

Appendix B. Data files for model 23.0a

Data files can be provided by the author in a more readable format, katie.palof@alaska.gov

Model 23.0a data file for 2024

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#updating trawl and fixed gear bycatch data for length comp. during 1986-2022 and biomass 2009-2021
# was base data file 21.1b model fall 2023 - updated for season for SSB - 24s
# Now base data file for model 23.0a fall 2024 - use same .dat for both model runs in fall 2024
# date: 6-12-2024/ 8-14-2024
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# Gmacs Main Data File Version 1.1: BBRKC Example
# GEAR_INDEX DESCRIPTION
# 1 : Pot fishery retained catch.
# 1 : Pot fishery with discarded catch.
# 2 : Trawl bycatch
# 3 : Trawl survey
# Fisheries: 1 Pot Fishery, 2 Pot Discard, 3 Trawl by-catch, 4 Tanner bycatch 5 fixed gear
# Surveys: 6 NMFS Trawl Survey, 7 BSFRF Survey
#-----
1975 # Start year
2023 # End year - update annually in fall
7 # Number of seasons
6 # Number of fleets (fishing fleets and surveys)
2 # Number of sexes
2 # Number of shell condition types
1 # Number of maturity types
20 # Number of size-classes in the model
7 # Season recruitment occurs
7 # Season molting and growth occurs
7 #6 # Season to calculate SSB
1 # Season for N output
# maximum size-class (males then females)
20 16
# size_breaks (a vector giving the break points between size intervals, dim=nclass+1)
65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165
# Natural mortality per season input type (1 = vector by season, 2 = matrix by season/year)
2
# Proportion of the total natural mortality to be applied each season
0.0000 0.2329 0.0000 0.2671 0.0000 0.194 0.306 #1975
0.0000 0.2795 0.0000 0.2205 0.0000 0.194 0.306 #1976
0.0000 0.3233 0.0000 0.1767 0.0000 0.194 0.306 #1977
0.0000 0.2548 0.0000 0.2452 0.0000 0.194 0.306 #1978
0.0000 0.2493 0.0000 0.2507 0.0000 0.194 0.306 #1979
0.0000 0.2493 0.0000 0.2507 0.0000 0.194 0.306 #1980
0.0000 0.2493 0.0000 0.2507 0.0000 0.194 0.306 #1981
0.0000 0.2356 0.0000 0.2644 0.0000 0.194 0.306 #1982
0.0000 0.2400 0.0000 0.2600 0.0000 0.194 0.306 #1983
0.0000 0.2712 0.0000 0.2288 0.0000 0.194 0.306 #1984
0.0000 0.2438 0.0000 0.2562 0.0000 0.194 0.306 #1985
0.0000 0.2521 0.0000 0.2479 0.0000 0.194 0.306 #1986
0.0000 0.2493 0.0000 0.2507 0.0000 0.194 0.306 #1987
0.0000 0.2438 0.0000 0.2562 0.0000 0.194 0.306 #1988
0.0000 0.2493 0.0000 0.2507 0.0000 0.194 0.306 #1989
0.0000 0.3507 0.0000 0.1493 0.0000 0.194 0.306 #1990
0.0000 0.3425 0.0000 0.1575 0.0000 0.194 0.306 #1991
0.0000 0.3425 0.0000 0.1575 0.0000 0.194 0.306 #1992
0.0000 0.3452 0.0000 0.1548 0.0000 0.194 0.306 #1993
0.0000 0.3400 0.0000 0.1600 0.0000 0.194 0.306 #1994
0.0000 0.3400 0.0000 0.1600 0.0000 0.194 0.306 #1995
0.0000 0.3400 0.0000 0.1600 0.0000 0.194 0.306 #1996
0.0000 0.3400 0.0000 0.1600 0.0000 0.194 0.306 #1997
0.0000 0.3400 0.0000 0.1600 0.0000 0.194 0.306 #1998
0.0000 0.3000 0.0000 0.2000 0.0000 0.194 0.306 #1999
0.0000 0.3000 0.0000 0.2000 0.0000 0.194 0.306 #2000
0.0000 0.3000 0.0000 0.2000 0.0000 0.194 0.306 #2001
0.0000 0.3000 0.0000 0.2000 0.0000 0.194 0.306 #2002
0.0000 0.3000 0.0000 0.2000 0.0000 0.194 0.306 #2003
0.0000 0.3000 0.0000 0.2000 0.0000 0.194 0.306 #2004
```


2006	3	1	1	7143.2	0.03	1	1	1	0	0.2
2007	3	1	1	9303.9	0.03	1	1	1	0	0.2
2008	3	1	1	9216.1	0.03	1	1	1	0	0.2
2009	3	1	1	7272.5	0.03	1	1	1	0	0.2
2010	3	1	1	6761.5	0.03	1	1	1	0	0.2
2011	3	1	1	3607.1	0.03	1	1	1	0	0.2
2012	3	1	1	3621.7	0.03	1	1	1	0	0.2
2013	3	1	1	3991	0.03	1	1	1	0	0.2
2014	3	1	1	4538.6	0.03	1	1	1	0	0.2
2015	3	1	1	4613.7	0.03	1	1	1	0	0.2
2016	3	1	1	3923.9	0.03	1	1	1	0	0.2
2017	3	1	1	3093.7	0.03	1	1	1	0	0.2
2018	3	1	1	2026.5	0.03	1	1	1	0	0.2
2019	3	1	1	1775.3	0.03	1	1	1	0	0.2
2020	3	1	1	1257.0	0.03	1	1	1	0	0.2
2021	3	1	1	17.45	0.03	1	1	1	0	0.2 # update annually - from item7
2022	3	1	1	24.0	0.03	1	1	1	0	0.2 # looks like this is from fish ticket data for test fishery
2023	3	1	1	972.6	0.03	1	1	1	0	0.2 # fishery was open
## Total Male pot fishery (t)										
#year	seas	fleet	sex	obs	cv	type	units	mult	effort	discard_mortality
1990	3	1	1	11621.8	0.04	0	1	1	0	0.2
1991	3	1	1	9792.9	0.04	0	1	1	0	0.2
1992	3	1	1	5916.2	0.04	0	1	1	0	0.2
1993	3	1	1	9516.8	0.04	0	1	1	0	0.2
1994	3	1	1	62.3	0.04	0	1	1	0	0.2
1995	3	1	1	52.8	0.04	0	1	1	0	0.2
1996	3	1	1	3845.2	0.04	0	1	1	0	0.2
1997	3	1	1	3758.8	0.04	0	1	1	0	0.2
1998	3	1	1	15644.8	0.04	0	1	1	0	0.2
1999	3	1	1	12112.3	0.04	0	1	1	0	0.2
2000	3	1	1	6579.7	0.04	0	1	1	0	0.2
2001	3	1	1	5711.5	0.04	0	1	1	0	0.2
2002	3	1	1	6961.4	0.04	0	1	1	0	0.2
2003	3	1	1	12166.5	0.04	0	1	1	0	0.2
2004	3	1	1	10692.0	0.04	0	1	1	0	0.2
2005	3	1	1	13615.9	0.04	0	1	1	0	0.2
2006	3	1	1	9254.0	0.04	0	1	1	0	0.2
2007	3	1	1	13871.9	0.04	0	1	1	0	0.2
2008	3	1	1	14894.9	0.04	0	1	1	0	0.2
2009	3	1	1	12218.8	0.04	0	1	1	0	0.2
2010	3	1	1	10095.4	0.04	0	1	1	0	0.2
2011	3	1	1	5665.3	0.04	0	1	1	0	0.2
2012	3	1	1	4495.5	0.04	0	1	1	0	0.2
2013	3	1	1	5305.9	0.04	0	1	1	0	0.2
2014	3	1	1	8113.8	0.04	0	1	1	0	0.2
2015	3	1	1	6726.8	0.04	0	1	1	0	0.2
2016	3	1	1	5651.8	0.04	0	1	1	0	0.2
2017	3	1	1	4077.2	0.04	0	1	1	0	0.2
2018	3	1	1	3423.2	0.04	0	1	1	0	0.2
2019	3	1	1	3144.6	0.04	0	1	1	0	0.2
2020	3	1	1	2299.7	0.04	0	1	1	0	0.2
2021	3	1	1	33.8	0.04	0	1	1	0	0.2
2022	3	1	1	28.3	0.04	0	1	1	0	0.2 # updated from item1a
2023	3	1	1	1543.5	0.04	0	1	1	0	0.2 # updated from item1a
## Female discards Pot fishery										
#year	seas	fleet	sex	obs	cv	type	units	mult	effort	discard_mortality
1990	3	1	2	3196.2	0.07	0	1	1	0	0.2
1991	3	1	2	233.9	0.07	0	1	1	0	0.2
1992	3	1	2	1976.3	0.07	0	1	1	0	0.2
1993	3	1	2	3141.5	0.07	0	1	1	0	0.2
1994	3	1	2	1.877	0.07	0	1	1	0	0.2
1995	3	1	2	1.612	0.07	0	1	1	0	0.2
1996	3	1	2	5.1	0.07	0	1	1	0	0.2
1997	3	1	2	182.7	0.07	0	1	1	0	0.2
1998	3	1	2	2769.3	0.07	0	1	1	0	0.2
1999	3	1	2	28.0	0.07	0	1	1	0	0.2
2000	3	1	2	821.9	0.07	0	1	1	0	0.2
2001	3	1	2	604.0	0.07	0	1	1	0	0.2
2002	3	1	2	45.6	0.07	0	1	1	0	0.2
2003	3	1	2	1784.4	0.07	0	1	1	0	0.2
2004	3	1	2	859.2	0.07	0	1	1	0	0.2
2005	3	1	2	2027.1	0.07	0	1	1	0	0.2

2006	3	1	2	187.4	0.07	0	1	1	0	0.2
2007	3	1	2	799.4	0.07	0	1	1	0	0.2
2008	3	1	2	724.2	0.07	0	1	1	0	0.2
2009	3	1	2	441.3	0.07	0	1	1	0	0.2
2010	3	1	2	592.6	0.07	0	1	1	0	0.2
2011	3	1	2	124.8	0.07	0	1	1	0	0.2
2012	3	1	2	55.9	0.07	0	1	1	0	0.2
2013	3	1	2	490.7	0.07	0	1	1	0	0.2
2014	3	1	2	424.3	0.07	0	1	1	0	0.2
2015	3	1	2	1195.6	0.07	0	1	1	0	0.2
2016	3	1	2	617.2	0.07	0	1	1	0	0.2
2017	3	1	2	266.9	0.07	0	1	1	0	0.2
2018	3	1	2	750.4	0.07	0	1	1	0	0.2
2019	3	1	2	218.0	0.07	0	1	1	0	0.2
2020	3	1	2	76.1	0.07	0	1	1	0	0.2
2021	3	1	2	29.4	0.07	0	1	1	0	0.2
2022	3	1	2	4.7	0.07	0	1	1	0	0.2 # update annually from item 1b
2023	3	1	2	65.4	0.07	0	1	1	0	0.2 # update annually from item 1b
## Trawl fishery discards (t, without applying to handling mortality rate)										
#year	seas	fleet	sex	obs	cv	type	units	mult	effort	discard_mortality
1976	5	2	0	853.494	0.10	2	1	1	0	0.8
1977	5	2	0	1562.313	0.10	2	1	1	0	0.8
1978	5	2	0	1650.775	0.10	2	1	1	0	0.8
1979	5	2	0	1664.925	0.10	2	1	1	0	0.8
1980	5	2	0	1295.625	0.10	2	1	1	0	0.8
1981	5	2	0	274.229	0.10	2	1	1	0	0.8
1982	5	2	0	718.610	0.10	2	1	1	0	0.8
1983	5	2	0	525.554	0.10	2	1	1	0	0.8
1984	5	2	0	1367.550	0.10	2	1	1	0	0.8
1985	5	2	0	487.576	0.10	2	1	1	0	0.8
1986	5	2	0	250.758	0.10	2	1	1	0	0.8
1987	5	2	0	233.045	0.10	2	1	1	0	0.8
1988	5	2	0	747.996	0.10	2	1	1	0	0.8
1989	5	2	0	219.023	0.10	2	1	1	0	0.8
1990	5	2	0	324.883	0.10	2	1	1	0	0.8
1991	5	2	0	436.783	0.10	2	1	1	0	0.8
1992	5	2	0	366.816	0.10	2	1	1	0	0.8
1993	5	2	0	501.770	0.10	2	1	1	0	0.8
1994	5	2	0	109.129	0.10	2	1	1	0	0.8
