IR - PICDR-113138 Evaluation of territory non-commercial landings

Ashley Tomita
Fisheries Reporting and Bycatch Program
Pacific Islands Fisheries Science Center, NMFS
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Requesting Agency/Entity:
PIFSC (for analysis for Archipelagic and Pelagic Plan Team recommendation)

Purpose:
As a result of the Archipelagic and Pelagic Plan Team meetings, Council requested PIFSC to analyze the fishery-dependent data: 1) total estimated creel catch minus commercial receipts for non-commercial catch and 2) expand the creel intended sold and unsold, and determine which approach could be used for the non-commercial estimates in the Annual SAFE Reports. The Plan Team notes that there may also be discrepancies in the commercial data for the American Samoa non-longline sector stemming from the estimation of pounds sold from the creel survey expansion.

Data Sources:
American Samoa Boat-based Creel Survey – Data version March 15, 2021
American Samoa Commercial Receipt Books – Data version March 15, 2021
Guam Boat-based Creel Survey – Data version March 15, 2021
Guam Commercial Receipt Books– Data version March 15, 2021
CNMI Boat-based Creel Survey – Data version March 15, 2021
CNMI Commercial Receipt Books – Data version March 15, 2021

Supporting Data and/or Documentation:

American Samoa
- American Samoa final boat-based creel estimated sold/unsold and boat-based creel/commercial sold/unsold
- American Samoa boat-based creel estimated percent calculations (sold and unsold)
- American Samoa boat-based creel expansion estimated total landings
- American Samoa commercial receipt books estimated total sold

Guam
- Guam final boat-based creel estimated sold/unsold and boat-based creel/commercial sold/unsold
- Guam boat-based creel estimated percent calculations (sold and unsold)
- Guam boat-based creel expansion estimated total landings
- Guam commercial receipt books estimated total sold

CNMI

CNMI final boat-based creel estimated sold/unsold and boat-based creel/commercial sold/unsold

CNMI boat-based creel estimated percent calculations (sold and unsold)

CNMI boat-based creel expansion estimated total landings

CNMI commercial receipt books estimated total sold

American Samoa

American Samoa final boat-based creel estimated sold/unsold and boat-based creel/commercial sold/unsold

Output: Amsam_Final_Comparison.csv

year	spec_type	exp_lbs	calc_exp_lbs_sold	calc_exp_lbs_unsold	commercial_lbs_sold	commercial_lbs_unsold
2011	BMUS	14083.02	13880.2	202.82	711.12	13371.9
2011	ECS	3134.62	3023.71	110.91	973.5	2161.12
2011	PMUS	44543.92	41825.33	2718.59	43796.96	746.96
2012	BMUS	2099.02	1314.59	710.63	1161.21	937.81
2012	ECS	566.25	566.25	0	621.25	-55
2012	PMUS	27069.42	23075.01	3957.17	23509	3560.42
2013	BMUS	5732.14	5693.57	38.57	881.59	4850.55
2013	ECS	1823.31	1823.31	0	899.23	924.08
2013	PMUS	46271.57	41795.02	4476.55	14619.51	31652.06
2014	BMUS	13983.65	13903.29	80.36	3140.17	10843.48
2014	ECS	200.93	200.93	0	1292.4	-1091.47
2014	PMUS	51583.98	44747.5	6836.48	51557.58	26.4
2015	BMUS	21528.27	20592.34	935.93	2047.11	19481.16
2015	ECS	59.54	59.54	0	989.18	-929.64
2015	PMUS	34340.75	31249.33	3091.42	67061.61	-32720.86
2016	BMUS	19306.71	18610.81	695.9	565.62	18741.09
2016	ECS	380.02	380.02	0	1101.65	-721.63
2016	PMUS	53971.22	49235.08	4736.14	79068.6	-25097.38
2017	BMUS	14790.84	14336.52	454.32	1130.86	13659.98

2017	ECS	1247.3	1247.3	0	766.56	480.74
2017	PMUS	32419.09	32226.81	192.28	84385.41	-51966.32
2018	BMUS	11956.99	11771.8	185.19	838.2	11118.79
2018	ECS	493.36	490.89	2.47	745.95	-252.59
2018	PMUS	60522.01	56870.06	3651.95	82655.14	-22133.13
2019	BMUS	11374.23	11278.39	95.84	1749.02	9625.21
2019	ECS	356.11	356.11	0	1256.45	-900.34
2019	PMUS	51448.74	51230.67	218.07	74141.07	-22692.33
2020	BMUS	7750.76	7484.71	266.05	307.49	7443.27
2020	ECS	417.54	417.54	0	170.67	246.87
2020	PMUS	30807.01	28381.18	2425.83	76662.17	-45855.16

