**Methods Section:**

Weight, for black or yelloweye rockfish was estimated as the mean of predicted weights from a log-log regression of length and weigh for each CFMU, user, and year using

Where is the predicted weight of fish *z* from sample in kilograms and is the annual number of rockfish sampled for length by user in CFMU *i*.

is estimated using

Where *E* is the Root MSE of the least squares regression of log weight vs. log length raised to the numerical constant *e* (~2.71828), *a* is the intercept of the least squares regression raised to the power of *e*,  *L* is the observed length in centimeters, and *b* is the slope of the least squares regression. Length-weight parameters were estimated for each primary species using length and weight data from 1996-2021.

The least squares regression equation (with parameters derived from log-log regression) for black rockfish of log weight vs. log length is

The least squares regression equation (with parameters derived from log-log regression) for yelloweye rockfish of log weight vs log length is

Sport release mortality, , is estimated using

Where is annual mortality by user in number of fish in CFMU *i* and is annual mean weight of sampled black or yelloweye rockfish by user in CFMU *i*, estimated as described above. If sample size for any given CFMU, year, and user was under 100 fish, the mean estimated weight for all years combined was used.

is estimated using

Where is the annual release estimate in numbers of fish by user for CFMU *i* and is the apportioned (by depth of capture and method of release) release mortality rate by user for CFMU *I* (Table XX) (Hanna et al. 2008, Hanna et al. 2012, Hochalter 2012, Hochalter and Reed 2011).

is estimated after 2013 using

Where is the apportioned (by depth of capture) release mortality rate for rockfish released in CFMU *i* using release method *k* and is the proportion of black or yelloweye rockfish released in CFMU *i* using release method *k*.

is estimated after 2013 using

Where is the proportion of black or yelloweye rockfish released by user, using release method *k* in depth of capture category *c* in CFMU *i* and is a pre-determined mortality rate associated with depth of capture category *c* and release method *k*. has different values for black and yelloweye rockfish. Prior to 2013 it was assumed that all rockfish were released at the surface. was set using values from peer reviewed literature.

is estimated using

Where is the number of black or yelloweye rockfish released by user using release method *k* in CFMU *i* and is the total number of rockfish released by user in CFMU *i*.

is estimated prior to 2013 using

is left out of the equation prior to 2013 because it is assumed that all fish are released at the surface.

is estimated prior to 2013 using the same formula as above, except all fish are assumed to be released at the surface since DRM use prior to 2013 was very low.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Release Method** | **0-59’** | **60-119’** | **120-179’** | **180+’** | **Source** |
| **Black** | Surface | 0.00 | 0.12 | 0.35 | 0.80 | Hannah et al. 2008 |
| **Black** | DRM | 0.00 | 0.04 | 0.31 | 0.40 | Hannah et al. 2012 |
| **Yelloweye** | Surface | 0.00 | 0.70 | 0.94 | 1.00 | Hochhalter 2012 |
| **Yelloweye** | DRM | 0.01 | 0.01 | 0.01 | 0.20 | Hochalter and Reed 2011 \* |

**Table XX.** Mortality rates by depth category and release method for black and yelloweye rockfish.

\*Mortality rates proposed by S. Meyer with a conservative assumption below 180’

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