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**From:** Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov>  
**Sent:** Monday, June 3, 2019 9:38 AM  
**To:** Barbara Byrne - NOAA Federal  
**Subject:** Re: Help with understanding IOS summaries

Barb-

Your explanation of what John did was the most direct I've seen, and I think that's the problem. I'm not sure that's an appropriate use of the model data. The 82 yr planning period is not a "simulation" but a sample set of 82 years. Looking across the period at the stats if the data is ok, but not comparing the start to a single year's result -- unless something is done like we did for the other lcm, where you compare years 4 to 14, 5 to 15, 6 to 16, etc to see likelihood of a drastic jump or decline at that interval. Anyhow, it was moving too fast for me to see that that is what John did, and I think we should revisit the validity of that.

On Tuesday or later ;).

Thanks for looking into it.

Cathy

**Cathy Marcinkevage**  
*California Central Valley Office*  
*NOAA Fisheries West Coast Region*  
*U.S. Department of Commerce*  
Office: (916) 930-5648  
Cell: (562) 537-8734  
[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)

On Jun 3, 2019, at 8:23 AM, Barbara Byrne - NOAA Federal <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)> wrote:

Evan -- That is a pretty impressive level of detail and quick turnaround for a phone response while dealing with travel arrangements!!!! The median explanation is perfect; know my numbers were very close to yours. I agree that a single ending number is very sensitive to the specific year; think John was trying to get at the overall pop growth over the record but maybe we can adjust by comparing the first 10 years to last 10 years to buffer the single-year effect...will check with John later today. Will check back with John and Cramer on "seed population" details.

No worries on this -- we have all been moving fast. I didn't realize until last week (at the last minute when forming the SH I&S section) that I had missed the fact that none of my steelhead CH rows were in the I&S tables. Sigh.

On Mon, Jun 3, 2019 at 12:57 AM Evan Sawyer - NOAA Federal <[evan.sawyer@noaa.gov](mailto:evan.sawyer@noaa.gov)> wrote:

Hey Barb, and everyone,

It's been a heck of a week that I wish I could say was more restorative than it was. To top it off we missed our flight home today. So I'm limited in my ability to resolve any issues related to the LCM analysis (I'm doing this on my phone).

That said, here's what I got:

- I miscalculated the median escapement, or I should say that I failed to include the full time series in calculating the median. For whatever reason I did not include the last year in the 82-year time series. You can confirm but without 2002, the median escapement for the COS and PA are 3856 and 3865 (1926 - 2001) respectively.

- As far as which approach is "better" or "right" I don't know, but I would say that my mistake (identified above) shows that basing a conclusion on a single data point ("ending" escapement in a year [2002]) is dependent on which year the simulation ends on.

- In my description of the starting assumption of the IOS model I state that initial abundance is 5,000, of which 3,087 are females. I was unsure of these numbers but it was my understanding that Cramer FS confirmed them. The SRKW analysis has an initial abundance of 3,000. I don't know the effect of this difference on the overall analysis but if the SRKW analysis is based on an ending abundance relative to an initial abundance I could see it as being important. Given the modeled escapement in 1926 (for both the COS and PA) is around 2,100, the initial abundance of 3,000 might make more sense but that's really just a guess. Please re-confirm with Cramer FS.

If all of this amounts to an error or errors on my part I am sorry. The pace of all of this has been fast and it's clear that I made at least one mistake. I really hate thinking that my poor performance has contributed to other's (your) increased workload/stress.

If there are any other questions or specifics that I could respond to I will try to do so.

With apologies,  
Evan Sawyer

On 6/2/19, Barbara Byrne - NOAA Federal <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)> wrote:

> John and Evan -- Looking for some help from you both in walking through the  
> calculations underlying your IOS summaries.

>

> Attached are:

> 1. \*IOS consistency check.doc\*: \*Summary of potential discrepancies,  
> drafted by me.

> 2. \*SRKWpreyappendix\_V4\_MASTER.doc\*: Drafted by John.

> 3. \*2.5.9 LifeCycle Models--V4\_ForDistribution.doc\*: Drafted by Evan

> 4. \* IOS\_results\_summary\_2\_28\_19\_see ESCAPEMENT TAB.xls\*: Pulled from ROC

> LTO BA supplemental modeling files; I am assuming you both used data from

> the "Escapement" tab.  
>  
> Please review item #1 and help me understand how the numbers in your docs  
> (#2 for John, #3 for Evan) relate to the escapement numbers in item #4.  
>  
> We don't necessarily have to have the exact same approach for IOS in every  
> section, but at least want to be able to  
> (a) reproduce the numbers in each case (I couldn't, but maybe I don't  
> understand the approach you each took) and  
> (b) explain the differences between the \*0.2% diff described in the LCM  
> section\* (Evan's approach based on median escapement observed during the  
> modeled period -- i.e. median PA minus median COS as a % of median  
> COS) and \*10.5%  
> diff described in the SRKWprey appendix\* (John's approach based on the  
> difference in change in escapement over the modeled period -- i.e. (PA  
> end-PA begin) minus (COS end-COS begin) as a % of (COS end-COS begin)...I  
> think).  
>  
> Thanks for helping with figuring out these analyses.  
>  
> Barb  
> --  
>  
> \*Barb Byrne\*  
> Fish Biologist  
>  
>  
> \*NOAA Fisheries West Coast Region U.S. Department of Commerce Office:  
> 916-930-5612\*  
> barbara.byrne <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)>  
> \*[@noaa.gov](mailto:@noaa.gov) <[first.last@noaa.gov](mailto:first.last@noaa.gov)>\*>  
> \*California Central Valley Office 650 Capitol Mall, Suite 5-100 Sacramento,  
> CA 95814\*  
> \* <<http://www.nmfs.noaa.gov>>\*>  
>  
> Find us online  
>  
> [www.westcoast.fisheries.noaa.gov](http://www.westcoast.fisheries.noaa.gov)  
> \*  
>

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Evan Bing Sawyer,  
Natural Resource Management Specialist

NOAA Fisheries West Coast Region

U.S. Department of Commerce

Office: (916) 930-3656

[Evan.Sawyer@noaa.gov](mailto:Evan.Sawyer@noaa.gov) <[first.last@noaa.gov](mailto:first.last@noaa.gov)>

[www.westcoast.fisheries.noaa.gov](http://www.westcoast.fisheries.noaa.gov)

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**Barb Byrne**

Fish Biologist

*NOAA Fisheries West Coast Region*

*U.S. Department of Commerce*

Office: 916-930-5612

[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)

*California Central Valley Office*

*650 Capitol Mall, Suite 5-100*

*Sacramento, CA 95814*



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[www.westcoast.fisheries.noaa.gov](http://www.westcoast.fisheries.noaa.gov)