SQL: Get_Amsam_Final.sql

In the final output I compare the estimated lbs sold/unsold using only the boat-based creel survey data and the estimated lbs sold/unsold using both the boat-based creel and commercial receipts. In the comparison, only American Samoa can be compared at the species level, but for consistency, I chose to compare the boat-based creel to commercial receipts at the species type (BMUS, PMUS, ECS) level only. We also cannot exclude methods from the commercial receipts.

Output field	Description	Calculation
year	Year	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
exp_lbs	Sum of the total expanded lbs by year, method, and species	$\sum exp\_lbs$

calc_exp_lbs_sold	Estimated sum of the expanded lbs sold (based on estimated sold percent matched on species and method) by year and species group	$\sum (exp\_lbs * pct\_sold)$
calc_exp_lbs_unsold	Estimated sum of the expanded lbs unsold (based on estimated unsold percent matched on species and method) by year and species group	$\sum (exp\_lbs * pct\_unsold)$
commercial_lbs_sold	Sum of the total lbs sold as reported by vendors by year and species grouping (includes all methods)	$\sum lbs\_sold$
commercial_lbs_unsold	Estimated lbs unsold using total expanded lbs from boat-based creel survey and subtracting estimated (adjusted by percent coverage) lbs sold from commercial receipt books by year and species grouping	$\sum exp\_lbs - \sum est\_lbs\_sold$

American Samoa boat-based creel estimated percent calculations (sold and unsold)

Output: Amsam_BBS_Creel_Percents.csv
SQL: SQL - Get_Amsam_Summaries.sql

Source tables:

1. AMSAM_DMWR_WH.A_BBS_INT
2. AMSAM_DMWR_WH.A_BBS_CAT

Filter conditions:

1. Interview year > 2010 included
2. Include only records with est_lbs>0

Grouping conditions:

1. All methods combined
2. Trolling method only
3. Bottomfishing method only
4. Bottomfishing/Trolling mixed method only
5. Species level

Output field	Description	Calculation
year	Year of interview	
method_fk	Method code (0 - all methods combined, 2 - trolling, 4 - bottomfishing, 5 - bottom/troll mixed)	
method	Method description	
species_fk	Species code (AS boat-based creel records disposition at the species catch level)	
tot_est_lbs	Total estimated kgs caught summed from catch table by species and method	$\sum est\_lbs$
est_lbs_sold	Estimated lbs sold calculated where disposition_cat is **not** 1 - not sold 2 - unknown disposition and est_lbs caught from catch table by species and method	$\sum est\_lbs_{dispcat\ not\ 1\ or\ 2}$
est_lbs_unsold	Estimated lbs sold calculated where disposition_cat **is** 1 - not sold 2 - unknown disposition and est_lbs caught from catch table by species and method	$\sum est\_lbs_{dispcat = 1\ or\ 2}$
est_lbs_check	Estimated lbs caught calculated by summing estimated sold lbs and unsold lbs. This is used as a check to make sure output calculations are accurate.	$\sum est\_lbs_{dispcat\ not\ 1\ or\ 2} + \sum est\_lbs_{dispcat = 1\ or\ 2}$

pct_sold	Estimated annual percent of lbs sold by species and method	$\frac{\sum est\_lbs_{dispcat\ not\ 1\ or\ 2}}{\sum est\_lbs}$
pct_unsold	Estimated annual percent of lbs unsold by species and method	$\frac{\sum est\_lbs_{dispcat\ =\ 1\ or\ 2}}{\sum est\_lbs}$
pct_check	Estimated total percentage calculated by summing estimated sold percent and unsold percent. This is used as a check to make sure output calculations are accurate	$\frac{\sum est\_lbs_{dispcat\ not\ 1\ or\ 2}}{\sum est\_lbs} + \frac{\sum est\_lbs_{dispcat\ =\ 1\ or\ 2}}{\sum est\_lbs}$

American Samoa boat-based creel expansion estimated total landings

Output: Amsam_BBS_Expansion_Total_Landings.csv
SQL: SQL - Get_Amsam_Summaries.sql

Source tables:

1. AMSAM_DMWR_WH.A_BBS_INT
2. AMSAM_DMWR_WH.A_BBS_CAT
3. FEP_SPECGRP.A_BMUS
    a. BMUS list
4. FEP_SPECGRP.A_PRIORITY_ECS
    a. ECS priority list
5. TERRITORIAL_PELAGIC_FEP_SAFE.A_SPECGRPDT
    a. PMUS list

Filter conditions:

1. Interview year > 2010 included
2. Include only species that are in BMUS, ECS priority, and PMUS lists

Grouping conditions:

1. All other non-troll/bottomfish methods combined
2. Trolling method only

3. Bottomfishing method only
4. Bottomfishing/Trolling mixed method only
5. Species level

Output field	Description	Calculation
year	Year of interview	
method_fk	Method code (0 - all methods combined, 2 - trolling, 4 - bottomfishing, 5 - bottom/troll mixed)	
method	Method description	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
species_fk	Species code (AS boat-based creel records disposition at the species catch level)	
exp_lbs	Sum of the total expanded lbs by year, method, and species	$\sum exp\_lbs$
exp_lbs_sold	Sum of the total expanded lbs sold as calculated by the expansion algorithm (only available in AS) I used this as a check field to compare my calculated exp lbs sold, but found that some values do not match. Need to discuss whether it's worth figuring out why or just using my calculated fields for this exercise.	$\sum exp\_lbs\_sold$

American Samoa commercial receipt books estimated total sold

Output: Amsam_Commercial_Purchase_Total.csv
SQL: SQL - Get_Amsam_Summaries.sql

Source tables:

1. AMSAM_DMWR_WH.A_CCL_HEAD
2. AMSAM_DMWR_WH.A_CCL_DETAIL
3. FEP_SPECGRP.A_BMUS
    a. BMUS list
4. FEP_SPECGRP.A_PRIORITY_ECS
    a. ECS priority list
5. TERRITORIAL_PELAGIC_FEP_SAFE.A_SPECGRPDT
    a. PMUS list

Filter conditions:

1. Include only records with invoice year > 2010
2. Include only species that are in BMUS, ECS priority, and PMUS lists
3. Exclude records flagged as resale
4. Exclude records flagged as imports

Grouping conditions:

1. Species groups (BMUS, PMUS, ECS priority)

Output field	Description	Calculation
year	Year of invoice date	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
lbs_sold	Sum of the total lbs sold as reported by vendors by year and species grouping	$\sum lbs\_sold$
num_fisher	Number of unique fishers reported on invoices. Used to check for confidentiality.	
num_dealer	Number of unique vendors reporting invoices. Used to check for confidentiality.	

Guam

Guam final boat-based creel estimated sold/unsold and boat-based creel/commercial sold/unsold

Output: Guam_Final_Comparison_usingEstCommLbs_20220206.csv

year	spec_type	exp_lbs	calc_exp_lbs_sold	calc_exp_lbs_unsold	commercial_lbs_sold	commercial_lbs_unsold
2011	BMUS	52230.93	6874.77	45356.16	9179.48	43051.45
2011	ECS	15095.83	3376.78	11719.05	25668.32	-10572.49
2011	PMUS	579031.72	337702.83	241328.89	137806.48	441225.24
2012	BMUS	17517.71	4649.96	12867.75	4744.53	12773.18
2012	ECS	8599.39	2598.07	6001.32	29038.42	-20439.03
2012	PMUS	394503.08	217065.88	177437.2	113852.76	280650.32
2013	BMUS	27276.88	9773.57	17503.31	2529.18	24747.7
2013	ECS	23880.47	9423.95	14456.52	23384.9	495.57
2013	PMUS	789651.43	486939.23	302712.2	173064.48	616586.95
2014	BMUS	20687.49	3150.11	17537.38	1410.58	19276.91
2014	ECS	25125.38	7475.67	17649.71	17325.15	7800.23
2014	PMUS	744960.96	478721.76	266239.2	116816.35	628144.61
2015	BMUS	10782.36	475.43	10306.93	671.87	10110.49
2015	ECS	8203.45	1466.45	6737	10566.53	-2363.08
2015	PMUS	937727.58	546532.81	391194.77	106471.37	831256.21
2016	BMUS	24479.48	6181.33	18298.15	1505.87	22973.61
2016	ECS	11059.17	4685.08	6374.09	6644.69	4414.48
2016	PMUS	865129.71	541447.03	323682.68	95590.38	769539.33
2017	BMUS	14653.4	1762.97	12890.43	4001.93	10651.47

