Science, Service, Stewardship

Red Snapper Rebuilding Projections

June 11, 2009

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Analysis Request

- Provide the time frame for rebuilding in the absence of fishing mortality (Tmin)
- Time frame for rebuilding in the absence of fishing mortality plus one mean generation time (Tmax)
- Projections of spawning stock biomass (SSB), recruitment, landings and discards from 2007 to Tmax fo constant fishing mortality rates Fcurrent, $F_{40\%,}$ $65\%F_{40\%}$, $75\%F_{40\%}$, and $85\%F_{40\%}$)
- Projections as above except with no directed harvest and discards corresponding to the yield associated with the above mortality rates.
- Base above on MFTF $F_{40\%,}$ =0.104

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Results

- In the projection with F = 0, the probability of stock recovery is expected to exceed 0.5 during the year 2024.
- Thus, with stock recovery expected by the beginning of 2025, Tmin is 15 years (2010- 2024).
- The mean generation time is 20 years (SEDAR-15), and thus Tmax is 35 years.
- This value would imply that stock recovery should occur by the beginning of 2045, at the latest.

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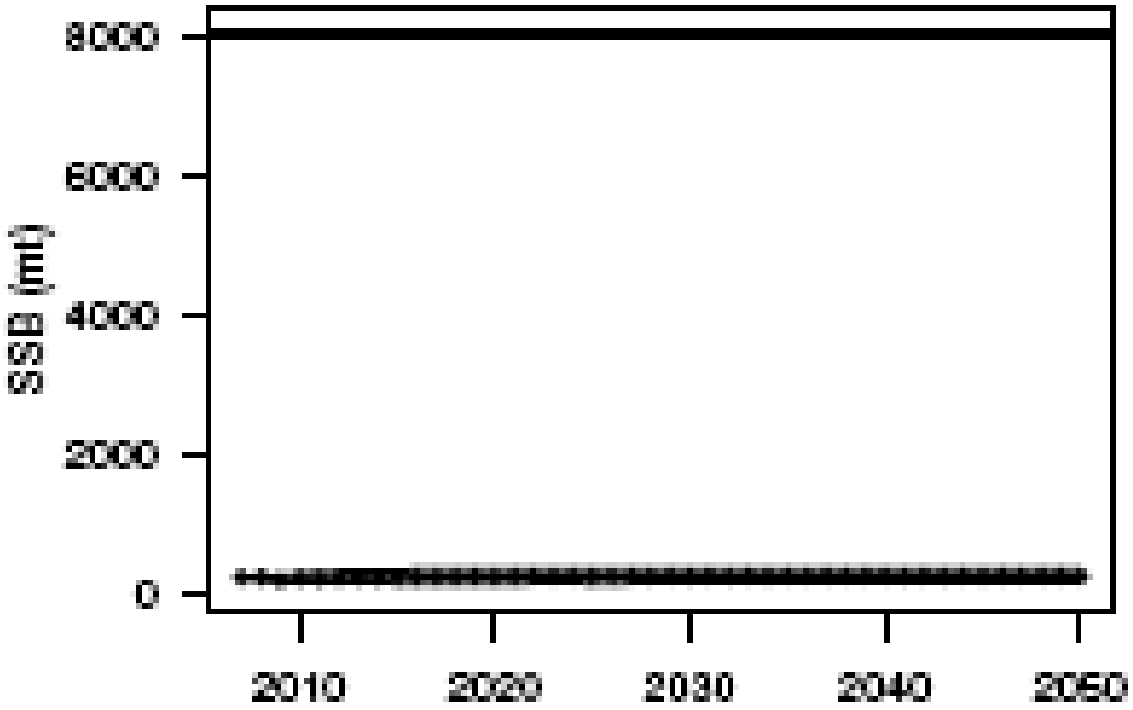
Projection at $F=F_{Current}$