1995	5	2	0	102.623	0.10	2	1	1	0	0.8
1996	5	2	0	113.495	0.10	2	1	1	0	0.8
1997	5	2	0	71.862	0.10	2	1	1	0	0.8
1998	5	2	0	232.580	0.10	2	1	1	0	0.8
1999	5	2	0	188.101	0.10	2	1	1	0	0.8
2000	5	2	0	102.161	0.10	2	1	1	0	0.8
2001	5	2	0	241.011	0.10	2	1	1	0	0.8
2002	5	2	0	189.018	0.10	2	1	1	0	0.8
2003	5	2	0	171.114	0.10	2	1	1	0	0.8
2004	5	2	0	216.889	0.10	2	1	1	0	0.8
2005	5	2	0	155.924	0.10	2	1	1	0	0.8
2006	5	2	0	189.660	0.10	2	1	1	0	0.8
2007	5	2	0	192.571	0.10	2	1	1	0	0.8
2008	5	2	0	170.561	0.10	2	1	1	0	0.8
2009	5	2	0	118.672	0.10	2	1	1	0	0.8
2010	5	2	0	104.005	0.10	2	1	1	0	0.8
2011	5	2	0	70.286	0.10	2	1	1	0	0.8
2012	5	2	0	42.641	0.10	2	1	1	0	0.8
2013	5	2	0	83.613	0.10	2	1	1	0	0.8
2014	5	2	0	43.129	0.10	2	1	1	0	0.8
2015	5	2	0	56.410	0.10	2	1	1	0	0.8
2016	5	2	0	84.127	0.10	2	1	1	0	0.8
2017	5	2	0	114.624	0.10	2	1	1	0	0.8
2018	5	2	0	97.561	0.10	2	1	1	0	0.8
2019	5	2	0	94.599	0.10	2	1	1	0	0.8
2020	5	2	0	98.436	0.10	2	1	1	0	0.8
2021	5	2	0	43.149	0.10	2	1	1	0	0.8
2022	5	2	0	19.025	0.10	2	1	1	0	0.8 # update annually - gf_weight - trawl_thou column
2023	5	2	0	25.661	0.10	2	1	1	0	0.8
# Tanner crab fishery discards males										
#year	seas	fleet	sex	obs	cv	type	units	mult	potlifts	discard_mortality
1975	5	3	1	0	0.07	2	1	1	106.445	0.25
1976	5	3	1	0	0.07	2	1	1	233.667	0.25

1977	5	3	1	0	0.07	2	1	1	408.437	0.25				
1978	5	3	1	0	0.07	2	1	1	356.594	0.25				
1979	5	3	1	0	0.07	2	1	1	476.410	0.25				
1980	5	3	1	0	0.07	2	1	1	496.751	0.25				
1981	5	3	1	0	0.07	2	1	1	322.634	0.25				
1982	5	3	1	0	0.07	2	1	1	192.538	0.25				
1983	5	3	1	0	0.07	2	1	1	44.546	0.25				
1984	5	3	1	0	0.07	2	1	1	67.037	0.25				
#1985	5	3	1	0	0.07	2	1	1	0.0001	0.25				
#1986	5	3	1	0	0.07	2	1	1	0.0001	0.25				
1987	5	3	1	0	0.07	2	1	1	39.827	0.25				
1988	5	3	1	0	0.07	2	1	1	92.551	0.25				
1989	5	3	1	0	0.07	2	1	1	306.175	0.25				
1990	5	3	1	0.000	0.07	2	1	1	493.82	0.25				
1991	5	3	1	1890.540	0.07	2	1	1	360.864	0.25				
1992	5	3	1	263.854	0.07	2	1	1	508.922	0.25				
1993	5	3	1	118.614	0.07	2	1	1	286.62	0.25				
1994	5	3	1	38.907	0.07	2	1	1	228.254	0.25				
#1995	5	3	1	0.000	0.07	2	1	1	201.988	0.25				
#1996	5	3	1	0.000	0.07	2	1	1	64.989	0.25				
#1997	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#1998	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#1999	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2000	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2001	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2002	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2003	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2004	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2005	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
2006	5	3	1	14.334	0.07	2	1	1	15.273	0.25				
2007	5	3	1	5.536	0.07	2	1	1	26.441	0.25				
2008	5	3	1	9.245	0.07	2	1	1	19.401	0.25				
2009	5	3	1	3.089	0.07	2	1	1	6.635	0.25				
#2010	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2011	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2012	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
2013	5	3	1	37.426	0.07	2	1	1	16.633	0.25				
2014	5	3	1	68.588	0.07	2	1	1	72.768	0.25				
2015	5	3	1	189.229	0.07	2	1	1	130.302	0.25				
#2016	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2017	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2018	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2019	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2020	5	3	1	0.000	0.07	2	1	1	1e-4	0.25				
#2021	5	3	1	0.000	0.07	2	1	1	1e-4	0.25 # update annually				
#2022	5	3	1	0.000	0.07	2	1	1	1e-4	0.25 # update annually item 2a				
#2023	5	3	1	0.000	0.07	2	1	1	1e-4	0.25 # update annually item 2a				
#	Tanner	crab		fishery	discards		sex	obs	cv	type	units	mult	potlifts	discard_mortality
#year	seas	fleet	sex	obs	cv	type	units	mult	potlifts	discard_mortality				
1975	5	3	2	0	0.07	2	1	1	106.445	0.25				
1976	5	3	2	0	0.07	2	1	1	233.667	0.25				
1977	5	3	2	0	0.07	2	1	1	408.437	0.25				
1978	5	3	2	0	0.07	2	1	1	356.594	0.25				
1979	5	3	2	0	0.07	2	1	1	476.410	0.25				
1980	5	3	2	0	0.07	2	1	1	496.751	0.25				
1981	5	3	2	0	0.07	2	1	1	322.634	0.25				
1982	5	3	2	0	0.07	2	1	1	192.538	0.25				
1983	5	3	2	0	0.07	2	1	1	44.546	0.25				
1984	5	3	2	0	0.07	2	1	1	67.037	0.25				
#1985	5	3	2	0	0.07	2	1	1	0.0001	0.25				
#1986	5	3	2	0	0.07	2	1	1	0.0001	0.25				
1987	5	3	2	0	0.07	2	1	1	39.827	0.25				
1988	5	3	2	0	0.07	2	1	1	92.551	0.25				
1989	5	3	2	0	0.07	2	1	1	306.175	0.25				
1990	5	3	2	0.000	0.07	2	1	1	493.82	0.25				
1991	5	3	2	3690.303	0.07	2	1	1	360.864	0.25				
1992	5	3	2	698.992	0.07	2	1	1	508.922	0.25				
1993	5	3	2	99.498	0.07	2	1	1	286.62	0.25				
1994	5	3	2	0.488	0.07	2	1	1	228.254	0.25				
#1995	5	3	2	0.000	0.07	2	1	1	201.988	0.25				
#1996	5	3	2	0.000	0.07	2	1	1	64.989	0.25				

#1997	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#1998	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#1999	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2000	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2001	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2002	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2003	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2004	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2005	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
2006	5	3	2	0.883	0.07	2	1	1	15.273	0.25
2007	5	3	2	1.606	0.07	2	1	1	26.441	0.25
2008	5	3	2	6.825	0.07	2	1	1	19.401	0.25
2009	5	3	2	3.410	0.07	2	1	1	6.635	0.25
#2010	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2011	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2012	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
2013	5	3	2	75.637	0.07	2	1	1	16.633	0.25
2014	5	3	2	68.907	0.07	2	1	1	72.768	0.25
2015	5	3	2	449.020	0.07	2	1	1	130.302	0.25
#2016	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2017	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2018	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2019	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2020	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2021	5	3	2	0.000	0.07	2	1	1	1e-4	0.25
#2022	5	3	2	0.000	0.07	2	1	1	1e-4	0.25 # updated annually item2b
#2022	5	3	2	0.000	0.07	2	1	1	1e-4	0.25 # updated annually item2b

Fixed gear crab fishery discards (t, without applying to handling mortality rate)

1996	5	4	0	82.859	0.10	2	1	1	0	0.5
1997	5	4	0	44.979	0.10	2	1	1	0	0.5
1998	5	4	0	36.916	0.10	2	1	1	0	0.5
1999	5	4	0	100.242	0.10	2	1	1	0	0.5
2000	5	4	0	9.446	0.10	2	1	1	0	0.5
2001	5	4	0	70.553	0.10	2	1	1	0	0.5
2002	5	4	0	58.382	0.10	2	1	1	0	0.5
2003	5	4	0	25.351	0.10	2	1	1	0	0.5
2004	5	4	0	30.422	0.10	2	1	1	0	0.5
2005	5	4	0	39.802	0.10	2	1	1	0	0.5
2006	5	4	0	39.134	0.10	2	1	1	0	0.5
2007	5	4	0	64.655	0.10	2	1	1	0	0.5
2008	5	4	0	31.158	0.10	2	1	1	0	0.5
2009	5	4	0	11.614	0.10	2	1	1	0	0.5
2010	5	4	0	4.944	0.10	2	1	1	0	0.5
2011	5	4	0	21.726	0.10	2	1	1	0	0.5
2012	5	4	0	36.897	0.10	2	1	1	0	0.5
2013	5	4	0	110.208	0.10	2	1	1	0	0.5
2014	5	4	0	237.374	0.10	2	1	1	0	0.5
2015	5	4	0	154.775	0.10	2	1	1	0	0.5
2016	5	4	0	55.222	0.10	2	1	1	0	0.5
2017	5	4	0	173.310	0.10	2	1	1	0	0.5
2018	5	4	0	234.586	0.10	2	1	1	0	0.5
2019	5	4	0	96.600	0.10	2	1	1	0	0.5
2020	5	4	0	34.788	0.10	2	1	1	0	0.5
2021	5	4	0	114.834	0.10	2	1	1	0	0.5 # update annually from gf_weight
2022	5	4	0	123.855	0.10	2	1	1	0	0.5 # update annually
2023	5	4	0	71.284	0.10	2	1	1	0	0.5 # update annually

Relative Abundance Data

Units of Abundance: 1 = biomass, 2 = numbers

TODO: add column for maturity for terminal molt life-histories

for BBRKC Units are in 1000 mt.

