# Appendices

**Appendix A: Spline fomulae:** The following formulas were used to fit the penalized spline to the harvest trend in the model. In region *R* parameters and were calculated as

where and were derived from priors (Table PRIORS1).

The harvest trend spline by area, *a*, was modeled such that was derived from the regional and parameters based on a gamma distribution such that

Area specific matrices with *a* by *C* dimensions where *C* is equal to the number of knots in the spline were derived from a multivariate normal distribution such that

where was derived from a prior (Table PRIORS1), is a vector of zeros and is a matrix derived from the number of knots (see <https://bragqut.github.io/2016/05/24/samclifford-splines/> for original formulation and the model code in <https://github.com/ADFG-DSF/RockfishSportMort/tree/main/models>).

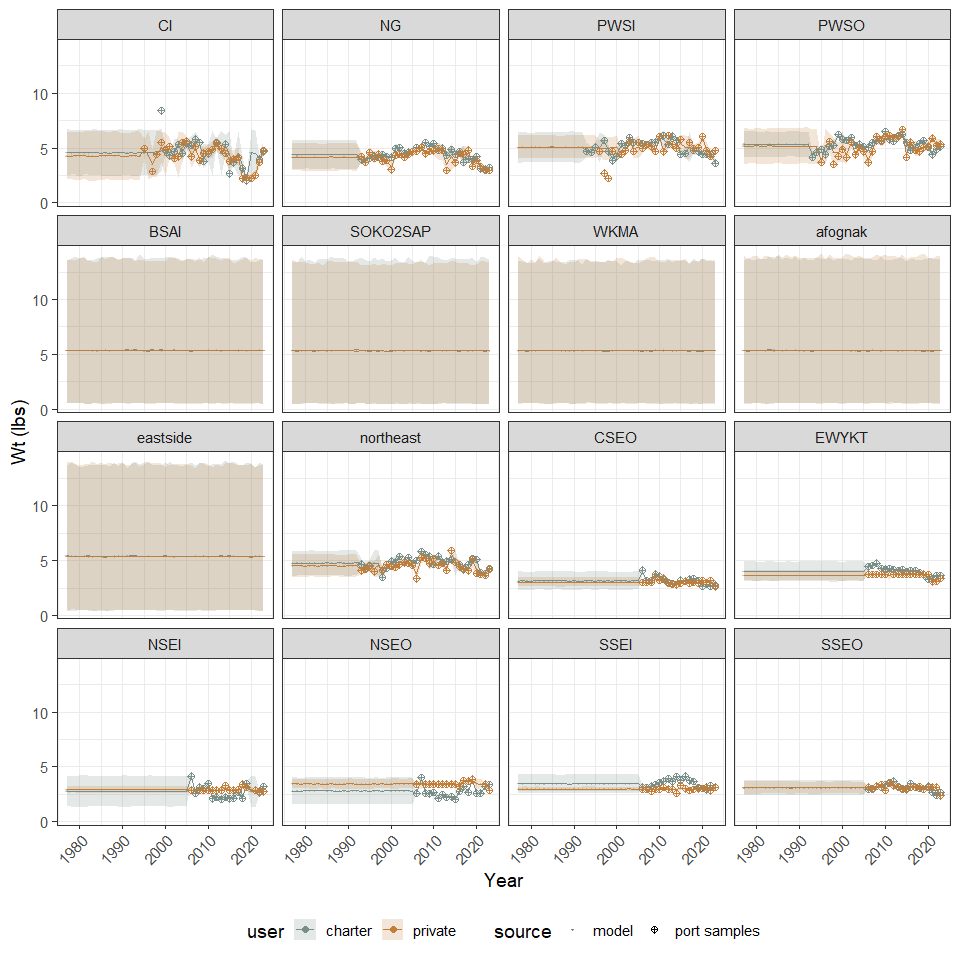
The true harvest in area *a* and year *y*, , was fit to the spline trend line such that

where

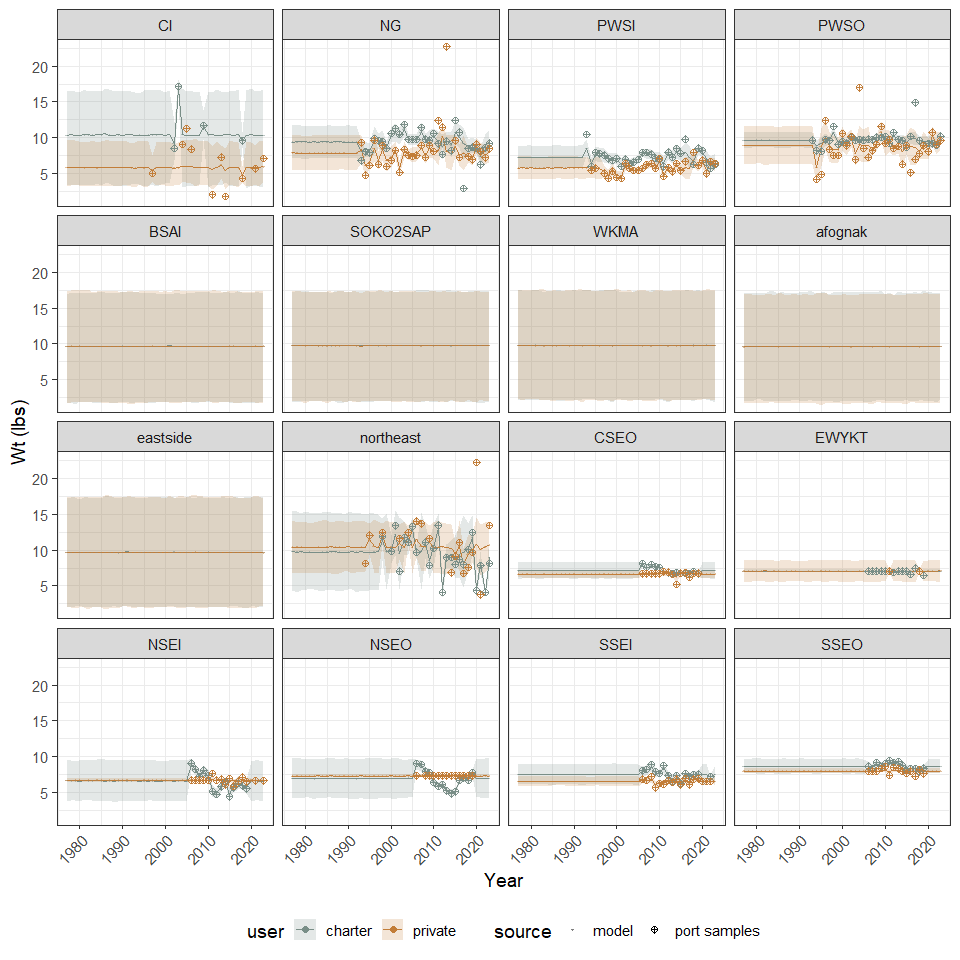
and was derived from a prior distribution (Table PRIORS1). The spine trend was calculated as

where is a matrix derived from the number of knots and the number of years in the time series (see <https://bragqut.github.io/2016/05/24/samclifford-splines/> for original formulation and the model code in <https://github.com/ADFG-DSF/RockfishSportMort/tree/main/models>).

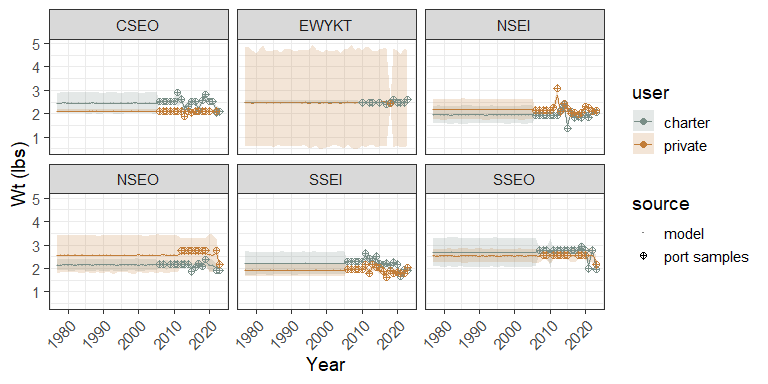
# Appendix B: Model fit to weight data.



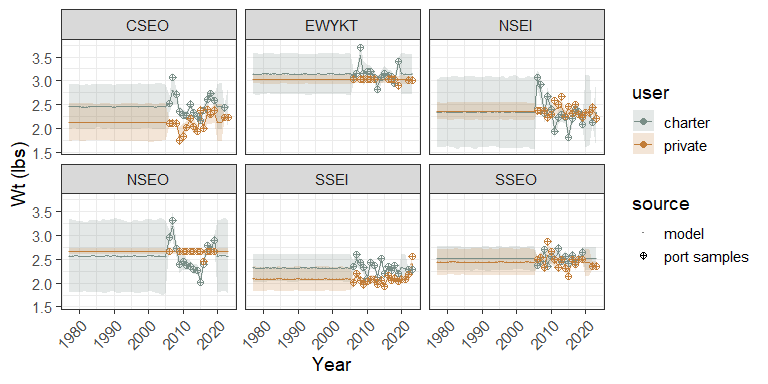
**Appenidx B1.**- Mean weights of black rockfish used to estimate biomass from harvest and release mortality estimates in numbers of fish.



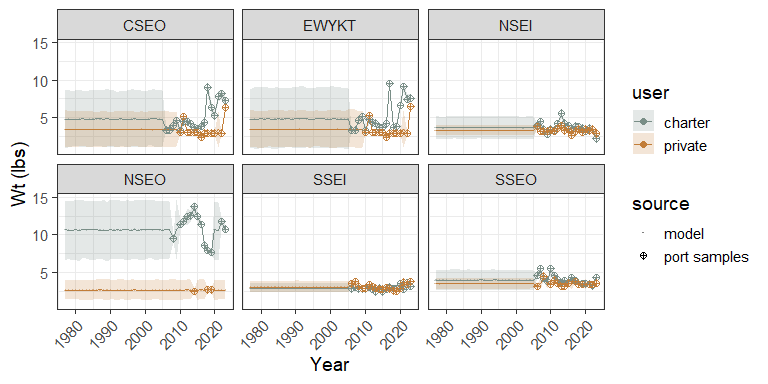
**Appenidx B2.**- Mean weights of yelloweye rockfish used to estimate biomass from harvest and release mortality estimates in numbers of fish.



**Appenidx B3.**- Mean weights of non-black, pelagic rockfish used to estimate biomass from harvest and release mortality estimates in numbers of fish.



**Appenidx B4.**- Mean weights of non-yelloweye, demersal shelf rockfish used to estimate biomass from harvest and release mortality estimates in numbers of fish.



**Appenidx B5.**- Mean weights of slope rockfish used to estimate biomass from harvest and release mortality estimates in numbers of fish.