2017	ECS	8053.16	2146.11	5907.05	33915.83	-25862.67
2017	PMUS	587091.24	359051.61	228039.63	111889.06	475202.18
2018	BMUS	28364.33	5494.02	22870.31	3028.65	25335.68
2018	ECS	9279.8	5197.93	4081.87	15543.6	-6263.8
2018	PMUS	877983.25	628032.26	249950.99	92766.94	785216.31
2019	BMUS	28849.24	2742.81	26106.43	2291.28	26557.96
2019	ECS	11562.04	5132.74	6429.3	6128.51	5433.53
2019	PMUS	748158.01	498093.47	250064.54	133482.64	614675.37
2020	BMUS	17197.97	2467.42	14730.55	8500.72	8697.25
2020	ECS	7796.26	3171.66	4624.6	1143.8	6652.46
2020	PMUS	596969.41	371988.25	224981.16	64005.56	532963.85

SQL: Get_Guam_Final.sql

In the final output I compare the estimated lbs sold/unsold using only the boat-based creel survey data and the estimated lbs sold/unsold using both the boat-based creel and commercial receipts. In the comparison, only American Samoa can be compared at the species level, but for consistency, I chose to compare the boat-based creel to commercial receipts at the species type (BMUS, PMUS, ECS) level only. We also cannot exclude methods from the commercial receipts.

Output field	Description	Calculation
year	Year	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
exp_lbs	Sum of the total expanded lbs by year, method, and species	$\sum exp\_lbs$

calc_exp_lbs_sold	Estimated sum of the expanded lbs sold (based on estimated sold percent matched on species and method) by year and species group	$\sum (exp\_lbs * pct\_sold)$
calc_exp_lbs_unsold	Estimated sum of the expanded lbs unsold (based on estimated unsold percent matched on species and method) by year and species group	$\sum (exp\_lbs * pct\_unsold)$
commercial_lbs_sold	Sum of the total lbs sold as reported by vendors by year and species grouping (includes all methods)	$\sum lbs\_sold$
commercial_lbs_unsold	Estimated lbs unsold using total expanded lbs from boat-based creel survey and subtracting estimated (adjusted by percent coverage) lbs sold from commercial receipt books by year and species grouping	$\sum exp\_lbs - \sum est\_lbs\_sold$

Guam boat-based creel estimated percent calculations (sold and unsold)

Output: Guam_BBS_Creel_Percents.csv
SQL: SQL - Get_Guam_Summaries.sql

Source tables:

1. GUAM_DAWR_WH.G_BBS_INT
2. GUAM_DAWR_WH.G_BBS_CAT

Filter conditions:

1. Interview year > 2010 included
2. Tot_est_kgs > 0 included
3. Percent_sold + percent_unsold > 0 include

Grouping conditions:

1. All methods combined
2. Trolling method only
3. Bottomfishing method only

Output field	Description	Calculation
year	Year of interview	
method_fk	Method code (0 - all methods combined, 1 - trolling, 2 - bottomfishing	
method	Method description	
tot_est_kgs	Total estimated kgs caught summed from interview table	$\sum tot\_est\_kgs$
est_kgs_sold	Estimated kgs sold calculated using estimated percent sold and total kgs caught from interview table	$\sum \frac{tot\_est\_kgs * percent\_sold}{100}$
est_kgs_unsold	Estimated kgs unsold calculated using estimated percent unsold and total kgs caught from interview table	$\sum \frac{tot\_est\_kgs * percent\_unsold}{100}$
est_kgs_check	Estimated kgs caught calculated by summing estimated sold kgs and unsold kgs. This is used as a check to make sure output is accurate.	$\sum \frac{tot\_est\_kgs * percent\_sold}{100}$ $+\sum \frac{tot\_est\_kgs * percent\_unsold}{100}$
pct_sold	Estimated annual percent of kgs sold by method type (trolling, bottomfishing, or all methods)	$\frac{\sum \frac{tot\_est\_kgs * percent\_sold}{100}}{\sum tot\_est\_kgs}$
pct_unsold	Estimated annual percent of kgs by method type (trolling, bottomfishing, or all methods)	$\frac{\sum \frac{tot\_est\_kgs * percent\_unsold}{100}}{\sum tot\_est\_kgs}$

pct_check	Estimated total percentage calculated by summing estimated sold percent and unsold percent. This is used as a check to make sure output calculations are accurate	$\frac{\sum \frac{tot\_est\_kgs * percent\_sold}{100}}{\sum tot\_est\_kgs} + \frac{\sum \frac{tot\_est\_kgs * percent\_unsold}{100}}{\sum tot\_est\_kgs}$

