Subject: RE: Updated HBM for Skeena and Nass sockeye data
Date: Saturday, December 11, 2021 at 1:53:00 PM Pacific Standard Time
From: McAllister, Murdoch
To: Wendell Challenger
Attachments: data_v2b.odc, image001.jpg, model_FPfull_m8.odc, StockData_Main_v2.xlsx, WinBUGS model 8 results r1.xlsx

Hi Wendell,

I had imputed the Smax for the Asitka stock based on the mean Smax/ Area for the Skeena stocks and the lake area for the Asitka stock and added the Smax for the Swan and Stevens stock since their stock-recruit data were combined. I updated the HBM code with common shared year effects so that it computed the Ricker a parameter by year for each stock by including the common shared year effect (and also corrected statistics for combinations across stocks), then computed the average Ricker a parameter for the final 10 years of the time series and used this to generate Smsy, Carrying Capacity and Umsy for the final 10 years of the time series. This shows that the average productivity (Ricker a parameter) and associated stock reference points are lower in the final 10 years compared to the long-term average productivity for each stock.

Regards,
Murdoch

From: Wendell Challenger <wchallenger@lgl.com>
Sent: Friday, December 10, 2021 6:51 PM
To: McAllister, Murdoch <m.mcallister@oceans.ubc.ca>
Subject: Re: Updated HBM for Skeena and Nass sockeye data

[**CAUTION:** Non-UBC Email]
Hello Murdoch,

Thank you. I was able to navigate to your repo from your screen capture and I think I have everything I need (e.g., I was able to confirm your Smax values). The Smax coverage for the Nass stocks is not as complete, so I may have to only fit a subset of available stocks or modify the HBM.

I will be fitting the models using JAGS or NIMBLE and will be happy to share the R scripts once working.