Input data format (0 = old, 1=new)

0

Number of relative abundance indices

2

Data type (1=total selectivity; 2=retention*selectivity)

1 1

Number of rows all indices - so both surveys combined (updated annually with NMFS +2 since male and females separate)

110

Survey data (abundance indices, units are 1000 mt)

#Index	Year	Season	Fleet	Sex	Abundance	CV	Units	
1	1975	1	5	1	0	133084.0	0.193	1 0
1	1976	1	5	1	0	256362.2	0.207	1 0
1	1977	1	5	1	0	232538.7	0.144	1 0
1	1978	1	5	1	0	199542.2	0.152	1 0
1	1979	1	5	1	0	102448.2	0.164	1 0
1	1980	1	5	1	0	166524.3	0.221	1 0
1	1981	1	5	1	0	68294.4	0.190	1 0
1	1982	1	5	1	0	72296.3	0.251	1 0
1	1983	1	5	1	0	34761.9	0.214	1 0
1	1984	1	5	1	0	96418.3	0.606	1 0
1	1985	1	5	1	0	26819.4	0.159	1 0
1	1986	1	5	1	0	40549.3	0.420	1 0
1	1987	1	5	1	0	46769.1	0.209	1 0
1	1988	1	5	1	0	35373.6	0.228	1 0
1	1989	1	5	1	0	42357.7	0.232	1 0
1	1990	1	5	1	0	38727.8	0.242	1 0
1	1991	1	5	1	0	66528.0	0.443	1 0
1	1992	1	5	1	0	25096.2	0.176	1 0
1	1993	1	5	1	0	35670.6	0.198	1 0
1	1994	1	5	1	0	23002.5	0.174	1 0
1	1995	1	5	1	0	27251.9	0.266	1 0
1	1996	1	5	1	0	26815.7	0.203	1 0
1	1997	1	5	1	0	59638.3	0.264	1 0
1	1998	1	5	1	0	46208.6	0.182	1 0
1	1999	1	5	1	0	44528.7	0.204	1 0
1	2000	1	5	1	0	38390.7	0.216	1 0
1	2001	1	5	1	0	27942.7	0.187	1 0
1	2002	1	5	1	0	45139.9	0.202	1 0
1	2003	1	5	1	0	74641.0	0.283	1 0
1	2004	1	5	1	0	90354.3	0.321	1 0
1	2005	1	5	1	0	54789.5	0.171	1 0
1	2006	1	5	1	0	51215.2	0.169	1 0
1	2007	1	5	1	0	58144.3	0.174	1 0
1	2008	1	5	1	0	67214.4	0.249	1 0
1	2009	1	5	1	0	43170.4	0.326	1 0
1	2010	1	5	1	0	39020.6	0.223	1 0
1	2011	1	5	1	0	27385.1	0.213	1 0
1	2012	1	5	1	0	30655.4	0.237	1 0
1	2013	1	5	1	0	39650.2	0.244	1 0
1	2014	1	5	1	0	60649.4	0.191	1 0
1	2015	1	5	1	0	37085.3	0.208	1 0
1	2016	1	5	1	0	27184.9	0.194	1 0
1	2017	1	5	1	0	25335.3	0.173	1 0
1	2018	1	5	1	0	16034.2	0.161	1 0
1	2019	1	5	1	0	15169.9	0.157	1 0
1	2021	1	5	1	0	18235.4	0.177	1 0
1	2022	1	5	1	0	24940.4	0.181	1 0
1	2023	1	5	1	0	20590.04	0.246	1 0
1	2024	1	5	1	0	30553.64	0.168	1 0 # update annually males use CV for combined males and females
1	1975	1	5	2	0	66558.7	0.193	1 0
1	1976	1	5	2	0	71252.4	0.207	1 0
1	1977	1	5	2	0	138684.3	0.144	1 0
1	1978	1	5	2	0	143646.6	0.152	1 0
1	1979	1	5	2	0	63000.5	0.164	1 0
1	1980	1	5	2	0	80701.3	0.221	1 0
1	1981	1	5	2	0	62850.4	0.190	1 0
1	1982	1	5	2	0	69601.4	0.251	1 0
1	1983	1	5	2	0	13713.6	0.214	1 0
1	1984	1	5	2	0	56188.5	0.606	1 0
1	1985	1	5	2	0	7318.7	0.159	1 0
1	1986	1	5	2	0	6884.6	0.420	1 0
1	1987	1	5	2	0	22475.5	0.209	1 0
1	1988	1	5	2	0	19223.7	0.228	1 0
1	1989	1	5	2	0	12778.0	0.232	1 0
1	1990	1	5	2	0	20722.8	0.242	1 0
1	1991	1	5	2	0	17363.5	0.443	1 0
1	1992	1	5	2	0	12238.2	0.176	1 0
1	1993	1	5	2	0	17235.1	0.198	1 0
1	1994	1	5	2	0	9101.7	0.174	1 0
1	1995	1	5	2	0	10816.3	0.266	1 0
1	1996	1	5	2	0	17143.2	0.203	1 0

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1990	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1991	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
1992	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000
1993	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0000
1996	3	1	1	1	0	0	150	0.0000	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000	0.0001	0.0001	0.0001	0.0002	0.0000
1997	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0000
1998	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000
1999	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2000	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000	0.0001	0.0001	0.0000
2001	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000
2002	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0000	0.0001	0.0001
2003	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0002	0.0001	0.0001	0.0000	0.0001	0.0000
2004	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2005	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
2006	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2007	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2008	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2009	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2010	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2011	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
2012	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
2013	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0000	0.0000
2014	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2016	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2017	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0000
2018	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
2019	3	1	1	1	0	0	150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2020	3	1	1	1	0	0	150	0	0	0	0	0	0	0	0	0	0	0	0
2021	3	1	1	1	0	0	5.05	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	3	1	1	1	0	0	5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2023	3	1	1	1	0	0	100	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

#Total		males																		
#Year	Season	Fleet	Sex	Type	Shell	Maturity	Nsamp	DataVec												
1990	3	1	1	0	0	0	127.2	0	0	0.0004	0.0028	0.0016	0.0043	0.0024	0.013	0.0173	0.0263	0.0000	0.0000	0.0000
1991	3	1	1	0	0	0	150	0.0009	0.0038	0.0075	0.0081	0.0092	0.0149	0.0124	0.0241	0.0236	0.0262	0.0000	0.0000	0.0000
1992	3	1	1	0	0	0	150	0	0.0006	0.0008	0.0075	0.0151	0.0375	0.0591	0.0777	0.0806	0.0838	0.0000	0.0000	0.0000
1993	3	1	1	0	0	0	150	0.0009	0.0025	0.0032	0.0028	0.0035	0.007	0.0177	0.0325	0.0445	0.0615	0.0000	0.0000	0.0000
1996	3	1	1	0	0	0	32.1	0	0	0	0.0047	0.0187	0.0296	0.0265	0.0109	0.0171	0.0249	0.0000	0.0000	0.0000
1997	3	1	1	0	0	0	150	0	0.0001	0.0002	0.0003	0.0006	0.0081	0.0227	0.0446	0.0519	0.0534	0.0000	0.0000	0.0000
1998	3	1	1	0	0	0	150	0.0001	0.0002	0.0004	0.0021	0.0037	0.0054	0.0056	0.0104	0.0246	0.0588	0.0000	0.0000	0.0000
1999	3	1	1	0	0	0	150	0	0	0	0.0013	0.0013	0.0006	0.0017	0.0013	0.0025	0.0059	0.0000	0.0000	0.0000
2000	3	1	1	0	0	0	150	0.0002	0.002	0.0071	0.0185	0.0234	0.0242	0.0256	0.0262	0.0254	0.0291	0.0000	0.0000	0.0000
2001	3	1	1	0	0	0	150	0.0004	0.0023	0.0037	0.005	0.0066	0.0139	0.0249	0.0381	0.0447	0.0539	0.0000	0.0000	0.0000
2002	3	1	1	0	0	0	150	0.0017	0.0046	0.0044	0.0051	0.0043	0.0054	0.0066	0.0151	0.0272	0.0504	0.0000	0.0000	0.0000
2003	3	1	1	0	0	0	150	0.0034	0.0053	0.0065	0.0144	0.0257	0.0323	0.0355	0.0335	0.0315	0.0322	0.0000	0.0000	0.0000
2004	3	1	1	0	0	0	150	0.0001	0.0019	0.0061	0.016	0.021	0.0231	0.0316	0.0519	0.0613	0.0616	0.0000	0.0000	0.0000
2005	3	1	1	0	0	0	150	0.0001	0.0005	0.0008	0.0017	0.0044	0.0128	0.0199	0.0243	0.0264	0.0383	0.0000	0.0000	0.0000
2006	3	1	1	0	0	0	150	0.0001	0.0006	0.0019	0.0065	0.014	0.0171	0.0166	0.0154	0.02	0.0333	0.0000	0.0000	0.0000
2007	3	1	1	0	0	0	150	0.0006	0.0021	0.0034	0.0051	0.0089	0.0191	0.034	0.044	0.0477	0.044	0.0000	0.0000	0.0000
2008	3	1	1	0	0	0	150	0.0001	0.0002	0.0007	0.0026	0.0059	0.0078	0.0088	0.0118	0.0243	0.0445	0.0000	0.0000	0.0000
2009	3	1	1	0	0	0	150	0.0002	0.0005	0.0009	0.0016	0.0021	0.0038	0.0093	0.0213	0.033	0.0371	0.0000	0.0000	0.0000
2010	3	1	1	0	0	0	150	0.0004	0.0006	0.0013	0.0028	0.0044	0.0061	0.0077	0.0113	0.0179	0.0286	0.0000	0.0000	0.0000
2011	3	1	1	0	0	0	150	0.0008	0.0031	0.0055	0.0097	0.01	0.0089	0.0129	0.0147	0.0193	0.0265	0.0000	0.0000	0.0000
2012	3	1	1	0	0	0	150	0.0002	0.0003	0.0008	0.0014	0.0037	0.0088	0.0141	0.0189	0.018	0.0192	0.0000	0.0000	0.0000
2013	3	1	1	0	0	0	150	0.0001	0.0007	0.0017	0.0022	0.0047	0.0058	0.0096	0.015	0.0257	0.0378	0.0000	0.0000	0.0000
2014	3	1	1	0	0	0	150	0.0003	0.0006	0.0008	0.0012	0.0017	0.0038	0.0063	0.0111	0.0155	0.0206	0.0000	0.0000	0.0000
2015	3	1	1	0	0	0	150	0.0001	0.0002	0.0008	0.0017	0.0038	0.0059	0.0063	0.007	0.012	0.0271	0.0000	0.0000	0.0000
2016	3	1	1	0	0	0	150	0.0001	0.0002	0.0015	0.0034	0.0046	0.0064	0.0111	0.0188	0.0225	0.0279	0.0000	0.0000	0.0000
2017	3	1	1	0	0	0	150	0.0002	0.0006	0.0031	0.0115	0.0241	0.0341	0.0294	0.0235	0.0197	0.0248	0.0000	0.0000	0.0000
2018	3	1	1	0	0	0	150	0.0004	0.0027	0.0072	0.0082	0.0067	0.011	0.0232	0.0432	0.0643	0.0723	0.0000	0.0000	0.0000
2019	3	1	1	0	0	0	150	0	0.0001	0.0002	0.0019	0.0084	0.017	0.0218	0.0194	0.0196	0.0356	0.0000	0.0000	0.0000
2020	3	1	1	0	0	0	150	0	0.0007	0.0034	0.0075	0.0101	0.0142	0.0177	0.03	0.0426	0.0589	0.0000	0.0000	0.0000
2021	3	1	1	0	0	0	55	0.0009	0.0000	0.0082	0.0127	0.0073	0.0127	0.0145	0.0200	0.0218	0.0418	0.0000	0.0000	0.0000
2022	3	1	1	0	0	0	54.4	0.0000	0.0000	0.0000	0.0009	0.0000</								

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1992	3	1	2	0	0	0	50	0	0.0013	0.0029	0.0177	0.0803	0.1765	0.195	0.1698	0.0958	0.0815	0.
1993	3	1	2	0	0	0	50	0.0013	0.0024	0.0044	0.0059	0.013	0.0326	0.1011	0.1598	0.1443	0.1139	0.
1996	3	1	2	0	0	0	0.55	0	0	0	0.0909	0.6364	0.2727	0	0	0	0	0.
1997	3	1	2	0	0	0	45.3	0	0	0.0011	0.0011	0.0099	0.0265	0.0364	0.0464	0.0695	0.1391	0.
1998	3	1	2	0	0	0	50	0.0002	0.0004	0.0009	0.0026	0.0066	0.0174	0.055	0.1755	0.2268	0.1521	0.
1999	3	1	2	0	0	0	2	0	0	0	0.025	0.025	0.025	0.05	0.025	0	0.125	0.
2000	3	1	2	0	0	0	50	0	0.0044	0.0256	0.0607	0.0744	0.0816	0.0701	0.0543	0.055	0.0998	0.
2001	3	1	2	0	0	0	50	0.0007	0.0042	0.0129	0.0307	0.0568	0.0844	0.0986	0.0909	0.0646	0.0568	0.
2002	3	1	2	0	0	0	35.3	0.0595	0.1714	0.1601	0.1388	0.1091	0.0581	0.0297	0.0326	0.0382	0.0326	0.
2003	3	1	2	0	0	0	50	0.012	0.0164	0.0231	0.0635	0.102	0.1075	0.0682	0.043	0.06	0.0866	0.
2004	3	1	2	0	0	0	50	0.0003	0.0056	0.0258	0.0575	0.0774	0.0918	0.1413	0.1308	0.0876	0.0449	0.
2005	3	1	2	0	0	0	50	0.0004	0.0013	0.0022	0.005	0.0146	0.05	0.0788	0.0931	0.1233	0.1212	0.
2006	3	1	2	0	0	0	50	0.0003	0.004	0.0256	0.1183	0.1939	0.1616	0.0692	0.0519	0.0672	0.0704	0.