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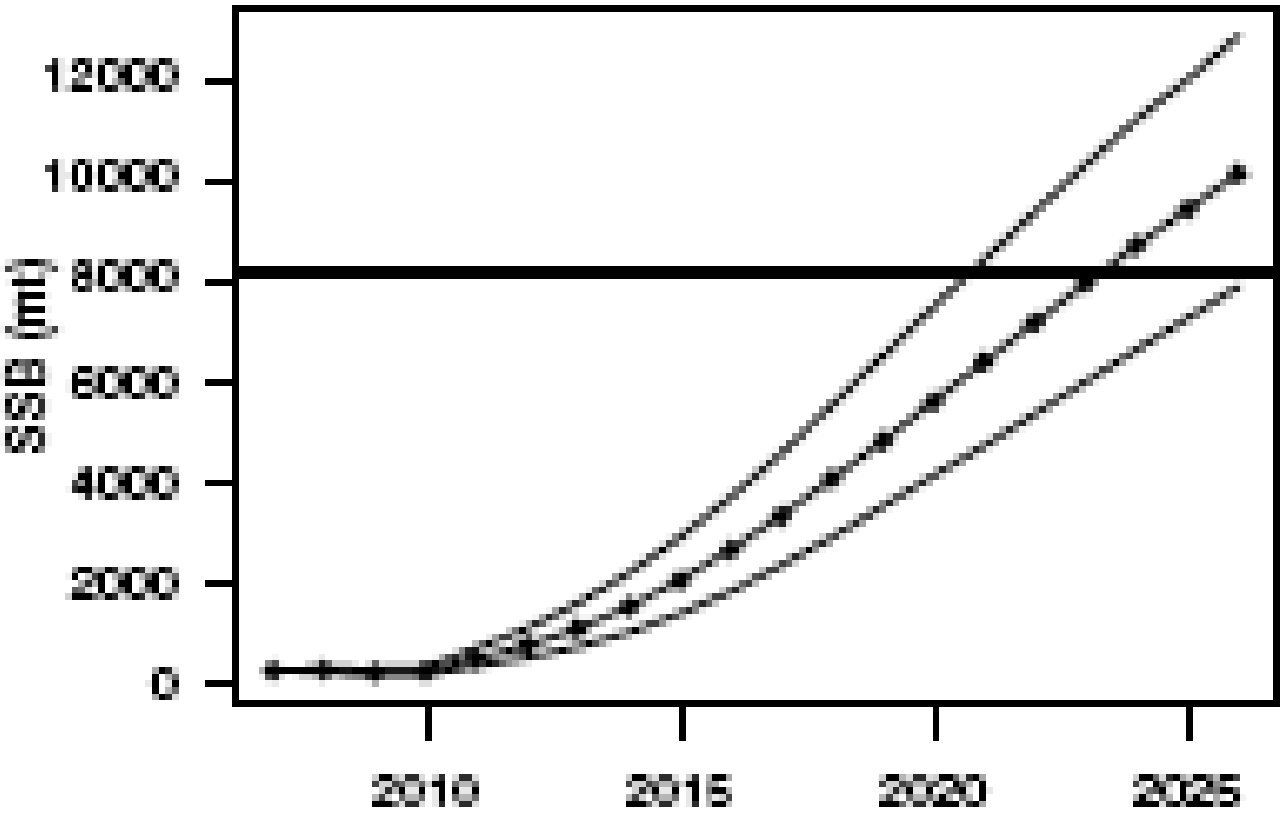
Projection at $F=F_0$ (2024)



