CA quillback rockfish rebuild.dat file for base rebuilding analysis

#Title, #runnumber: 1 2021_ca_quillback.dat 2021_ca_quillback.ctl 186.851 55.0825 7.74523 StartTime:
Wed Sep 08 08:39:29 2021
2021_ca_quillback_rebuild.dat
Number of sexes
1
Age range to consider (minimum age; maximum age)
0 90
Number of fleets
2
First year of projection (Yinit)
2021
First Year of rebuilding period (Ydecl)
2023
Number of simulations
1000
Maximum number of years
200
Conduct projections with multiple starting values (0=No;else yes)
1
Number of parameter vectors
4
Is the maximum age a plus-group (1=Yes;2=No)
1
Generate future recruitments using historical recruitments (1) historical recruits/spawner (2) or a
stock-recruitment (3)
3
Constant fishing mortality (1) or constant Catch (2) projections
1
Fishing mortality based on SPR (1) or actual rate (2)
1
Pre-specify the year of recovery (or -1) to ignore
-1
Fecundity-at-age
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37
38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71
72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 #runnumber: 1 2021_ca_quillback.dat
2021_ca_quillback.ctl 186.851 55.0825 7.74523
 0 9.89949e-11 2.18758e-07 7.86107e-05 0.00456528 0.0346351 0.0881909 0.142498 0.189883
0.230676 0.266017 0.296652 0.323085 0.345739 0.36502 0.381327 0.395044 0.406529 0.416109
0.424074 0.430679 0.436145 0.44066 0.444385 0.447453 0.449979 0.452057 0.453764 0.455167
0.456319 0.457265 0.45804 0.458677 0.459199 0.459628 0.459979 0.460267 0.460503 0.460696
0.460855 0.460985 0.461092 0.461179 0.461251 0.461309 0.461358 0.461397 0.461429 0.461456
0.461478 0.461495 0.46151 0.461522 0.461532 0.46154 0.461546 0.461552 0.461556 0.46156 0.461563
0.461565 0.461567 0.461569 0.46157 0.461571 0.461572 0.461573 0.461573 0.461574 0.461574
0.461575 0.461575 0.461575 0.461575 0.461575 0.461576 0.461576 0.461576 0.461576 0.461576

0.461576 0.461576 0.461576 0.461576 0.461576 0.461576 0.461576 0.461576 0.461576 0.461576
0.461576 #female fecundity; weighted by N in year Y_init across morphs and areas
Age specific selectivity and weight adjusted for discard and discard mortality
 #wt and selex for gender,fleet: 1 1 CA_Commercial
 0.00574978 0.0486353 0.136511 0.276475 0.439279 0.605177 0.761886 0.903422 1.02827 1.13726
1.23189 1.3136 1.38373 1.44353 1.49419 1.53687 1.57267 1.60255 1.62743 1.64807 1.66517 1.67929
1.69095 1.70056 1.70847 1.71498 1.72033 1.72472 1.72833 1.7313 1.73373 1.73573 1.73736 1.73871
1.73981 1.74071 1.74145 1.74206 1.74255 1.74296 1.7433 1.74357 1.74379 1.74398 1.74413 1.74425
1.74435 1.74444 1.74451 1.74456 1.74461 1.74464 1.74468 1.7447 1.74472 1.74474 1.74475 1.74476
1.74477 1.74478 1.74479 1.74479 1.7448 1.7448 1.7448 1.7448 1.74481 1.74481 1.74481 1.74481
1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481
1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481 1.74481
 0 0.000159582 0.00601453 0.0387019 0.124871 0.261771 0.417281 0.559169 0.671823 0.754299
0.812333 0.85267 0.880818 0.900706 0.914988 0.92542 0.933166 0.939005 0.943464 0.94691 0.949599
0.951714 0.95339 0.954726 0.955796 0.956657 0.957351 0.957913 0.958368 0.958738 0.95904
0.959285 0.959485 0.959648 0.959782 0.959891 0.95998 0.960053 0.960113 0.960162 0.960202
0.960235 0.960262 0.960284 0.960302 0.960316 0.960328 0.960338 0.960346 0.960353 0.960359
0.960363 0.960367 0.96037 0.960372 0.960374 0.960376 0.960377 0.960378 0.960379 0.96038
0.960381 0.960381 0.960381 0.960382 0.960382 0.960382 0.960382 0.960383 0.960383 0.960383
0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383
0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383 0.960383
 #wt and selex for gender,fleet: 1 2 CA_Recreational
 0.00574978 0.0500613 0.145659 0.283826 0.431291 0.571775 0.704477 0.832183 0.953376 1.06496
1.16487 1.25245 1.32805 1.39256 1.44715 1.49304 1.53143 1.56342 1.58998 1.61199 1.63018 1.6452
1.65758 1.66777 1.67616 1.68306 1.68872 1.69338 1.6972 1.70033 1.7029 1.70501 1.70675 1.70816
1.70933 1.71028 1.71107 1.71171 1.71223 1.71266 1.71302 1.71331 1.71354 1.71374 1.7139 1.71403
1.71414 1.71422 1.71429 1.71435 1.7144 1.71444 1.71447 1.7145 1.71452 1.71454 1.71456 1.71457
1.71458 1.71459 1.71459 1.7146 1.7146 1.71461 1.71461 1.71461 1.71461 1.71461 1.71462 1.71462
1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462
1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462 1.71462
 0 0.000109105 0.0106751 0.108381 0.362012 0.645194 0.829796 0.920509 0.961011 0.979251
0.987929 0.992357 0.994781 0.996196 0.99707 0.997637 0.998019 0.998287 0.998478 0.99862
0.998725 0.998806 0.998868 0.998917 0.998955 0.998985 0.999009 0.999029 0.999044 0.999057
0.999067 0.999075 0.999082 0.999087 0.999092 0.999096 0.999098 0.999101 0.999103 0.999105
0.999106 0.999107 0.999108 0.999109 0.999109 0.99911 0.99911 0.99911 0.999111 0.999111 0.999111
0.999111 0.999111 0.999111 0.999111 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112
0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112
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0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112 0.999112
M and current age-structure in year Yinit: 2021
 # gender = 1
 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057
0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057
0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057
0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057
0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057 0.057
0.057 0.057 0.057 0.057 0.057 0.057 0.057