Guam boat-based creel expansion estimated total landings

Output: Guam_BBS_Expansion_Total_Landings.csv
SQL: SQL - Get_Guam_Summaries.sql

Source tables:

1. GUAM_DAWR_WH.G_BBS_EXP_VFP
2. GUAM_DAWR_WH.G_BBS_SPC_VFP
3. FEP_SPECGRP.G_BMUS
    a. BMUS list
4. FEP_SPECGRP.G_PRIORITY_ECS
    a. ECS priority list
5. TERRITORIAL_PELAGIC_FEP_SAFE.G_SPECGRPDT_BBS
    a. PMUS list

Filter conditions:

1. Interview year > 2010 included
2. Include only species that are in BMUS, ECS priority, and PMUS lists

Grouping conditions:

1. All other non-troll/bottomfish methods combined
2. Trolling method only
3. Bottomfishing method only

Output field	Description	Calculation

year	Year of interview	
year	Year of interview	
method_fk	Method code (0 - all methods combined, 1 - trolling, 2 - bottomfishing)	
method	Method description	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
exp_kgs	Sum of the total expanded kgs by year, method, and species	$\sum exp\_kgs$
exp_lbs	Conversion of sum of the total expanded kgs by year, method, and species to lbs (can be used for comparison to commercial receipt data)	$\sum exp\_lbs$

Guam commercial receipt books estimated total sold

Output: Guam_Commercial_Purchase_Total.csv
SQL: SQL - Get_Guam_Summaries.sql

Source tables:

1. GUAM_DAWR_WH.G_GCL_HD
2. GUAM_DAWR_WH.G_GCL_DT
3. FEP_SPECGRP.G_BMUS
    a. BMUS list
4. FEP_SPECGRP.G_PRIORITY_ECS
    a. ECS priority list
5. TERRITORIAL_PELAGIC_FEP_SAFE.G_SPECGRPDT_BBS
    a. PMUS list

Filter conditions:

1. Include only records with invoice year > 2010

2. Include only species that are in BMUS, ECS priority, and PMUS lists
3. Exclude records flagged as resale

Grouping conditions:

1. Species groups (BMUS, PMUS, ECS priority)

Output field	Description	Calculation
year	Year of invoice date	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
est_lbs_sold	Sum of estimated total lbs sold as reported by vendors and adjusted by percent coverage by year and species grouping	$\sum lbs\_sold * adjustment$
est_kgs_sold	Conversion of sum of estimated total lbs sold as reported by vendors and adjusted by percent coverage by year and species grouping to kgs (can be used for comparison to expanded creel data)	$\frac{\sum lbs\_sold * adjustment}{2.20462}$
lbs_sold	Sum of the total lbs sold as reported by vendors by year and species grouping	$\sum lbs\_sold$
kgs_sold	Conversion of sum of the total lbs sold as reported by vendors by year and species grouping to kgs (can be used for comparison to expanded creel data)	$\frac{\sum lbs\_sold}{2.20462}$
num_fisher	Number of unique fishers reported on invoices. Used to check for confidentiality.	
num_dealer	Number of unique vendors reporting invoices. Used to check for confidentiality.	

CNMI

CNMI final boat-based creel estimated sold/unsold and boat-based creel/commercial sold/unsold