# Appendix C: Model output harvest, release, release mortality and total removal estimates

**Appendix C1.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for Cook Inlet Commercial Fisheries Management Unit 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Cook Inlet Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 474 | 290 | 123 - 1,223 | 255 | 256 | 52 - 1,015 | 0.060 | 4.590 | 2,214 | 1,548 | 490 - 6,334 |
| 1978 | gui | 576 | 340 | 140 - 1,461 | 320 | 314 | 66 - 1,267 | 0.060 | 4.560 | 2,636 | 1,757 | 623 - 7,439 |
| 1979 | gui | 526 | 310 | 139 - 1,344 | 294 | 272 | 55 - 1,077 | 0.060 | 4.570 | 2,432 | 1,645 | 549 - 6,641 |
| 1980 | gui | 575 | 333 | 154 - 1,437 | 319 | 313 | 63 - 1,209 | 0.060 | 4.550 | 2,630 | 1,773 | 633 - 7,489 |
| 1981 | gui | 710 | 412 | 184 - 1,778 | 390 | 400 | 74 - 1,505 | 0.060 | 4.550 | 3,203 | 2,143 | 777 - 9,089 |
| 1982 | gui | 691 | 393 | 196 - 1,696 | 374 | 369 | 79 - 1,459 | 0.060 | 4.560 | 3,152 | 2,053 | 786 - 8,564 |
| 1983 | gui | 806 | 458 | 209 - 1,950 | 435 | 417 | 93 - 1,653 | 0.060 | 4.570 | 3,722 | 2,448 | 903 - 10,174 |
| 1984 | gui | 767 | 457 | 217 - 1,960 | 420 | 402 | 88 - 1,569 | 0.060 | 4.560 | 3,540 | 2,364 | 869 - 9,987 |
| 1985 | gui | 753 | 428 | 209 - 1,846 | 420 | 385 | 84 - 1,566 | 0.060 | 4.540 | 3,367 | 2,231 | 818 - 9,224 |
| 1986 | gui | 946 | 568 | 265 - 2,450 | 526 | 532 | 112 - 2,073 | 0.060 | 4.560 | 4,363 | 2,978 | 1,116 - 12,217 |
| 1987 | gui | 832 | 487 | 214 - 2,068 | 470 | 447 | 90 - 1,788 | 0.060 | 4.530 | 3,799 | 2,523 | 866 - 10,397 |
| 1988 | gui | 1,060 | 621 | 313 - 2,662 | 581 | 552 | 131 - 2,230 | 0.060 | 4.570 | 4,860 | 3,255 | 1,231 - 13,177 |
| 1989 | gui | 893 | 520 | 235 - 2,218 | 492 | 462 | 106 - 1,902 | 0.060 | 4.550 | 4,084 | 2,763 | 965 - 11,617 |
| 1990 | gui | 806 | 466 | 232 - 2,021 | 434 | 329 | 103 - 1,390 | 0.060 | 4.580 | 3,787 | 2,456 | 934 - 10,101 |
| 1991 | gui | 689 | 430 | 160 - 1,809 | 310 | 254 | 69 - 995 | 0.060 | 4.540 | 3,099 | 2,206 | 685 - 8,934 |
| 1992 | gui | 929 | 521 | 263 - 2,258 | 526 | 380 | 120 - 1,604 | 0.060 | 4.560 | 4,289 | 2,754 | 1,102 - 11,215 |
| 1993 | gui | 1,039 | 552 | 308 - 2,409 | 595 | 469 | 143 - 1,955 | 0.060 | 4.530 | 4,724 | 2,944 | 1,170 - 12,616 |
| 1994 | gui | 807 | 472 | 217 - 2,065 | 409 | 319 | 95 - 1,282 | 0.060 | 4.560 | 3,690 | 2,460 | 929 - 10,305 |
| 1995 | gui | 683 | 398 | 194 - 1,690 | 327 | 252 | 80 - 1,009 | 0.060 | 4.560 | 3,118 | 2,066 | 858 - 8,610 |
| 1996 | gui | 918 | 400 | 320 - 1,873 | 479 | 297 | 135 - 1,256 | 0.060 | 4.560 | 4,225 | 2,209 | 1,338 - 9,773 |
| 1997 | gui | 975 | 412 | 373 - 1,966 | 511 | 329 | 150 - 1,409 | 0.060 | 4.570 | 4,529 | 2,238 | 1,481 - 9,938 |
| 1998 | gui | 418 | 105 | 201 - 609 | 231 | 144 | 72 - 601 | 0.060 | 4.530 | 1,895 | 680 | 772 - 3,375 |
| 1999 | gui | 633 | 51 | 527 - 726 | 419 | 36 | 344 - 485 | 0.060 | 4.770 | 3,094 | 704 | 1,831 - 4,603 |
| 2000 | gui | 505 | 94 | 326 - 693 | 277 | 52 | 179 - 380 | 0.060 | 4.800 | 2,493 | 478 | 1,610 - 3,477 |
| 2001 | gui | 509 | 69 | 352 - 620 | 468 | 65 | 322 - 574 | 0.060 | 4.320 | 2,315 | 335 | 1,578 - 2,890 |
| 2002 | gui | 807 | 162 | 506 - 1,139 | 577 | 116 | 359 - 817 | 0.060 | 4.700 | 3,924 | 908 | 2,381 - 5,931 |
| 2003 | gui | 2,442 | 266 | 1,902 - 2,956 | 1,708 | 187 | 1,332 - 2,063 | 0.060 | 5.300 | 13,456 | 1,613 | 10,266 - 16,670 |
| 2004 | gui | 2,193 | 485 | 1,260 - 3,125 | 1,660 | 368 | 958 - 2,361 | 0.060 | 4.600 | 10,433 | 2,650 | 5,573 - 15,937 |
| 2005 | gui | 1,621 | 204 | 1,221 - 2,026 | 991 | 126 | 753 - 1,242 | 0.060 | 5.350 | 8,967 | 1,185 | 6,713 - 11,281 |
| 2006 | gui | 1,115 | 209 | 704 - 1,531 | 694 | 130 | 442 - 952 | 0.060 | 5.170 | 5,960 | 1,222 | 3,744 - 8,485 |
| 2007 | gui | 864 | 179 | 543 - 1,238 | 446 | 93 | 279 - 637 | 0.060 | 5.570 | 4,946 | 1,104 | 3,045 - 7,329 |
| 2008 | gui | 981 | 267 | 483 - 1,504 | 337 | 92 | 165 - 520 | 0.060 | 5.470 | 5,477 | 1,504 | 2,702 - 8,459 |
| 2009 | gui | 1,148 | 165 | 824 - 1,474 | 233 | 34 | 167 - 300 | 0.060 | 4.050 | 4,689 | 888 | 3,099 - 6,578 |
| 2010 | gui | 887 | 80 | 742 - 1,048 | 146 | 14 | 121 - 175 | 0.060 | 4.510 | 4,030 | 494 | 3,134 - 5,064 |
| 2011 | gui | 973 | 131 | 726 - 1,238 | 242 | 34 | 180 - 310 | 0.060 | 4.590 | 4,475 | 1,200 | 2,321 - 7,066 |
| 2012 | gui | 816 | 116 | 614 - 1,060 | 59 | 8.768 | 44 - 78 | 0.060 | 5.450 | 4,471 | 661 | 3,296 - 5,857 |
| 2013 | gui | 1,821 | 243 | 1,344 - 2,296 | 192 | 27 | 141 - 246 | 0.013 | 4.540 | 8,154 | 2,178 | 4,329 - 13,150 |
| 2014 | gui | 1,787 | 171 | 1,465 - 2,130 | 117 | 12 | 94 - 143 | 0.013 | 5.210 | 9,306 | 1,243 | 7,006 - 11,835 |
| 2015 | gui | 2,547 | 340 | 1,916 - 3,261 | 211 | 29 | 157 - 273 | 0.013 | 4.430 | 11,130 | 3,009 | 5,986 - 17,786 |
| 2016 | gui | 3,742 | 435 | 2,902 - 4,593 | 143 | 18 | 110 - 178 | 0.013 | 3.650 | 13,676 | 1,636 | 10,527 - 16,896 |
| 2017 | gui | 4,483 | 399 | 3,681 - 5,238 | 137 | 14 | 111 - 164 | 0.013 | 4.520 | 20,253 | 4,944 | 10,532 - 30,690 |
| 2018 | gui | 5,898 | 349 | 5,209 - 6,574 | 168 | 12 | 146 - 192 | 0.013 | 3.430 | 20,069 | 2,878 | 15,074 - 26,213 |
| 2019 | gui | 12,030 | 368 | 11,228 - 12,664 | 244 | 13 | 220 - 270 | 0.013 | 2.030 | 24,415 | 1,277 | 21,964 - 26,946 |
| 2020 | gui | 7,386 | 289 | 6,759 - 7,910 | 151 | 9.961 | 132 - 171 | 0.013 | 4.550 | 33,521 | 7,803 | 18,466 - 48,909 |
| 2021 | gui | 10,955 | 483 | 9,928 - 11,811 | 331 | 19 | 292 - 367 | 0.013 | 4.520 | 49,433 | 11,955 | 26,008 - 72,894 |
| 2022 | gui | 9,545 | 390 | 8,758 - 10,260 | 254 | 14 | 227 - 283 | 0.013 | 4.000 | 38,149 | 2,020 | 34,266 - 42,107 |
| 2023 | gui | 5,802 | 419 | 4,942 - 6,589 | 171 | 14 | 142 - 200 | 0.013 | 4.670 | 27,093 | 2,270 | 22,545 - 31,513 |
| 1977 | pri | 407 | 275 | 87 - 1,114 | 93 | 148 | 9 - 543 | 0.035 | 4.260 | 1,676 | 1,318 | 327 - 5,218 |
| 1978 | pri | 509 | 338 | 119 - 1,432 | 118 | 168 | 13 - 620 | 0.035 | 4.260 | 2,134 | 1,627 | 446 - 6,654 |
| 1979 | pri | 445 | 313 | 108 - 1,284 | 105 | 155 | 12 - 579 | 0.035 | 4.280 | 1,857 | 1,490 | 388 - 5,977 |
| 1980 | pri | 502 | 321 | 121 - 1,303 | 118 | 167 | 12 - 606 | 0.035 | 4.270 | 2,059 | 1,580 | 424 - 6,242 |
| 1981 | pri | 601 | 397 | 149 - 1,630 | 138 | 207 | 15 - 765 | 0.035 | 4.300 | 2,495 | 1,883 | 557 - 7,605 |
| 1982 | pri | 576 | 380 | 138 - 1,578 | 131 | 192 | 14 - 732 | 0.035 | 4.260 | 2,366 | 1,837 | 492 - 7,386 |
| 1983 | pri | 688 | 454 | 162 - 1,906 | 158 | 235 | 19 - 866 | 0.035 | 4.260 | 2,822 | 2,217 | 581 - 8,998 |
| 1984 | pri | 681 | 442 | 150 - 1,844 | 159 | 214 | 17 - 797 | 0.035 | 4.250 | 2,821 | 2,123 | 568 - 8,478 |
| 1985 | pri | 629 | 422 | 146 - 1,728 | 154 | 230 | 16 - 796 | 0.035 | 4.280 | 2,679 | 2,040 | 550 - 8,447 |
| 1986 | pri | 835 | 543 | 193 - 2,279 | 199 | 270 | 19 - 1,025 | 0.035 | 4.280 | 3,517 | 2,603 | 720 - 10,567 |
| 1987 | pri | 741 | 475 | 151 - 1,963 | 173 | 240 | 18 - 856 | 0.035 | 4.290 | 3,087 | 2,328 | 580 - 9,289 |
| 1988 | pri | 949 | 614 | 211 - 2,581 | 224 | 311 | 20 - 1,135 | 0.035 | 4.270 | 3,942 | 3,045 | 752 - 12,332 |
| 1989 | pri | 815 | 495 | 184 - 2,081 | 189 | 256 | 19 - 947 | 0.035 | 4.300 | 3,303 | 2,432 | 694 - 10,085 |
| 1990 | pri | 727 | 489 | 182 - 2,067 | 173 | 210 | 19 - 783 | 0.035 | 4.240 | 2,987 | 2,370 | 668 - 9,539 |
| 1991 | pri | 782 | 493 | 198 - 2,055 | 165 | 173 | 22 - 652 | 0.035 | 4.250 | 3,233 | 2,396 | 722 - 9,907 |
| 1992 | pri | 822 | 531 | 196 - 2,254 | 198 | 245 | 20 - 896 | 0.035 | 4.280 | 3,396 | 2,596 | 746 - 10,527 |
| 1993 | pri | 831 | 539 | 195 - 2,220 | 201 | 269 | 20 - 994 | 0.035 | 4.270 | 3,433 | 2,671 | 754 - 10,806 |
| 1994 | pri | 782 | 487 | 191 - 2,111 | 176 | 207 | 21 - 793 | 0.035 | 4.260 | 3,215 | 2,351 | 676 - 9,563 |
| 1995 | pri | 710 | 434 | 178 - 1,841 | 157 | 169 | 19 - 644 | 0.035 | 4.870 | 3,461 | 2,165 | 889 - 9,073 |
| 1996 | pri | 531 | 310 | 153 - 1,301 | 124 | 140 | 14 - 538 | 0.035 | 4.300 | 2,217 | 1,542 | 537 - 6,427 |
| 1997 | pri | 1,040 | 474 | 347 - 2,137 | 243 | 241 | 34 - 932 | 0.035 | 3.470 | 3,595 | 1,812 | 1,079 - 8,076 |
| 1998 | pri | 1,449 | 456 | 683 - 2,460 | 354 | 282 | 52 - 1,129 | 0.035 | 4.320 | 6,130 | 2,592 | 2,393 - 12,681 |
| 1999 | pri | 2,246 | 592 | 1,205 - 3,542 | 747 | 534 | 95 - 2,078 | 0.035 | 5.020 | 11,254 | 3,505 | 5,773 - 19,183 |
| 2000 | pri | 1,587 | 491 | 750 - 2,669 | 399 | 340 | 56 - 1,370 | 0.035 | 4.340 | 6,709 | 2,809 | 2,788 - 13,419 |
| 2001 | pri | 1,642 | 465 | 809 - 2,641 | 313 | 217 | 58 - 914 | 0.035 | 5.000 | 8,198 | 2,475 | 4,062 - 13,608 |
| 2002 | pri | 720 | 315 | 289 - 1,511 | 154 | 138 | 23 - 549 | 0.035 | 4.130 | 2,964 | 1,343 | 1,201 - 6,363 |
| 2003 | pri | 687 | 413 | 170 - 1,786 | 140 | 162 | 18 - 604 | 0.035 | 4.310 | 2,884 | 1,973 | 641 - 8,197 |
| 2004 | pri | 336 | 223 | 84 - 935 | 66 | 83 | 8 - 315 | 0.035 | 5.040 | 1,689 | 1,165 | 408 - 4,772 |
| 2005 | pri | 1,342 | 595 | 525 - 2,819 | 280 | 296 | 42 - 1,100 | 0.035 | 5.550 | 7,510 | 3,349 | 2,972 - 15,683 |
| 2006 | pri | 838 | 403 | 318 - 1,825 | 150 | 144 | 23 - 569 | 0.035 | 4.310 | 3,561 | 1,828 | 1,276 - 8,017 |
| 2007 | pri | 1,171 | 485 | 464 - 2,383 | 204 | 195 | 26 - 741 | 0.035 | 4.920 | 5,822 | 2,481 | 2,213 - 12,037 |
| 2008 | pri | 1,744 | 601 | 836 - 3,139 | 282 | 243 | 41 - 936 | 0.035 | 3.980 | 6,966 | 2,538 | 3,229 - 13,068 |
| 2009 | pri | 644 | 234 | 293 - 1,207 | 82 | 72 | 12 - 280 | 0.035 | 4.530 | 2,919 | 1,100 | 1,296 - 5,544 |
| 2010 | pri | 847 | 326 | 361 - 1,616 | 87 | 95 | 11 - 351 | 0.035 | 4.660 | 3,955 | 1,542 | 1,709 - 7,559 |
| 2011 | pri | 1,230 | 377 | 618 - 2,061 | 94 | 107 | 11 - 409 | 0.035 | 4.800 | 5,878 | 1,881 | 2,953 - 10,054 |
| 2012 | pri | 2,162 | 644 | 1,171 - 3,628 | 109 | 104 | 16 - 407 | 0.035 | 5.380 | 11,665 | 3,562 | 6,180 - 20,069 |
| 2013 | pri | 1,620 | 527 | 782 - 2,855 | 61 | 72 | 7 - 271 | 0.004 | 4.890 | 7,976 | 2,628 | 3,781 - 13,974 |
| 2014 | pri | 1,591 | 457 | 857 - 2,613 | 47 | 54 | 6 - 208 | 0.004 | 4.520 | 7,182 | 2,175 | 3,724 - 12,214 |
| 2015 | pri | 1,584 | 489 | 816 - 2,680 | 34 | 40 | 5 - 149 | 0.004 | 3.940 | 6,164 | 2,095 | 3,014 - 11,189 |
| 2016 | pri | 2,079 | 697 | 1,002 - 3,723 | 39 | 54 | 5 - 206 | 0.004 | 4.050 | 8,341 | 2,913 | 3,949 - 15,152 |
| 2017 | pri | 2,040 | 678 | 919 - 3,528 | 31 | 38 | 4 - 140 | 0.004 | 4.210 | 8,526 | 2,992 | 3,737 - 15,190 |
| 2018 | pri | 3,669 | 1,410 | 1,441 - 6,923 | 52 | 72 | 7 - 254 | 0.004 | 2.250 | 8,149 | 3,245 | 3,220 - 15,865 |
| 2019 | pri | 4,324 | 1,973 | 1,463 - 9,060 | 55 | 78 | 7 - 290 | 0.004 | 2.330 | 10,073 | 4,598 | 3,369 - 21,159 |
| 2020 | pri | 6,692 | 1,915 | 3,526 - 10,910 | 88 | 108 | 12 - 412 | 0.004 | 2.270 | 15,155 | 4,518 | 7,776 - 25,193 |
| 2021 | pri | 4,452 | 1,542 | 1,964 - 7,993 | 53 | 67 | 7 - 249 | 0.004 | 2.570 | 11,425 | 4,048 | 5,024 - 20,526 |
| 2022 | pri | 3,536 | 1,130 | 1,713 - 6,130 | 43 | 52 | 6 - 197 | 0.004 | 3.800 | 13,351 | 4,468 | 6,333 - 23,630 |
| 2023 | pri | 4,721 | 1,600 | 2,220 - 8,421 | 56 | 64 | 7 - 235 | 0.004 | 4.730 | 22,178 | 7,862 | 10,160 - 40,558 |