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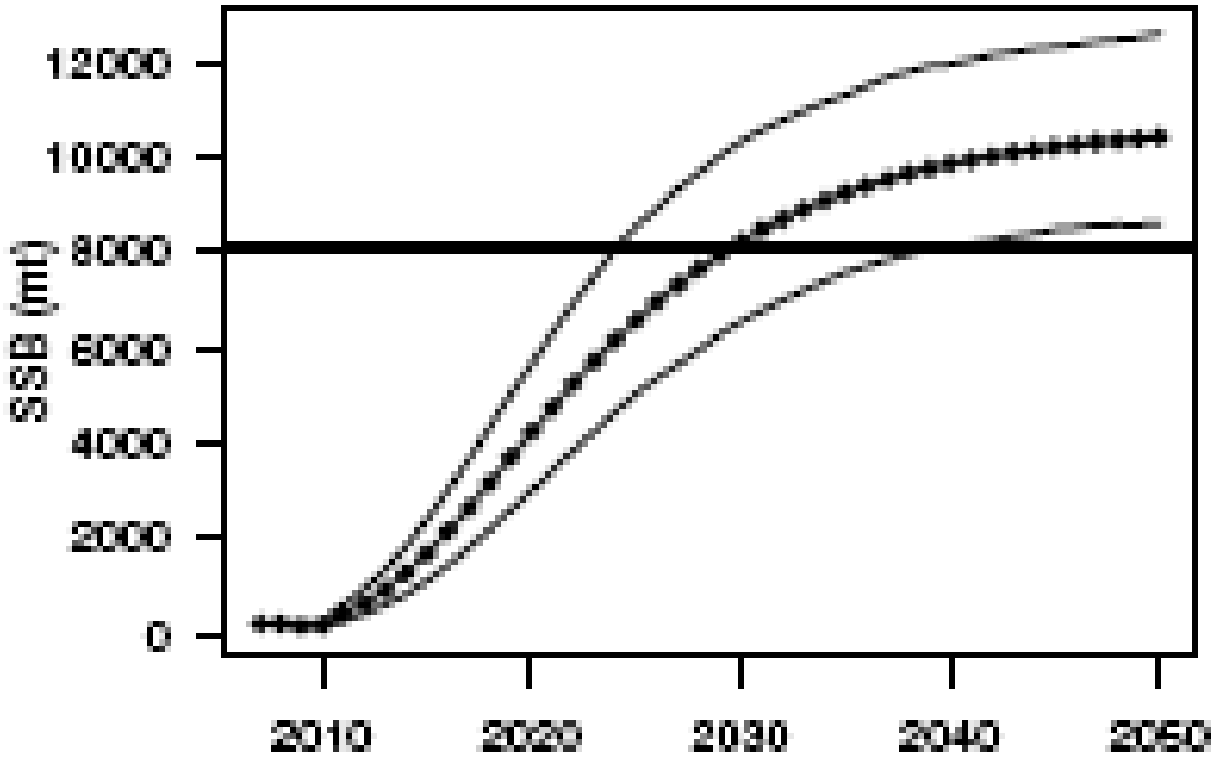
Projection at 65%$F_{40\%}$ (2030)



