Table 1 Simulated variables

|  |  |
| --- | --- |
| **Symbol** | **Description** |
| *y* | Year index |
| *w* | Week index |
| *s* | Species index |
| *v* | Vessel index |
| *Ry,s* | Recruitment |
| *εy,s* | Log of recruitment deviation |
| *rs,y,w* | Revenue |
| *Bs,y,w* | Biomass |
| *Cs,y,w* | Catch |
| *cs,v* | Variable cost to fish for one week |
| *Sy* | Total survival (groundfish only) |
| *Ny* | Abundance (groundfish only) |
| *Hy* | Harvest rate (groundfish only) |

Table 2 Parameters

|  |  |  |
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| **Symbol** | **Description** | **Value** |
| *y* | Year index |  |
| *w* | Week index |  |
| *s* | Species index |  |
|  | Annual fixed costs | Crab: 0.0025, salmon: 0.0001, groundfish: tuned internally |
| *cs* | Average variable cost to fish for one week | Crab: tuned internally, salmon: tuned internally, groundfish: 0.00002 |
| *σc* | Standard deviation of log(*c*) | 0.149, CV = 0.15 |
| *ρc* | Correlation of variable costs for a vessel | 0.7 |
| *qs* | Catchability | Crab: 0.0005, salmon: 0.00005, groundfish: tuned internally |
| *Ps,y,w* | Price per unit biomass | Salmon: 1, groundfish: 1, crab: see text |
| *σR,s* | Standard deviation of log(*R*) | 0.555 (all 3 species), CV = 0.6 |
| *ρR,i,j* | Correlation of *εy,i* and *εy,j* (log-recruitment deviations) | -0.5, 0, 0.5 (baseline = 0) |
| *ϕs* | Recruitment autocorrelation parameter | 0.3 (all 3 species) |
| *k* | Age at recruitment (groundfish only) | 4 |
| *ωk,s* | Weight at age *k* (i.e., recruitment) | 1 (all 3 species) |
|  | Average recruitment (crab and salmon) | 1 (both species) |
| *R0­* | Unfished recruitment (groundfish only) | 0.5 |
| *B0* | Unfished biomass (groundfish only) | Calculated internally |
| *h* | Stock-recruit steepness (“resilience”) (groundfish only) | 0.6 |
| *M* | Natural mortality rate (groundfish only) | 0.07 yr-1 |
| *α, β* | Intercept, slope, respectively, of Ford-Walford plot (i.e., weight at agevs. age – 1) (groundfish only) | 0.459, 0.736 |

Table 3 Access scenarios

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| **Permit portfolio** | **Easy access vessel count** | **Medium access vessel count (baseline)** | **Hard access vessel count** |
| Crab only | 25 | 67 | 109 |
| Salmon only | 25 | 67 | 109 |
| Groundfish only | 25 | 67 | 109 |
| Crab-salmon | 109 | 67 | 25 |
| Crab-groundfish | 109 | 67 | 25 |
| Crab-salmon-groundfish | 109 | 67 | 25 |
| Total number of vessels | 402 | 402 | 402 |