**Appendix C2.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for North Gulf Commercial Fisheries Management Unit 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| North Gulf Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 7,797 | 2,547 | 3,449 - 13,318 | 1,936 | 1,485 | 567 - 5,933 | 0.082 | 4.390 | 34,326 | 12,695 | 14,401 - 64,118 |
| 1978 | gui | 9,453 | 2,986 | 4,387 - 16,125 | 2,376 | 1,664 | 695 - 7,135 | 0.082 | 4.380 | 41,427 | 14,959 | 18,184 - 75,246 |
| 1979 | gui | 9,962 | 3,188 | 4,517 - 17,226 | 2,485 | 1,737 | 761 - 7,228 | 0.082 | 4.390 | 44,264 | 16,117 | 19,340 - 81,629 |
| 1980 | gui | 10,792 | 3,499 | 4,911 - 18,238 | 2,621 | 1,869 | 797 - 7,877 | 0.082 | 4.400 | 47,509 | 17,628 | 20,228 - 88,723 |
| 1981 | gui | 9,153 | 2,878 | 4,352 - 15,395 | 2,310 | 1,609 | 688 - 6,715 | 0.082 | 4.420 | 41,139 | 14,549 | 18,614 - 75,053 |
| 1982 | gui | 10,043 | 3,154 | 4,594 - 16,724 | 2,491 | 1,726 | 775 - 7,313 | 0.082 | 4.400 | 44,473 | 15,968 | 19,873 - 83,120 |
| 1983 | gui | 9,042 | 2,813 | 4,125 - 15,003 | 2,226 | 1,597 | 678 - 6,778 | 0.082 | 4.410 | 40,341 | 14,461 | 17,275 - 73,830 |
| 1984 | gui | 10,117 | 3,180 | 4,592 - 16,748 | 2,483 | 1,774 | 817 - 7,356 | 0.082 | 4.390 | 44,576 | 16,176 | 19,432 - 82,720 |
| 1985 | gui | 8,825 | 2,805 | 4,206 - 14,998 | 2,181 | 1,583 | 676 - 6,651 | 0.082 | 4.400 | 39,068 | 14,140 | 17,761 - 72,693 |
| 1986 | gui | 12,664 | 4,221 | 5,821 - 22,154 | 3,304 | 2,323 | 927 - 9,637 | 0.082 | 4.390 | 56,865 | 20,981 | 24,565 - 107,149 |
| 1987 | gui | 7,536 | 2,428 | 3,381 - 12,753 | 1,877 | 1,352 | 588 - 5,664 | 0.082 | 4.410 | 33,376 | 12,372 | 14,329 - 61,805 |
| 1988 | gui | 12,434 | 4,004 | 5,758 - 21,140 | 3,150 | 2,274 | 960 - 9,314 | 0.082 | 4.410 | 55,488 | 20,231 | 24,619 - 103,284 |
| 1989 | gui | 10,461 | 3,281 | 4,774 - 17,840 | 2,602 | 1,747 | 793 - 7,561 | 0.082 | 4.400 | 46,461 | 16,582 | 20,440 - 86,530 |
| 1990 | gui | 8,781 | 2,774 | 4,128 - 14,755 | 1,922 | 917 | 709 - 4,266 | 0.082 | 4.400 | 38,761 | 13,977 | 17,496 - 71,272 |
| 1991 | gui | 8,665 | 2,841 | 3,902 - 14,696 | 1,625 | 816 | 619 - 3,709 | 0.082 | 4.400 | 38,367 | 14,061 | 15,936 - 70,297 |
| 1992 | gui | 10,445 | 3,367 | 4,626 - 17,585 | 2,031 | 1,042 | 736 - 4,832 | 0.082 | 4.400 | 45,925 | 16,910 | 19,343 - 85,170 |
| 1993 | gui | 10,046 | 3,232 | 4,679 - 17,336 | 2,168 | 1,103 | 761 - 4,889 | 0.082 | 3.960 | 40,591 | 13,149 | 18,676 - 70,487 |
| 1994 | gui | 11,427 | 3,529 | 5,389 - 19,086 | 2,563 | 1,225 | 991 - 5,622 | 0.082 | 3.740 | 43,492 | 13,408 | 20,643 - 72,921 |
| 1995 | gui | 9,044 | 2,846 | 4,091 - 15,375 | 1,833 | 887 | 676 - 4,072 | 0.082 | 4.090 | 37,685 | 11,838 | 17,320 - 64,123 |
| 1996 | gui | 11,439 | 2,989 | 6,108 - 17,638 | 2,340 | 1,019 | 973 - 4,964 | 0.082 | 4.260 | 49,531 | 13,012 | 26,820 - 77,289 |
| 1997 | gui | 4,599 | 1,244 | 2,539 - 7,289 | 1,102 | 588 | 393 - 2,596 | 0.082 | 4.170 | 19,531 | 5,335 | 10,728 - 31,295 |
| 1998 | gui | 3,441 | 125 | 3,173 - 3,656 | 1,105 | 611 | 403 - 2,734 | 0.082 | 4.420 | 15,636 | 878 | 13,900 - 17,392 |
| 1999 | gui | 6,403 | 198 | 5,986 - 6,763 | 2,535 | 82 | 2,361 - 2,688 | 0.082 | 4.230 | 27,949 | 1,145 | 25,701 - 30,235 |
| 2000 | gui | 8,505 | 368 | 7,707 - 9,174 | 4,495 | 199 | 4,062 - 4,855 | 0.082 | 4.170 | 36,995 | 1,987 | 33,051 - 40,790 |
| 2001 | gui | 14,612 | 539 | 13,457 - 15,546 | 4,083 | 156 | 3,754 - 4,362 | 0.082 | 4.840 | 72,179 | 5,123 | 62,478 - 82,717 |
| 2002 | gui | 13,381 | 314 | 12,679 - 13,941 | 3,262 | 87 | 3,080 - 3,423 | 0.082 | 5.050 | 68,867 | 2,134 | 64,608 - 72,888 |
| 2003 | gui | 10,837 | 258 | 10,300 - 11,319 | 2,911 | 81 | 2,756 - 3,074 | 0.082 | 4.540 | 50,276 | 1,490 | 47,297 - 53,108 |
| 2004 | gui | 14,203 | 211 | 13,784 - 14,597 | 4,132 | 78 | 3,975 - 4,281 | 0.082 | 4.610 | 66,997 | 1,314 | 64,445 - 69,518 |
| 2005 | gui | 16,656 | 284 | 16,077 - 17,182 | 4,074 | 86 | 3,898 - 4,234 | 0.082 | 4.640 | 78,719 | 1,869 | 75,049 - 82,480 |
| 2006 | gui | 14,285 | 207 | 13,866 - 14,670 | 2,922 | 55 | 2,815 - 3,027 | 0.082 | 5.020 | 72,930 | 1,304 | 70,246 - 75,370 |
| 2007 | gui | 18,797 | 206 | 18,364 - 19,167 | 2,679 | 46 | 2,586 - 2,767 | 0.082 | 5.040 | 95,766 | 1,640 | 92,544 - 98,990 |
| 2008 | gui | 19,874 | 204 | 19,454 - 20,251 | 2,253 | 41 | 2,171 - 2,331 | 0.082 | 5.480 | 109,855 | 1,662 | 106,523 - 113,101 |
| 2009 | gui | 15,291 | 266 | 14,766 - 15,798 | 1,182 | 31 | 1,123 - 1,243 | 0.082 | 5.110 | 78,573 | 2,145 | 74,438 - 82,850 |
| 2010 | gui | 17,327 | 280 | 16,767 - 17,870 | 1,140 | 29 | 1,083 - 1,197 | 0.082 | 5.340 | 93,060 | 2,575 | 88,165 - 98,158 |
| 2011 | gui | 19,681 | 380 | 18,928 - 20,392 | 974 | 28 | 921 - 1,031 | 0.082 | 4.770 | 94,183 | 3,564 | 87,535 - 101,369 |
| 2012 | gui | 19,648 | 287 | 19,049 - 20,186 | 768 | 23 | 724 - 813 | 0.082 | 4.980 | 98,191 | 2,534 | 93,159 - 103,055 |
| 2013 | gui | 20,370 | 329 | 19,729 - 21,014 | 1,012 | 28 | 962 - 1,070 | 0.021 | 4.340 | 88,613 | 3,207 | 82,399 - 95,034 |
| 2014 | gui | 27,019 | 439 | 26,117 - 27,825 | 1,033 | 29 | 979 - 1,090 | 0.021 | 4.820 | 130,034 | 6,452 | 118,266 - 143,115 |
| 2015 | gui | 33,693 | 685 | 32,289 - 34,973 | 1,477 | 40 | 1,398 - 1,555 | 0.021 | 4.420 | 148,709 | 6,846 | 135,712 - 162,742 |
| 2016 | gui | 41,880 | 524 | 40,795 - 42,868 | 1,839 | 39 | 1,766 - 1,917 | 0.021 | 4.640 | 194,449 | 4,910 | 184,951 - 204,454 |
| 2017 | gui | 27,141 | 546 | 26,004 - 28,144 | 722 | 25 | 674 - 773 | 0.021 | 4.180 | 113,119 | 14,313 | 85,869 - 142,176 |
| 2018 | gui | 35,402 | 517 | 34,329 - 36,399 | 1,653 | 39 | 1,576 - 1,728 | 0.021 | 4.000 | 141,694 | 5,644 | 130,837 - 153,198 |
| 2019 | gui | 41,999 | 776 | 40,369 - 43,475 | 2,006 | 47 | 1,912 - 2,097 | 0.021 | 3.970 | 166,780 | 5,579 | 155,713 - 177,852 |
| 2020 | gui | 31,175 | 623 | 29,855 - 32,301 | 847 | 27 | 793 - 900 | 0.021 | 4.240 | 132,182 | 4,261 | 124,088 - 140,853 |
| 2021 | gui | 66,659 | 823 | 64,996 - 68,164 | 1,402 | 33 | 1,339 - 1,469 | 0.021 | 3.120 | 207,987 | 5,711 | 197,360 - 219,550 |
| 2022 | gui | 65,582 | 964 | 63,638 - 67,420 | 994 | 28 | 941 - 1,048 | 0.021 | 3.080 | 202,120 | 5,721 | 191,001 - 213,444 |
| 2023 | gui | 52,318 | 647 | 50,983 - 53,501 | 1,497 | 36 | 1,428 - 1,567 | 0.021 | 3.230 | 168,834 | 4,963 | 159,501 - 178,516 |
| 1977 | pri | 4,668 | 2,145 | 1,526 - 9,809 | 409 | 520 | 20 - 1,894 | 0.071 | 4.160 | 19,355 | 9,607 | 6,270 - 43,378 |
| 1978 | pri | 5,470 | 2,582 | 1,791 - 11,761 | 465 | 649 | 21 - 2,250 | 0.071 | 4.170 | 22,820 | 11,449 | 7,217 - 51,109 |
| 1979 | pri | 5,789 | 2,665 | 1,804 - 12,119 | 495 | 611 | 26 - 2,255 | 0.071 | 4.180 | 24,129 | 11,985 | 7,642 - 53,916 |
| 1980 | pri | 6,550 | 3,034 | 2,071 - 13,921 | 574 | 736 | 23 - 2,606 | 0.071 | 4.150 | 27,222 | 13,756 | 8,111 - 61,980 |
| 1981 | pri | 5,500 | 2,476 | 1,902 - 11,455 | 476 | 587 | 18 - 2,211 | 0.071 | 4.160 | 22,651 | 11,188 | 7,427 - 50,131 |
| 1982 | pri | 5,866 | 2,700 | 1,904 - 12,210 | 515 | 659 | 21 - 2,438 | 0.071 | 4.160 | 24,364 | 12,176 | 7,612 - 54,849 |
| 1983 | pri | 5,355 | 2,464 | 1,782 - 11,428 | 464 | 614 | 22 - 2,269 | 0.071 | 4.160 | 22,132 | 11,159 | 7,165 - 50,461 |
| 1984 | pri | 5,907 | 2,692 | 1,985 - 12,408 | 511 | 679 | 23 - 2,452 | 0.071 | 4.140 | 24,091 | 12,012 | 7,824 - 53,853 |
| 1985 | pri | 5,135 | 2,331 | 1,742 - 10,814 | 454 | 556 | 19 - 2,089 | 0.071 | 4.160 | 21,281 | 10,496 | 7,113 - 47,883 |
| 1986 | pri | 7,635 | 3,624 | 2,519 - 16,540 | 670 | 887 | 28 - 3,275 | 0.071 | 4.180 | 31,494 | 16,356 | 10,090 - 73,493 |
| 1987 | pri | 4,471 | 2,017 | 1,502 - 9,290 | 400 | 522 | 16 - 1,873 | 0.071 | 4.150 | 18,503 | 9,180 | 6,050 - 41,567 |
| 1988 | pri | 7,342 | 3,423 | 2,168 - 15,432 | 638 | 793 | 33 - 2,977 | 0.071 | 4.160 | 30,396 | 15,102 | 8,803 - 67,674 |
| 1989 | pri | 6,207 | 2,847 | 2,067 - 13,071 | 537 | 697 | 26 - 2,526 | 0.071 | 4.170 | 25,862 | 12,790 | 8,376 - 57,913 |
| 1990 | pri | 5,751 | 2,480 | 1,904 - 11,429 | 476 | 497 | 20 - 1,882 | 0.071 | 4.160 | 23,707 | 11,092 | 7,632 - 50,966 |
| 1991 | pri | 5,905 | 2,637 | 2,116 - 12,206 | 472 | 481 | 27 - 1,854 | 0.071 | 4.160 | 24,318 | 11,823 | 8,284 - 53,643 |
| 1992 | pri | 6,989 | 3,065 | 2,432 - 14,070 | 565 | 613 | 31 - 2,374 | 0.071 | 4.180 | 28,700 | 13,831 | 9,801 - 62,434 |
| 1993 | pri | 6,384 | 2,923 | 2,131 - 13,513 | 536 | 578 | 27 - 2,201 | 0.071 | 4.240 | 27,312 | 12,594 | 9,031 - 58,482 |
| 1994 | pri | 7,092 | 3,111 | 2,526 - 14,273 | 624 | 662 | 29 - 2,481 | 0.071 | 3.740 | 26,714 | 11,840 | 9,699 - 53,740 |
| 1995 | pri | 6,042 | 2,718 | 2,035 - 12,436 | 487 | 523 | 23 - 2,051 | 0.071 | 4.500 | 27,473 | 12,457 | 9,238 - 57,436 |
| 1996 | pri | 6,508 | 2,648 | 2,418 - 12,828 | 533 | 550 | 28 - 2,099 | 0.071 | 4.090 | 26,823 | 11,044 | 9,999 - 53,297 |
| 1997 | pri | 7,623 | 2,939 | 2,887 - 14,685 | 644 | 676 | 35 - 2,486 | 0.071 | 4.420 | 33,950 | 13,164 | 12,545 - 64,898 |
| 1998 | pri | 13,299 | 2,253 | 9,095 - 17,894 | 1,581 | 1,102 | 61 - 4,211 | 0.071 | 3.800 | 50,973 | 8,883 | 34,815 - 69,145 |
| 1999 | pri | 10,150 | 2,239 | 6,134 - 14,812 | 862 | 748 | 44 - 2,834 | 0.071 | 3.940 | 40,088 | 9,369 | 23,764 - 60,425 |
| 2000 | pri | 11,621 | 3,124 | 6,447 - 18,510 | 937 | 834 | 55 - 3,189 | 0.071 | 3.250 | 37,801 | 10,738 | 20,510 - 61,827 |
| 2001 | pri | 5,454 | 2,004 | 2,256 - 9,961 | 424 | 442 | 24 - 1,678 | 0.071 | 4.310 | 23,702 | 8,713 | 9,731 - 43,231 |
| 2002 | pri | 8,410 | 2,623 | 3,936 - 14,281 | 618 | 561 | 34 - 2,155 | 0.071 | 4.430 | 37,499 | 11,688 | 17,558 - 63,793 |
| 2003 | pri | 7,801 | 2,273 | 3,913 - 12,785 | 552 | 481 | 28 - 1,870 | 0.071 | 4.180 | 32,813 | 9,577 | 16,355 - 53,877 |
| 2004 | pri | 10,126 | 2,784 | 5,083 - 16,088 | 754 | 692 | 37 - 2,630 | 0.071 | 4.390 | 44,673 | 12,299 | 22,273 - 71,567 |
| 2005 | pri | 6,008 | 2,003 | 2,594 - 10,508 | 399 | 390 | 19 - 1,531 | 0.071 | 4.640 | 27,977 | 9,335 | 12,162 - 48,690 |
| 2006 | pri | 7,393 | 2,129 | 3,767 - 12,134 | 468 | 498 | 24 - 1,860 | 0.071 | 4.700 | 35,045 | 10,078 | 17,870 - 57,855 |
| 2007 | pri | 8,838 | 2,736 | 4,416 - 15,054 | 501 | 540 | 21 - 2,097 | 0.071 | 5.040 | 44,796 | 13,958 | 22,043 - 77,035 |
| 2008 | pri | 13,697 | 3,687 | 7,172 - 21,499 | 703 | 795 | 23 - 2,982 | 0.071 | 4.460 | 61,046 | 16,550 | 32,587 - 96,864 |
| 2009 | pri | 18,308 | 4,234 | 10,610 - 27,161 | 914 | 1,096 | 21 - 3,969 | 0.071 | 4.680 | 86,002 | 20,047 | 49,231 - 128,347 |
| 2010 | pri | 14,989 | 3,873 | 8,107 - 22,819 | 419 | 519 | 15 - 1,928 | 0.071 | 4.700 | 70,257 | 18,310 | 37,990 - 107,702 |
| 2011 | pri | 12,530 | 2,444 | 8,417 - 17,967 | 285 | 399 | 10 - 1,507 | 0.071 | 4.650 | 58,022 | 12,498 | 38,143 - 86,121 |
| 2012 | pri | 10,822 | 2,121 | 6,904 - 15,293 | 193 | 234 | 8 - 885 | 0.071 | 4.560 | 49,192 | 10,400 | 30,757 - 71,996 |
| 2013 | pri | 14,282 | 2,547 | 9,684 - 19,598 | 223 | 276 | 9 - 1,062 | 0.012 | 3.470 | 48,947 | 10,610 | 31,257 - 72,993 |
| 2014 | pri | 14,516 | 2,755 | 9,576 - 20,319 | 210 | 274 | 8 - 1,044 | 0.012 | 4.180 | 60,067 | 14,830 | 35,754 - 92,979 |
| 2015 | pri | 15,883 | 3,154 | 10,130 - 22,645 | 208 | 249 | 9 - 899 | 0.012 | 3.680 | 58,479 | 11,797 | 36,840 - 84,297 |
| 2016 | pri | 14,397 | 3,041 | 8,895 - 20,722 | 175 | 209 | 7 - 797 | 0.012 | 4.500 | 64,838 | 13,819 | 39,775 - 93,940 |
| 2017 | pri | 13,027 | 2,862 | 7,834 - 19,237 | 149 | 176 | 7 - 671 | 0.012 | 4.320 | 55,869 | 13,706 | 32,958 - 86,688 |
| 2018 | pri | 11,107 | 2,454 | 6,722 - 16,229 | 122 | 144 | 5 - 548 | 0.012 | 4.770 | 53,008 | 11,900 | 31,835 - 79,178 |
| 2019 | pri | 14,752 | 3,207 | 9,048 - 21,676 | 164 | 206 | 6 - 754 | 0.012 | 3.430 | 50,514 | 11,305 | 30,793 - 75,046 |
| 2020 | pri | 10,267 | 2,229 | 6,281 - 15,059 | 113 | 138 | 5 - 501 | 0.012 | 3.910 | 40,174 | 8,962 | 24,401 - 59,852 |
| 2021 | pri | 15,378 | 4,331 | 8,040 - 24,568 | 162 | 192 | 6 - 718 | 0.012 | 3.400 | 52,114 | 14,900 | 27,005 - 84,119 |
| 2022 | pri | 15,683 | 4,792 | 7,250 - 26,038 | 163 | 214 | 7 - 760 | 0.012 | 3.020 | 47,295 | 14,652 | 21,517 - 80,258 |
| 2023 | pri | 15,506 | 4,229 | 8,135 - 24,903 | 162 | 197 | 6 - 753 | 0.012 | 3.050 | 47,204 | 13,195 | 24,767 - 76,472 |

