HISTORY OF RUNS – WAP NORTH (5CDE)

INDICES

1. GB Reed (GIG Historical)
2. HS Multispecies
3. HS Synoptic
4. WCHG Synoptic
5. North CPUE

RUNS (NORTH)

[24 March 2017]
Created a new Run Set for the North stock definition (=5CDE). Rowan supplied revised catch series with the North and South catches separated. I have chosen to include the Hecate St multispecies, Hecate St synoptic and WCHG synoptic surveys in the data for this stock definition. I made an executive decision to include the QC Sound GB Reed survey in these runs because I think they will be needed to start the model back in 1967. Finally, I have used the 5CDE combined index for the CPUE.
[28 March 2017]
The first set of MCMC runs were run for 10,300,000 MCMC draws, saving every 10,000 for a posterior sample of 1030 (3% burn-in). This run had terrible MCMC diagnostics and clearly had not converged. Nassess01 was repeated with 13,000,000 MCMC draws (a 30% burnin), with much better MCMC success. Nassess02 and Nassess03 were run on the same basis.
[29 March 2017]
Note: I have not yet adjusted the alpha, rho and mean wgt at recruitment for these runs. The values in the .dat files are from the coastwide stock assessment. The North stock assessment will use the same growth function but needs the specific L-W parameters for the North stock. These are very similar to the coastwide stock so the Walford plot parameters will change very little.
[30 March 2017]
Amended note: I updated the Walford parameters and the mean weight at kage using North specific length-weight parameters.

Nassess01: this run will duplicate as best we can the run assess15 which was our “base case” in the previous Outside (entire outside coast from 3CD to 5CDE, including Areas 12 and 20).

Nassess01

1. M fixed = 0.30
2. knife-edge recruitment at age = 3
3. 1973-2016 standardised unsorted mean weights
4. Brody parameters: alpha_g = 0.3475, rho_g =0.8668, wk = 0.4929
5. growth parameters: Linf = 66.9436, k = 0.211778, to = -1.13642
6. length-weight allometry: a = 7.1018E-06, b = 3.0415 (DD: used only to derive Brody)
7. variance to sig (observation error)=0.2 & sigmaR (tau/process error)=0.6
8. uniform priors on q: -10 to 0
9. mean weight sig = 0.15
10. catch series v4: 2016-09-12
11. h beta prior (mean=0.7 / SD=0.15)
12. fix ln(Rbar) & ln(Rinit)
13. equilibrium start in 1967 (use all of GB Reed, including 1995)
14. WAP CPUE indices (uniform -10 to 0)

15. version iscam-delaydiff.exe: ln(R0)=ln(Rbar)
16. estimate ln(R0) (uniform)
17. equal-weight for each age class when estimating von-B, interpolated by sex (Linf=67 cm)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 30000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess02 – same as Nassess01 except:

- M = 0.35
- kage = 3

Call: iscamdelaydiff -mcmc 13000000 -mcsave 10000 -mcscale 3000000 -maxfn 3000 -delaydiff

Nassess03 – same as Nassess01 except:

- M = 0.30
- kage = 3
- drop GB Reed historic survey

Call: iscamdelaydiff -mcmc 25000000 -mcsave 10000 -mcscale 5000000 -maxfn 3000 -delaydiff

Note: Longer MCMC chain (25 M) – PJS forgot to change the -mcsave 10000 to -mcsave 20000. The 2500 draws were thinned by 1/2 and the -mceval stage was re-run.

Nassess04 – same as Nassess01 except:

- M = 0.30
- kage = 4

Call: iscamdelaydiff -mcmc 25000000 -mcsave 10000 -mcscale 5000000 -maxfn 3000 -delaydiff

Note: Longer MCMC chain (25 M) and thinned by half (see Nassess03)

Nassess05 – same as Nassess01 except:

- M = 0.30
- kage = 4
- drop GB Reed historic survey

Call: iscamdelaydiff -mcmc 30000000 -mcsave 30000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess06 – same as Nassess05 except:

- M = 0.30
- kage = 4
- drop GB Reed historic survey
- drop CPUE index time series

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess07 – same as Nassess05 except:

- M = 0.25
- kage = 4
- drop GB Reed historic survey

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess08 – same as Nassess03 except:

- M = 0.30
- kage = 3
- drop GB Reed historic survey
- drop CPUE index time series

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess09 – same as Nassess03 except:

- M = 0.25
- kage = 3
- drop GB Reed historic survey

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess10 – same as Nassess01 except:

- M = 0.35
- kage = 4
- drop GB Reed historic survey

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess11 – same as Nassess01 except:

- M = 0.35
- kage = 3
- drop GB Reed historic survey

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess12 – same as Nassess01 except:

- M = 0.35
- kage = 4
- keep GB Reed historic survey

Call: cmd line: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Nassess13 – same as Nassess01 except:

- M = 0.25
- kage = 5
- drop GB Reed historic survey

Nassess14 – same as Nassess01 except:

- M = 0.30
- kage = 5
- drop GB Reed historic survey

Nassess15 – same as Nassess01 except:

- M = 0.35
- kage = 5
- drop GB Reed historic survey

HISTORY OF RUNS – WAP SOUTH (5AB3CD)

INDICES

1. GB Reed (GIG Historical)
2. WCVI Synoptic
3. QCS Synoptic
4. South CPUE

RUNS (SOUTH)

[04 April 2017]
Created a new Run Set for the South stock definition (=3CD5AB+Minor Areas 12 & 20). Rowan supplied revised catch series with the North and South catches separated. I have chosen to include the GB Reed historic survey, the QC Sound synoptic survey and the WCSI synoptic survey in the data for this stock definition (as well as the South CPUE series).

The Walford parameters and the mean weight at kage are estimated using South specific length-weight parameters.

Sassess01: this run is not useful because it used the North vonB growth function, as well as North length-weight parameters

Sassess01

1. M fixed = 0.30
2. knife-edge recruitment at age = 3
3. 1973-2016 standardised unsorted mean weights
4. Brody parameters: alpha_g = 0.343781, rho_g =0.866573, wk = 0.489858
5. growth parameters: Linf = 66.9436, k = 0.211778, to = -1.13642
6. length-weight allometry: a = 7.3536E-06, b = 3.030278 (DD: used only to derive Brody)
7. variance to sig (observation error)=0.2 & sigmaR (tau/process error)=0.6
8. uniform priors on q: -10 to 0
9. mean weight sig = 0.15
10. catch series v4: 2016-09-12
11. h beta prior (mean=0.7 / SD=0.15)
12. fix ln(Rbar) & ln(Rinit)
13. equilibrium start in 1967 (use all of GB Reed, including 1995)
14. WAP CPUE indices (uniform -10 to 0)
15. version iscam-delaydiff.exe: ln(R0)=ln(Rbar)
16. estimate ln(R0) (uniform)
17. equal-weight for each age class when estimating von-B, interpolated by sex (Linf=67 cm)
18. North vonB and length-weight parameters

Call: iscamdelaydiff -mcmc 13000000 -mcsave 10000 -mcscale 3000000 -maxfn 3000 -delaydiff

Sassess02 – same as Sassess01 except:

- M = 0.30
- kage = 3
- used 3CD growth function from Saunders et al. (1989)
- Brody parameters: alpha_g = 0.27588, rho_g = 0.78438, wk = 0.44324
- growth parameters: Linf = 53.4993, k = 0.3090, to = -0.9676

Call: iscamdelaydiff -mcmc 25000000 -mcsave 10000 -mcscale 5000000 -maxfn 3000 -delaydiff

Note: Longer MCMC chain (25 M) and thinned by half (see Nassess03)

Sassess03 – same as Sassess02 except:

- M = 0.30
- kage = 4
- used 3CD growth function from Saunders et al. (1989)
- Brody parameters: alpha_g = 0.29231, rho_g = 0.77078, wk = 0.60881

Call: no MCMC runs

Sassess04 – same as Sassess01 except:

- M = 0.30
- kage = 3
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)
- Brody parameters: alpha_g = 0.14441, rho_g = 0.87063, wk = 0.24875
- growth parameters: Linf = 50.82725, k = 0.199054, to = -1.78968

Call: iscamdelaydiff -mcmc 30000000 -mcsave 30000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess05 – same as Sassess01 except:

