

APPENDIX B - Control file for the northern California (north of Point Conception) gopher rockfish model

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# norgopher.ct1
# v1.19 of SS2 as of May 3, 2005
# STAR panel baseline, emphasis on CPFV survey = 5
# standardized and weighted CVs in survey and samples for lengths
# commercial adjusted landings in 1984-1988; recreational catches from 1965-1982 reestimated
# discards are in catch - no discard likelihood component
# sigmaR freely estimated from 1965-2000
# h=0.65      M=0.2      CV=0.06
# RecFIN CPUE index removed from final model (STAR request)

# datafile: norgopherCVs.dat
1      #_N_growthmorphs

1      #_assign_sex_to each_morph (1=female,2=male)

1      #_N_Areas_(populations)

#_each_fleet/survey_operates_in_just_one_area
#_but_different_fleets/surveys_can be assigned_to_share_same_selex(FUTURE_coding)
1      1      1      # 2 fisheries and 1 survey

0      #do_migration_(0/1)

# time blocks for time varying parameters
0      #_N_Block_Designs

# Natural_mortality_and_growth_parameters_for_each_morph
1      # Last_age_for_natmort_young
2      # First_age_for_natmort_old
5.5    # age_for_growth_Lmin
15.5   # age_for_growth_Lmax
-4     # MGparm_dev_phase

# LO  HI  INIT  PRIOR  P_type  SD  PHASE  env-var  use_dev  dev_minyr  dev_maxyr  dev_stddev  block_type  use_block
# morph1 females
0.01  0.3  0.2    0.1    0      0.1  -5     0      0      0      0      0      0      0      #M1_natM_young
0      0    0      0      0      0    -5     0      0      0      0      0      0      0      #M1_natM_old_as_exponential_offset(rel_young)
10     50   22.2   20     0      10   -3     0      0      0      0      0      0      0      #M1_Lmin
20     60   31.2   30     0      10   -3     0      0      0      0      0      0      0      #M1_Lmax
0.05   0.3  0.186  0.18   0      0.05 -3     0      0      0      0      0      0      0      #M1_VBK
0.03   0.3  0.06   0.06   0      0.03 -1     0      0      0      0      0      0      0      #M1_CV-young
-5     0.2  0      0      0      0.03 -1     0      0      0      0      0      0      0      #M1_CV-old_as_exponential_offset(rel_young)

# Add 2+2*gender lines to read the wt-Len and mat-Len parameters
-3     3    1.32E-05  1.32E-05  0      0.1  -3     0      0      0      0      0      0.5  0      0      #Female wt-len-1
-3     4    3.077   3.077   0      0.8  -3     0      0      0      0      0.5  0      0      #Female wt-len-2
-3     3    17.7    17.7   0      0.8  -3     0      0      0      0      0.5  0      0      #Female mat-len-1
-3     3    -4.3    -4.3   0      0.8  -3     0      0      0      0      0.5  0      0      #Female mat-len-2
-3     3    1      1      0      0.8  -3     0      0      0      0      0.5  0      0      #Female eggs/gm intercept (1 means units of spawning bio
-3     3    0      0      0      0.8  -3     0      0      0      0      0.5  0      0      #Female eggs/gm slope (0 means units of spawning biomas

# pop*gmorph lines For the proportion of each morph in each area
0      1    1      1      0      0.5  -3     0      0      0      0      0      0.5  0      0      #frac to morph in area 1 - ??

# pop lines For the proportion assigned to each area
0      1    1      1      0      0.8  -3     0      0      0      0      0      0.5  0      0      #frac to area 1 - ??

#_custom-env_read
0      #_      0=read_one_setup_and_apply_to_all_env_fxns;      1=read_a_setup_line_for_each_MGparm_with_Env-var>0
#      LO      HI      INIT      PRIOR      Pr_type  SD      PHASE

#_custom-block_read

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0      #_      0=read_one_setup_and_apply_to_all_MG-blocks; 1=read_a_setup_line_for_each_block      x      MGparm_with_block>0
#      LO      HI      INIT      PRIOR      Pr_type SD      PHASE

#_Spawner-Recruitment_parameters
1      # SR_fxn: 1=Beverton-Holt, 2=Ricker-curve
#LO      HI      INIT      PRIOR      Pr_type SD      PHASE
3      31      7.7      7.7      0      2      1      #Ln(R0) - log of virgin recruitment level
0.2    1      0.65    0.65    0      0.5    -2     #steepness of S-R, bound by 0.2 and 1.0 for B-H
0      2      .5      .5      0      0.8    -3     #SD of log recruitments - used to define offset of S-R curve
-5     5      0      0      0      1      -3     #Env_link coef.
-5     5      0      0      0      1      -3     #init_eq

0      # index of environmental variable to be used

# recruitment_residuals
# Note: because phase is (-) rec_devs are not estimate -> stock-reduction SR
# start_rec_year      end_rec_year      Lower_limit      Upper_limit      phase
1965    2000    -15    15    2