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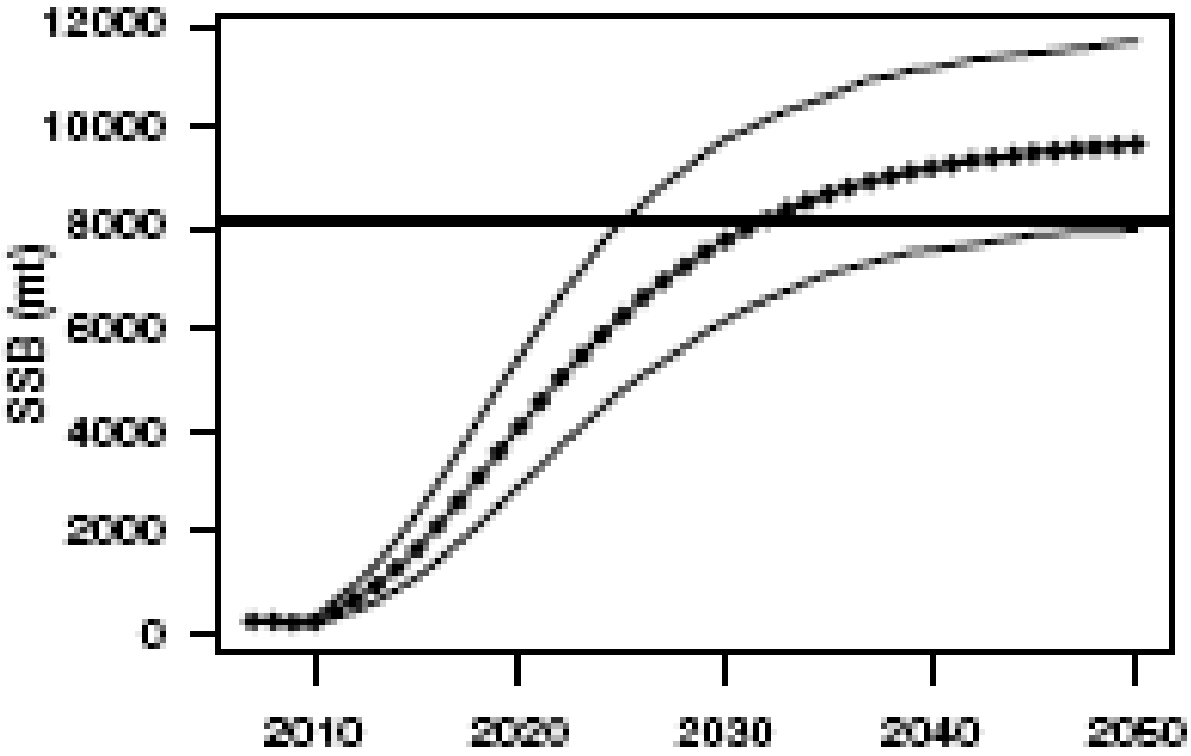
Projection at 75%$F_{40\%}$ (2032)



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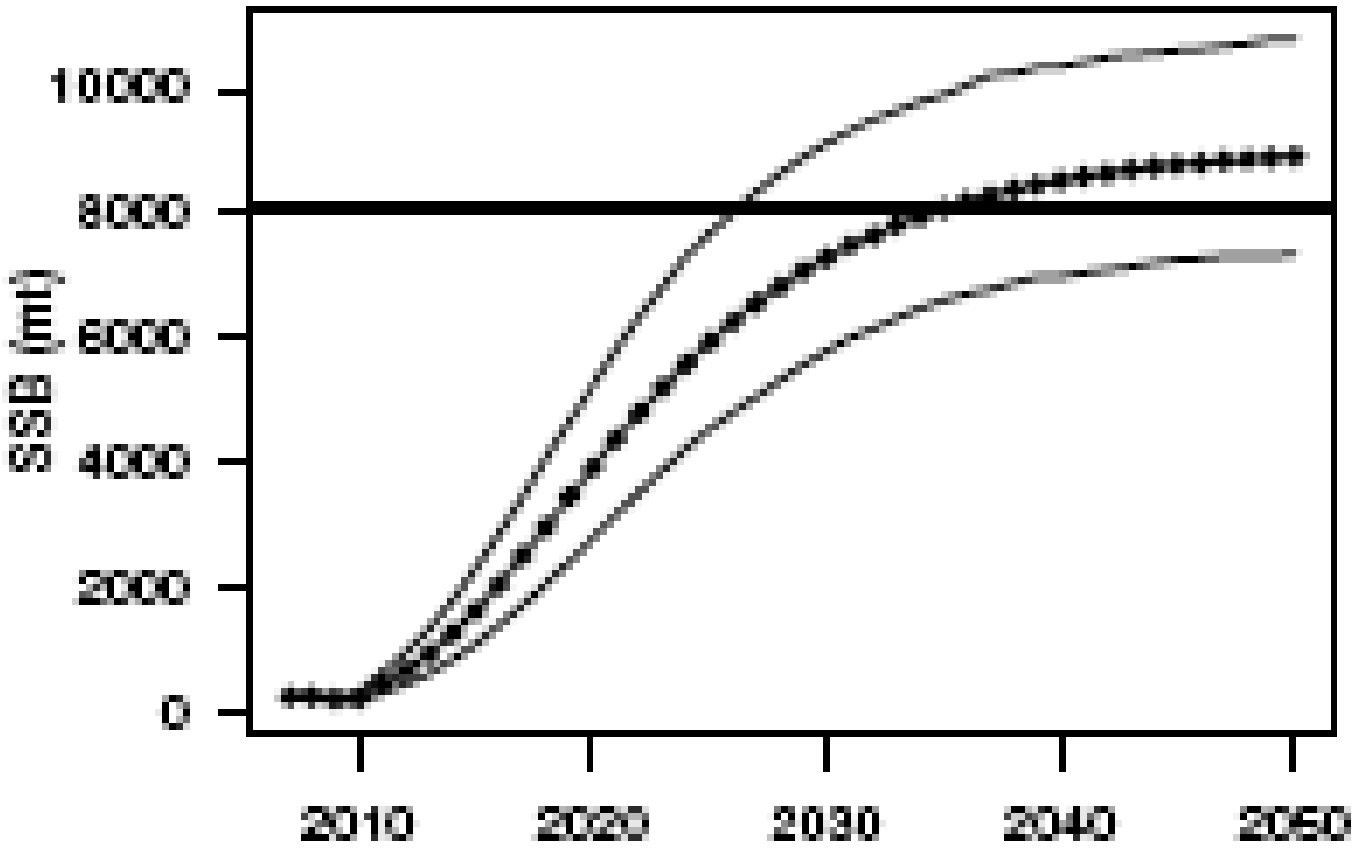
Projection at 85%$F_{40\%}$ (2035)