Regards,

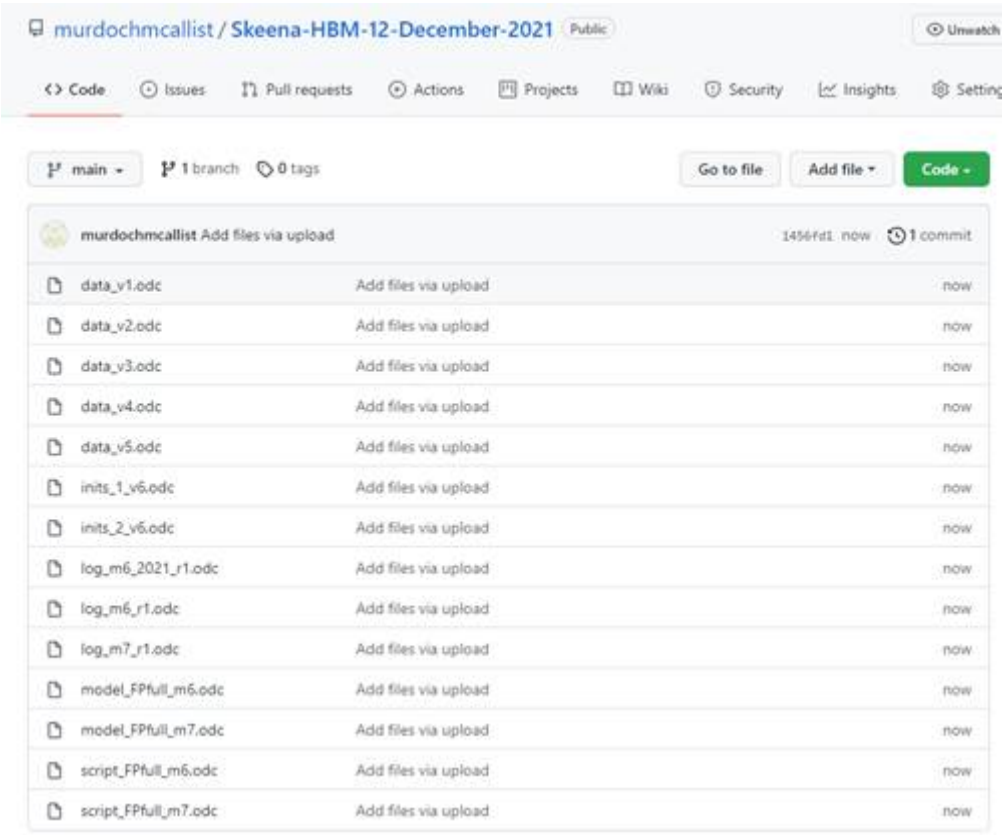
Wendell

From: McAllister, Murdoch <m.mcallister@oceans.ubc.ca>
Date: Friday, December 10, 2021 at 6:08 PM
To: Wendell Challenger <wchallenger@lgl.com>
Subject: RE: Updated HBM for Skeena and Nass sockeye data

Hi Wendell,

I've just put the various WinBUGS model, data and script files for my initial model runs on 18 Skeena River stock groupings in a GitHUB repository. Can you access that?

Regards,
Murdoch



From: Wendell Challenger <wchallenger@lgl.com>
Sent: Friday, December 10, 2021 3:41 PM
To: McAllister, Murdoch <m.mcallister@oceans.ubc.ca>
Subject: Re: Updated HBM for Skeena and Nass sockeye data

[**CAUTION:** Non-UBC Email]

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Good job on being ahead of the curve as always! I am going to see where I get on the Nass data over the weekend. Were you planning to commit your Skeena analysis to the sandbox repo?

Regards,

Wendell

From: Wendell Challenger <wchallenger@lgl.com>
Date: Friday, December 10, 2021 at 12:23 AM
To: McAllister, Murdoch <m.mcallister@oceans.ubc.ca>, Carr-Harris, Charmaine <Charmaine.Carr-Harris@dfo-mpo.gc.ca>
Cc: gottfried.pestal@solv.ca <gottfried.pestal@solv.ca>
Subject: Re: Updated HBM for Skeena and Nass sockeye data

Hello All,

I can work on fitting the Korman and English model to the Nass dataset. I will see if I can get some results Tuesday.

Regards,

Wendell

From: McAllister, Murdoch <m.mcallister@oceans.ubc.ca>
Date: Thursday, December 9, 2021 at 4:32 PM
To: Carr-Harris, Charmaine <Charmaine.Carr-Harris@dfo-mpo.gc.ca>, Wendell Challenger <wchallenger@lgl.com>
Cc: gottfried.pestal@solv.ca <gottfried.pestal@solv.ca>
Subject: RE: Updated HBM for Skeena and Nass sockeye data

Hi Charmaine,

I've implemented a few different versions of Korman and English's HBM and got it to work quite well on the Skeena dataset. I haven't yet tried fitting the HBM to the Nass dataset (did Wendell want to try this?). And I haven't looked much into the run diagnostics for the Skeena runs quite yet but what comes out looks like it fitted not too badly. In one additional run for the Skeena River I tried fitting also a simple common shared year effect and this showed that the average productivity across all 18 stock groupings fitted was considerably lower in the final 10 years. But there was no evidence that productivity was further trending downwards.

I'd be happy to prepare outputs obtained and to briefly discuss the results at next week's TWG meeting.

Cheers,
Murdoch

From: Carr-Harris, Charmaine <Charmaine.Carr-Harris@dfo-mpo.gc.ca>
Sent: Thursday, December 9, 2021 9:17 AM
To: McAllister, Murdoch <m.mcallister@oceans.ubc.ca>; wchallenger@lgl.com
Cc: gottfried.pestal@solv.ca
Subject: Updated HBM for Skeena and Nass sockeye data

[**CAUTION:** Non-UBC Email]

,

Just wondering whether you've had a chance to drill into adapting the Korman and English HBM model to work with the updated Skeena and Nass datasets? And whether you'd be interested in discussing at next week's TWG? I do not mean to put either of you on the spot, but happy to make some space on the agenda if you would like to discuss with the group.

Cheers,

Charmaine Carr-Harris

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