Output: CNMI_Final_Comparison_usingEstCommLbs_20220206.csv

year	spec_type	exp_lbs	calc_exp_lbs_sold	calc_exp_lbs_unsold	commercial_lbs_sold	commercial_lbs_unsold
2011	BMUS	25798.82	11830.54	13968.28	16114.63	9684.19
2011	ECS	3380.01	2228.97	1151.04	6792.5	-3412.49
2011	PMUS	338796.96	306348.26	32448.7	107625.75	231171.21
2012	BMUS	137496.48	118293.98	19202.5	10590.86	126905.62
2012	ECS	7285.92	6294.45	991.47	1918.38	5367.54
2012	PMUS	479274.05	447316.59	31957.46	155442.51	323831.54
2013	BMUS	20390.6	15766.29	4624.31	16499.62	3890.98
2013	ECS	1301.69	1025.26	276.43	3090	-1788.31
2013	PMUS	335644.05	329435.83	6208.22	253163.89	82480.16
2014	BMUS	7739.76	4053.59	3686.17	16333.72	-8593.96
2014	ECS	2812.74	1901.15	911.59	4156.31	-1343.57
2014	PMUS	394880.8	385253.36	9627.44	227090.54	167790.26
2015	BMUS	10386.08	7882.14	2503.94	4121.33	6264.75
2015	ECS	996.91	870.21	126.7	2949	-1952.09
2015	PMUS	396367.92	375786.89	20581.03	185464.5	210903.42
2016	BMUS	54335.86	37943.81	16392.05	18229.57	36106.29
2016	ECS	408.1	367.16	40.94	3336.66	-2928.56
2016	PMUS	298591.77	274332.2	24259.57	217006.43	81585.34
2017	BMUS	48007.03	42542.47	5464.56	11922.75	36084.28

2017	ECS	44.56	41.34	3.22	4744.06	-4699.5
2017	PMUS	338116.72	313628.62	24488.1	219414.2	118702.52
2018	BMUS	649.9	568.78	81.12	7258.44	-6608.54
2018	ECS	2844.64	1435.61	1409.03	1423.13	1421.51
2018	PMUS	463640.27	455886.6	7753.67	211254.15	252386.12
2019	BMUS	21012.56	16117.07	4895.49	15697.33	5315.23
2019	ECS	2325.43	1744.44	580.99	613.33	1712.1
2019	PMUS	459862.46	449497.72	10364.74	162422.07	297440.39
2020	BMUS	103203.78	52937.97	50265.81	20070.88	83132.9
2020	ECS	20487.41	11640.65	8846.76	3224.33	17263.08
2020	PMUS	671575.01	630238.26	41336.75	146542.23	525032.78

SQL: Get_CNMI_Final.sql

In the final output I compare the estimated lbs sold/unsold using only the boat-based creel survey data and the estimated lbs sold/unsold using both the boat-based creel and commercial receipts. In the comparison, only American Samoa can be compared at the species level, but for consistency, I chose to compare the boat-based creel to commercial receipts at the species type (BMUS, PMUS, ECS) level only. We also cannot exclude methods from the commercial receipts.

Output field	Description	Calculation
year	Year	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
exp_lbs	Sum of the total expanded lbs by year, method, and species	$\sum exp\_lbs$

calc_exp_lbs_sold	Estimated sum of the expanded lbs sold (based on estimated sold percent matched on species and method) by year and species group	$\sum (exp\_lbs * pct\_sold)$
calc_exp_lbs_unsold	Estimated sum of the expanded lbs unsold (based on estimated unsold percent matched on species and method) by year and species group	$\sum (exp\_lbs * pct\_unsold)$
commercial_lbs_sold	Sum of the total lbs sold as reported by vendors by year and species grouping (includes all methods)	$\sum lbs\_sold$
commercial_lbs_unsold	Estimated lbs unsold using total expanded lbs from boat-based creel survey and subtracting estimated (adjusted by percent coverage) lbs sold from commercial receipt books by year and species grouping	$\sum exp\_lbs - \sum est\_lbs\_sold$

CNMI boat-based creel estimated percent calculations (sold and unsold)

Output: CNMI_BBS_Creel_Percents.csv
SQL: SQL - Get_CNMI_Summaries.sql

Source tables:

1. CNMI_DFW_WH.C_BBS_INT
2. CNMI_DFW_WH.C_BBS_CAT

Filter conditions:

1. Interview year > 2010 included
2. Tot_est_kgs > 0 included
3. Percent_sold + percent_unsold > 0 include

Grouping conditions:

1. All methods combined
2. Trolling method only
3. Bottomfishing method only

Output field	Description	Calculation
year	Year of interview	
method_fk	Method code (0 - all methods combined, 1 - trolling, 2 - bottomfishing	
method	Method description	
tot_est_kgs	Total estimated kgs caught summed from interview table	$\sum \ tot\_est\_kgs$
est_kgs_sold	Estimated kgs sold calculated using estimated percent sold and total kgs caught from interview table	$\sum \frac{tot\_est\_kgs * (percent\_sold + perce}{100}$
est_kgs_unsold	Estimated kgs unsold calculated using estimated percent unsold and total kgs caught from interview table	$\sum \frac{tot\_est\_kgs * percent\_unsold}{100}$
est_kgs_check	Estimated kgs caught calculated by summing estimated sold kgs and unsold kgs. This is used as a check to make sure output is accurate.	$\sum \frac{tot\_est\_kgs * (percent\_sold + perce}{100}$ $+ \sum \frac{tot\_est\_kgs * percent\_unsold}{100}$
pct_sold	Estimated annual percent of kgs sold by method type (trolling, bottomfishing, or all methods)	$\frac{\sum \frac{tot\_est\_kgs * (percent\_sold + perc}{100}}{\sum \ tot\_est\_kgs}$
pct_unsold	Estimated annual percent of kgs by method type (trolling, bottomfishing, or all methods)	$\frac{\sum \frac{tot\_est\_kgs * percent\_unsold}{100}}{\sum \ tot\_est\_kgs}$

pct_check	Estimated total percentage calculated by summing estimated sold percent and unsold percent. This is used as a check to make sure output calculations are accurate	$\frac{\sum \frac{tot\_est\_kgs * (percent\_sold + perc}{100}}{\sum tot\_est\_kgs} + \frac{\sum \frac{tot\_est\_kgs * percent\_unsold}{100}}{\sum tot\_est\_kgs}$

CNMI boat-based creel expansion estimated total landings

Output: CNMI_BBS_Expansion_Total_Landings.csv
SQL: SQL - Get_CNMI_Summaries.sql

Source tables:

1. CNMI_DFW_WH.C_BBS_EXP_VFP
2. CNMI_DFW_WH.C_BBS_SPC_VFP
3. FEP_SPECGRP.C_BMUS
    a. BMUS list
4. FEP_SPECGRP.C_PRIORITY_ECS
    a. ECS priority list
5. TERRITORIAL_PELAGIC_FEP_SAFE.C_SPECGRPDT_BBS
    a. PMUS list

Filter conditions:

1. Interview year > 2010 included
2. Include only species that are in BMUS, ECS priority, and PMUS lists

Grouping conditions:

1. All other non-troll/bottomfish methods combined
2. Trolling method only
3. Bottomfishing method only

Output field	Description	Calculation

year	Year of interview	
year	Year of interview	
method_fk	Method code (0 - all methods combined, 1 - trolling, 2 - bottomfishing)	
method	Method description	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
exp_kgs	Sum of the total expanded kgs by year, method, and species	$\sum exp\_kgs$
exp_lbs	Conversion of sum of the total expanded kgs by year, method, and species to lbs (can be used for comparison to commercial receipt data)	$\sum exp\_lbs$

CNMI commercial receipt books estimated total sold

Output: CNMI_Commercial_Purchase_Total.csv
SQL: SQL - Get_CNMI_Summaries.sql

Source tables:

1. CNMI_DFW_WH.C_CCL_HD
2. CNMI_DFW_WH.C_CCL_DT
3. FEP_SPECGRP.C_BMUS
    a. BMUS list
4. FEP_SPECGRP.C_PRIORITY_ECS
    a. ECS priority list
5. TERRITORIAL_PELAGIC_FEP_SAFE.C_SPECGRPDT_BBS
    a. PMUS list

Filter conditions:

4. Include only records with invoice year > 2010

5. Include only species that are in BMUS, ECS priority, and PMUS lists
6. Exclude records flagged as resale

Grouping conditions:

2. Species groups (BMUS, PMUS, ECS priority)

Output field	Description	Calculation
year	Year of invoice date	
spec_type	Species category based on the SAFE report species lists for BMUS, PMUS, and ECS	
est_lbs_sold	Sum of estimated total lbs sold as reported by vendors and adjusted by percent coverage by year and species grouping	$\sum lbs\_sold * adjustment$
est_kgs_sold	Conversion of sum of estimated total lbs sold as reported by vendors and adjusted by percent coverage by year and species grouping to kgs (can be used for comparison to expanded creel data)	$\frac{\sum lbs\_sold * adjustme}{2.20462}$
lbs_sold	Sum of the total lbs sold as reported by vendors by year and species grouping	$\sum lbs\_sold$
kgs_sold	Conversion of sum of the total lbs sold as reported by vendors by year and species grouping to kgs (can be used for comparison to expanded creel data)	$\frac{\sum lbs\_sold}{2.20462}$
num_fisher	Number of unique fishers reported on invoices. Used to check for confidentiality.	
num_dealer	Number of unique vendors reporting invoices. Used to check for confidentiality.	