14.99 14.907 14.8959 14.3886 9.13975 6.29549 4.10208 3.39404 3.69397 5.1358 8.14285 3.0909
1.77532 1.39555 1.31755 1.53111 2.31191 1.71558 1.0567 0.753646 0.684649 0.644916 4.67619
0.579787 0.455629 1.96667 0.395632 0.675561 0.295007 0.28124 0.190102 0.0699603 0.0427322
0.0253098 0.0475211 0.0101979 0.00842008 0.00510449 0.00302489 0.00213938 0.00184772
0.00146248 0.00104786 0.000801277 0.000869866 0.000770569 0.000676152 0.000590256
0.000526188 0.000477006 0.000436447 0.00040186 0.000371292 0.000344156 0.000320067
0.000298477 0.000279003 0.000261271 0.000245105 0.00023019 0.000216476 0.000203941
0.000192428 0.000181814 0.000171866 0.000162483 0.000153521 0.000144957 0.000136845
0.000129252 0.000122146 0.000115468 0.000109189 0.000103264 9.76234e-05 9.23198e-05 8.73025e-
05 8.25448e-05 7.80416e-05 7.37711e-05 6.97142e-05 6.58643e-05 6.74126e-05 6.34827e-05
5.97992e-05 5.63447e-05 5.31047e-05 5.00617e-05 4.72008e-05 4.451e-05 0.000751828
Age-structure at Ydeclare= 2021
 14.99 14.907 14.8959 14.3886 9.13975 6.29549 4.10208 3.39404 3.69397 5.1358 8.14285 3.0909
1.77532 1.39555 1.31755 1.53111 2.31191 1.71558 1.0567 0.753646 0.684649 0.644916 4.67619
0.579787 0.455629 1.96667 0.395632 0.675561 0.295007 0.28124 0.190102 0.0699603 0.0427322
0.0253098 0.0475211 0.0101979 0.00842008 0.00510449 0.00302489 0.00213938 0.00184772
0.00146248 0.00104786 0.000801277 0.000869866 0.000770569 0.000676152 0.000590256
0.000526188 0.000477006 0.000436447 0.00040186 0.000371292 0.000344156 0.000320067
0.000298477 0.000279003 0.000261271 0.000245105 0.00023019 0.000216476 0.000203941
0.000192428 0.000181814 0.000171866 0.000162483 0.000153521 0.000144957 0.000136845
0.000129252 0.000122146 0.000115468 0.000109189 0.000103264 9.76234e-05 9.23198e-05 8.73025e-
05 8.25448e-05 7.80416e-05 7.37711e-05 6.97142e-05 6.58643e-05 6.74126e-05 6.34827e-05
5.97992e-05 5.63447e-05 5.31047e-05 5.00617e-05 4.72008e-05 4.451e-05 0.000751828
Year for Tmin Age-structure (set to Ydecl by SS)
2021
recruitment and biomass
Number of historical assessment years
107
Historical data
year recruitment spawner in B0 in R project in R/S project
1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932
1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950
1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968
1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986
1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 #years
(with first value representing R0)
23.765 23.7692 23.7692 23.769 23.7686 23.7685 23.7684 23.7683 23.7682 23.7682 23.7681 23.7678
23.7675 23.7668 23.766 23.7649 23.7633 23.7612 23.7593 23.7574 23.7554 23.7526 23.7498 23.747
23.744 21.8368 21.7533 21.667 21.5795 21.4893 21.3926 21.2854 21.1729 21.0659 20.9517 20.8363
20.7173 20.5927 20.4656 20.3361 20.2011 20.0651 19.9274 19.788 19.6386 19.489 19.3357 19.1773
19.0086 18.8248 18.6296 18.4088 18.1641 17.8919 17.5929 17.2706 16.9331 16.6221 16.38 16.3328
16.5568 16.6346 16.4721 13.1049 14.397 16.6331 17.4852 16.7819 19.3378 25.7431 31.5045 25.9837
75.323 23.1642 21.9488 21.0873 36.4783 36.1002 26.0684 42.5871 18.4807 70.5026 13.0214 13.6614
92.166 10.6782 9.56958 8.86081 10.446 14.5013 17.1114 10.0627 7.71078 7.24907 8.16213 12.5027
28.471 15.1661 9.05616 6.8555 6.87191 9.00158 11.6863 17.1017 16.6951 15.7814 14.99 #recruits;
first value is R0 (virgin)