2007	3	1	2	0	0	0	50	0.0029	0.0124	0.0214	0.0235	0.0461	0.0886	0.1116	0.0832	0.0556	0.0739	0.
2008	3	1	2	0	0	0	50	0.0004	0.0018	0.0097	0.0362	0.0775	0.0662	0.0472	0.0772	0.1071	0.0871	0.
2009	3	1	2	0	0	0	50	0.0036	0.0083	0.0099	0.0144	0.0164	0.0282	0.0652	0.0867	0.0803	0.0912	0.
2010	3	1	2	0	0	0	50	0.0036	0.0051	0.0052	0.0199	0.0276	0.0292	0.0269	0.0444	0.0882	0.1135	0.
2011	3	1	2	0	0	0	50	0.013	0.037	0.0604	0.101	0.076	0.0698	0.0583	0.0411	0.0266	0.0359	0.
2012	3	1	2	0	0	0	28.15	0.0089	0.0107	0.0124	0.0337	0.0604	0.1155	0.0941	0.0391	0.0178	0.0124	0.
2013	3	1	2	0	0	0	50	0.0005	0.0017	0.0083	0.0107	0.0188	0.0365	0.0714	0.1329	0.1233	0.0972	0.
2014	3	1	2	0	0	0	50	0.0011	0.0053	0.0068	0.0086	0.0086	0.021	0.0282	0.0274	0.0526	0.0713	0.
2015	3	1	2	0	0	0	50	0	0.0011	0.0019	0.0052	0.0122	0.0166	0.0196	0.0357	0.0559	0.0869	0.
2016	3	1	2	0	0	0	50	0	0.0003	0.0072	0.0122	0.0183	0.0189	0.0213	0.0346	0.0388	0.0636	0.
2017	3	1	2	0	0	0	50	0.0007	0.0032	0.0148	0.0544	0.0992	0.1096	0.0769	0.0317	0.0354	0.0477	0.
2018	3	1	2	0	0	0	50	0.0005	0.0054	0.0182	0.0241	0.0237	0.0371	0.0627	0.0942	0.0774	0.0647	0.
2019	3	1	2	0	0	0	50	0	0	0.0017	0.0059	0.0287	0.0491	0.038	0.0342	0.0549	0.0757	0.
2020	3	1	2	0	0	0	48.05	0	0.0114	0.0375	0.0978	0.0874	0.0499	0.0385	0.0708	0.0572	0.0583	0.
2021	3	1	2	0	0	0	50	0.0000	0.0021	0.0035	0.0119	0.0147	0.0272	0.0426	0.0593	0.0670	0.0823	0.
2022	3	1	2	0	0	0	14.95	0.0000	0.0000	0.0000	0.0033	0.0000	0.0000	0.0201	0.0167	0.0234	0.0635	0.
2023	3	1	2	0	0	0	45.45	0.0011	0.0066	0.0143	0.0330	0.0484	0.0814	0.0594	0.0374	0.0561	0.0418	0.

#Trawl	bycatch	male																							
#Year	Season	Fleet	Sex	Type	Shell	Maturity	Nsamp	DataVec																	
1976	5	2	1	0.0	0	0	50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.0087	0.0043	0.0216	0.0087	0.0260	0.0390	0.0433	0.0649	0.0			
1977	5	2	1	0.0	0	0	50	0.0036	0.0009	0.0009	0.0009	0.0026	0.0035	0.0079	0.0097	0.0317	0.0485	0.0599	0.0996	0.1084	0.1251	0.0			
1978	5	2	1	0.0	0	0	50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0012	0.0025	0.0149	0.0274	0.0511	0.0872	0.0			
1979	5	2	1	0.0	0	0	50	0.0178	0.0013	0.0025	0.0013	0.0025	0.0076	0.0038	0.0025	0.0013	0.0063	0.0051	0.0114	0.0228	0.0556	0.0			
1980	5	2	1	0.0	0	0	50	0.0531	0.0207	0.0096	0.0135	0.0142	0.0163	0.0274	0.0263	0.0380	0.0375	0.0422	0.0394	0.0368	0.0377	0.0			
1981	5	2	1	0.0	0	0	50	0.0262	0.0028	0.0045	0.0066	0.0112	0.0175	0.0279	0.0349	0.0386	0.0504	0.0434	0.0480	0.0287	0.0334	0.0			
1982	5	2	1	0.0	0	0	50	0.0701	0.0268	0.0247	0.0326	0.0356	0.0443	0.0409	0.0403	0.0401	0.0475	0.0426	0.0479	0.0405	0.0326	0.0			
1983	5	2	1	0.0	0	0	50	0.0231	0.0214	0.0336	0.0344	0.0311	0.0319	0.0377	0.0445	0.0473	0.0471	0.0457	0.0437	0.0409	0.0414	0.0			
1984	5	2	1	0.0	0	0	50	0.0366	0.0156	0.0147	0.0199	0.0270	0.0342	0.0399	0.0407	0.0431	0.0476	0.0511	0.0596	0.0594	0.0563	0.0			
1985	5	2	1	0.0	0	0	50	0.0051	0.0014	0.0034	0.0059	0.0100	0.0164	0.0256	0.0396	0.0357	0.0446	0.0538	0.0636	0.0843	0.0862	0.0			
1986	5	2	1	0.0	0	0	50	0.0038	0.0019	0.0085	0.0019	0.0056	0.0136	0.0193	0.0357	0.0160	0.0249	0.0221	0.0320	0.0710	0.0	0.0			
1987	5	2	1	0.0	0	0	49.9	0.0020	0.0000	0.0010	0.0020	0.0050	0.0080	0.0190	0.0271	0.0170	0.0220	0.0441	0.0491	0.0401	0.0	0.0			
1988	5	2	1	0.0	0	0	31.5	0.0048	0.0048	0.0063	0.0016	0.0032	0.0000	0.0095	0.0175	0.0127	0.0397	0.0524	0.0540	0.0571	0.0	0.0			
1989	5	2	1	0.0	0	0	50	0.0047	0.0024	0.0019	0.0006	0.0019	0.0019	0.0045	0.0047	0.0097	0.0142	0.0237	0.0379	0.0437	0.0	0.0			
1990	5	2	1	0.0	0	0	45.4	0.0055	0.0044	0.0077	0.0022	0.0077	0.0077	0.0253	0.0154	0.0253	0.0286	0.0220	0.0308	0.0352	0.0	0.0			
1991	5	2	1	0.0	0	0	13.75	0.0036	0.0073	0.0036	0.0073	0.0182	0.0145	0.0145	0.0182	0.0364	0.0255	0.0364	0.0327	0.0400	0.0	0.0			
1992	5	2	1	0.0	0	0	16.65	0.0210	0.0210	0.0180	0.0000	0.0060	0.0060	0.0030	0.0000	0.0060	0.0120	0.0240	0.0210	0.0360	0.0	0.0			
1994	5	2	1	0.0	0	0	28.55	0.0000	0.0000	0.0035	0.0070	0.0018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018	0.0018	0.0088	0.0	0.0			
1995	5	2	1	0.0	0	0	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0083	0.0000	0.0083	0.0167	0.0000	0.0167	0.0167	0.0	0.0			
1996	5	2	1	0.0	0	0	50	0.0000	0.0008	0.0000	0.0000	0.0017	0.0050	0.0116	0.0149	0.0174	0.0281	0.0347	0.0480	0.0662	0.0463	0.0			
1997	5	2	1	0.0	0	0	16.95	0.0000	0.0000	0.0000	0.0000	0.0000	0.0029	0.0029	0.0029	0.0088	0.0088	0.0206	0.0206	0.0265	0.0236	0.0			
1998	5	2	1	0.0	0	0	50	0.0007	0.0007	0.0007	0.0000	0.0000	0.0000	0.0035	0.0028	0.0056	0.0133	0.0280	0.0315	0.0566	0.0	0.0			
1999	5	2	1	0.0	0	0	31.45	0.0016	0.0016	0.0000	0.0016	0.0032	0.0000	0.0064	0.0016	0.0079	0.0127	0.0127	0.0413	0.0493	0.0	0.0			
2000	5	2	1	0.0	0	0	36.45	0.0000	0.0000	0.0014	0.0014	0.0014	0.0069	0.0096	0.0288	0.0370	0.0316	0.0357	0.0302	0.0425	0.0	0.0			
2001	5	2	1	0.0	0	0	39.75	0.0000	0.0000	0.0050	0.0025	0.0101	0.0340	0.0226	0.0264	0.0403	0.0377	0.0428	0.0352	0.0352	0.0	0.0			
2002	5	2	1	0.0	0	0	50	0.0009	0.0009	0.0009	0.0009	0.0018	0.0026	0.0061	0.0044	0.0061	0.0105	0.0219	0.0193	0.0281	0.0	0.0			
2003	5	2	1	0.0	0	0	25.8	0.0019	0.0039	0.0058	0.0078	0.0194	0.0097	0.0155	0.0233	0.0252	0.0174	0.0136	0.0194	0.0310	0.0	0.0			
2004	5	2	1	0.0	0	0	31.8	0.0016	0.0000	0.0000	0.0016	0.0016	0.0047	0.0047	0.0157	0.0220	0.0173	0.0220	0.0346	0.0393	0.0	0.0			
2005	5	2	1	0.0	0	0	50	0.0029	0.0038	0.0019	0.0087	0.0077	0.0135	0.0212	0.0154	0.0125	0.0231	0.0260	0.0394	0.0510	0.0	0.0			
2006	5	2	1	0.0	0	0	50	0.0000	0.0000	0.0000	0.0000	0.0017	0.0026	0.0026	0.0128	0.0111	0.0394	0.0360	0.0428	0.0488	0.0	0.0			
2007	5	2	1	0.0	0	0	50	0.0000	0.0000	0.0000	0.0016	0.0024	0.0033	0.0049	0.0114	0.0122	0.0131	0.0237	0.0220	0.0294	0.0	0.0			
2008	5	2	1	0.0	0	0	50	0.0000	0.0000	0.0006	0.0000	0.0025	0.0025	0.0019	0.0025	0.0132	0.0257	0.0257	0.0595	0.0620	0.0	0.0			

C1 Bristol Bay Red King Crab Appendix B
October 2024

2016	5	2	1	0.0	0	0	30.85	0.0000	0.0016	0.0032	0.0049	0.0032	0.0016	0.0130	0.0097	0.0162	0.0065	0.0113	0.0357	0.0243	0.0			
2017	5	2	1	0.0	0	0	35.9	0.0000	0.0000	0.0000	0.0000	0.0056	0.0042	0.0056	0.0070	0.0056	0.0084	0.0153	0.0265	0.0				
2018	5	2	1	0.0	0	0	44.65	0.0011	0.0000	0.0022	0.0000	0.0022	0.0045	0.0112	0.0045	0.0213	0.0202	0.0403	0.0426	0.0437	0.0			
2019	5	2	1	0.0	0	0	41.15	0.0012	0.0024	0.0049	0.0073	0.0122	0.0134	0.0049	0.0109	0.0097	0.0267	0.0304	0.0316	0.0401	0.0			
2020	5	2	1	0.0	0	0	38.2	0.0026	0.0000	0.0039	0.0079	0.0105	0.0118	0.0118	0.0092	0.0288	0.0249	0.0340	0.0301	0.0314	0.058			
2021	5	2	1	0.0	0	0	25.2	0.004	0	0.002	0.002	0.000	0.008	0.0099	0.0338	0.0159	0.0378	0.0378	0.0258	0.0477	0.0795	0.0775	0.0596	0.0
2022	5	2	1	0.0	0	0	4.5	0.0111	0	0.000	0.000	0.0111	0.000	0.0000	0.0111	0.0222	0.0111	0.0333	0.0222	0.0556	0.0444	0.0333	0.0556	0.0
2023	5	2	1	0.0	0	0	6.2	0.0000	0.0000	0.0000	0.0081	0.0000	0.0081	0.0081	0.0161	0.0161	0.0081	0.0484	0.0081	0.0726	0.0806	0.0806	0.056	0.0

#Trawl	bycatch	female																								
#Year	Season	Fleet	Sex	Type	Shell	Maturity	Nsamp	DataVec																		
1976	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.0087	0.0216	0.0260	0.0303	0.0563	0.0130	0.0260	0.0260	0.0260	0.0260	0.0260	
1977	5	2	2	0	0	0	0.0000	0.0009	0.0009	0.0000	0.0000	0.0000	0.0009	0.0026	0.0053	0.0070	0.0088	0.0062	0.0053	0.0044	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026
1978	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0075	0.0050	0.0075	0.0262	0.0262	0.0262	0.0262	0.0262
1979	5	2	2	0	0	0	0.0130	0.0013	0.0000	0.0000	0.0063	0.0038	0.0152	0.0468	0.0354	0.0392	0.0544	0.0215	0.0164	0.0164	0.0177	0.0177	0.0177	0.0177	0.0177	0.0177