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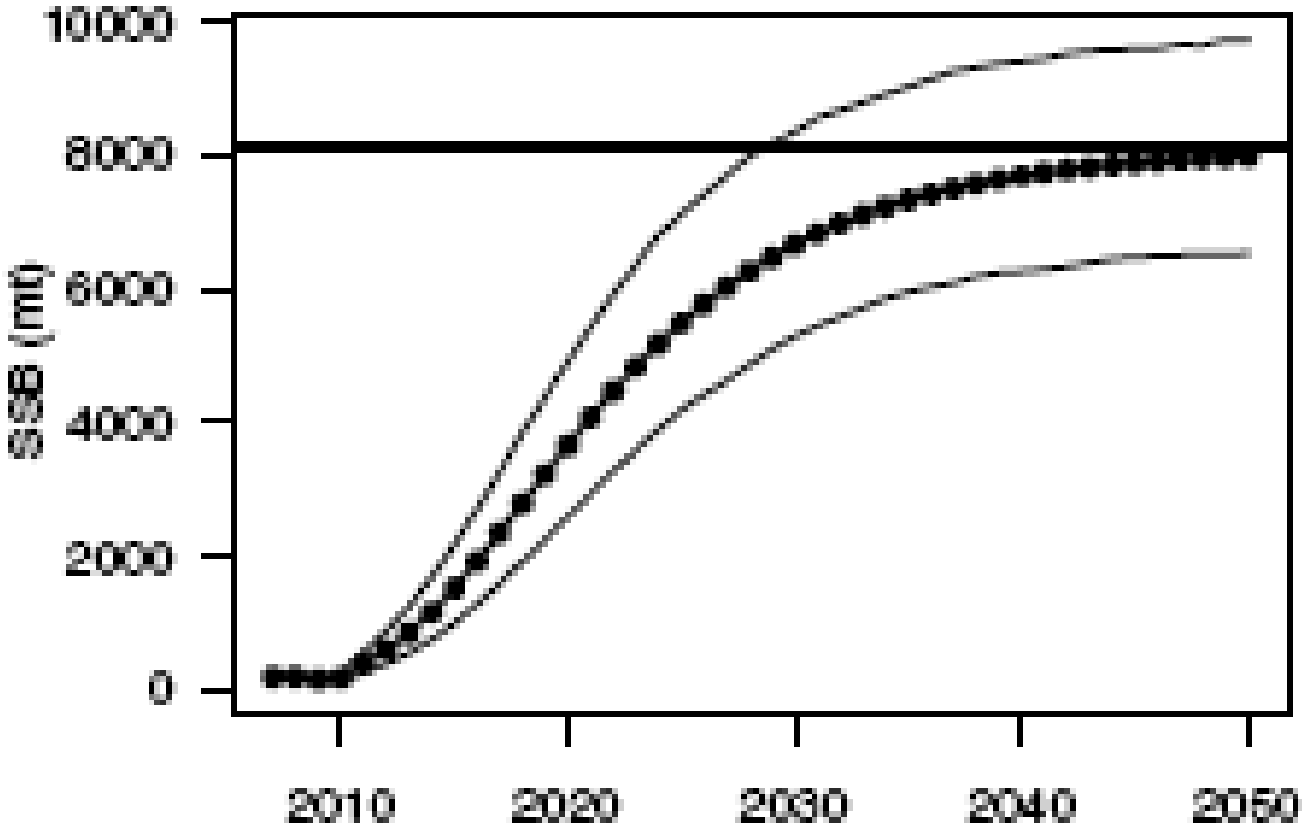
Projection at $F_{40\%}$