55.0825 55.0825 55.0806 55.0767 55.0676 55.0659 55.0636 55.0601 55.0579 55.058 55.0564 55.0484
55.0408 55.0253 55.0049 54.9783 54.9417 54.8919 54.8458 54.8009 54.7534 54.6884 54.6208 54.5542
54.484 54.4249 54.3598 54.2959 54.2684 54.2355 54.0976 53.7508 53.3363 53.1538 52.8353 52.554
52.2541 51.892 51.5599 51.2671 50.9053 50.5543 50.1747 49.7952 49.2249 48.7778 48.394 48.0906
47.7636 47.3224 46.9488 46.3758 45.7502 45.0618 44.3682 43.6168 42.6266 41.7542 40.5348 39.2364
37.8214 36.4337 34.8724 33.2472 31.7036 30.0996 28.4088 27.9795 27.5406 22.7322 21.3651 20.2601
19.1308 19.0528 19.6005 19.2763 18.5412 11.8539 9.92412 7.11652 5.80869 5.84698 5.87699 5.28747
5.55544 6.02042 6.82146 7.38913 8.75694 9.75132 11.7634 12.8471 12.8958 11.9253 11.6594 11.8037
12.2726 12.3877 12.0442 12.1297 12.3019 11.9952 11.7369 11.0625 10.1863 8.77933 7.74523 #spbio;
first value is SSB_virgin (virgin)
1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 # in Bzero
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 # in R project
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 # in R/S project
Number of years with pre-specified catches
2
catches for years with pre-specified catches go next
2021 13.5
2022 13.5
Number of future recruitments to override
0
Process for overiding (-1 for average otherwise index in data list)
Which probability to product detailed results for (1=0.5; 2=0.6; etc.)
3
Steepness sigma-R Auto-correlation
0.72 0.6 0
Target SPR rate (FMSY Proxy); manually change to SPR_MSY if not using SPR_target
0.5
Discount rate (for cumulative catch)
0.1
Truncate the series when 0.4B0 is reached (1=Yes)
0
Set F to FMSY once 0.4B0 is reached (1=Yes)
0
Maximum possible F for projection (-1 to set to FMSY)
-1
Defintion of recovery (1=now only;2=now or before)
2
Projection type
11
Definition of the 40-10 rule
10 40
Sigma Assessment Error (Base, Year1, Slope, MaxSigma)
1.0 2022 0.075 2.0
Pstar
0.45

Constrain catches by the ABC (1=yes; 2=no) (Changed to 2 for the SPR = 0.5 and Tmid runs)
1
Implementation Error (0=no; 1=lognormal; 2=uniform)
0
Parameters of Implementation Error
1 0.3
Calculate coefficients of variation (1=Yes)
0
Number of replicates to use
10
Random number seed
-99004
File with multiple parameter vectors
rebuild_m_fixed.SSO
User-specific projection (1=Yes); Output replaced (1->9)
0 5
Catches and Fs (Year; 1/2/3 (F or C or SPR); value); Final row is -1
2023 1 1
-1 -1 -1
Fixed catch project (1=Yes); Output replaced (1->9); Approach (-1=Read in else 1-9)
0 2 -1
(48a) Special catch options (1-Yes) [CUT_OFF, Emsy, distribution, MAXCAT, Add, replace_code]
0 0.18 1.00 1.00 0 6
(48b) B1Target
150000
Split of Fs
2021 0.275016
 0.724984
-1 1 1
Yrs to define T_target for projection type 4 (a.k.a. 5 pre-specified inputs)
0.5 0.6 0.7 0.8 0.9
Year for probability of recovery
2030 2031 2041 2046 2051 2056 2061 2065
Time varying weight-at-age (1=Yes;0=No)
0
File with time series of weight-at-age data
none
Use bisection (0) or linear interpolation (1)
1
Target Depletion
0.4
CV of implementation error
0