**Appendix C3.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for Prince William Sound Inside Commercial Fisheries Management Unit 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Prince William Sound Inside Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 507 | 334 | 120 - 1,364 | 117 | 125 | 23 - 481 | 0.080 | 5.040 | 2,564 | 1,801 | 580 - 7,314 |
| 1978 | gui | 537 | 343 | 129 - 1,385 | 127 | 130 | 23 - 491 | 0.080 | 5.060 | 2,758 | 1,804 | 649 - 7,451 |
| 1979 | gui | 858 | 565 | 194 - 2,294 | 202 | 218 | 37 - 828 | 0.080 | 5.070 | 4,398 | 3,018 | 969 - 12,359 |
| 1980 | gui | 764 | 482 | 173 - 2,018 | 180 | 192 | 34 - 764 | 0.080 | 5.050 | 3,833 | 2,588 | 900 - 10,487 |
| 1981 | gui | 990 | 600 | 235 - 2,546 | 231 | 230 | 45 - 898 | 0.080 | 5.060 | 5,051 | 3,266 | 1,199 - 13,958 |
| 1982 | gui | 838 | 495 | 197 - 2,081 | 204 | 218 | 37 - 806 | 0.080 | 5.070 | 4,257 | 2,683 | 960 - 11,169 |
| 1983 | gui | 870 | 529 | 221 - 2,251 | 204 | 208 | 41 - 778 | 0.080 | 5.050 | 4,374 | 2,849 | 1,111 - 12,169 |
| 1984 | gui | 1,025 | 608 | 265 - 2,573 | 243 | 236 | 49 - 972 | 0.080 | 5.060 | 5,285 | 3,262 | 1,274 - 13,595 |
| 1985 | gui | 1,126 | 664 | 292 - 2,811 | 263 | 264 | 51 - 1,060 | 0.080 | 5.030 | 5,726 | 3,571 | 1,424 - 14,837 |
| 1986 | gui | 1,210 | 698 | 319 - 2,970 | 284 | 301 | 59 - 1,175 | 0.080 | 5.070 | 6,196 | 3,793 | 1,591 - 16,026 |
| 1987 | gui | 1,133 | 643 | 324 - 2,781 | 275 | 252 | 54 - 974 | 0.080 | 5.030 | 5,822 | 3,519 | 1,576 - 14,943 |
| 1988 | gui | 1,486 | 832 | 410 - 3,615 | 342 | 332 | 73 - 1,296 | 0.080 | 5.050 | 7,529 | 4,476 | 2,093 - 19,078 |
| 1989 | gui | 1,520 | 852 | 449 - 3,680 | 368 | 334 | 87 - 1,354 | 0.080 | 5.050 | 7,757 | 4,589 | 2,139 - 19,950 |
| 1990 | gui | 1,480 | 794 | 423 - 3,424 | 372 | 314 | 79 - 1,269 | 0.080 | 5.050 | 7,540 | 4,301 | 2,154 - 18,469 |
| 1991 | gui | 1,443 | 756 | 420 - 3,366 | 318 | 239 | 72 - 970 | 0.080 | 5.030 | 7,395 | 4,046 | 2,065 - 17,492 |
| 1992 | gui | 1,857 | 963 | 587 - 4,344 | 423 | 332 | 101 - 1,367 | 0.080 | 5.040 | 9,389 | 5,131 | 3,013 - 22,289 |
| 1993 | gui | 1,807 | 934 | 590 - 4,221 | 411 | 310 | 99 - 1,280 | 0.080 | 4.820 | 8,843 | 4,654 | 2,884 - 20,554 |
| 1994 | gui | 2,106 | 1,092 | 655 - 4,814 | 497 | 379 | 114 - 1,471 | 0.080 | 4.670 | 10,002 | 5,209 | 3,149 - 22,566 |
| 1995 | gui | 2,201 | 1,078 | 730 - 4,872 | 512 | 391 | 130 - 1,585 | 0.080 | 5.090 | 11,424 | 5,612 | 3,772 - 25,022 |
| 1996 | gui | 2,044 | 679 | 1,058 - 3,644 | 462 | 268 | 160 - 1,179 | 0.080 | 5.060 | 10,455 | 3,867 | 4,973 - 19,881 |
| 1997 | gui | 2,374 | 765 | 1,259 - 4,242 | 543 | 331 | 191 - 1,437 | 0.080 | 5.560 | 13,400 | 4,386 | 7,058 - 23,977 |
| 1998 | gui | 1,906 | 65 | 1,758 - 2,023 | 498 | 271 | 197 - 1,217 | 0.080 | 4.770 | 9,258 | 662 | 8,003 - 10,651 |
| 1999 | gui | 1,950 | 89 | 1,765 - 2,117 | 735 | 39 | 659 - 812 | 0.080 | 3.950 | 7,938 | 537 | 6,881 - 8,990 |
| 2000 | gui | 1,420 | 138 | 1,161 - 1,702 | 343 | 35 | 280 - 415 | 0.080 | 4.300 | 6,218 | 694 | 4,943 - 7,704 |
| 2001 | gui | 3,072 | 172 | 2,711 - 3,384 | 676 | 43 | 592 - 759 | 0.080 | 5.350 | 16,723 | 1,161 | 14,392 - 18,993 |
| 2002 | gui | 3,620 | 205 | 3,197 - 3,979 | 712 | 45 | 623 - 796 | 0.080 | 5.190 | 19,089 | 1,160 | 16,675 - 21,238 |
| 2003 | gui | 4,965 | 293 | 4,404 - 5,546 | 968 | 61 | 851 - 1,087 | 0.080 | 5.910 | 29,752 | 1,843 | 26,302 - 33,380 |
| 2004 | gui | 5,833 | 192 | 5,434 - 6,187 | 1,190 | 49 | 1,096 - 1,282 | 0.080 | 5.460 | 32,354 | 1,193 | 30,030 - 34,591 |
| 2005 | gui | 6,183 | 268 | 5,644 - 6,700 | 1,631 | 77 | 1,474 - 1,777 | 0.080 | 5.470 | 34,524 | 1,686 | 31,168 - 37,824 |
| 2006 | gui | 3,455 | 178 | 3,077 - 3,771 | 565 | 32 | 502 - 627 | 0.080 | 5.380 | 18,817 | 1,122 | 16,635 - 21,013 |
| 2007 | gui | 8,050 | 205 | 7,641 - 8,431 | 1,561 | 48 | 1,467 - 1,652 | 0.080 | 5.330 | 43,564 | 1,334 | 40,944 - 46,122 |
| 2008 | gui | 5,431 | 224 | 4,961 - 5,840 | 782 | 37 | 708 - 852 | 0.080 | 5.480 | 30,095 | 1,442 | 27,194 - 32,852 |
| 2009 | gui | 5,032 | 148 | 4,729 - 5,302 | 512 | 21 | 469 - 554 | 0.080 | 5.520 | 28,011 | 1,192 | 25,676 - 30,363 |
| 2010 | gui | 6,774 | 197 | 6,354 - 7,133 | 497 | 21 | 457 - 537 | 0.080 | 5.940 | 40,428 | 1,718 | 37,043 - 43,763 |
| 2011 | gui | 6,375 | 213 | 5,939 - 6,768 | 238 | 13 | 213 - 263 | 0.080 | 5.820 | 37,091 | 2,652 | 32,228 - 42,538 |
| 2012 | gui | 7,628 | 199 | 7,234 - 7,989 | 560 | 22 | 519 - 604 | 0.080 | 5.300 | 40,637 | 1,633 | 37,511 - 43,955 |
| 2013 | gui | 9,123 | 209 | 8,695 - 9,499 | 382 | 16 | 352 - 414 | 0.009 | 6.060 | 55,294 | 1,661 | 51,956 - 58,474 |
| 2014 | gui | 9,000 | 183 | 8,633 - 9,345 | 438 | 17 | 405 - 471 | 0.009 | 5.640 | 50,760 | 1,523 | 47,793 - 53,695 |
| 2015 | gui | 13,121 | 261 | 12,602 - 13,600 | 410 | 17 | 377 - 443 | 0.009 | 4.440 | 58,099 | 2,356 | 53,671 - 62,932 |
| 2016 | gui | 14,539 | 433 | 13,684 - 15,403 | 471 | 19 | 433 - 509 | 0.009 | 4.570 | 66,368 | 3,474 | 59,879 - 73,354 |
| 2017 | gui | 8,660 | 265 | 8,099 - 9,156 | 440 | 20 | 403 - 479 | 0.009 | 5.060 | 43,796 | 6,202 | 32,043 - 56,516 |
| 2018 | gui | 7,882 | 154 | 7,551 - 8,165 | 328 | 16 | 299 - 360 | 0.009 | 4.850 | 38,147 | 1,922 | 34,566 - 42,095 |
| 2019 | gui | 7,229 | 348 | 6,505 - 7,885 | 283 | 18 | 249 - 319 | 0.009 | 4.690 | 33,813 | 2,061 | 29,736 - 37,929 |
| 2020 | gui | 3,781 | 188 | 3,409 - 4,148 | 81 | 7.399 | 68 - 97 | 0.009 | 4.470 | 16,900 | 1,073 | 14,918 - 19,061 |
| 2021 | gui | 9,626 | 339 | 8,938 - 10,265 | 236 | 14 | 211 - 266 | 0.009 | 4.480 | 43,036 | 1,887 | 39,422 - 46,793 |
| 2022 | gui | 12,512 | 291 | 11,970 - 13,096 | 570 | 21 | 529 - 611 | 0.009 | 4.380 | 54,841 | 1,692 | 51,800 - 58,315 |
| 2023 | gui | 10,407 | 405 | 9,608 - 11,175 | 284 | 17 | 252 - 319 | 0.009 | 3.680 | 38,293 | 2,123 | 34,321 - 42,629 |
| 1977 | pri | 265 | 295 | 41 - 1,136 | 49 | 132 | 3 - 432 | 0.130 | 5.070 | 1,379 | 1,563 | 207 - 5,978 |
| 1978 | pri | 278 | 308 | 45 - 1,172 | 52 | 146 | 3 - 480 | 0.130 | 5.070 | 1,444 | 1,653 | 235 - 6,215 |
| 1979 | pri | 453 | 526 | 77 - 1,991 | 87 | 231 | 6 - 827 | 0.130 | 5.070 | 2,364 | 2,800 | 407 - 10,649 |
| 1980 | pri | 389 | 432 | 70 - 1,655 | 74 | 178 | 5 - 627 | 0.130 | 5.080 | 2,044 | 2,293 | 364 - 8,927 |
| 1981 | pri | 507 | 551 | 92 - 2,090 | 96 | 223 | 6 - 785 | 0.130 | 5.080 | 2,658 | 2,918 | 467 - 10,979 |
| 1982 | pri | 436 | 432 | 78 - 1,716 | 82 | 212 | 6 - 691 | 0.130 | 5.080 | 2,284 | 2,323 | 397 - 9,176 |
| 1983 | pri | 466 | 472 | 79 - 1,891 | 88 | 237 | 6 - 769 | 0.130 | 5.070 | 2,424 | 2,522 | 413 - 10,199 |
| 1984 | pri | 545 | 555 | 96 - 2,108 | 100 | 251 | 7 - 835 | 0.130 | 5.090 | 2,859 | 2,962 | 523 - 11,253 |
| 1985 | pri | 609 | 611 | 105 - 2,349 | 109 | 268 | 7 - 915 | 0.130 | 5.090 | 3,137 | 3,215 | 550 - 12,525 |
| 1986 | pri | 653 | 627 | 118 - 2,461 | 119 | 252 | 9 - 890 | 0.130 | 5.060 | 3,355 | 3,336 | 606 - 12,801 |
| 1987 | pri | 617 | 596 | 118 - 2,393 | 115 | 259 | 8 - 912 | 0.130 | 5.070 | 3,231 | 3,165 | 627 - 12,540 |
| 1988 | pri | 790 | 779 | 155 - 3,044 | 150 | 321 | 12 - 1,046 | 0.130 | 5.080 | 4,140 | 4,149 | 794 - 16,223 |
| 1989 | pri | 862 | 787 | 156 - 3,056 | 164 | 352 | 12 - 1,290 | 0.130 | 5.070 | 4,510 | 4,159 | 814 - 16,473 |
| 1990 | pri | 867 | 753 | 169 - 3,023 | 179 | 323 | 12 - 1,140 | 0.130 | 5.060 | 4,515 | 3,960 | 869 - 16,063 |
| 1991 | pri | 768 | 664 | 159 - 2,699 | 140 | 209 | 12 - 789 | 0.130 | 5.090 | 4,003 | 3,500 | 824 - 14,286 |
| 1992 | pri | 1,026 | 919 | 217 - 3,681 | 194 | 305 | 15 - 1,137 | 0.130 | 5.080 | 5,347 | 4,821 | 1,110 - 19,160 |
| 1993 | pri | 1,015 | 863 | 226 - 3,310 | 190 | 296 | 16 - 1,079 | 0.130 | 5.070 | 5,300 | 4,550 | 1,139 - 17,860 |
| 1994 | pri | 1,224 | 1,042 | 291 - 4,117 | 235 | 371 | 18 - 1,350 | 0.130 | 5.070 | 6,389 | 5,528 | 1,575 - 21,743 |
| 1995 | pri | 1,254 | 1,009 | 299 - 4,138 | 245 | 385 | 20 - 1,442 | 0.130 | 5.060 | 6,621 | 5,317 | 1,510 - 22,110 |
| 1996 | pri | 1,876 | 737 | 841 - 3,730 | 336 | 341 | 36 - 1,308 | 0.130 | 4.940 | 9,551 | 3,815 | 4,246 - 19,107 |
| 1997 | pri | 982 | 430 | 418 - 2,109 | 180 | 233 | 19 - 875 | 0.130 | 4.950 | 4,964 | 2,300 | 2,120 - 10,980 |
| 1998 | pri | 1,309 | 599 | 506 - 2,799 | 284 | 370 | 21 - 1,405 | 0.130 | 5.000 | 6,762 | 3,236 | 2,526 - 15,062 |
| 1999 | pri | 549 | 230 | 242 - 1,134 | 101 | 122 | 11 - 471 | 0.130 | 5.010 | 2,828 | 1,234 | 1,243 - 6,018 |
| 2000 | pri | 1,976 | 598 | 1,084 - 3,416 | 357 | 355 | 39 - 1,375 | 0.130 | 5.080 | 10,359 | 3,273 | 5,487 - 18,294 |
| 2001 | pri | 3,251 | 803 | 1,952 - 5,087 | 516 | 453 | 66 - 1,749 | 0.130 | 4.510 | 14,885 | 3,716 | 9,124 - 23,656 |
| 2002 | pri | 3,722 | 936 | 2,244 - 5,815 | 653 | 597 | 83 - 2,332 | 0.130 | 4.800 | 18,302 | 4,641 | 11,051 - 28,842 |
| 2003 | pri | 2,296 | 589 | 1,369 - 3,690 | 350 | 351 | 44 - 1,338 | 0.130 | 5.520 | 13,001 | 3,331 | 7,730 - 20,807 |
| 2004 | pri | 950 | 367 | 456 - 1,866 | 182 | 315 | 14 - 1,126 | 0.130 | 5.000 | 4,884 | 1,976 | 2,297 - 9,829 |
| 2005 | pri | 684 | 276 | 309 - 1,378 | 107 | 135 | 10 - 503 | 0.130 | 5.080 | 3,555 | 1,504 | 1,568 - 7,233 |
| 2006 | pri | 3,239 | 834 | 1,905 - 5,130 | 496 | 543 | 49 - 2,105 | 0.130 | 4.980 | 16,488 | 4,282 | 9,691 - 26,147 |
| 2007 | pri | 7,489 | 1,655 | 4,749 - 11,241 | 1,029 | 1,032 | 104 - 3,863 | 0.130 | 5.280 | 40,351 | 8,952 | 25,470 - 60,380 |
| 2008 | pri | 5,075 | 1,189 | 3,182 - 7,831 | 607 | 655 | 51 - 2,549 | 0.130 | 5.110 | 26,352 | 6,352 | 16,521 - 41,305 |
| 2009 | pri | 5,927 | 1,336 | 3,735 - 8,924 | 631 | 740 | 48 - 2,769 | 0.130 | 4.730 | 28,618 | 6,440 | 18,013 - 42,957 |
| 2010 | pri | 8,971 | 1,932 | 5,746 - 13,314 | 638 | 754 | 56 - 2,747 | 0.130 | 5.950 | 54,231 | 11,677 | 34,596 - 80,572 |
| 2011 | pri | 9,314 | 1,633 | 6,661 - 12,935 | 478 | 491 | 45 - 1,966 | 0.130 | 4.770 | 44,695 | 8,146 | 31,270 - 63,341 |
| 2012 | pri | 3,378 | 700 | 2,242 - 5,008 | 140 | 179 | 14 - 708 | 0.130 | 5.590 | 19,058 | 4,094 | 12,354 - 28,446 |
| 2013 | pri | 7,902 | 1,313 | 5,721 - 10,829 | 289 | 330 | 30 - 1,261 | 0.023 | 5.270 | 41,609 | 6,991 | 29,940 - 57,304 |
| 2014 | pri | 3,593 | 750 | 2,366 - 5,267 | 123 | 202 | 12 - 755 | 0.023 | 5.010 | 17,969 | 3,888 | 11,731 - 27,269 |
| 2015 | pri | 7,495 | 1,355 | 5,273 - 10,508 | 237 | 334 | 22 - 1,253 | 0.023 | 5.450 | 40,672 | 7,973 | 27,790 - 58,474 |
| 2016 | pri | 7,143 | 1,872 | 4,289 - 11,480 | 210 | 307 | 20 - 1,157 | 0.023 | 5.060 | 36,093 | 10,187 | 20,215 - 60,487 |
| 2017 | pri | 6,623 | 1,565 | 4,059 - 10,242 | 191 | 320 | 17 - 1,212 | 0.023 | 5.080 | 33,607 | 8,775 | 19,628 - 53,878 |
| 2018 | pri | 8,197 | 1,571 | 5,604 - 11,681 | 239 | 347 | 23 - 1,294 | 0.023 | 4.960 | 40,632 | 7,999 | 27,838 - 58,529 |
| 2019 | pri | 11,200 | 1,876 | 8,153 - 15,523 | 338 | 790 | 30 - 3,136 | 0.023 | 5.040 | 56,423 | 9,896 | 40,822 - 79,812 |
| 2020 | pri | 7,869 | 1,422 | 5,467 - 10,992 | 233 | 613 | 19 - 2,384 | 0.023 | 5.890 | 46,346 | 8,538 | 31,872 - 65,476 |
| 2021 | pri | 11,600 | 2,126 | 7,927 - 16,300 | 345 | 653 | 34 - 2,500 | 0.023 | 4.910 | 56,944 | 11,141 | 38,207 - 80,795 |
| 2022 | pri | 2,745 | 624 | 1,717 - 4,203 | 75 | 140 | 7 - 530 | 0.023 | 4.390 | 12,041 | 2,799 | 7,433 - 18,643 |
| 2023 | pri | 12,312 | 2,198 | 8,762 - 17,295 | 349 | 544 | 31 - 2,099 | 0.023 | 4.780 | 58,878 | 10,671 | 41,706 - 82,473 |