1980	5	2	2	0	0	0	0.0433	0.0160	0.0096	0.0189	0.0281	0.0409	0.0497	0.0472	0.0489	0.0525	0.0362	0.0265	0.0134	0.0081	0.0081	0.0081	0.0081	0.0081	0.0081	0.0081
1981	5	2	2	0	0	0	0.0612	0.0245	0.0245	0.0437	0.0540	0.0608	0.0525	0.0425	0.0315	0.0383	0.0312	0.0267	0.0240	0.0158	0.0158	0.0158	0.0158	0.0158	0.0158	0.0158
1982	5	2	2	0	0	0	0.0631	0.0235	0.0237	0.0285	0.0379	0.0413	0.0332	0.0246	0.0190	0.0177	0.0156	0.0144	0.0104	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080
1983	5	2	2	0	0	0	0.0281	0.0233	0.0351	0.0363	0.0358	0.0407	0.0392	0.0316	0.0222	0.0154	0.0100	0.0087	0.0065	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042
1984	5	2	2	0	0	0	0.0400	0.0156	0.0155	0.0211	0.0298	0.0344	0.0399	0.0359	0.0287	0.0151	0.0085	0.0060	0.0042	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031
1985	5	2	2	0	0	0	0.0034	0.0013	0.0024	0.0046	0.0096	0.0171	0.0195	0.0193	0.0163	0.0128	0.0119	0.0111	0.0108	0.0057	0.0057	0.0057	0.0057	0.0057	0.0057	0.0057
1986	5	2	2	0	0	0	0.0038	0.0014	0.0038	0.0000	0.0038	0.0099	0.0329	0.0762	0.0630	0.0470	0.0494	0.0466	0.0428	0.0202	0.0202	0.0202	0.0202	0.0202	0.0202	0.0202
1987	5	2	2	0	0	0	0.0020	0.0020	0.0030	0.0100	0.0180	0.0311	0.0331	0.0401	0.0220	0.0311	0.0160	0.0391	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080	0.0080
1988	5	2	2	0	0	0	0.0079	0.0143	0.0032	0.0079	0.0063	0.0127	0.0222	0.0333	0.0476	0.0524	0.0397	0.0222	0.0175	0.0079	0.0079	0.0079	0.0079	0.0079	0.0079	0.0079
1989	5	2	2	0	0	0	0.0026	0.0024	0.0013	0.0022	0.0065	0.0108	0.0205	0.0429	0.0502	0.0480	0.0435	0.0295	0.0256	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170
1990	5	2	2	0	0	0	0.0022	0.0044	0.0077	0.0088	0.0121	0.0121	0.0198	0.0220	0.0374	0.0297	0.0308	0.0264	0.0165	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099
1991	5	2	2	0	0	0	0.0000	0.0036	0.0073	0.0036	0.0000	0.0073	0.0036	0.0073	0.0291	0.0182	0.0182	0.0291	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182
1992	5	2	2	0	0	0	0.0030	0.0000	0.0000	0.0030	0.0420	0.0631	0.0480	0.0480	0.0450	0.0480	0.0631	0.0691	0.0480	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450
1994	5	2	2	0	0	0	0.0000	0.0035	0.0088	0.0280	0.0333	0.0438	0.0298	0.0665	0.0455	0.0175	0.0140	0.0123	0.0140	0.0210	0.0210	0.0210	0.0210	0.0210	0.0210	0.0210
1995	5	2	2	0	0	0	0.0083	0.0000	0.0000	0.0250	0.0083	0.0250	0.0417	0.0167	0.0250	0.0000	0.0250	0.0000	0.0083	0.0167	0.0167	0.0167	0.0167	0.0167	0.0167	0.0167
1996	5	2	2	0	0	0	0.0000	0.0000	0.0008	0.0091	0.0207	0.0339	0.0149	0.0165	0.0182	0.0248	0.0256	0.0190	0.0240	0.0215	0.0215	0.0215	0.0215	0.0215	0.0215	0.0215
1997	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0029	0.0000	0.0265	0.0383	0.0678	0.0944	0.0472	0.0413	0.0560	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295	0.0295
1998	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0007	0.0014	0.0042	0.0182	0.0503	0.0545	0.0441	0.0392	0.0322	0.0469	0.0371	0.0371	0.0371	0.0371	0.0371	0.0371	0.0371
1999	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0016	0.0000	0.0000	0.0048	0.0048	0.0079	0.0207	0.0254	0.0223	0.0350	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238	0.0238
2000	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0027	0.0041	0.0082	0.0151	0.0192	0.0082	0.0151	0.0316	0.0425	0.0178	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233
2001	5	2	2	0	0	0	0.0000	0.0000	0.0025	0.0025	0.0138	0.0126	0.0289	0.0226	0.0252	0.0302	0.0201	0.0239	0.0302	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340
2002	5	2	2	0	0	0	0.0000	0.0009	0.0000	0.0018	0.0035	0.0079	0.0149	0.0272	0.0527	0.0369	0.0281	0.0316	0.0395	0.0430	0.0430	0.0430	0.0430	0.0430	0.0430	0.0430
2003	5	2	2	0	0	0	0.0000	0.0058	0.0039	0.0116	0.0155	0.0233	0.0174	0.0194	0.0213	0.0271	0.0252	0.0426	0.0310	0.0329	0.0329	0.0329	0.0329	0.0329	0.0329	0.0329
2004	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0016	0.0016	0.0142	0.0299	0.0377	0.0393	0.0299	0.0535	0.0330	0.0409	0.0220	0.0220	0.0220	0.0220	0.0220	0.0220	0.0220
2005	5	2	2	0	0	0	0.0010	0.0058	0.0077	0.0048	0.0087	0.0212	0.0346	0.0500	0.0673	0.0596	0.0260	0.0308	0.0221	0.0192	0.0192	0.0192	0.0192	0.0192	0.0192	0.0192
2006	5	2	2	0	0	0	0.0000	0.0000	0.0009	0.0009	0.0043	0.0094	0.0068	0.0103	0.0154	0.0231	0.0300	0.0308	0.0342	0.0257	0.0257	0.0257	0.0257	0.0257	0.0257	0.0257
2007	5	2	2	0	0	0	0.0000	0.0000	0.0016	0.0016	0.0033	0.0139	0.0269	0.0359	0.0359	0.0376	0.0465	0.0563	0.0522	0.0506	0.0506	0.0506	0.0506	0.0506	0.0506	0.0506
2008	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0006	0.0063	0.0044	0.0075	0.0169	0.0307	0.0269	0.0263	0.0269	0.0338	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194
2009	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0017	0.0120	0.0231	0.0453	0.0427	0.0256	0.0274	0.0342	0.0436	0.0393	0.0393	0.0393	0.0393	0.0393	0.0393	0.0393
2010	5	2	2	0	0	0	0.0011	0.0011	0.0011	0.0011	0.0044	0.0122	0.0244	0.0322	0.0322	0.0433	0.0599	0.0511	0.0488	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433	0.0433
2011	5	2	2	0	0	0	0.0000	0.0000	0.0046	0.0137	0.0091	0.0068	0.0342	0.0091	0.0205	0.0228	0.0433	0.0456	0.0524	0.0342	0.0342	0.0342	0.0342	0.0342	0.0342	0.0342
2012	5	2	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0036	0.0320	0.0214	0.0463	0.0142	0.0356	0.0320	0.0285	0.0569	0.0463	0.0463	0.0463	0.0463	0.0463	0.0463	0.0463
2013	5	2	2	0	0	0	0.0021	0.0000	0.0021	0.0000	0.0083	0.0062	0.0249	0.0416	0.0333	0.0395	0.0249	0.0187	0.0229	0.0353	0.0353	0.0353	0.0353	0.0353	0.0353	0.0353
2014	5	2	2	0	0	0	0.0000	0.0000	0.0038	0.0038	0.0038	0.0077	0.0268	0.0153	0.0460	0.0307	0.0268	0.0153	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115	0.0115
2015	5	2	2	0	0	0	0.0000	0.0024	0.0024	0.0073	0.0342															

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#Tanner crab		bycatch female																		
#Year	Season	Fleet	Sex Type	Shell	Maturity	Nsamp	DataVec													
1991	5	1	2	0	0	0	0.0051	0.0105	0.0096	0.0102	0.0240	0.0326	0.0565	0.0466	0.0827	0.1150	0.0539	0.0870	0.0539	0.0870
1992	5	1	2	0	0	0	0.0000	0.0000	0.0010	0.0062	0.0228	0.0456	0.0819	0.0933	0.0870	0.0539	0.0870	0.0539	0.0870	0.0539
1993	5	1	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0040	0.0342	0.0825	0.1127	0.0805	0.0362	0.0805	0.0362	0.0805	0.0362
1994	5	1	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0588	0.0000	0.0588	0.0000	0.0588	0.0000
2006	5	1	2	0	0	0	0.0000	0.0000	0.0000	0.0071	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2007	5	1	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0189	0.1698	0.2264	0.2453	0.1321	0.1321	0.2453	0.1321
2008	5	1	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0069	0.0069	0.0138	0.0621	0.0552	0.0621	0.0552	0.0621
2009	5	1	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0155	0.0622	0.0674	0.0518	0.0674	0.0518
2013	5	1	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0221	0.0504	0.1806	0.1437	0.0774	0.1437	0.0774	0.1437
2014	5	1	2	0	0	0	0.0000	0.0000	0.0016	0.0032	0.0111	0.0222	0.0475	0.0539	0.1442	0.1537	0.1442	0.1537	0.1442	0.1537
2015	5	1	2	0	0	0	0.0003	0.0014	0.0028	0.0052	0.0240	0.0348	0.0637	0.1031	0.1445	0.1114	0.1445	0.1114	0.1445	0.1114

# Fixed gear crab		bycatch Male																				
#Year	season	Fleet	Sex Type	Shell	Maturity	Nsamp	DataVec															
1996	5	4	1	0	0	0	37.8	0.0026	0.0013	0.0066	0.0053	0.0026	0.0053	0.0132	0.0132	0.0079	0.0146	0.0146	0.0079	0.0146		
1997	5	4	1	0	0	0	50	0.0000	0.0000	0.0024	0.0024	0.0134	0.0284	0.0504	0.0686	0.0654	0.0607	0.0496	0.0315	0.0347	0.0607	
1998	5	4	1	0	0	0	50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0019	0.0019	0.0039	0.0077	0.0125	0.0251	0.0367	0.0521	0.0077	
