New Biological Parameters for Bigeye Tuna
New Biological Parameters


Growth

- Richards
- Schaefer
- 2004
Fecundity

\[
y = 68114.75x - 2495887.75
\]

\[
R^2 = 0.78
\]
Maturity

Proportion mature vs. Age (quarters)

- Richards
- Schaefer
Proportion Female

The graph shows the proportion of female individuals across different lower bounds of length bins. The upper graph indicates a scatter plot with a trend line, while the lower graph displays a smooth curve. The x-axis represents the lower bound of length bin, and the y-axis represents the proportion female.
Fit to Hampton’s Natural Mortality Estimates

Combined M

Lower bound of length bin
Spawning biomass ratio (Cociente de biomasa reproductora)

- Base case 2004
- New biologicals
## Management Parameters

<table>
<thead>
<tr>
<th>Quantity</th>
<th>2004 assessment</th>
<th>New Biologicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSY</td>
<td>77747</td>
<td>81359</td>
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<tr>
<td>Bmsy/B0</td>
<td>0.28</td>
<td>0.29</td>
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<tr>
<td>Smsy/S0</td>
<td>0.20</td>
<td>0.20</td>
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<tr>
<td>Ccur/MSY</td>
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<td>Bcur/Bmsy</td>
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<td>Scur/Smsy</td>
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<td>Fscale</td>
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<td>Bcur/B0</td>
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<tr>
<td>Scur/S0</td>
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