#init_F_setup, for each fleet
# LO      HI      INIT      PRIOR      P_type SD      PHASE
0      1      0.017    0.017    0      1      1      # fleet comm
0      1      0.025    0.025    0      1      1      # fleet rec

# Catchability, for each fleet and survey
#_add_parm_row_for_each_positive_entry_below(row_then_column)
# Float(0/1)      #Do-power(0/1)      #Do-env(0/1)      #Do-dev(0/1)      #env parm
0      0      0      0      0      1      # comm
0      0      0      0      0      1      # rec
0      0      0      0      0      1      # survey

# LO      HI      INIT      PRIOR      P_type SD      PHASE
# -5     0      -2      -1      0      10     1      # log(Q) survey (not used, need one line for every "1" above)

#_SELEX_&_RETENTION_PARAMETERS, for each fleet and survey
#_Length selext
# Selex_type      Do_retention(0/1)      Do_male      Mirrored_selex_number
1      0      0      0      # fleet 1 comm, Size selex: 1=logistic
7      0      0      0      # fleet 2 rec, Size selex: 7= double logistic
7      0      0      0      # survey 3 rec, Size selex: 7= double logistic
#_Age selext
# Selex_type      Do_retention(0/1)      Do_male      Mirrored_selex_number
10     0      0      0      # fleet 1 comm, Age selex: 10=flat
10     0      0      0      # fleet 2 rec, Age selex: 10=flat
10     0      0      0      # survey 3 rec, Age selex: 10=flat

# LO      HI      INIT      PRIOR      P_type SD      PHASE      env-var      use_dev      dvminyr      dvmaxyr      dev_sd      Block_type      useblock
# comm length selectivity - logistic
10     50     27.3    27.3    0      10     1      0      0      0      0      0      0      0      #L50
0.01   12     3.95    3.95    0      10     1      0      0      0      0      0      0      0      #diff05-95

# rec length selectivity - double logistic
10     70     26.6    26.6    0      10     1      0      0      0      0      0.5    0      0      #peak
0.00001 0.1    0.001    0.001    0      0.5    -1     0      0      0      0      0.5    0      0      #init
-3     10     1.34    1.34    0      0.5    1      0      0      0      0      0.5    0      0      #infl
0.001  5      0.08    0.08    0      0.1    3      0      0      0      0      0.5    0      0      #slope
-5     10     -1.15   -1.15    0      1      3      0      0      0      0      0.5    0      0      #final
-5     10     -2.1    -2.1    0      1      4      0      0      0      0      0.5    0      0      #infl2
.001   5      0.96    0.96    0      0.3    5      0      0      0      0      0.5    0      0      #slope2
0.1    10     0.1     0.1     0      1      -5     0      0      0      0      0.5    0      0      #width of top

# survey length selectivity - double logistic
10     70     27.6    27.6    0      10     1      0      0      0      0      0.5    0      0      #peak
0.00001 0.1    0.001    0.001    0      0.5    -1     0      0      0      0      0.5    0      0      #init

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-3	10	1.67	1.67	0	0.5	1	0	0	0	0	0.5	0	0	#infl
0.001	5	.05	.05	0	0.1	3	0	0	0	0	0.5	0	0	#slope
-5	10	-1.32	-1.32	0	1	3	0	0	0	0	0.5	0	0	#final255
-5	10	0.711	0.711	0	1	4	0	0	0	0	0.5	0	0	#infl2
.001	5	0.97	0.97	0	0.3	5	0	0	0	0	0.5	0	0	#slope2
0.1	10	0.1	0.1	0	1	-5	0	0	0	0	0.5	0	0	#width of top

#_custom-env_read

0 # 0=read_one_setup_and_apply_to_all;_1=Custom_so_read_1_each

#_custom-block_read

0 # 0=read_one_setup_and_apply_to_all;_1=Custom_so_see_detailed_instructions_for_N_rows_in_Custom_setup

-4 # phase_for_selex_parm_devs

1 #_max_lambda_phases: read_this_Number_of_values_for_each_componentxtype_below

0 #sd_offset (0/1) multiple this times Log(sd) when calculating the likelihood - 0 recommended

#_cpue_lambdas (one for each fleet/survey)

0 # fishery comm

0 # fishery rec

5 # survey -- baseline model set at 5 (set at 1 and 10 for sensitivities)

#_discard lambda

0 # fishery comm

0 # fishery rec

0 # survey

#_meanwtlambda(one_for_all_sources)

1

#_lenfreq_lambdas

1 # fishery comm

1 # fishery rec

1 # survey

#_age_freq_lambdas

0 # fishery comm

0 # fishery rec

0 # survey

#_size@age_lambdas

0 # fishery comm

0 # fishery rec

0 # survey

#_initial F lambda

1 # init equil catch

#_recruitment_deviations_lambda

1

#_parm_prior_lambda

1

#_parm_dev_timeseries_lambda

1

#_crashpen lambda - for recovering from crashes

100

#_max F - no fishery can take more than 90% of stock in a year

0.9

#_end-of-file-marker

999