1999	5	4	1	0	0	0	50	0.0031	0.0006	0.0019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0094	0.0218	0.0524	0.0019	
2000	5	4	1	0	0	0	29.55	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0085	0.0169	0.0321	0.0271	0.0761	0.0508	0.0000	
2001	5	4	1	0	0	0	50	0.0000	0.0002	0.0006	0.0004	0.0016	0.0044	0.0074	0.0111	0.0201	0.0221	0.0239	0.0233	0.0257	0.0006	
2002	5	4	1	0	0	0	50	0.0000	0.0000	0.0000	0.0003	0.0009	0.0017	0.0003	0.0020	0.0049	0.0111	0.0151	0.0220	0.0305	0.0003	
2003	5	4	1	0	0	0	50	0.0011	0.0000	0.0032	0.0118	0.0150	0.0171	0.0235	0.0107	0.0075	0.0118	0.0128	0.0299	0.0310	0.0032	
2004	5	4	1	0	0	0	50	0.0000	0.0005	0.0018	0.0055	0.0037	0.0092	0.0114	0.0284	0.0307	0.0288	0.0343	0.0247	0.0243	0.0018	
2005	5	4	1	0	0	0	50	0.0005	0.0000	0.0014	0.0000	0.0005	0.0042	0.0009	0.0116	0.0075	0.0075	0.0205	0.0266	0.0266	0.0014	
2006	5	4	1	0	0	0	50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0027	0.0016	0.0070	0.0070	0.0107	0.0161	0.0155	0.0000	
2007	5	4	1	0	0	0	39.25	0.0000	0.0000	0.0000	0.0000	0.0013	0.0000	0.0000	0.0013	0.0025	0.0051	0.0051	0.0140	0.0051	0.0013	
2008	5	4	1	0	0	0	50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0026	0.0069	0.0172	0.0232	0.0369	0.0378	0.0464	0.0000	
2009	5	4	1	0	0	0	50	0.0000	0.0000	0.0000	0.0000	0.0009	0.0009	0.0009	0.0101	0.0129	0.0129	0.0129	0.0202	0.0395	0.0009	
2010	5	4	1	0	0	0	25.65	0.0000	0.0000	0.0019	0.0000	0.0000	0.0019	0.0019	0.0000	0.0019	0.0039	0.0117	0.0136	0.0273	0.0019	
2011	5	4	1	0	0	0	50	0.0000	0.0000	0.0008	0.0017	0.0000	0.0025	0.0017	0.0025	0.0042	0.0025	0.0050	0.0067	0.0076	0.0008	
2012	5	4	1	0	0	0	50	0.0000	0.0000	0.0003	0.0007	0.0013	0.0010	0.0047	0.0074	0.0114	0.0138	0.0225	0.0269	0.0316	0.0003	
2013	5	4	1	0	0	0	50	0.0073	0.0097	0.0153	0.0253	0.0210	0.0185	0.0211	0.0215	0.0232	0.0264	0.0275	0.0327	0.0340	0.0073	
2014	5	4	1	0	0	0	50	0.0019	0.0026	0.0040	0.0026	0.0033	0.0054	0.0089	0.0128	0.0121	0.0145	0.0191	0.0238	0.0285	0.0019	
2015	5	4	1	0	0	0	50	0.0007	0.0011	0.0007	0.0022	0.0063	0.0098	0.0107	0.0130	0.0125	0.0192	0.0177	0.0170	0.0150	0.0007	
2016	5	4	1	0	0	0	50	0.0018	0.0032	0.0062	0.0090	0.0192	0.0210	0.0240	0.0291	0.0261	0.0229	0.0247	0.0189	0.0155	0.0018	
2017	5	4	1	0	0	0	50	0.0000	0.0014	0.0000	0.0071	0.0141	0.0148	0.0163	0.0120	0.0071	0.0163	0.0085	0.0120	0.0078	0.0000	
2018	5	4	1	0	0	0	50	0.0009	0.0020	0.0041	0.0080	0.0045	0.0126	0.0242	0.0392	0.0399	0.0470	0.0385	0.0255	0.0201	0.0009	
2019	5	4	1	0	0	0	43.15	0.0000	0.0023	0.0046	0.0104	0.0185	0.0197	0.0255	0.0209	0.0209	0.0197	0.0070	0.0139	0.0139	0.0104	
2020	5	4	1	0	0	0	12.3	0.0122	0.0000	0.0041	0.0000	0.0000	0.0000	0.0000	0.0041	0.0081	0.0000	0.0081	0.0203	0.0122	0.0041	
2021	5	4	1	0	0	0	6.0	0.000	0.000	0.000	0.000	0.000	0.000	0.0083	0.0167	0.0000	0.0083	0.0250	0.0167	0.0083	0.0000	
2022	5	4	1	0	0	0	2.5	0.000	0.000	0.000	0.000	0.000	0.000	0.0400	0.0200	0.0000	0.0600	0.0000	0.0600	0.0200	0.0600	
2023	5	4	1	0	0	0	21.4	0.0000	0.0023	0.0047	0.0047	0.0093	0.0304	0.0631	0.0234	0.0561	0.0818	0.0654	0.0724	0.0444	0.0257	0.0421

# Fixed gear crab		bycatch female																			
#Year	Season	Fleet	Sex Type	Shell	Maturity	Nsamp	DataVec														
1996	5	4	2	0	0	0	0.0066	0.0013	0.0053	0.0040	0.0159	0.0079	0.0238	0.0423	0.0556	0.0860	0.1270	0.1230	0.0847	0.0741	0.0040
1997	5	4	2	0	0	0	0.0000	0.0000	0.0008	0.0008	0.0047	0.0126	0.0299	0.0260	0.0339	0.0252	0.0165	0.0126	0.0071	0.0071	0.0008
1998	5	4	2	0	0	0	0.0000	0.0000	0.0010	0.0000	0.0000	0.0000	0.0068	0.0251	0.0309	0.0193	0.0203	0.0097	0.0058	0.0106	0.0010
1999	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0031	0.0075	0.0131	0.0194	0.0256	0.0237	0.0000
2000	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0017	0.0017	0.0102	0.0152	0.0237	0.0508	0.0440	0.0423	0.0321	0.0017
2001	5	4	2	0	0	0	0.0004	0.0002	0.0000	0.0016	0.0028	0.0066	0.0127	0.0195	0.0177	0.0205	0.0441	0.0787	0.0678	0.0380	0.0016
2002	5	4	2	0	0	0	0.0000	0.0003	0.0009	0.0000	0.0000	0.0006	0.0000	0.0029	0.0060	0.0106	0.0086	0.0226	0.0340	0.0348	0.0006
2003	5	4	2	0	0	0	0.0011	0.0005	0.0011	0.0101	0.0198	0.0150	0.0091	0.0069	0.0150	0.0240	0.0331	0.0337	0.0342	0.0438	0.0101
2004	5	4	2	0	0	0	0.0005	0.0000	0.0023	0.0032	0.0055	0.0114	0.0174	0.0330	0.0293	0.0284	0.0476	0.0481	0.0458	0.0426	0.0023
2005	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0005	0.0005	0.0023	0.0056	0.0149	0.0322	0.0503	0.0499	0.0517	0.0718	0.0555	0.0005
2006	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0011	0.0016	0.0123	0.0348	0.0717	0.1108	0.1055	0.0964	0.0675	0.0498	0.0011
2007	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0038	0.0064	0.0318	0.0446	0.0815	0.1197	0.1108	0.0726	0.0433	0.0038
2008	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0043	0.0120	0.0198	0.0438	0.0335	0.0576	0.0653	0.0730	0.0490	0.0043
2009	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0028	0.0147	0.0184	0.0220	0.0294	0.0340	0.0312	0.0487	0.0395	0.0028
2010	5	4	2	0	0	0	0.0000	0.0000	0.0000	0.0019	0.0039	0.0000	0.0058	0.0214	0.0663	0.0682	0.0975	0.1111	0.1150	0.0663	0.0019
2011	5	4	2	0	0	0	0.0000	0.0017	0.0008	0.0067	0.0076	0.0176	0.0202	0.0336	0.0580	0.0664	0.1000	0.0908	0.0739	0.0639	0.0067
2012	5	4	2	0	0	0	0.0000	0.0000	0.0010	0.0027	0.0020	0.0104	0.0215	0.0262	0.0339	0.0346	0.0339	0.0571	0.0668	0.0648	0.0010
2013	5																				

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2020	5	4	2	0	0	0	0	0.0000	0.0041	0.0041	0.0000	0.0041	0.0041	0.0285	0.0081	0.0244	0.0366	0.0813	0.0650	0.0691	0.0935
2021	5	4	2	0	0	0	0	0.0000	0.0083	0.0083	0.0000	0.0083	0.0083	0.0250	0.0167	0.0333	0.0417	0.0583	0.0333	0.0750	0.0667
2022	5	4	2	0	0	0	0	0.0000	0.0000	0.0000	0.0000	0.0200	0.0400	0.0400	0.0400	0.0400	0.0600	0.0600	0.0600	0.0400	0.0400
2023	5	4	2	0	0	0	0	0.0023	0	0.0047	0.0047	0.0093	0.0093	0.0257	0.0140	0.0374	0.0421	0.0280	0.0374	0.0210	0.0374

#NMFS	males		combined																		
#Year	Season	Fleet	Sex	Type	Shell	Maturity	Nsamp	DataVec													
1975	1	5	1	0.000	0	0	200	0.0222	0.0411	0.0299	0.0379	0.0342	0.0299	0.0309	0.0246	0.0264	0.0314	0.0268	0.0292	0.0284	0.0300
1976	1	5	1	0.000	0	0	200	0.0025	0.0127	0.0268	0.0503	0.0623	0.0522	0.0559	0.0449	0.0392	0.0329	0.0409	0.0438	0.0369	0.0300
1977	1	5	1	0.000	0	0	200	0.0040	0.0043	0.0065	0.0102	0.0199	0.0376	0.0453	0.0441	0.0414	0.0450	0.0409	0.0409	0.0311	0.0300
1978	1	5	1	0.000	0	0	200	0.0043	0.0120	0.0136	0.0240	0.0172	0.0191	0.0178	0.0279	0.0296	0.0297	0.0300	0.0304	0.0291	0.0300
1979	1	5	1	0.000	0	0	200	0.0206	0.0154	0.0103	0.0123	0.0144	0.0163	0.0137	0.0155	0.0164	0.0157	0.0235	0.0338	0.0333	0.0300
1980	1	5	1	0.000	0	0	200	0.0067	0.0133	0.0376	0.0287	0.0295	0.0296	0.0265	0.0262	0.0224	0.0192	0.0208	0.0165	0.0231	0.0300
1981	1	5	1	0.000	0	0	200	0.0160	0.0113	0.0182	0.0240	0.0366	0.0362	0.0331	0.0367	0.0291	0.0356	0.0261	0.0285	0.0194	0.0300
1982	1	5	1	0.000	0	0	200	0.0792	0.0811	0.0682	0.0287	0.0240	0.0310	0.0353	0.0287	0.0197	0.0171	0.0198	0.0141	0.0131	0.0300
1983	1	5	1	0.000	0	0	200	0.0325	0.0356	0.0497	0.0665	0.0801	0.0783	0.0598	0.0468	0.0402	0.0398	0.0320	0.0309	0.0190	0.0300
1984	1	5	1	0.000	0	0	200	0.0161	0.0626	0.1229	0.1327	0.0682	0.0389	0.0206	0.0202	0.0208	0.0154	0.0119	0.0072	0.0063	0.0300
1985	1	5	1	0.000	0	0	200	0.0026	0.0128	0.0244	0.0395	0.0589	0.0582	0.0424	0.0403	0.0602	0.0614	0.0513	0.0523	0.0497	0.0300
1986	1	5	1	0.000	0	0	200	0.0112	0.0179	0.0248	0.0201	0.0232	0.0156	0.0408	0.0400	0.0559	0.0485	0.0675	0.0734	0.0700	0.0300
1987	1	5	1	0.000	0	0	200	0.0012	0.0071	0.0340	0.0546	0.0469	0.0317	0.0290	0.0291	0.0310	0.0253	0.0332	0.0270	0.0363	0.0300
