited Access fishing could not be incorporated in 2016 even if permit allowed it
- Data collections by NMFS Observers instead of sea samplers (workload of training/debriefing shifted to NMFS)
- EFP field project manager on all EFP vessels for first EFP trip and troubleshooting

Other Metrics of Interest

continued

- Video Monitoring on deck and in factory (commitment of follow-up work on fish handling feedback from NMFS Region)
- Observer sampling used to determine amount of factory halibut (90% mortality rate applied as in 2015)
- NMFS standards for work tables on deck and other improvements for chutes used to move halibut from the trawl alley to observer and then overboard

Extensive Chute for Larger Vessel in EFP



Chute for Medium-Sized Vessel



Chute Designed to Address Specific Vessel Deck Configuration Challenges



Chute Set-Up on Smaller Vessel



Note captain out on deck helping with deck sorting

Other Metrics of Interest

- 20% stratified random sampling methods worked well, NMFS made adjustments to avoid hauls with no sampled fish
- Three observers working 8 hour deck/other and 4 hour paperwork worked, could be improved
- Daily fish production loss from not being able to run fish over scale during deck sorting problematic for some EFP vessels. Also production loss from redirecting labor to deck sorting even for factories that are not slowed down by deck sorting

Consistency Between Observer Sampling Estimation and Census in Factory (preliminary)

| Observer sampling estimate of factory halibut versus crew census thru Oct 15 | | | |
|--|---|---|-------------------------------|
| Vessel Name | Weight of Halibut in Factory from Census (MT) | Weight halibut in factory (observer sampling, MT) | Census exceeds obs estimate ? |
| Arica | 8.04 | 9.28 | no |
| Cape Horn | 4.17 | 4.77 | no |
| Constellation | 14.16 | 12.28 | yes |
| Defender | 9.94 | 9.63 | ~ same |
| Katie Ann | 4.82 | 7.81 | no |
| Legacy | 16.31 | 15.32 | yes |
| Northern Glacier | 15.40 | 10.08 | yes |
| Rebecca Irene | 17.39 | 10.13 | yes |
| Seafisher | 10.04 | 6.15 | yes |
| Seafreeze America | 5.62 | 7.61 | no |
| Unimak | 20.74 | 19.98 | yes |
| Total | 126.65 | 113.04 | yes |

Modifications to EFP for 2017



Modifications to Address What Was Learned in 2016

- Options for two, three, or four observers depending on vessel production constraints
- Overlapping 12 hour shifts for boats using three or more provides ability to run fish over scale during deck sorting (details on how to do that)
- Table height requirements, data collection with NMFS data forms
- Add additional participants, new construction boats

Preparations for 2017 EFP

- Several vessels indicating earlier start to DS EFP participation, some in January/February (jury still out on how often weather will allow for deck sorting. Video available)
- Working with AK Region and FMA to finalize detailed changes to permit
- NMFS AK Region video review with participating captains/crew, operations personnel in January around time of captains meeting
- Work on implementation of regulatory program

Videos illustrating different aspects of 2016 deck sorting