**Appendix C4.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for Prince William Sound Outside Commercial Fisheries Management Unit 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Prince William Sound Outside Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 9.000 | 26 | 1.000 - 64 | 2.000 | 6.205 | 0 - 17 | 0.106 | 5.350 | 47 | 159 | 3.860 - 349 |
| 1978 | gui | 6.000 | 9.795 | 1.000 - 34 | 1.000 | 2.724 | 0 - 9.000 | 0.106 | 5.330 | 32 | 53 | 3.360 - 192 |
| 1979 | gui | 3.000 | 4.641 | 0.000 - 17 | 1.000 | 1.336 | 0 - 5.000 | 0.106 | 5.340 | 19 | 25 | 2.050 - 92 |
| 1980 | gui | 2.000 | 2.022 | 0.000 - 8.000 | 0.000 | 0.604 | 0 - 2.000 | 0.106 | 5.320 | 9.520 | 11 | 0.960 - 42 |
| 1981 | gui | 1.000 | 1.566 | 0.000 - 6.000 | 0.000 | 0.447 | 0 - 2.000 | 0.106 | 5.320 | 6.780 | 8.564 | 0.880 - 31 |
| 1982 | gui | 1.000 | 0.966 | 0.000 - 4.000 | 0.000 | 0.276 | 0 - 1.000 | 0.106 | 5.330 | 4.750 | 5.451 | 0.580 - 21 |
| 1983 | gui | 1.000 | 0.929 | 0.000 - 4.000 | 0.000 | 0.303 | 0 - 1.000 | 0.106 | 5.350 | 4.190 | 5.191 | 0.510 - 20 |
| 1984 | gui | 1.000 | 0.642 | 0.000 - 2.000 | 0.000 | 0.191 | 0 - 1.000 | 0.106 | 5.330 | 2.910 | 3.561 | 0.380 - 13 |
| 1985 | gui | 0.000 | 0.530 | 0.000 - 2.000 | 0.000 | 0.162 | 0 - 1.000 | 0.106 | 5.350 | 2.630 | 2.948 | 0.320 - 11 |
| 1986 | gui | 0.000 | 0.484 | 0.000 - 2.000 | 0.000 | 0.145 | 0 - 1.000 | 0.106 | 5.330 | 2.570 | 2.675 | 0.310 - 10 |
| 1987 | gui | 1.000 | 0.530 | 0.000 - 2.000 | 0.000 | 0.153 | 0 - 1.000 | 0.106 | 5.350 | 2.750 | 2.956 | 0.380 - 12 |
| 1988 | gui | 1.000 | 0.660 | 0.000 - 2.000 | 0.000 | 0.184 | 0 - 1.000 | 0.106 | 5.340 | 3.420 | 3.599 | 0.490 - 13 |
| 1989 | gui | 1.000 | 0.890 | 0.000 - 3.000 | 0.000 | 0.266 | 0 - 1.000 | 0.106 | 5.350 | 4.650 | 4.976 | 0.680 - 20 |
| 1990 | gui | 1.000 | 1.271 | 0.000 - 5.000 | 0.000 | 0.337 | 0 - 1.000 | 0.106 | 5.330 | 6.980 | 7.007 | 1.140 - 27 |
| 1991 | gui | 2.000 | 2.173 | 0.000 - 8.000 | 0.000 | 0.547 | 0 - 2.000 | 0.106 | 5.340 | 13 | 12 | 2.020 - 46 |
| 1992 | gui | 5.000 | 4.306 | 1.000 - 17 | 1.000 | 1.093 | 0 - 4.000 | 0.106 | 5.350 | 26 | 24 | 4.720 - 91 |
| 1993 | gui | 12 | 9.804 | 2.000 - 39 | 2.000 | 2.853 | 0 - 10.000 | 0.106 | 4.300 | 53 | 43 | 9.790 - 173 |
| 1994 | gui | 24 | 19 | 5.000 - 78 | 5.000 | 5.098 | 1 - 19 | 0.106 | 4.670 | 117 | 92 | 24 - 371 |
| 1995 | gui | 48 | 36 | 10.000 - 139 | 9.000 | 9.360 | 2 - 35 | 0.106 | 4.920 | 242 | 179 | 53 - 715 |
| 1996 | gui | 195 | 104 | 76 - 477 | 38 | 32 | 11 - 130 | 0.106 | 4.600 | 915 | 493 | 354 - 2,231 |
| 1997 | gui | 372 | 176 | 150 - 835 | 78 | 57 | 24 - 236 | 0.106 | 5.170 | 1,980 | 926 | 790 - 4,365 |
| 1998 | gui | 4,938 | 127 | 4,654 - 5,146 | 696 | 371 | 284 - 1,726 | 0.106 | 5.270 | 26,415 | 1,198 | 24,062 - 28,733 |
| 1999 | gui | 2,917 | 70 | 2,770 - 3,046 | 646 | 24 | 600 - 692 | 0.106 | 6.180 | 18,460 | 591 | 17,271 - 19,565 |
| 2000 | gui | 5,741 | 229 | 5,228 - 6,126 | 1,457 | 64 | 1,317 - 1,568 | 0.106 | 5.720 | 33,589 | 2,050 | 29,635 - 37,683 |
| 2001 | gui | 7,273 | 150 | 6,965 - 7,548 | 1,525 | 42 | 1,443 - 1,605 | 0.106 | 5.670 | 42,096 | 1,422 | 39,343 - 44,935 |
| 2002 | gui | 5,700 | 137 | 5,409 - 5,945 | 1,407 | 45 | 1,319 - 1,494 | 0.106 | 5.930 | 34,652 | 1,166 | 32,247 - 36,913 |
| 2003 | gui | 6,526 | 111 | 6,296 - 6,733 | 1,299 | 38 | 1,225 - 1,371 | 0.106 | 5.240 | 34,933 | 819 | 33,312 - 36,512 |
| 2004 | gui | 8,245 | 138 | 7,960 - 8,490 | 1,544 | 40 | 1,465 - 1,623 | 0.106 | 5.350 | 44,962 | 978 | 43,002 - 46,861 |
| 2005 | gui | 6,995 | 126 | 6,723 - 7,215 | 1,253 | 34 | 1,184 - 1,318 | 0.106 | 5.110 | 36,360 | 928 | 34,501 - 38,167 |
| 2006 | gui | 5,958 | 87 | 5,782 - 6,126 | 1,081 | 27 | 1,031 - 1,137 | 0.106 | 5.100 | 30,949 | 689 | 29,580 - 32,255 |
| 2007 | gui | 8,151 | 89 | 7,967 - 8,321 | 663 | 21 | 623 - 704 | 0.106 | 5.480 | 45,015 | 752 | 43,558 - 46,445 |
| 2008 | gui | 9,255 | 131 | 8,978 - 9,489 | 698 | 21 | 656 - 739 | 0.106 | 5.660 | 52,739 | 1,043 | 50,702 - 54,856 |
| 2009 | gui | 8,626 | 153 | 8,326 - 8,920 | 743 | 22 | 700 - 787 | 0.106 | 5.660 | 49,296 | 1,183 | 46,998 - 51,574 |
| 2010 | gui | 7,743 | 128 | 7,482 - 7,977 | 447 | 18 | 414 - 484 | 0.106 | 6.450 | 50,207 | 1,241 | 47,881 - 52,721 |
| 2011 | gui | 10,577 | 146 | 10,266 - 10,834 | 382 | 16 | 352 - 414 | 0.106 | 5.720 | 60,721 | 1,241 | 58,303 - 63,102 |
| 2012 | gui | 9,894 | 173 | 9,539 - 10,203 | 436 | 16 | 405 - 468 | 0.106 | 5.590 | 55,534 | 1,392 | 52,790 - 58,225 |
| 2013 | gui | 11,759 | 228 | 11,306 - 12,200 | 348 | 15 | 319 - 378 | 0.032 | 6.080 | 71,573 | 1,845 | 68,022 - 75,278 |
| 2014 | gui | 12,822 | 211 | 12,399 - 13,225 | 395 | 16 | 365 - 427 | 0.032 | 6.200 | 79,601 | 1,830 | 76,049 - 83,253 |
| 2015 | gui | 16,526 | 209 | 16,110 - 16,924 | 493 | 17 | 461 - 527 | 0.032 | 5.480 | 90,562 | 3,403 | 84,131 - 97,535 |
| 2016 | gui | 19,420 | 249 | 18,895 - 19,890 | 666 | 21 | 626 - 707 | 0.032 | 4.850 | 94,099 | 3,455 | 87,560 - 101,159 |
| 2017 | gui | 19,023 | 257 | 18,484 - 19,510 | 362 | 16 | 331 - 392 | 0.032 | 5.100 | 96,758 | 4,961 | 87,900 - 107,144 |
| 2018 | gui | 19,774 | 277 | 19,204 - 20,277 | 495 | 20 | 458 - 535 | 0.032 | 5.400 | 106,755 | 3,374 | 100,466 - 113,510 |
| 2019 | gui | 22,045 | 323 | 21,401 - 22,669 | 583 | 21 | 542 - 624 | 0.032 | 5.670 | 124,941 | 2,863 | 119,549 - 130,587 |
| 2020 | gui | 21,569 | 244 | 21,055 - 22,030 | 410 | 17 | 377 - 442 | 0.032 | 5.060 | 109,172 | 2,481 | 104,513 - 114,114 |
| 2021 | gui | 28,587 | 404 | 27,762 - 29,344 | 317 | 15 | 288 - 347 | 0.032 | 4.440 | 126,949 | 4,419 | 118,394 - 135,527 |
| 2022 | gui | 27,003 | 460 | 26,036 - 27,864 | 304 | 15 | 275 - 334 | 0.032 | 4.850 | 130,871 | 3,107 | 124,747 - 136,991 |
| 2023 | gui | 20,074 | 280 | 19,484 - 20,586 | 535 | 21 | 493 - 577 | 0.032 | 5.130 | 102,964 | 2,578 | 97,820 - 108,113 |
| 1977 | pri | 2.000 | 7.822 | 0.000 - 15 | 0.000 | 1.907 | 0 - 4.000 | 0.060 | 5.170 | 8.600 | 45 | 0.570 - 76 |
| 1978 | pri | 1.000 | 2.454 | 0.000 - 7.000 | 0.000 | 0.728 | 0 - 2.000 | 0.060 | 5.180 | 6.030 | 14 | 0.470 - 42 |
| 1979 | pri | 1.000 | 1.188 | 0.000 - 4.000 | 0.000 | 0.385 | 0 - 1.000 | 0.060 | 5.160 | 3.360 | 6.476 | 0.290 - 20 |
| 1980 | pri | 0.000 | 0.524 | 0.000 - 2.000 | 0.000 | 0.212 | 0 - 1.000 | 0.060 | 5.190 | 1.760 | 2.776 | 0.160 - 10 |
| 1981 | pri | 0.000 | 0.400 | 0.000 - 1.000 | 0.000 | 0.153 | 0 - 0.000 | 0.060 | 5.180 | 1.310 | 2.100 | 0.100 - 7.410 |
| 1982 | pri | 0.000 | 0.274 | 0.000 - 1.000 | 0.000 | 0.091 | 0 - 0.000 | 0.060 | 5.160 | 0.880 | 1.496 | 0.080 - 5.290 |
| 1983 | pri | 0.000 | 0.243 | 0.000 - 1.000 | 0.000 | 0.103 | 0 - 0.000 | 0.060 | 5.200 | 0.800 | 1.296 | 0.070 - 4.660 |
| 1984 | pri | 0.000 | 0.171 | 0.000 - 1.000 | 0.000 | 0.057 | 0 - 0.000 | 0.060 | 5.170 | 0.540 | 0.933 | 0.050 - 3.140 |
| 1985 | pri | 0.000 | 0.137 | 0.000 - 0.000 | 0.000 | 0.051 | 0 - 0.000 | 0.060 | 5.160 | 0.490 | 0.721 | 0.050 - 2.620 |
| 1986 | pri | 0.000 | 0.126 | 0.000 - 0.000 | 0.000 | 0.042 | 0 - 0.000 | 0.060 | 5.160 | 0.470 | 0.686 | 0.040 - 2.420 |
| 1987 | pri | 0.000 | 0.141 | 0.000 - 0.000 | 0.000 | 0.052 | 0 - 0.000 | 0.060 | 5.160 | 0.490 | 0.736 | 0.050 - 2.680 |
| 1988 | pri | 0.000 | 0.175 | 0.000 - 1.000 | 0.000 | 0.058 | 0 - 0.000 | 0.060 | 5.160 | 0.620 | 0.917 | 0.060 - 3.620 |
| 1989 | pri | 0.000 | 0.248 | 0.000 - 1.000 | 0.000 | 0.082 | 0 - 0.000 | 0.060 | 5.170 | 0.890 | 1.347 | 0.090 - 4.370 |
| 1990 | pri | 0.000 | 0.338 | 0.000 - 1.000 | 0.000 | 0.106 | 0 - 0.000 | 0.060 | 5.160 | 1.340 | 1.801 | 0.150 - 6.620 |
| 1991 | pri | 0.000 | 0.608 | 0.000 - 2.000 | 0.000 | 0.194 | 0 - 1.000 | 0.060 | 5.170 | 2.380 | 3.180 | 0.280 - 11 |
| 1992 | pri | 1.000 | 1.231 | 0.000 - 5.000 | 0.000 | 0.368 | 0 - 1.000 | 0.060 | 5.170 | 4.970 | 6.675 | 0.640 - 24 |
| 1993 | pri | 2.000 | 2.770 | 0.000 - 10.000 | 0.000 | 0.878 | 0 - 3.000 | 0.060 | 5.150 | 12 | 15 | 1.680 - 53 |
| 1994 | pri | 5.000 | 5.354 | 1.000 - 21 | 1.000 | 2.054 | 0 - 6.000 | 0.060 | 5.160 | 25 | 29 | 3.540 - 116 |
| 1995 | pri | 9.000 | 11 | 2.000 - 41 | 1.000 | 3.063 | 0 - 10.000 | 0.060 | 3.770 | 36 | 41 | 6.080 - 158 |
| 1996 | pri | 24 | 24 | 4.000 - 95 | 3.000 | 8.612 | 0 - 26 | 0.060 | 5.190 | 124 | 132 | 21 - 517 |
| 1997 | pri | 48 | 40 | 10.000 - 159 | 6.000 | 18 | 0 - 58 | 0.060 | 5.480 | 262 | 226 | 52 - 877 |
| 1998 | pri | 427 | 265 | 97 - 1,120 | 50 | 99 | 1 - 358 | 0.060 | 4.600 | 1,954 | 1,293 | 437 - 5,312 |
| 1999 | pri | 441 | 250 | 109 - 1,077 | 51 | 106 | 1 - 357 | 0.060 | 4.590 | 2,051 | 1,175 | 498 - 5,023 |
| 2000 | pri | 766 | 436 | 192 - 1,880 | 85 | 178 | 2 - 572 | 0.060 | 5.150 | 3,943 | 2,354 | 948 - 10,228 |
| 2001 | pri | 1,432 | 810 | 366 - 3,533 | 160 | 387 | 4 - 1,203 | 0.060 | 4.400 | 6,287 | 3,700 | 1,552 - 16,093 |
| 2002 | pri | 939 | 654 | 253 - 2,568 | 104 | 317 | 3 - 1,124 | 0.060 | 5.510 | 5,181 | 3,669 | 1,419 - 14,563 |
| 2003 | pri | 1,920 | 1,217 | 524 - 4,951 | 206 | 522 | 6 - 1,835 | 0.060 | 4.420 | 8,612 | 5,412 | 2,336 - 22,197 |
| 2004 | pri | 2,329 | 1,494 | 620 - 6,049 | 230 | 666 | 5 - 2,320 | 0.060 | 5.060 | 11,811 | 7,659 | 3,161 - 31,078 |
| 2005 | pri | 1,520 | 1,046 | 433 - 4,228 | 140 | 483 | 4 - 1,589 | 0.060 | 4.750 | 7,316 | 5,015 | 2,045 - 20,032 |
| 2006 | pri | 1,887 | 1,425 | 545 - 5,157 | 159 | 509 | 3 - 1,613 | 0.060 | 3.910 | 7,353 | 5,766 | 2,223 - 20,902 |
| 2007 | pri | 2,253 | 1,497 | 665 - 6,075 | 163 | 421 | 4 - 1,482 | 0.060 | 4.750 | 10,732 | 7,190 | 3,101 - 29,428 |
| 2008 | pri | 1,887 | 1,143 | 517 - 4,721 | 105 | 301 | 2 - 1,082 | 0.060 | 5.940 | 11,286 | 6,874 | 3,042 - 28,120 |
| 2009 | pri | 1,725 | 1,057 | 431 - 4,313 | 72 | 202 | 2 - 714 | 0.060 | 5.600 | 9,705 | 6,004 | 2,426 - 24,074 |
| 2010 | pri | 2,019 | 1,133 | 555 - 4,953 | 67 | 193 | 2 - 659 | 0.060 | 5.990 | 12,118 | 6,787 | 3,283 - 29,845 |
| 2011 | pri | 2,588 | 1,178 | 848 - 5,428 | 71 | 178 | 2 - 612 | 0.060 | 6.110 | 15,881 | 7,218 | 5,259 - 32,931 |
| 2012 | pri | 2,207 | 1,001 | 669 - 4,534 | 47 | 113 | 1 - 393 | 0.060 | 5.950 | 13,126 | 5,977 | 3,959 - 27,120 |
| 2013 | pri | 2,861 | 1,299 | 844 - 5,920 | 52 | 134 | 1 - 469 | 0.009 | 6.020 | 17,230 | 7,818 | 5,078 - 35,669 |
| 2014 | pri | 3,557 | 1,585 | 1,161 - 7,312 | 57 | 148 | 2 - 491 | 0.009 | 6.610 | 23,517 | 10,535 | 7,590 - 48,611 |
| 2015 | pri | 3,297 | 1,509 | 967 - 6,885 | 48 | 125 | 1 - 403 | 0.009 | 4.380 | 14,335 | 6,754 | 4,282 - 30,897 |
| 2016 | pri | 3,461 | 1,475 | 1,060 - 6,725 | 46 | 111 | 1 - 378 | 0.009 | 5.510 | 19,072 | 8,208 | 5,812 - 37,704 |
| 2017 | pri | 4,345 | 2,082 | 1,273 - 9,227 | 56 | 143 | 1 - 496 | 0.009 | 4.840 | 20,917 | 10,166 | 6,004 - 45,004 |
| 2018 | pri | 4,140 | 2,087 | 1,178 - 9,225 | 51 | 121 | 1 - 411 | 0.009 | 4.730 | 19,555 | 10,031 | 5,334 - 44,882 |
| 2019 | pri | 3,971 | 1,902 | 1,177 - 8,450 | 49 | 120 | 1 - 418 | 0.009 | 5.040 | 20,109 | 9,607 | 5,952 - 43,116 |
| 2020 | pri | 4,171 | 1,898 | 1,350 - 8,754 | 50 | 109 | 1 - 401 | 0.009 | 5.170 | 21,596 | 9,888 | 6,786 - 45,197 |
| 2021 | pri | 5,027 | 2,236 | 1,570 - 10,362 | 58 | 150 | 1 - 512 | 0.009 | 5.860 | 29,505 | 13,211 | 9,026 - 60,848 |
| 2022 | pri | 5,302 | 2,580 | 1,588 - 11,328 | 63 | 155 | 1 - 528 | 0.009 | 5.280 | 28,253 | 13,595 | 8,378 - 59,842 |
| 2023 | pri | 3,688 | 1,801 | 1,099 - 7,939 | 41 | 106 | 1 - 398 | 0.009 | 5.340 | 19,836 | 9,635 | 5,836 - 42,307 |