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Discard Only Projections

- Excludes dive fishing
- Applies same discard mortality rate as used in assessment (commercial 90%, recreational 40%)

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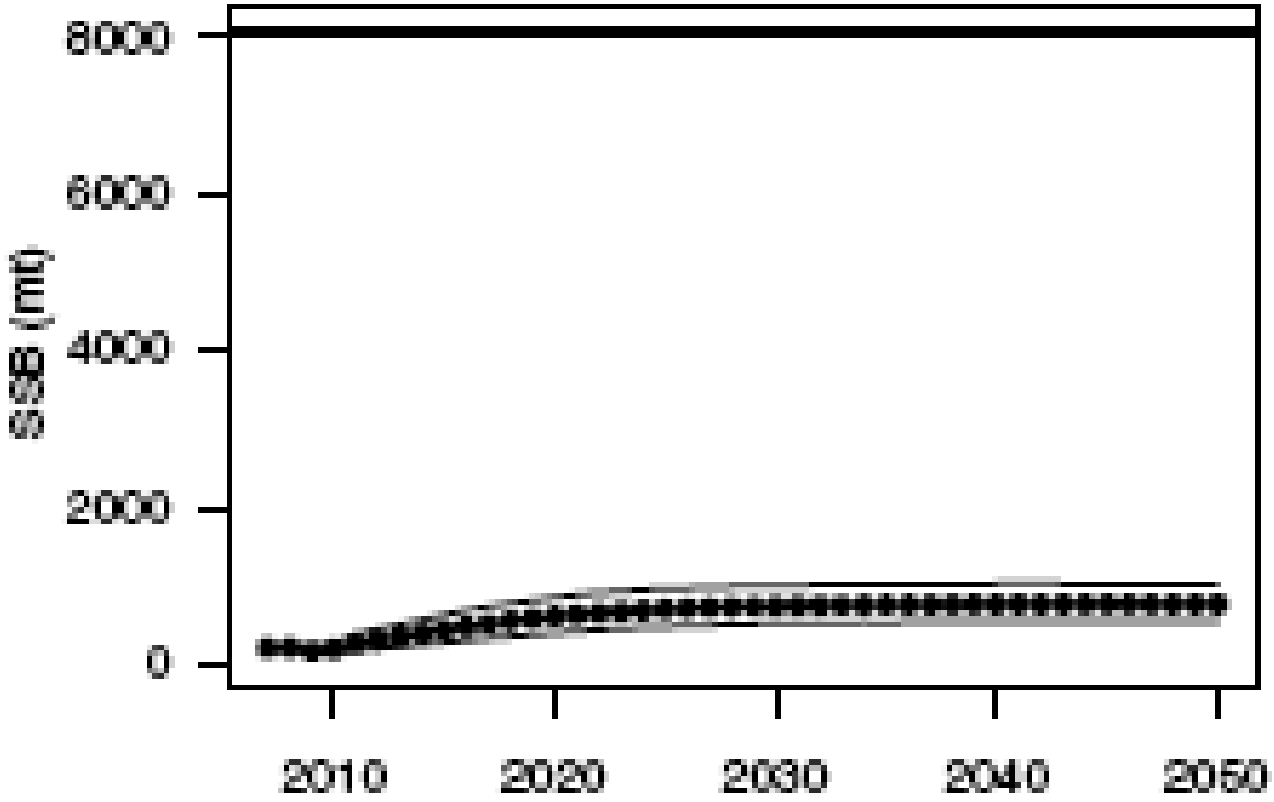
Discards only F= $F_{Current}$