1988	1	5	1	0.000	0	0	200	0.0013	0.0013	0.0066	0.0110	0.0133	0.0215	0.0469	0.0430	0.0405	0.0374	0.0262	0.0308	0.0210	0.0300
1989	1	5	1	0.000	0	0	200	0.0017	0.0000	0.0009	0.0024	0.0149	0.0348	0.0184	0.0376	0.0232	0.0412	0.0288	0.0253	0.0450	0.0300
1990	1	5	1	0.000	0	0	200	0.0013	0.0106	0.0151	0.0348	0.0329	0.0094	0.0080	0.0084	0.0182	0.0296	0.0219	0.0298	0.0341	0.0300
1991	1	5	1	0.000	0	0	200	0.0011	0.0090	0.0224	0.0168	0.0265	0.0217	0.0137	0.0274	0.0221	0.0172	0.0053	0.0198	0.0347	0.0300
1992	1	5	1	0.000	0	0	200	0.0010	0.0000	0.0020	0.0127	0.0252	0.0355	0.0552	0.0528	0.0382	0.0399	0.0291	0.0378	0.0348	0.0300
1993	1	5	1	0.000	0	0	200	0.0021	0.0110	0.0137	0.0105	0.0095	0.0157	0.0142	0.0235	0.0309	0.0443	0.0417	0.0627	0.0479	0.0300
1994	1	5	1	0.000	0	0	163.75	0.0016	0.0000	0.0031	0.0237	0.0235	0.0152	0.0124	0.0173	0.0213	0.0354	0.0412	0.0403	0.0627	0.0300
1995	1	5	1	0.000	0	0	200	0.0283	0.0683	0.0557	0.0220	0.0110	0.0169	0.0222	0.0255	0.0275	0.0305	0.0263	0.0268	0.0343	0.0300
1996	1	5	1	0.000	0	0	200	0.0278	0.0135	0.0298	0.0529	0.0632	0.0594	0.0276	0.0225	0.0117	0.0179	0.0140	0.0150	0.0139	0.0300
1997	1	5	1	0.000	0	0	200	0.0000	0.0036	0.0022	0.0052	0.0127	0.0564	0.0943	0.1070	0.0910	0.0515	0.0301	0.0162	0.0149	0.0300
1998	1	5	1	0.000	0	0	200	0.0209	0.0174	0.0103	0.0127	0.0120	0.0101	0.0135	0.0169	0.0226	0.0467	0.0485	0.0523	0.0451	0.0300
1999	1	5	1	0.000	0	0	200	0.0583	0.0244	0.0134	0.0104	0.0120	0.0110	0.0121	0.0148	0.0047	0.0132	0.0182	0.0233	0.0520	0.0300
2000	1	5	1	0.000	0	0	200	0.0018	0.0047	0.0195	0.0396	0.0310	0.0200	0.0228	0.0163	0.0201	0.0147	0.0134	0.0296	0.0294	0.0300
2001	1	5	1	0.000	0	0	200	0.0069	0.0050	0.0106	0.0149	0.0156	0.0421	0.0372	0.0523	0.0346	0.0200	0.0253	0.0166	0.0140	0.0300
2002	1	5	1	0.000	0	0	200	0.0534	0.0638	0.0436	0.0272	0.0119	0.0091	0.0076	0.0106	0.0229	0.0266	0.0347	0.0290	0.0203	0.0300
2003	1	5	1	0.000	0	0	200	0.0149	0.0069	0.0142	0.0236	0.0392	0.0320	0.0301	0.0165	0.0112	0.0143	0.0133	0.0251	0.0236	0.0300
2004	1	5	1	0.000	0	0	200	0.0371	0.0289	0.0268	0.0195	0.0187	0.0187	0.0350	0.0535	0.0436	0.0445	0.0293	0.0238	0.0142	0.0300
2005	1	5	1	0.000	0	0	200	0.0353	0.0586	0.0419	0.0160	0.0098	0.0228	0.0234	0.0215	0.0184	0.0171	0.0219	0.0233	0.0159	0.0300
2006	1	5	1	0.000	0	0	200	0.0133	0.0197	0.0173	0.0276	0.0291	0.0369	0.0210	0.0208	0.0129	0.0188	0.0116	0.0128	0.0236	0.0300
2007	1	5	1	0.000	0	0	200	0.0017	0.0025	0.0053	0.0084	0.0196	0.0271	0.0345	0.0436	0.0386	0.0288	0.0187	0.0233	0.0236	0.0300
2008	1	5	1	0.000	0	0	200	0.0000	0.0008	0.0038	0.0068	0.0149	0.0188	0.0194	0.0239	0.0372	0.0470	0.0453	0.0328	0.0382	0.0300
2009	1	5	1	0.000	0	0	200	0.0010	0.0005	0.0037	0.0053	0.0053	0.0104	0.0096	0.0225	0.0330	0.0301	0.0315	0.0328	0.0363	0.0300
2010	1	5	1	0.000	0	0	200	0.0000	0.0033	0.0080	0.0094	0.0077	0.0054	0.0161	0.0134	0.0130	0.0153	0.0270	0.0363	0.0302	0.0300
2011	1	5	1	0.000	0	0	200	0.0036	0.0044	0.0125	0.0204	0.0169	0.0138	0.0168	0.0151	0.0182	0.0132	0.0181	0.0203	0.0161	0.0300
2012	1	5	1	0.000	0	0	200	0.0025	0.0040	0.0120	0.0159	0.0128	0.0227	0.0336	0.0247	0.0174	0.0174	0.0153	0.0196	0.0217	0.0300
2013	1	5	1	0.000	0	0	200	0.0008	0.0025	0.0123	0.0145	0.0101	0.0174	0.0134	0.0235	0.0280	0.0261	0.0323	0.0348	0.0303	0.0300
2014	1	5	1	0.000	0	0	200	0.0000	0.0005	0.0026	0.0030	0.0160	0.0313	0.0437	0.0348	0.0313	0.0192	0.0231	0.0326	0.0336	0.0300
2015	1	5	1	0.000	0	0	200	0.0105	0.0207	0.0103	0.0093	0.0047	0.0110	0.0158	0.0149	0.0244	0.0187	0.0285	0.0203	0.0235	0.0300
2016	1	5	1	0.000	0	0	200	0.0066	0.0009	0.0026	0.0032	0.0041	0.0043	0.0034	0.0083	0.0069	0.0129	0.0085	0.0145	0.0127	0.0300
2017	1	5	1	0.000	0	0	200	0.0032	0.0011	0.0029	0.0095	0.0243	0.0199	0.0135	0.0068	0.0083	0.0077	0.0086	0.0134	0.0064	0.0300
2018	1	5	1	0.000	0	0	161	0.0051	0.0173	0.0173	0.0153	0.0093	0.0161	0.0144	0.0174	0.0367	0.0160	0.0334	0.0210	0.0033	0.0300
2019	1	5	1	0.000	0	0	143	0.0017	0.0036	0.0106	0.0071	0.0071	0.0314	0.0157	0.0244	0.0231	0.0336	0.0299	0.0436	0.0424	0.0300
2021	1	5	1	0.000	0	0	142.75	0.0038	0.0187	0.0136	0.0140	0.0248	0.0129	0.0183	0.0211	0.0198	0.0245	0.0236	0.0229	0.0384	0.0300
2022	1	5	1	0.0000	0	0	180	0.0000	0.0044	0.0176	0.0143	0.0197	0.0098	0.0256	0.0319	0.0209	0.0241	0.0168	0.0295	0.0402	0.0300
2023	1	5	1	0.0000	0	0	200	0.0012	0.0034	0.0070	0.0229	0.0443	0.0524	0.0321	0.0166	0.0168	0.0194	0.0108	0.0261	0.0214	0.0300
2024	1	5	1	0.0000	0	0	200	0.0010	0.0019	0.0110	0.0170	0.0438	0.0266	0.0278	0.0309	0.0392	0.0340	0.0328	0.0270	0.0215	0.0300

#NMFS	female																				
#Year	Season	Fleet	Sex	Type	Shell	Maturity	Nsamp	DataVec													
1975	1	5	2	0.000	0	0	0	0.0331	0.0401	0.0481	0.0494	0.0564	0.0439	0.0444	0.0454	0.0326	0.0289	0.0162	0.0158	0.0116	0.0300
1976	1	5	2	0.000	0	0	0	0.0029	0.0092	0.0313	0.0563	0.0688	0.0628	0.0494	0.0269	0.0121	0.0137	0.0066	0.0049	0.0023	0.0300
1977	1	5	2	0.000	0	0	0	0.0026	0.0068	0.0079											

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1988	1	5	2	0.000	0	0	0	0.0006	0.0076	0.0064	0.0062	0.0139	0.0695	0.0910	0.0979	0.0697	0.0600	0.0407	0.0184	0.0077	0.
1989	1	5	2	0.000	0	0	0	0.0017	0.0000	0.0017	0.0082	0.0310	0.0740	0.0646	0.0692	0.0531	0.0376	0.0315	0.0194	0.0064	0.
1990	1	5	2	0.000	0	0	0	0.0041	0.0052	0.0235	0.0513	0.0525	0.0071	0.0256	0.0601	0.0732	0.0708	0.0633	0.0410	0.0215	0.
1991	1	5	2	0.000	0	0	0	0.0042	0.0115	0.0196	0.0320	0.0218	0.0344	0.0343	0.0310	0.0366	0.0329	0.0281	0.0431	0.0232	0.
1992	1	5	2	0.000	0	0	0	0.0000	0.0053	0.0074	0.0197	0.0364	0.0414	0.0625	0.0448	0.0353	0.0273	0.0450	0.0407	0.0265	0.
1993	1	5	2	0.000	0	0	0	0.0066	0.0080	0.0175	0.0085	0.0131	0.0248	0.0437	0.0647	0.0639	0.0269	0.0300	0.0268	0.0271	0.
1994	1	5	2	0.000	0	0	0	0.0000	0.0016	0.0044	0.0030	0.0169	0.0092	0.0124	0.0213	0.0431	0.0416	0.0362	0.0280	0.0395	0.
1995	1	5	2	0.000	0	0	0	0.0294	0.0482	0.0316	0.0145	0.0139	0.0182	0.0163	0.0254	0.0234	0.0334	0.0272	0.0234	0.0240	0.
1996	1	5	2	0.000	0	0	0	0.0260	0.0219	0.0436	0.0794	0.0796	0.0436	0.0226	0.0218	0.0245	0.0202	0.0161	0.0285	0.0244	0.
1997	1	5	2	0.000	0	0	0	0.0004	0.0037	0.0016	0.0020	0.0146	0.0791	0.0969	0.0616	0.0212	0.0137	0.0095	0.0146	0.0143	0.
1998	1	5	2	0.000	0	0	0	0.0145	0.0196	0.0101	0.0088	0.0111	0.0116	0.0303	0.1040	0.1153	0.0594	0.0303	0.0252	0.0225	0.
1999	1	5	2	0.000	0	0	0	0.0243	0.0169	0.0125	0.0115	0.0044	0.0055	0.0093	0.0164	0.0512	0.0800	0.0583	0.0358	0.0340	0.
2000	1	5	2	0.000	0	0	0	0.0018	0.0067	0.0269	0.0403	0.0357	0.0272	0.0255	0.0226	0.0358	0.0524	0.0676	0.0603	0.0419	0.
2001	1	5	2	0.000	0	0	0	0.0056	0.0168	0.0195	0.0136	0.0259	0.0598	0.0779	0.0579	0.0395	0.0398	0.0291	0.0691	0.0560	0.
2002	1	5	2	0.000	0	0	0	0.0506	0.0769	0.0485	0.0247	0.0222	0.0176	0.0225	0.0520	0.0399	0.0296	0.0163	0.0206	0.0205	0.
2003	1	5	2	0.000	0	0	0	0.0163	0.0059	0.0143	0.0314	0.0414	0.0464	0.0239	0.0292	0.0351	0.0533	0.0526	0.0356	0.0219	0.
2004	1	5	2	0.000	0	0	0	0.0279	0.0327	0.0194	0.0132	0.0199	0.0369	0.0577	0.0514	0.0334	0.0204	0.0196	0.0232	0.0184	0.
2005	1	5	2	0.000	0	0	0	0.0405	0.0561	0.0457	0.0116	0.0099	0.0336	0.0386	0.0521	0.0567	0.0468	0.0336	0.0383	0.0347	0.
2006	1	5	2	0.000	0	0	0	0.0143	0.0139	0.0198	0.0425	0.0615	0.0462	0.0254	0.0259	0.0481	0.0656	0.0619	0.0415	0.0301	0.
2007	1	5	2	0.000	0	0	0	0.0015	0.0023	0.0064	0.0078	0.0155	0.0356	0.0574	0.0560	0.0325	0.0570	0.0614	0.0641	0.0459	0.
2008	1	5	2	0.000	0	0	0	0.0000	0.0027	0.0054	0.0136	0.0116	0.0167	0.0303	0.0570	0.0724	0.0560	0.0555	0.0562	0.0575	0.
2009	1	5	2	0.000	0	0	0	0.0005	0.0019	0.0050	0.0055	0.0081	0.0122	0.0206	0.0466	0.0656	0.0866	0.0645	0.0603	0.0523	0.
2010	1	5	2	0.000	0	0	0	0.0018	0.0006	0.0037	0.0048	0.0069	0.0116	0.0213	0.0365	0.0565	0.0927	0.0955	0.0700	0.0509	0.