**Appendix C5.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for Bering Sea & Aleutian Islands Commercial Fisheries Management Units 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Bering Sea & Aleutian Islands Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 1.000 | 3.620 | 0.000 - 9.000 | 2.000 | 9.783 | 0 - 26 | 0.102 | 5.330 | 3.580 | 27 | 0.070 - 64 |
| 1978 | gui | 1.000 | 4.957 | 0.000 - 12 | 2.000 | 16 | 0 - 33 | 0.102 | 5.370 | 4.700 | 37 | 0.100 - 89 |
| 1979 | gui | 1.000 | 3.166 | 0.000 - 9.000 | 2.000 | 8.780 | 0 - 25 | 0.102 | 5.320 | 3.780 | 32 | 0.080 - 68 |
| 1980 | gui | 0.000 | 1.975 | 0.000 - 6.000 | 1.000 | 5.180 | 0 - 14 | 0.102 | 5.340 | 2.210 | 15 | 0.040 - 40 |
| 1981 | gui | 1.000 | 4.709 | 0.000 - 12 | 2.000 | 14 | 0 - 31 | 0.102 | 5.350 | 5.010 | 47 | 0.100 - 83 |
| 1982 | gui | 2.000 | 10 | 0.000 - 27 | 5.000 | 37 | 0 - 84 | 0.102 | 5.350 | 11 | 102 | 0.260 - 196 |
| 1983 | gui | 1.000 | 5.136 | 0.000 - 15 | 3.000 | 15 | 0 - 48 | 0.102 | 5.360 | 6.910 | 47 | 0.180 - 119 |
| 1984 | gui | 4.000 | 16 | 0.000 - 48 | 9.000 | 47 | 0 - 146 | 0.102 | 5.350 | 22 | 127 | 0.470 - 351 |
| 1985 | gui | 1.000 | 3.442 | 0.000 - 11 | 2.000 | 11 | 0 - 32 | 0.102 | 5.360 | 4.550 | 26 | 0.110 - 81 |
| 1986 | gui | 4.000 | 15 | 0.000 - 44 | 9.000 | 56 | 0 - 124 | 0.102 | 5.380 | 20 | 121 | 0.420 - 326 |
| 1987 | gui | 2.000 | 8.484 | 0.000 - 26 | 5.000 | 29 | 0 - 68 | 0.102 | 5.310 | 13 | 86 | 0.250 - 187 |
| 1988 | gui | 1.000 | 4.087 | 0.000 - 13 | 3.000 | 14 | 0 - 37 | 0.102 | 5.360 | 6.190 | 33 | 0.120 - 98 |
| 1989 | gui | 5.000 | 19 | 0.000 - 54 | 12 | 58 | 0 - 148 | 0.102 | 5.340 | 27 | 166 | 0.540 - 396 |
| 1990 | gui | 14 | 42 | 1.000 - 127 | 31 | 119 | 2 - 362 | 0.102 | 5.360 | 75 | 400 | 1.820 - 971 |
| 1991 | gui | 7.000 | 23 | 0.000 - 63 | 17 | 57 | 1 - 188 | 0.102 | 5.350 | 40 | 171 | 0.890 - 511 |
| 1992 | gui | 7.000 | 17 | 0.000 - 55 | 15 | 48 | 1 - 160 | 0.102 | 5.360 | 37 | 138 | 1.050 - 404 |
| 1993 | gui | 7.000 | 20 | 0.000 - 64 | 17 | 57 | 1 - 196 | 0.102 | 5.410 | 41 | 184 | 0.960 - 506 |
| 1994 | gui | 3.000 | 12 | 0.000 - 37 | 8.000 | 31 | 0 - 92 | 0.102 | 5.370 | 18 | 93 | 0.510 - 282 |
| 1995 | gui | 7.000 | 18 | 0.000 - 60 | 16 | 56 | 1 - 192 | 0.102 | 5.340 | 39 | 173 | 1.010 - 492 |
| 1996 | gui | 10.000 | 28 | 1.000 - 94 | 24 | 79 | 1 - 255 | 0.102 | 5.350 | 58 | 220 | 1.610 - 721 |
| 1997 | gui | 16 | 42 | 1.000 - 122 | 35 | 112 | 1 - 354 | 0.102 | 5.410 | 88 | 356 | 2.060 - 997 |
| 1998 | gui | 91 | 11 | 70 - 112 | 196 | 131 | 72 - 553 | 0.102 | 5.370 | 541 | 394 | 55 - 1,562 |
| 1999 | gui | 21 | 4.038 | 13 - 29 | 86 | 8.245 | 70 - 101 | 0.102 | 5.410 | 142 | 103 | 16 - 419 |
| 2000 | gui | 51 | 6.016 | 38 - 62 | 64 | 6.649 | 50 - 76 | 0.102 | 5.370 | 271 | 193 | 31 - 776 |
| 2001 | gui | 48 | 6.074 | 37 - 60 | 170 | 13 | 141 - 191 | 0.102 | 5.360 | 314 | 223 | 32 - 917 |
| 2002 | gui | 95 | 9.246 | 76 - 112 | 290 | 20 | 237 - 317 | 0.102 | 5.390 | 598 | 420 | 61 - 1,686 |
| 2003 | gui | 161 | 14 | 129 - 182 | 172 | 14 | 140 - 194 | 0.102 | 5.320 | 834 | 600 | 97 - 2,455 |
| 2004 | gui | 38 | 5.110 | 28 - 48 | 16 | 3.045 | 11 - 23 | 0.102 | 5.350 | 185 | 135 | 21 - 541 |
| 2005 | gui | 25 | 3.981 | 18 - 34 | 3.000 | 1.103 | 1 - 6.000 | 0.102 | 5.350 | 123 | 90 | 13 - 371 |
| 2006 | gui | 4.000 | 1.336 | 2.000 - 7.000 | 1.000 | 0.533 | 0 - 2.000 | 0.102 | 5.360 | 19 | 17 | 2.210 - 64 |
| 2007 | gui | 16 | 3.082 | 11 - 23 | 4.000 | 1.267 | 2 - 7.000 | 0.102 | 5.340 | 78 | 58 | 8.300 - 239 |
| 2008 | gui | 22 | 3.570 | 16 - 30 | 41 | 5.009 | 32 - 51 | 0.102 | 5.340 | 125 | 90 | 13 - 361 |
| 2009 | gui | 1.000 | 0.549 | 0.000 - 2.000 | 0.000 | 0.199 | 0 - 1.000 | 0.102 | 5.360 | 3.750 | 4.745 | 0.300 - 17 |
| 2010 | gui | 48 | 5.610 | 37 - 59 | 11 | 2.200 | 7 - 16 | 0.102 | 5.380 | 236 | 170 | 26 - 695 |
| 2011 | gui | 2.000 | 0.924 | 1.000 - 5.000 | 1.000 | 0.299 | 0 - 1.000 | 0.102 | 5.360 | 10 | 10 | 1.070 - 40 |
| 2012 | gui | 11 | 2.269 | 8.000 - 16 | 3.000 | 1.035 | 2 - 6.000 | 0.102 | 5.370 | 56 | 42 | 6.110 - 166 |
| 2013 | gui | 2.000 | 0.695 | 1.000 - 3.000 | 0.000 | 0.249 | 0 - 1.000 | 0.022 | 5.330 | 7.190 | 6.848 | 0.730 - 27 |
| 2014 | gui | 37 | 4.657 | 28 - 46 | 3.000 | 0.975 | 2 - 5.000 | 0.022 | 5.330 | 173 | 124 | 17 - 496 |
| 2015 | gui | 5.000 | 1.665 | 2.000 - 9.000 | 1.000 | 0.455 | 0 - 2.000 | 0.022 | 5.360 | 22 | 20 | 2.200 - 77 |
| 2016 | gui | 2.000 | 0.758 | 1.000 - 4.000 | 0.000 | 0.286 | 0 - 1.000 | 0.022 | 5.370 | 8.290 | 7.806 | 0.750 - 31 |
| 2017 | gui | 4.000 | 1.324 | 2.000 - 7.000 | 1.000 | 0.389 | 0 - 2.000 | 0.022 | 5.380 | 20 | 18 | 1.920 - 70 |
| 2018 | gui | 97 | 8.612 | 77 - 112 | 80 | 7.645 | 64 - 94 | 0.022 | 5.350 | 473 | 333 | 49 - 1,364 |
| 2019 | gui | 82 | 7.780 | 66 - 96 | 12 | 2.299 | 8 - 17 | 0.022 | 5.310 | 388 | 276 | 43 - 1,115 |
| 2020 | gui | 11 | 2.274 | 7.000 - 16 | 2.000 | 0.620 | 1 - 3.000 | 0.022 | 5.350 | 52 | 39 | 4.720 - 154 |
| 2021 | gui | 62 | 6.933 | 48 - 75 | 14 | 2.645 | 9 - 20 | 0.022 | 5.340 | 296 | 211 | 28 - 848 |
| 2022 | gui | 10.000 | 2.139 | 7.000 - 15 | 3.000 | 1.068 | 2 - 6.000 | 0.022 | 5.380 | 49 | 37 | 4.740 - 147 |
| 2023 | gui | 6.000 | 2.013 | 3.000 - 11 | 1.000 | 0.599 | 0 - 3.000 | 0.022 | 5.340 | 29 | 26 | 2.450 - 100 |
| 1977 | pri | 5.000 | 18 | 1.000 - 50 | 20 | 92 | 2 - 267 | 0.109 | 5.360 | 33 | 158 | 1.960 - 445 |
| 1978 | pri | 7.000 | 23 | 1.000 - 66 | 28 | 119 | 2 - 305 | 0.109 | 5.350 | 46 | 204 | 2.260 - 606 |
| 1979 | pri | 5.000 | 15 | 1.000 - 47 | 23 | 136 | 2 - 269 | 0.109 | 5.340 | 36 | 183 | 1.990 - 463 |
| 1980 | pri | 3.000 | 9.689 | 0.000 - 26 | 12 | 59 | 1 - 149 | 0.109 | 5.340 | 20 | 87 | 0.970 - 246 |
| 1981 | pri | 7.000 | 24 | 1.000 - 63 | 28 | 125 | 3 - 342 | 0.109 | 5.350 | 45 | 243 | 2.220 - 574 |
| 1982 | pri | 16 | 46 | 2.000 - 131 | 67 | 276 | 6 - 770 | 0.109 | 5.330 | 106 | 451 | 5.520 - 1,211 |
| 1983 | pri | 10.000 | 21 | 1.000 - 73 | 40 | 121 | 4 - 400 | 0.109 | 5.320 | 66 | 210 | 3.500 - 689 |
| 1984 | pri | 30 | 82 | 4.000 - 261 | 127 | 531 | 14 - 1,415 | 0.109 | 5.320 | 203 | 960 | 13 - 2,303 |
| 1985 | pri | 6.000 | 16 | 1.000 - 53 | 26 | 112 | 2 - 300 | 0.109 | 5.350 | 41 | 166 | 1.860 - 504 |
| 1986 | pri | 27 | 114 | 3.000 - 228 | 114 | 446 | 13 - 1,172 | 0.109 | 5.330 | 188 | 918 | 12 - 2,120 |
| 1987 | pri | 17 | 44 | 2.000 - 130 | 74 | 255 | 7 - 742 | 0.109 | 5.340 | 118 | 450 | 7.320 - 1,272 |
| 1988 | pri | 9.000 | 20 | 1.000 - 66 | 36 | 158 | 3 - 395 | 0.109 | 5.370 | 59 | 238 | 2.230 - 681 |
| 1989 | pri | 38 | 78 | 4.000 - 269 | 157 | 468 | 17 - 1,604 | 0.109 | 5.350 | 256 | 776 | 14 - 2,671 |
| 1990 | pri | 99 | 196 | 14 - 617 | 407 | 1,166 | 58 - 3,314 | 0.109 | 5.330 | 670 | 2,097 | 49 - 6,116 |
| 1991 | pri | 51 | 98 | 7.000 - 328 | 205 | 455 | 29 - 1,575 | 0.109 | 5.390 | 347 | 1,008 | 24 - 3,007 |
| 1992 | pri | 46 | 90 | 6.000 - 313 | 183 | 444 | 22 - 1,316 | 0.109 | 5.390 | 318 | 846 | 19 - 2,727 |
| 1993 | pri | 53 | 100 | 7.000 - 344 | 206 | 425 | 25 - 1,601 | 0.109 | 5.350 | 359 | 856 | 22 - 2,952 |
| 1994 | pri | 25 | 43 | 3.000 - 159 | 93 | 209 | 11 - 712 | 0.109 | 5.330 | 165 | 435 | 10 - 1,417 |
| 1995 | pri | 50 | 97 | 7.000 - 321 | 197 | 472 | 23 - 1,471 | 0.109 | 5.310 | 343 | 1,164 | 20 - 2,950 |
| 1996 | pri | 81 | 125 | 12 - 458 | 321 | 624 | 46 - 2,152 | 0.109 | 5.290 | 532 | 1,284 | 36 - 4,355 |
| 1997 | pri | 117 | 194 | 17 - 720 | 454 | 910 | 66 - 3,259 | 0.109 | 5.330 | 798 | 1,839 | 48 - 6,243 |
| 1998 | pri | 245 | 300 | 30 - 1,086 | 815 | 1,276 | 120 - 4,786 | 0.109 | 5.330 | 1,570 | 2,709 | 100 - 9,889 |
| 1999 | pri | 101 | 136 | 15 - 478 | 409 | 632 | 52 - 2,423 | 0.109 | 5.320 | 676 | 1,297 | 48 - 4,869 |
| 2000 | pri | 187 | 248 | 27 - 912 | 674 | 1,113 | 98 - 4,112 | 0.109 | 5.340 | 1,227 | 2,225 | 86 - 8,330 |
| 2001 | pri | 172 | 234 | 26 - 870 | 539 | 935 | 78 - 3,244 | 0.109 | 5.330 | 1,077 | 2,168 | 66 - 7,476 |
| 2002 | pri | 241 | 311 | 29 - 1,164 | 621 | 1,075 | 85 - 3,613 | 0.109 | 5.380 | 1,448 | 3,003 | 84 - 10,269 |
| 2003 | pri | 302 | 360 | 38 - 1,362 | 494 | 854 | 77 - 2,804 | 0.109 | 5.320 | 1,572 | 3,157 | 102 - 10,898 |
| 2004 | pri | 271 | 414 | 45 - 1,312 | 309 | 558 | 39 - 1,893 | 0.109 | 5.350 | 1,407 | 2,618 | 86 - 8,891 |
| 2005 | pri | 293 | 415 | 58 - 1,464 | 224 | 579 | 33 - 1,437 | 0.109 | 5.320 | 1,429 | 3,119 | 110 - 10,865 |
| 2006 | pri | 180 | 238 | 32 - 928 | 118 | 220 | 16 - 805 | 0.109 | 5.290 | 881 | 1,828 | 54 - 6,553 |
| 2007 | pri | 243 | 307 | 37 - 1,101 | 145 | 264 | 19 - 883 | 0.109 | 5.320 | 1,170 | 2,355 | 73 - 8,534 |
| 2008 | pri | 154 | 228 | 21 - 781 | 77 | 156 | 9 - 483 | 0.109 | 5.330 | 725 | 1,714 | 38 - 5,362 |
| 2009 | pri | 120 | 166 | 20 - 616 | 61 | 114 | 9 - 382 | 0.109 | 5.340 | 578 | 1,213 | 35 - 3,989 |
| 2010 | pri | 242 | 306 | 39 - 1,088 | 122 | 221 | 16 - 707 | 0.109 | 5.350 | 1,176 | 2,184 | 60 - 7,804 |
| 2011 | pri | 26 | 30 | 4.000 - 113 | 11 | 16 | 2 - 60 | 0.109 | 5.330 | 122 | 226 | 7.480 - 833 |
| 2012 | pri | 250 | 302 | 55 - 1,104 | 133 | 210 | 22 - 735 | 0.109 | 5.390 | 1,254 | 2,439 | 94 - 8,351 |
| 2013 | pri | 46 | 40 | 12 - 161 | 21 | 30 | 4 - 109 | 0.032 | 5.310 | 209 | 334 | 15 - 1,192 |
| 2014 | pri | 236 | 225 | 52 - 865 | 111 | 140 | 24 - 542 | 0.032 | 5.370 | 1,090 | 1,692 | 81 - 5,888 |
| 2015 | pri | 74 | 78 | 13 - 309 | 31 | 49 | 5 - 177 | 0.032 | 5.360 | 348 | 611 | 24 - 2,049 |
| 2016 | pri | 56 | 55 | 14 - 212 | 29 | 38 | 6 - 141 | 0.032 | 5.360 | 269 | 441 | 22 - 1,591 |
| 2017 | pri | 255 | 263 | 52 - 999 | 113 | 145 | 23 - 536 | 0.032 | 5.310 | 1,149 | 2,013 | 84 - 6,973 |
| 2018 | pri | 576 | 653 | 100 - 2,640 | 236 | 401 | 34 - 1,437 | 0.032 | 5.360 | 2,577 | 4,950 | 178 - 17,799 |
| 2019 | pri | 179 | 141 | 31 - 576 | 67 | 72 | 15 - 269 | 0.032 | 5.350 | 812 | 1,150 | 57 - 4,062 |
| 2020 | pri | 706 | 758 | 158 - 2,818 | 323 | 451 | 66 - 1,617 | 0.032 | 5.330 | 3,244 | 5,527 | 227 - 18,924 |
| 2021 | pri | 248 | 256 | 41 - 993 | 101 | 186 | 16 - 581 | 0.032 | 5.350 | 1,156 | 2,079 | 72 - 7,095 |
| 2022 | pri | 290 | 315 | 63 - 1,202 | 133 | 179 | 26 - 659 | 0.032 | 5.350 | 1,328 | 2,293 | 120 - 8,179 |
| 2023 | pri | 113 | 114 | 16 - 420 | 37 | 50 | 7 - 170 | 0.032 | 5.330 | 496 | 855 | 28 - 3,084 |