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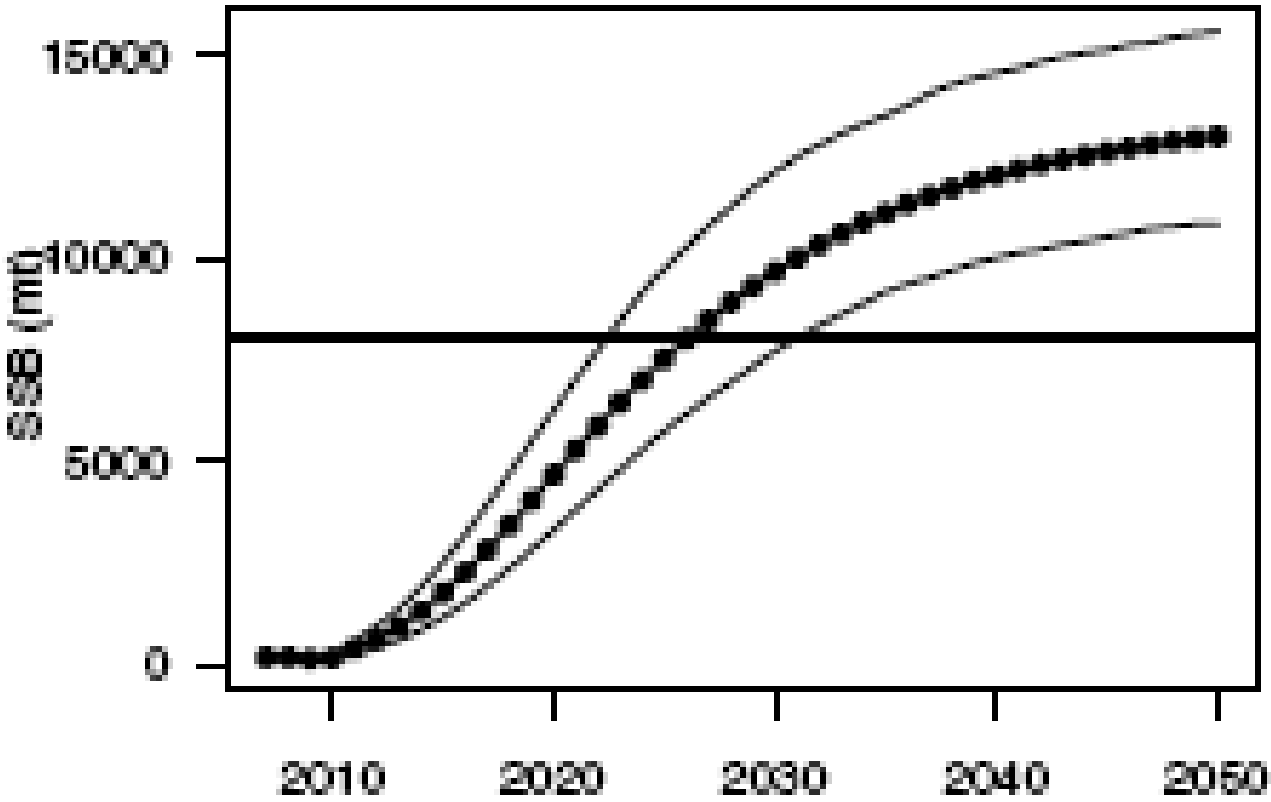
Discards only at 65%$F_{40\%}$ (2027)



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Discard Only F= $F_{40\%}$ (2029)