- M = 0.30
- kage = 4
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)
- Brody parameters: alpha_g = 0.15339, rho_g = 0.86144, wk = 0.34426

Call: iscamdelaydiff -mcmc 30000000 -mcsave 30000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess06 – same as Sassess01 except:

- M = 0.30
- kage = 3
- used 4B (SG) growth function from Saunders et al. (1989)
- Brody parameters: alpha_g = 0.4141, rho_g = 0.4304, wk = 0.5088
- growth parameters: Linf = 44.498, k = 0.9051, to = 0.5717

Call: no MCMC runs

Sassess07 – same as Sassess01 except:

- M = 0.30
- kage = 4
- used 4B (SG) growth function from Saunders et al. (1989)
- Brody parameters: alpha_g = 0.4254, rho_g = 0.4147, wk = 0.6324

Call: no MCMC runs

Sassess08 – same as Sassess01 except:

- M = 0.30
- kage = 4
- drop CPUE index time series
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess09 – same as Sassess01 except:

- M = 0.25
- kage = 4
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess10 – same as Sassess01 except:

- M = 0.30
- kage = 3
- drop CPUE index time series
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess11 – same as Sassess01 except:

- M = 0.25
- kage = 3
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess12 – same as Sassess01 except:

- M = 0.35
- kage = 3
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess13 – same as Sassess01 except:

- M = 0.35
- kage = 4
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess14 – same as Sassess01 except:

- M = 0.25
- kage = 5
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess15 – same as Sassess01 except:

- M = 0.30
- kage = 5
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

Sassess16 – same as Sassess01 except:

- M = 0.35
- kage = 5
- used Okhotsk Sea growth function from Janusz and Horbowy (1997)

Call: iscamdelaydiff -mcmc 30000000 -mcsave 20000 -mcscale 10000000 -maxfn 3000 -delaydiff

HISTORY OF RUNS – WAP COASTWIDE (5CDE+5AB3CD)

[17-18 December 2016]

INDICES

1. GB Reed (GIG Historical)
2. HS Multispecies
3. HS Synoptic
4. WCHG Synoptic
5. WCVI Synoptic
6. QCS Synoptic
7. Bottom Trawl CPUE

RUNS (COASTWIDE)

assess01

1. M fixed = 0.30
2. knife-edge recruitment at age = 3
3. Arithmetic mean weights
4. variance to sig (observation error) = 0.2 & sigmaR (tau/process error) = 0.6
5. uniform priors on q: -10 to 0
6. mean weight sig = 0.15
7. catch series v3: 18 August 2016
8. h beta prior (mean=0.7 / SD=0.15)
9. fix ln(Rbar) & ln(Rinit)
10. equilibrium start in 1967 (use all of GB Reed, including 1995)
11. WAP CPUE indices (uniform -10 to 0)
12. version iscam-delaydiff.exe: ln(R0)=ln(Rbar)
13. estimate ln(R0) (uniform)
14. equal-weight for each age class when estimating von-B, interpolated by sex (Linf=67 cm)

Call: assess01-assess06 run for 11,500,000 MCMC draws, saving every 10,000, for a posterior sample of 1,150. Assume first 150 draws are the burn-in.

assess02 – same as assess01 except:

- M fixed = 0.2

assess03 – same as assess01 except:

- knife-edge recruitment at age = 2

assess04 – same as assess01 except:

- M fixed = 0.2
- knife-edge recruitment at age = 2

assess05 – same as assess01 except:

- knife-edge recruitment at age = 4

Note: Checked Martin Dorn's 2015 GOA stock assessment: used fixed M%= 0.3 with 50% selectivity for commercial fishery at age = 4

assess06 – same as assess01 except:

- unweighted growth model (N=543 for Females & 304 for Males [RH vonB estimates])

Note: I don't think assess06 is as good an approach for growth, but does get a bit of contrast in the growth function.

assess07 – same as assess01 except:

- uses the standardised mean weight with 2002 interpolated

Call: assess07-assess18 run for 10,300,000 MCMC draws, saving every 10,000 for a posterior sample of 1030 (3% burn-in)

assess08 – same as assess01 except:

- M = 0.35
- uses the standardised mean weight with 2002 interpolated

assess09 – same as assess01 except:

- kage = 4
- uses the standardised mean weight with 2002 interpolated

assess10 – same as assess01 except:

- M = 0.35
- kage = 4
- uses the standardised mean weight with 2002 interpolated

assess11 – same as assess01 except:

- M = 0.35
- uses the standardised mean weight with 2002 interpolated
- CPUE index series dropped

assess12 – same as assess01 except:

- kage = 4
- uses the standardised mean weight with 2002 interpolated
- CPUE index series dropped

assess13 – same as assess01 except:

- M = 0.35
- uses the standardised mean weight with 2002 interpolated
- alternate (Linf = 78cm) growth model based on DFO surface ages

assess14 – same as assess01 except:

- kage = 4
- uses the standardised mean weight with 2002 interpolated
- alternate (Linf = 78cm) growth model based on DFO surface ages

assess15 – same as assess01 except:

- 1972-2015 standardised unsorted mean weights

assess16 – same as assess01 except:

- M = 0.35
- 1972-2015 standardised unsorted mean weights

assess17 – same as assess01 except:

- kage = 4
- 1972-2015 standardised unsorted mean weights

assess18 – same as assess01 except:

- M = 0.35
- kage = 4

- 1972-2015 standardised unsorted mean weights

[23 December 2016 - 06 January 2017]
The coastwide Run Set was restarted when Rowan discovered on 23 December 2016 that the catch series I was using (WAP_Merged_Catch3.xls) did not include the JV observed catch that had been kept in GFBio (for obscure reasons). So I repeated my earlier runs, starting with assess15 (which was the current "base" favourite), given that the previous assess15 was using a deficient catch data series.

assess15

1. M fixed = 0.30
2. knife-edge recruitment at age = 3
3. 1972-2016 standardised unsorted mean weights
4. variance to sig (observation error) = 0.2 & sigmaR (tau/process error) = 0.6
5. uniform priors on q: -10 to 0
6. mean weight sig = 0.15
7. catch series v4: 2016-09-12
8. h beta prior (mean=0.7 / SD=0.15)
9. fix ln(Rbar) & ln(Rinit)
10. equilibrium start in 1967 (use all of GB Reed, including 1995)
11. WAP CPUE indices (uniform -10 to 0)
12. version iscam-delaydiff.exe: ln(R0)=ln(Rbar)
13. estimate ln(R0) (uniform)
14. equal-weight for each age class when estimating von-B, interpolated by sex (Linf = 67cm)

Call: This set of runs were run for 10,300,000 MCMC draws, saving every 10,000 for a posterior sample of 1030 (3% burn-in)

assess16 – same as assess15 except:

- M = 0.35

assess17 – same as assess15 except:

- kage = 4

assess18 – same as assess15 except:

- M = 0.35
- kage = 4

assess19 – same as assess15 except:

- 1975-2009 standardised sorted (=keepers) mean weights

assess20 – same as assess15 except:

- M = 0.35
- 1975-2009 standardised sorted (=keepers) mean weights

assess21 – same as assess15 except:

- kage = 4
- 1975-2009 standardised sorted (=keepers) mean weights

assess22 – same as assess15 except:

- M = 0.35
- kage = 4

- 1975-2009 standardised sorted (=keepers) mean weights

assess23 – same as assess15 except:

- M = 0.35
- CPUE index series dropped

assess24 – same as assess15 except:

- kage = 4
- CPUE index series dropped

assess25 – same as assess15 except:

- M = 0.35
- alternate (Linf=78 cm) growth model based on DFO surface ages

assess26 – same as assess15 except:

- kage = 4
- alternate (Linf=78 cm) growth model based on DFO surface ages

assess27 – same as assess15 except:

- M = 0.35
- iscamdelaydiff fixes R0 = theta(4) (log_avgrec)

assess28 – same as assess15 except:

- M = 0.35
- iscamdelaydiff fixes R0 = theta(1) (ro)
- iscamdelaydiff fixes Rbar = theta(4) (log_avgrec)

assess29 – same as assess21 except:

- iscamdelaydiff fixes R0 = theta(4) (log_avgrec)

assess30 – same as assess21 except:

- iscamdelaydiff fixes R0 = theta(1) (ro)
- iscamdelaydiff fixes Rbar = theta(4) (log_avgrec)

REFERENCES

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