**Appendix C6.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for the Southeast, Southwest, Chignik and South Alaska Peninsula (SAKPEN) districts (SOKO2SAP) 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Southeast, Southwest (Kodiak), Chignik and South Alaska Peninsula (SAKPEN) Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 24 | 53 | 2.000 - 183 | 48 | 181 | 3 - 550 | 0.102 | 5.330 | 131 | 465 | 4.360 - 1,410 |
| 1978 | gui | 29 | 64 | 3.000 - 226 | 59 | 201 | 4 - 639 | 0.102 | 5.330 | 163 | 534 | 6.840 - 1,832 |
| 1979 | gui | 33 | 57 | 4.000 - 192 | 66 | 216 | 6 - 585 | 0.102 | 5.330 | 181 | 451 | 7.490 - 1,574 |
| 1980 | gui | 26 | 46 | 3.000 - 163 | 52 | 169 | 5 - 467 | 0.102 | 5.320 | 143 | 397 | 7.860 - 1,247 |
| 1981 | gui | 63 | 111 | 8.000 - 356 | 124 | 356 | 12 - 1,058 | 0.102 | 5.340 | 338 | 919 | 18 - 2,896 |
| 1982 | gui | 62 | 97 | 8.000 - 335 | 119 | 293 | 12 - 963 | 0.102 | 5.330 | 327 | 773 | 19 - 2,538 |
| 1983 | gui | 75 | 109 | 10.000 - 412 | 142 | 372 | 14 - 1,087 | 0.102 | 5.360 | 406 | 1,019 | 19 - 3,167 |
| 1984 | gui | 105 | 178 | 13 - 622 | 205 | 522 | 22 - 1,795 | 0.102 | 5.340 | 576 | 1,395 | 26 - 4,528 |
| 1985 | gui | 107 | 160 | 13 - 587 | 208 | 422 | 19 - 1,549 | 0.102 | 5.310 | 566 | 1,340 | 30 - 4,509 |
| 1986 | gui | 132 | 205 | 14 - 767 | 241 | 551 | 22 - 1,910 | 0.102 | 5.320 | 696 | 1,741 | 35 - 6,352 |
| 1987 | gui | 161 | 365 | 20 - 1,050 | 316 | 830 | 28 - 2,416 | 0.102 | 5.370 | 885 | 3,246 | 45 - 8,128 |
| 1988 | gui | 179 | 311 | 21 - 1,108 | 328 | 903 | 31 - 2,566 | 0.102 | 5.340 | 959 | 2,706 | 48 - 9,004 |
| 1989 | gui | 134 | 219 | 15 - 805 | 252 | 564 | 21 - 1,834 | 0.102 | 5.340 | 736 | 1,882 | 31 - 6,126 |
| 1990 | gui | 169 | 274 | 23 - 965 | 309 | 646 | 34 - 2,297 | 0.102 | 5.320 | 952 | 2,170 | 40 - 7,685 |
| 1991 | gui | 182 | 252 | 22 - 958 | 329 | 591 | 34 - 2,217 | 0.102 | 5.330 | 934 | 2,216 | 43 - 7,446 |
| 1992 | gui | 175 | 254 | 21 - 934 | 311 | 578 | 35 - 2,004 | 0.102 | 5.390 | 951 | 2,195 | 39 - 6,772 |
| 1993 | gui | 192 | 269 | 23 - 941 | 337 | 636 | 36 - 2,206 | 0.102 | 5.360 | 1,010 | 2,502 | 53 - 7,912 |
| 1994 | gui | 166 | 212 | 26 - 785 | 279 | 544 | 35 - 1,730 | 0.102 | 5.370 | 862 | 2,029 | 56 - 6,307 |
| 1995 | gui | 156 | 185 | 24 - 687 | 260 | 424 | 34 - 1,447 | 0.102 | 5.320 | 827 | 1,545 | 44 - 5,309 |
| 1996 | gui | 155 | 185 | 23 - 674 | 254 | 383 | 33 - 1,339 | 0.102 | 5.340 | 833 | 1,607 | 53 - 5,334 |
| 1997 | gui | 173 | 214 | 28 - 777 | 268 | 502 | 34 - 1,501 | 0.102 | 5.370 | 918 | 1,873 | 53 - 6,302 |
| 1998 | gui | 22 | 3.563 | 15 - 29 | 33 | 21 | 12 - 88 | 0.102 | 5.310 | 121 | 91 | 13 - 363 |
| 1999 | gui | 70 | 7.137 | 56 - 84 | 123 | 9.417 | 103 - 140 | 0.102 | 5.290 | 388 | 281 | 38 - 1,142 |
| 2000 | gui | 17 | 3.673 | 11 - 25 | 77 | 8.252 | 60 - 93 | 0.102 | 5.360 | 120 | 88 | 11 - 350 |
| 2001 | gui | 14 | 3.107 | 8.000 - 21 | 26 | 4.920 | 16 - 36 | 0.102 | 5.350 | 78 | 60 | 6.950 - 237 |
| 2002 | gui | 176 | 13 | 148 - 200 | 62 | 6.262 | 49 - 74 | 0.102 | 5.370 | 876 | 613 | 83 - 2,499 |
| 2003 | gui | 105 | 9.828 | 85 - 124 | 131 | 9.951 | 109 - 148 | 0.102 | 5.370 | 573 | 394 | 49 - 1,576 |
| 2004 | gui | 176 | 14 | 148 - 200 | 148 | 11 | 124 - 168 | 0.102 | 5.340 | 904 | 659 | 94 - 2,658 |
| 2005 | gui | 196 | 16 | 165 - 226 | 395 | 23 | 340 - 429 | 0.102 | 5.330 | 1,127 | 786 | 118 - 3,187 |
| 2006 | gui | 259 | 17 | 220 - 288 | 233 | 15 | 198 - 259 | 0.102 | 5.370 | 1,350 | 963 | 126 - 3,885 |
| 2007 | gui | 1,098 | 52 | 956 - 1,158 | 885 | 43 | 764 - 938 | 0.102 | 5.320 | 5,718 | 3,945 | 484 - 16,013 |
| 2008 | gui | 1,129 | 54 | 978 - 1,188 | 1,069 | 52 | 928 - 1,130 | 0.102 | 5.310 | 5,834 | 4,110 | 568 - 16,611 |
| 2009 | gui | 725 | 54 | 557 - 777 | 469 | 36 | 360 - 507 | 0.102 | 5.320 | 3,593 | 2,588 | 329 - 10,679 |
| 2010 | gui | 437 | 21 | 390 - 475 | 149 | 12 | 125 - 174 | 0.102 | 5.360 | 2,182 | 1,514 | 213 - 6,231 |
| 2011 | gui | 598 | 25 | 538 - 641 | 273 | 15 | 241 - 301 | 0.102 | 5.320 | 3,002 | 2,092 | 281 - 8,566 |
| 2012 | gui | 653 | 34 | 567 - 702 | 238 | 17 | 200 - 268 | 0.102 | 5.360 | 3,259 | 2,270 | 329 - 9,321 |
| 2013 | gui | 865 | 42 | 759 - 919 | 218 | 18 | 183 - 252 | 0.022 | 5.340 | 4,082 | 2,901 | 439 - 11,680 |
| 2014 | gui | 601 | 26 | 538 - 642 | 381 | 19 | 338 - 417 | 0.022 | 5.350 | 2,925 | 2,030 | 281 - 8,255 |
| 2015 | gui | 535 | 29 | 462 - 575 | 79 | 7.851 | 63 - 94 | 0.022 | 5.360 | 2,599 | 1,790 | 260 - 7,315 |
| 2016 | gui | 695 | 37 | 597 - 743 | 468 | 26 | 401 - 505 | 0.022 | 5.330 | 3,340 | 2,344 | 320 - 9,440 |
| 2017 | gui | 652 | 27 | 589 - 695 | 197 | 11 | 173 - 219 | 0.022 | 5.330 | 3,132 | 2,175 | 322 - 8,852 |
| 2018 | gui | 659 | 26 | 599 - 704 | 172 | 10 | 151 - 192 | 0.022 | 5.320 | 3,158 | 2,202 | 333 - 9,048 |
| 2019 | gui | 614 | 25 | 556 - 656 | 39 | 4.651 | 31 - 49 | 0.022 | 5.360 | 2,965 | 2,083 | 318 - 8,550 |
| 2020 | gui | 265 | 14 | 237 - 291 | 44 | 4.641 | 35 - 53 | 0.022 | 5.350 | 1,276 | 892 | 119 - 3,678 |
| 2021 | gui | 1,405 | 66 | 1,221 - 1,476 | 122 | 9.492 | 103 - 141 | 0.022 | 5.370 | 6,740 | 4,704 | 621 - 19,257 |
| 2022 | gui | 1,103 | 53 | 950 - 1,164 | 153 | 11 | 129 - 174 | 0.022 | 5.340 | 5,270 | 3,722 | 477 - 15,284 |
| 2023 | gui | 1,219 | 53 | 1,074 - 1,284 | 57 | 6.052 | 46 - 69 | 0.022 | 5.370 | 5,869 | 4,040 | 636 - 16,604 |
| 1977 | pri | 202 | 333 | 20 - 1,236 | 735 | 2,312 | 59 - 7,722 | 0.109 | 5.330 | 1,323 | 3,348 | 60 - 12,153 |
| 1978 | pri | 249 | 389 | 31 - 1,371 | 920 | 3,160 | 88 - 8,130 | 0.109 | 5.300 | 1,603 | 4,185 | 81 - 12,866 |
| 1979 | pri | 267 | 317 | 42 - 1,239 | 966 | 2,650 | 129 - 7,116 | 0.109 | 5.310 | 1,714 | 3,446 | 106 - 12,707 |
| 1980 | pri | 218 | 254 | 35 - 986 | 813 | 1,967 | 98 - 6,022 | 0.109 | 5.310 | 1,459 | 2,871 | 90 - 10,277 |
| 1981 | pri | 513 | 598 | 100 - 2,247 | 1,815 | 4,351 | 309 - 12,982 | 0.109 | 5.320 | 3,409 | 6,761 | 276 - 22,979 |
| 1982 | pri | 492 | 527 | 97 - 1,902 | 1,726 | 3,522 | 275 - 11,452 | 0.109 | 5.280 | 3,230 | 5,212 | 262 - 18,546 |
| 1983 | pri | 605 | 558 | 112 - 2,176 | 2,112 | 3,981 | 313 - 14,452 | 0.109 | 5.310 | 4,055 | 6,034 | 281 - 21,484 |
| 1984 | pri | 868 | 1,057 | 160 - 3,602 | 3,075 | 6,707 | 530 - 21,959 | 0.109 | 5.350 | 5,849 | 10,966 | 454 - 35,845 |
| 1985 | pri | 879 | 964 | 164 - 3,726 | 3,127 | 5,972 | 508 - 21,194 | 0.109 | 5.350 | 5,938 | 11,121 | 419 - 35,475 |
| 1986 | pri | 1,062 | 1,191 | 190 - 4,726 | 3,802 | 7,615 | 583 - 26,076 | 0.109 | 5.300 | 7,230 | 13,567 | 479 - 44,281 |
| 1987 | pri | 1,318 | 1,755 | 247 - 6,231 | 4,687 | 10,278 | 696 - 32,810 | 0.109 | 5.330 | 8,747 | 17,926 | 563 - 58,106 |
| 1988 | pri | 1,430 | 2,050 | 257 - 7,052 | 4,961 | 11,096 | 798 - 35,076 | 0.109 | 5.330 | 9,431 | 19,917 | 591 - 59,922 |
| 1989 | pri | 1,106 | 1,293 | 196 - 4,949 | 3,779 | 7,335 | 597 - 25,335 | 0.109 | 5.320 | 7,307 | 13,200 | 500 - 49,584 |
| 1990 | pri | 1,419 | 1,445 | 296 - 5,539 | 5,045 | 7,459 | 1,032 - 26,472 | 0.109 | 5.330 | 9,273 | 14,038 | 856 - 50,332 |
| 1991 | pri | 1,434 | 1,477 | 290 - 5,487 | 4,889 | 7,563 | 931 - 25,769 | 0.109 | 5.360 | 9,316 | 17,495 | 705 - 51,194 |
| 1992 | pri | 1,396 | 1,326 | 293 - 5,339 | 4,697 | 7,378 | 937 - 23,934 | 0.109 | 5.280 | 9,216 | 13,429 | 694 - 48,487 |
| 1993 | pri | 1,579 | 1,405 | 367 - 5,623 | 5,762 | 8,244 | 1,140 - 28,330 | 0.109 | 5.330 | 10,458 | 16,034 | 836 - 57,586 |
| 1994 | pri | 1,336 | 1,149 | 282 - 4,421 | 3,954 | 5,581 | 813 - 20,091 | 0.109 | 5.310 | 8,399 | 12,365 | 552 - 46,463 |
| 1995 | pri | 1,297 | 1,045 | 308 - 4,040 | 3,803 | 4,949 | 792 - 17,654 | 0.109 | 5.260 | 7,776 | 10,602 | 516 - 38,984 |
| 1996 | pri | 1,315 | 932 | 326 - 3,932 | 3,816 | 4,376 | 814 - 16,595 | 0.109 | 5.320 | 8,094 | 10,192 | 715 - 39,650 |
| 1997 | pri | 1,400 | 1,230 | 343 - 4,842 | 3,896 | 5,103 | 819 - 17,583 | 0.109 | 5.290 | 8,689 | 13,109 | 651 - 44,066 |
| 1998 | pri | 715 | 648 | 134 - 2,518 | 1,783 | 2,226 | 361 - 8,116 | 0.109 | 5.340 | 4,291 | 6,318 | 287 - 22,488 |
| 1999 | pri | 957 | 699 | 232 - 2,854 | 2,492 | 2,666 | 563 - 10,091 | 0.109 | 5.270 | 5,692 | 7,191 | 438 - 26,656 |
| 2000 | pri | 1,056 | 859 | 242 - 3,370 | 2,550 | 2,930 | 512 - 11,399 | 0.109 | 5.280 | 6,165 | 8,413 | 348 - 31,050 |
| 2001 | pri | 933 | 790 | 171 - 3,030 | 2,035 | 2,699 | 365 - 10,108 | 0.109 | 5.310 | 5,326 | 7,837 | 393 - 29,024 |
| 2002 | pri | 1,414 | 979 | 354 - 3,992 | 3,237 | 3,780 | 728 - 14,028 | 0.109 | 5.330 | 8,192 | 9,938 | 739 - 38,422 |
| 2003 | pri | 1,233 | 878 | 284 - 3,655 | 2,351 | 2,702 | 482 - 10,379 | 0.109 | 5.320 | 6,934 | 8,857 | 541 - 33,189 |
| 2004 | pri | 1,501 | 963 | 385 - 3,996 | 2,743 | 3,170 | 639 - 11,206 | 0.109 | 5.350 | 8,570 | 9,662 | 739 - 34,724 |
| 2005 | pri | 1,993 | 1,223 | 548 - 5,219 | 3,670 | 3,994 | 843 - 15,510 | 0.109 | 5.330 | 11,212 | 12,706 | 905 - 45,781 |
| 2006 | pri | 2,232 | 1,416 | 672 - 6,046 | 4,030 | 4,255 | 928 - 16,055 | 0.109 | 5.350 | 12,818 | 13,806 | 1,215 - 51,924 |
| 2007 | pri | 3,189 | 2,227 | 852 - 9,420 | 5,205 | 5,930 | 1,048 - 21,879 | 0.109 | 5.310 | 17,574 | 21,721 | 1,400 - 82,174 |
| 2008 | pri | 3,426 | 2,300 | 936 - 9,867 | 4,663 | 5,475 | 937 - 19,358 | 0.109 | 5.340 | 18,303 | 22,424 | 1,463 - 86,088 |
| 2009 | pri | 3,114 | 1,890 | 873 - 7,689 | 3,856 | 4,243 | 912 - 15,647 | 0.109 | 5.290 | 16,706 | 17,902 | 1,270 - 65,259 |
| 2010 | pri | 3,160 | 1,781 | 930 - 7,717 | 3,512 | 3,344 | 829 - 13,170 | 0.109 | 5.340 | 17,002 | 17,077 | 1,248 - 63,832 |
| 2011 | pri | 2,969 | 1,590 | 848 - 7,140 | 2,465 | 2,190 | 595 - 8,211 | 0.109 | 5.350 | 14,837 | 15,613 | 1,099 - 60,115 |
| 2012 | pri | 3,461 | 1,815 | 1,009 - 8,016 | 2,381 | 2,155 | 606 - 8,684 | 0.109 | 5.300 | 16,945 | 17,669 | 1,389 - 68,631 |
| 2013 | pri | 3,930 | 2,064 | 1,057 - 9,000 | 2,378 | 2,685 | 550 - 9,835 | 0.032 | 5.310 | 18,204 | 19,175 | 1,465 - 71,757 |
| 2014 | pri | 3,525 | 1,940 | 933 - 8,463 | 1,937 | 2,016 | 427 - 7,489 | 0.032 | 5.320 | 16,400 | 17,472 | 1,128 - 68,122 |
| 2015 | pri | 5,596 | 3,343 | 1,911 - 14,452 | 3,553 | 3,685 | 882 - 14,275 | 0.032 | 5.350 | 26,853 | 30,136 | 2,261 - 109,796 |
| 2016 | pri | 6,037 | 3,758 | 1,936 - 15,740 | 3,082 | 3,289 | 693 - 12,342 | 0.032 | 5.280 | 28,439 | 33,274 | 2,218 - 120,681 |
| 2017 | pri | 5,214 | 2,905 | 1,622 - 12,496 | 1,866 | 2,057 | 391 - 8,183 | 0.032 | 5.350 | 24,477 | 25,949 | 1,967 - 97,088 |
| 2018 | pri | 8,354 | 5,893 | 2,932 - 24,234 | 4,787 | 4,858 | 1,117 - 19,617 | 0.032 | 5.330 | 39,948 | 48,379 | 3,401 - 176,627 |
| 2019 | pri | 4,094 | 2,086 | 1,193 - 9,285 | 1,150 | 1,106 | 282 - 4,174 | 0.032 | 5.300 | 18,895 | 19,416 | 1,289 - 72,127 |
| 2020 | pri | 4,837 | 2,642 | 1,397 - 11,522 | 1,233 | 1,336 | 281 - 5,048 | 0.032 | 5.340 | 22,216 | 23,999 | 1,736 - 91,406 |
| 2021 | pri | 5,341 | 2,794 | 1,671 - 12,674 | 1,251 | 1,158 | 315 - 4,660 | 0.032 | 5.320 | 25,105 | 26,047 | 1,777 - 96,664 |
| 2022 | pri | 5,249 | 2,920 | 1,512 - 12,647 | 1,056 | 1,268 | 222 - 4,627 | 0.032 | 5.270 | 23,330 | 26,743 | 1,874 - 98,206 |
| 2023 | pri | 5,269 | 2,553 | 1,758 - 11,557 | 1,287 | 1,544 | 275 - 5,633 | 0.032 | 5.310 | 24,010 | 25,965 | 2,049 - 99,166 |

