1. Converting from Spawning Stock Biomass to Total Biomass
2. For each stock(s) with a time series for both total biomass and spawning stock biomass (that share the same units), a ratio of the mean of each time series is used to generate the ratio value to convert between SSB and TB.
3. If no mean value for the stock can be calculated, then the conversion value used is an average generated across all stocks within a family that share the same sex designation for SSB. There are 4 possibilities for the SSB sex designation: males and female, females, males, and unknown. The stock uses the value generated for its family and SSB sex.
4. If no family average can be generated, then a similar average is generated across fishery type (ie Rockfish, Forage Fish, etc.) instead. It is also divided up by the 4 possible SSB sex designations.
5. If the above methodscannot be used, then a mean value is calculated just across SSB sex designation.
6. best Prioritization Within Assessments

|  |  |
| --- | --- |
| **TBmsybest** | **ERmsybest** |
| TBmsy-MT | ERmsy-ratio |
| SSBmsy-MT | ERmsy-pr-ratio |
| TBmsy-pr-MT | ERmsy-extr-ratio |
| SSBmsy-pr-MT | ERmsy-calc-ratio |
| TBmsy-extr-MT | ERmsy-conv-ratio |
| SSBmsy-extr-MT | ERmsy-est-ratio |
| TBmsy-calc-MT |  |
| SSBmsy-calc-MT |  |
| TB0-MT |  |
| SSB0-MT |  |
| TBmsy-conv-MT |  |
| SSBmsy-conv-MT |  |
| TBmsy-est-MT |  |
| SSBmsy-est-MT |  |

|  |  |  |
| --- | --- | --- |
| **TBbest** | **TCbest** | **ERbest** |
| TB-MT | TC-MT | ER-ratio |
| SSB-MT | TL-MT | ER-calc-ratio |
|  |  |  |

1. touse Prioritization Within Assessments

|  |  |
| --- | --- |
| **BdivBmsytouse** | **UdivUmsytouse** |
| BdivBmsy-dimensionless | ER-ratio / ERmsy-ratio |
| TB-MT/TBmsy-MT | ER-ratio / ERmsy-pr-ratio |
| TB-MT/TBmsy-calc-MT | ER-ratio / ERmsy-calc-ratio |
| TB-relative/TBmsy-relative | ER-ratio / ERmsy-conv-ratio |
| TN-E00/Nmsy-E00 | FdivFmsy-dimensionless |
| SSBdivSSBmsy-dimensionless | F-1/yr / Fmsy-1/yr |
| SSB-MT/SSBmsy-MT | F-1/yr / Fmsy-pr-1/yr |
| SSB-E00eggs/SSBmsy-E00eggs | ER-ratio / ERmsy-est-ratio |
| SSB-E00larvae/SSBmsy-E00larvae |  |
| SSB-FemaleGonadMT/SSBmsy-FemaleGonadMT |  |
| SSF-E00/SSFmsy-E00 |  |
| SSB-MT/SSBmsy-pr-MT |  |
| SSB-E00eggs/SSBmsy-pr-E00eggs |  |
| SSB-E00larvae/SSBmsy-pr-E00larvae |  |
| TB-MT/TB0-MT |  |
| TB-MT/TBmsy-conv-MT |  |
| TB-MT/SSBmsy-MT |  |
| SSB-MT/SSB0-MT |  |
| SSB-MT/TBmsy-calc-MT |  |
| SSB-MT/TBmsy-conv-MT |  |
| TB-MT/TBmsy-est-MT |  |
| TN-E00/Nmsy-est-E00 |  |
| SSB-MT/TBmsy-est-MT |  |

1. Prioritization Between Assessments (best/touse/views)

|  |  |
| --- | --- |
| **Asmt Year** | **Data Source** |
| Year T | From assessment |
| Year T-1 | From assessment |
| … | From assessment |
| Year T | Uses converted ref. pt. values |
| Year T-1 | Uses converted ref. pt. values |
| … | Uses converted ref. pt. values |
| Year T | Uses model estimated ref. pt. values |
| Year T-1 | Uses model estimated ref. pt. values |
| … | Uses model estimated ref. pt. values |

1. **Reference Point and Time Series Labels**

The following table describes labels used in reference point and time series IDs where assessment data is used to generate supplemental data. The X term is generic (ie X can be TB, ER, etc.) and applies in any instance where that label format occurs.

|  |  |
| --- | --- |
| **Label** | **Description** |
| ***MSY-calc*** | MSY calculated from a Bmsy and Umsy from the assessment. |
| ***MSY-est*** | MSY calculated from a Bmsy and Umsy, where at least one of the reference points was model-estimated from assessment data. |
| ***Xmsy-calc*** | Reference point was calculated from two assessment reference points (ERmsy=MSY/TBmsy). |
| ***Xmsy-conv*** | Reference point was either converted from another assessment reference point (ie TBmsy from TB0, TBmsy from SSBmsy, or ERmsy from Fmsy), or was calculated from at least one converted reference point. |
| ***Xmsy-est*** | Reference point was model-estimated from assessment data. |
| ***XdivXmsy-calc*** | Time series was calculated using assessment or calculated reference points |
| ***XdivXmsy-conv*** | Time series was calculated using a converted reference point. |
| ***XdivXmsy-est*** | Time series was calculated using a model-estimated reference point. |