2011	1	5	2	0.000	0	0	0	0.0058	0.0085	0.0092	0.0141	0.0284	0.0310	0.0384	0.0484	0.0299	0.0530	0.0637	0.0905	0.0635	0.
2012	1	5	2	0.000	0	0	0	0.0293	0.0180	0.0191	0.0250	0.0281	0.0461	0.0351	0.0220	0.0331	0.0355	0.0365	0.0461	0.0663	0.
2013	1	5	2	0.000	0	0	0	0.0008	0.0027	0.0093	0.0112	0.0067	0.0125	0.0202	0.0384	0.0429	0.0450	0.0304	0.0302	0.0455	0.
2014	1	5	2	0.000	0	0	0	0.0000	0.0000	0.0012	0.0040	0.0091	0.0258	0.0219	0.0320	0.0499	0.0770	0.0569	0.0456	0.0307	0.
2015	1	5	2	0.000	0	0	0	0.0074	0.0129	0.0110	0.0055	0.0120	0.0114	0.0107	0.0234	0.0408	0.0461	0.0616	0.0668	0.0531	0.
2016	1	5	2	0.000	0	0	0	0.0120	0.0019	0.0036	0.0043	0.0026	0.0051	0.0143	0.0141	0.0390	0.0714	0.0782	0.1023	0.0737	0.
2017	1	5	2	0.000	0	0	0	0.0010	0.0028	0.0030	0.0126	0.0258	0.0248	0.0167	0.0188	0.0214	0.0511	0.0665	0.0804	0.0885	0.
2018	1	5	2	0.000	0	0	0	0.0031	0.0109	0.0172	0.0186	0.0094	0.0198	0.0516	0.0362	0.0421	0.0296	0.0254	0.0652	0.0462	0.
2019	1	5	2	0.000	0	0	0	0.0017	0.0105	0.0018	0.0070	0.0070	0.0140	0.0143	0.0174	0.0312	0.0355	0.0335	0.0279	0.0515	0.
2021	1	5	2	0.000	0	0	0	0.0107	0.0051	0.0100	0.0121	0.0033	0.0000	0.0120	0.0356	0.0296	0.0189	0.0224	0.0309	0.0446	0.
2022	1	5	2	0.000	0	0	0	0.0100	0.0146	0.0170	0.0288	0.0125	0.0222	0.0360	0.0418	0.0440	0.0257	0.0182	0.0310	0.0236	0.
2023	1	5	2	0.000	0	0	0	0.0024	0.0107	0.0098	0.0182	0.0233	0.0164	0.0093	0.0271	0.0291	0.0349	0.0440	0.0468	0.0386	0.
2024	1	5	2	0.000	0	0	0	0.0010	0.0021	0.0077	0.0136	0.0302	0.0354	0.0348	0.0548	0.0324	0.0429	0.0327	0.0263	0.0176	0.

#BSFRF males

#Year	Season	Fleet	Sex	Type	Shell	Maturity	Nsamp	DataVec												
2007	1	6	1	0	0	200	0.0045	0.0074	0.0103	0.0155	0.0198	0.0321	0.0532	0.0491	0.0443	0.0354	0.0268	0.0231	0.0236	0.0256
2008	1	6	1	0	0	200	0.0017	0.001	0.0093	0.0119	0.0175	0.0279	0.0267	0.0348	0.0428	0.0596	0.0581	0.0455	0.0371	0.0284
2013	1	6	1	0	0	75.75	0	0.0073	0.0145	0.0291	0.0102	0.0136	0.0205	0.0341	0.0357	0.0458	0.0448	0.0383	0.042	0.0348
2014	1	6	1	0	0	105.75	0	0.003	0.0101	0.0118	0.0448	0.0546	0.0423	0.047	0.0164	0.0221	0.0321	0.0226	0.0369	0.
2015	1	6	1	0	0	98.75	0.0208	0.0463	0.037	0.0162	0.0069	0.0162	0.0119	0.0174	0.0355	0.0206	0.0274	0.0357	0.0228	0.
2016	1	6	1	0	0	73.5	0.0138	0.0039	0.02	0.0193	0.0104	0.0122	0.0064	0.0126	0.0062	0.0034	0.0068	0.0134	0.0204	0.

#BSFRF females

#Year	Season	Fleet	Sex	Type	Shell	Maturity	Nsamp	DataVec												
2007	1	6	2	0	0	000	0.0007	0.0016	0.0044	0.0198	0.0302	0.0705	0.0563	0.0345	0.0364	0.0493	0.0501	0.0448	0.0272	0.0183
2008	1	6	2	0	0	000	0.0004	0.0013	0.0088	0.0142	0.0286	0.0483	0.0754	0.0687	0.0463	0.0386	0.0411	0.0357	0.021	0.0179
2013	1	6	2	0	0	000	0.0035	0	0.0191	0.0258	0.0176	0.0105	0.0094	0.0407	0.024	0.0291	0.0308	0.0216	0.0232	0.0403
2014	1	6	2	0	0	000	0	0.0037	0.0071	0.0037	0.014	0.031	0.0238	0.0415	0.0457	0.0708	0.0481	0.0279	0.0385	0.0448
2015	1	6	2	0	0	000	0.0116	0.0324	0.0231	0.0069	0.0153	0.0112	0.0042	0.0231	0.0361	0.0358	0.0427	0.0364	0.0528	0.0366
2016	1	6	2	0	0	000	0.0039	0.0178	0.0039	0.0263	0.003	0.0124	0.0096	0.0168	0.0422	0.0514	0.0826	0.1077	0.072	0.078

Growth data

Type of growth increment (1=growth increment with a CV;2=size-at-release; size-at)

0

nob_s_growth

0

Note SM used loewss regression for males BBRKC data

and cubic spine to interpolate 3 sets of female BBRKC data

MidPoint Sex Increment CV

#67.5 2 14.766667 10000000000000000000

MidPoint Sex MidPoint Time-at-liberty Size-trans matrix Number of points

Release Recapture

Environmental data

1 #--format flag (0=old style, 1=new style)

Number of series

0

Year ranges

0.491057364532	-10	4	9	0	10.0	20.00	# Deviation for size-class 5
0.407911777560	-10	4	9	0	10.0	20.00	# Deviation for size-class 6
0.436516142684	-10	4	9	0	10.0	20.00	# Deviation for size-class 7
0.40612675395550	-10	4	9	0	10.0	20.00	# Deviation for size-class 8
0.436145974880	-10	4	9	0	10.0	20.00	# Deviation for size-class 9
0.40494522852708	-10	4	9	0	10.0	20.00	# Deviation for size-class 10
0.30401970466854	-10	4	9	0	10.0	20.00	# Deviation for size-class 11
0.2973752673022	-10	4	9	0	10.0	20.00	# Deviation for size-class 12
0.1746800712364	-10	4	9	0	10.0	20.00	# Deviation for size-class 13
0.0845298456942	-10	4	9	0	10.0	20.00	# Deviation for size-class 14
0.0107462399193	-10	4	9	0	10.0	20.00	# Deviation for size-class 15
-0.190468322904	-10	4	9	0	10.0	20.00	# Deviation for size-class 16
-0.376312503735	-10	4	9	0	10.0	20.00	# Deviation for size-class 17
-0.699162895473	-10	4	9	0	10.0	20.00	# Deviation for size-class 18
-1.15881771530	-10	4	9	0	10.0	20.00	# Deviation for size-class 19
-1.17311583316	-10	4	9	0	10.0	20.00	# Deviation for size-class 20
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 1
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 2
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 3
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 4
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 5
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 6
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 7
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 8
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 9
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 10
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 11
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 12
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 13
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 14
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 15
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 16
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 17
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 18
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 19
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 20
0.425704202053	-10	4	9	0	10.0	20.00	# Deviation for size-class 1
2.268408592660	-10	4	9	0	10.0	20.00	# Deviation for size-class 2
1.810451373080	-10	4	9	0	10.0	20.00	# Deviation for size-class 3
1.37035725111	-10	4	9	0	10.0	20.00	# Deviation for size-class 4
1.158258087990	-10	4	9	0	10.0	20.00	# Deviation for size-class 5
0.596196784439	-10	4	9	0	10.0	20.00	# Deviation for size-class 6
0.225756761257	-10	4	9	0	10.0	20.00	# Deviation for size-class 7
-0.0247857565368	-10	4	9	0	10.0	20.00	# Deviation for size-class 8
-0.214045895269	-10	4	9	0	10.0	20.00	# Deviation for size-class 9
-0.560539577780	-10	4	9	0	10.0	20.00	# Deviation for size-class 10
-0.974218300021	-10	4	9	0	10.0	20.00	# Deviation for size-class 11
-1.24580072031	-10	4	9	0	10.0	20.00	# Deviation for size-class 12
-1.49292897450	-10	4	9	0	10.0	20.00	# Deviation for size-class 13
-1.94135821253	-10	4	9	0	10.0	20.00	# Deviation for size-class 14
-2.05101560679	-10	4	9	0	10.0	20.00	# Deviation for size-class 15
-1.94956606430	-10	4	9	0	10.0	20.00	# Deviation for size-class 16
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 17
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 18
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 19
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 20
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 1
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 2
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 3
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 4
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 5
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 6
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 7
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 8
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 9
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 10
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 11
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 12
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 13
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 14
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 15
-100.00	-101	5	-2	0	10.0	20.00	# Deviation for size-class 16

RW_blk: Block number for random walks

Inputs for sex * type 1

```
# MAIN PARS: Initial Lower_bound Upper_bound Prior_type Prior_1 Prior_2 Phase Block Block_fn Env_L EnvL_var RW RW_Block RW_Sigma
16.5 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.5 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.4 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.3 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.3 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.2 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.2 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.1 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.1 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.0 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
16.0 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.9 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.8 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.8 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.7 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.7 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.6 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.6 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.5 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
15.5 0 20 0 0 999 -33 0 1 0 0 0 0 0.3 # Males
1 0.5 3 0 0 999 6 0 1 0 0 0 0 0.3 # Males (beta)
```

EXTRA PARS: Initial Lower_bound Upper_bound Prior_type Prior_1 Prior_2 Phase Relative

Inputs for sex * type 2

```
# MAIN PARS: Initial Lower_bound Upper_bound Prior_type Prior_1 Prior_2 Phase Block Block_fn Env_L EnvL_var RW RW_Block RW_Sigma
13.8 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
12.2 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
10.5 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
8.4 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
7.5 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
7 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
6.6 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
6.1 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
5.6 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
5.1 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
4.6 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
4.1 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
3.6 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
3.2 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
2.7 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
2.2 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
1.7 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
1.2 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
0.7 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
0.4 0 20 0 0 999 -33 2 1 0 0 0 0 0.3 # Females
1.5 0.5 3 0 0 999 6 0 1 0 0 0 0 0.3 # Females
```

EXTRA PARS: Initial Lower_bound Upper_bound Prior_type Prior_1 Prior_2 Phase Relative

```
15.4 0 20 0 0 999 -33 0 # Females 1 1
15.1 0 20 0 0 999 -33 0 # Females 1 2
13.8 0 20 0 0 999 -33 0 # Females 2 1
14 0 20 0 0 999 -33 0 # Females 2 2
12.2 0 20 0 0 999 -33 0 # Females 3 1
12.9 0 20 0 0 999 -33 0 # Females 3 2
10.5 0 20 0 0 999 -33 0 # Females 4 1
11.8 0 20 0 0 999 -33 0 # Females 4 2
8.9 0 20 0 0 999 -33 0 # Females 5 1
10.6 0 20 0 0 999 -33 0 # Females 5 2
7.9 0 20 0 0 999 -33 0 # Females 6 1
8.7 0 20 0 0 999 -33 0 # Females 6 2
7.2 0 20 0 0 999 -33 0 # Females 7 1
7.4 0 20 0 0 999 -33 0 # Females 7 2
6.6 0 20 0 0 999 -33 0 # Females 8 1
6.6 0 20 0 0 999 -33 0 # Females 8 2
6.1 0 20 0 0 999 -33 0 # Females 9 1
6.1 0 20 0 0 999 -33 0 # Females 9 2
5.6 0 20 0 0 999 -33 0 # Females 10 1
5.6 0 20 0 0 999 -33 0 # Females 10 2
5.1 0 20 0 0 999 -33 0 # Females 11 1
```