**Appendix C7.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for the Westside and Mainland districts (WKMA) 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Westside and Mainland Kodiak districts Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 2.000 | 1.764 | 1.000 - 7.000 | 1.000 | 1.825 | 0 - 7.000 | 0.102 | 5.320 | 12 | 16 | 1.100 - 57 |
| 1978 | gui | 2.000 | 1.369 | 1.000 - 6.000 | 1.000 | 1.600 | 0 - 6.000 | 0.102 | 5.330 | 12 | 13 | 1.060 - 49 |
| 1979 | gui | 2.000 | 0.849 | 1.000 - 4.000 | 1.000 | 1.053 | 0 - 4.000 | 0.102 | 5.300 | 8.160 | 8.449 | 0.800 - 33 |
| 1980 | gui | 1.000 | 0.494 | 1.000 - 2.000 | 1.000 | 0.691 | 0 - 3.000 | 0.102 | 5.320 | 6.030 | 5.380 | 0.610 - 21 |
| 1981 | gui | 1.000 | 0.523 | 0.000 - 2.000 | 1.000 | 0.590 | 0 - 2.000 | 0.102 | 5.330 | 5.420 | 5.420 | 0.480 - 21 |
| 1982 | gui | 1.000 | 0.439 | 0.000 - 2.000 | 0.000 | 0.508 | 0 - 2.000 | 0.102 | 5.330 | 4.360 | 4.414 | 0.450 - 17 |
| 1983 | gui | 1.000 | 0.340 | 0.000 - 2.000 | 0.000 | 0.403 | 0 - 2.000 | 0.102 | 5.330 | 3.740 | 3.489 | 0.350 - 13 |
| 1984 | gui | 1.000 | 0.293 | 0.000 - 1.000 | 0.000 | 0.342 | 0 - 1.000 | 0.102 | 5.340 | 3.020 | 3.145 | 0.260 - 12 |
| 1985 | gui | 1.000 | 0.265 | 0.000 - 1.000 | 0.000 | 0.281 | 0 - 1.000 | 0.102 | 5.330 | 2.680 | 2.616 | 0.270 - 10 |
| 1986 | gui | 1.000 | 0.251 | 0.000 - 1.000 | 0.000 | 0.259 | 0 - 1.000 | 0.102 | 5.330 | 2.540 | 2.677 | 0.230 - 10 |
| 1987 | gui | 1.000 | 0.265 | 0.000 - 1.000 | 0.000 | 0.275 | 0 - 1.000 | 0.102 | 5.300 | 2.600 | 2.643 | 0.240 - 10 |
| 1988 | gui | 1.000 | 0.286 | 0.000 - 1.000 | 0.000 | 0.304 | 0 - 1.000 | 0.102 | 5.300 | 2.860 | 2.880 | 0.260 - 11 |
| 1989 | gui | 1.000 | 0.379 | 0.000 - 2.000 | 0.000 | 0.368 | 0 - 1.000 | 0.102 | 5.310 | 3.620 | 3.720 | 0.320 - 14 |
| 1990 | gui | 1.000 | 0.484 | 0.000 - 2.000 | 0.000 | 0.391 | 0 - 2.000 | 0.102 | 5.300 | 4.900 | 4.973 | 0.390 - 19 |
| 1991 | gui | 1.000 | 0.687 | 1.000 - 3.000 | 1.000 | 0.523 | 0 - 2.000 | 0.102 | 5.360 | 7.130 | 7.329 | 0.720 - 28 |
| 1992 | gui | 2.000 | 1.077 | 1.000 - 5.000 | 1.000 | 0.803 | 0 - 3.000 | 0.102 | 5.310 | 11 | 11 | 1.090 - 43 |
| 1993 | gui | 4.000 | 1.685 | 2.000 - 8.000 | 2.000 | 1.248 | 0 - 5.000 | 0.102 | 5.340 | 19 | 17 | 1.980 - 67 |
| 1994 | gui | 11 | 4.697 | 5.000 - 22 | 5.000 | 4.065 | 2 - 16 | 0.102 | 5.330 | 53 | 50 | 5.150 - 189 |
| 1995 | gui | 11 | 4.890 | 4.000 - 23 | 4.000 | 3.021 | 1 - 13 | 0.102 | 5.320 | 54 | 51 | 4.860 - 199 |
| 1996 | gui | 32 | 12 | 15 - 63 | 14 | 11 | 4 - 46 | 0.102 | 5.340 | 156 | 138 | 18 - 543 |
| 1997 | gui | 93 | 39 | 43 - 190 | 68 | 58 | 17 - 238 | 0.102 | 5.290 | 472 | 422 | 42 - 1,663 |
| 1998 | gui | 113 | 12 | 85 - 134 | 79 | 51 | 27 - 231 | 0.102 | 5.340 | 586 | 410 | 61 - 1,681 |
| 1999 | gui | 200 | 18 | 155 - 228 | 230 | 24 | 177 - 269 | 0.102 | 5.310 | 1,081 | 736 | 113 - 2,959 |
| 2000 | gui | 289 | 25 | 225 - 325 | 280 | 26 | 216 - 321 | 0.102 | 5.340 | 1,533 | 1,037 | 150 - 4,231 |
| 2001 | gui | 1,063 | 83 | 807 - 1,142 | 270 | 26 | 206 - 312 | 0.102 | 5.320 | 5,203 | 3,488 | 579 - 14,176 |
| 2002 | gui | 758 | 59 | 588 - 821 | 300 | 28 | 233 - 345 | 0.102 | 5.350 | 3,755 | 2,584 | 441 - 10,472 |
| 2003 | gui | 919 | 73 | 708 - 995 | 572 | 46 | 441 - 623 | 0.102 | 5.340 | 4,606 | 3,197 | 475 - 12,887 |
| 2004 | gui | 679 | 55 | 522 - 739 | 254 | 23 | 194 - 289 | 0.102 | 5.310 | 3,378 | 2,255 | 359 - 9,079 |
| 2005 | gui | 1,084 | 84 | 849 - 1,169 | 370 | 31 | 286 - 410 | 0.102 | 5.310 | 5,318 | 3,642 | 536 - 14,946 |
| 2006 | gui | 563 | 46 | 427 - 612 | 491 | 40 | 377 - 533 | 0.102 | 5.290 | 2,883 | 1,959 | 337 - 7,956 |
| 2007 | gui | 1,256 | 97 | 973 - 1,340 | 335 | 28 | 257 - 369 | 0.102 | 5.320 | 6,156 | 4,175 | 585 - 17,016 |
| 2008 | gui | 867 | 69 | 664 - 931 | 468 | 39 | 357 - 511 | 0.102 | 5.290 | 4,284 | 2,963 | 457 - 12,139 |
| 2009 | gui | 1,459 | 112 | 1,119 - 1,552 | 601 | 48 | 463 - 652 | 0.102 | 5.320 | 7,214 | 4,860 | 798 - 20,042 |
| 2010 | gui | 763 | 61 | 586 - 828 | 426 | 35 | 328 - 467 | 0.102 | 5.370 | 3,879 | 2,635 | 432 - 10,880 |
| 2011 | gui | 1,074 | 63 | 900 - 1,148 | 309 | 21 | 258 - 342 | 0.102 | 5.310 | 5,290 | 3,579 | 453 - 14,792 |
| 2012 | gui | 1,268 | 94 | 991 - 1,353 | 499 | 39 | 384 - 544 | 0.102 | 5.350 | 6,307 | 4,323 | 628 - 17,680 |
| 2013 | gui | 1,566 | 118 | 1,209 - 1,664 | 833 | 64 | 644 - 895 | 0.022 | 5.310 | 7,460 | 5,121 | 663 - 20,660 |
| 2014 | gui | 1,691 | 132 | 1,294 - 1,797 | 860 | 69 | 660 - 927 | 0.022 | 5.310 | 8,003 | 5,478 | 958 - 22,482 |
| 2015 | gui | 1,597 | 122 | 1,239 - 1,703 | 813 | 64 | 629 - 876 | 0.022 | 5.350 | 7,637 | 5,228 | 781 - 21,750 |
| 2016 | gui | 2,547 | 184 | 1,969 - 2,693 | 1,632 | 119 | 1,261 - 1,731 | 0.022 | 5.330 | 12,305 | 8,381 | 1,358 - 34,084 |
| 2017 | gui | 2,213 | 143 | 1,800 - 2,344 | 1,050 | 70 | 851 - 1,124 | 0.022 | 5.290 | 10,543 | 7,211 | 964 - 29,085 |
| 2018 | gui | 3,444 | 252 | 2,682 - 3,636 | 1,764 | 131 | 1,377 - 1,876 | 0.022 | 5.340 | 16,565 | 11,325 | 1,642 - 46,872 |
| 2019 | gui | 5,432 | 412 | 4,128 - 5,705 | 1,051 | 83 | 799 - 1,126 | 0.022 | 5.300 | 25,831 | 17,475 | 2,537 - 71,428 |
| 2020 | gui | 3,318 | 220 | 2,671 - 3,508 | 1,291 | 88 | 1,041 - 1,377 | 0.022 | 5.270 | 15,778 | 10,801 | 1,573 - 44,945 |
| 2021 | gui | 6,656 | 486 | 5,127 - 6,956 | 2,715 | 201 | 2,083 - 2,860 | 0.022 | 5.370 | 31,999 | 21,813 | 3,175 - 90,024 |
| 2022 | gui | 9,417 | 438 | 8,117 - 9,788 | 2,089 | 103 | 1,805 - 2,204 | 0.022 | 5.320 | 45,347 | 30,508 | 5,470 - 125,656 |
| 2023 | gui | 8,332 | 454 | 7,032 - 8,698 | 1,981 | 112 | 1,674 - 2,095 | 0.022 | 5.320 | 40,066 | 27,253 | 4,083 - 109,921 |
| 1977 | pri | 0.000 | 0.538 | 0.000 - 2.000 | 0.000 | 0.652 | 0 - 2.000 | 0.109 | 5.320 | 1.670 | 3.837 | 0.010 - 14 |
| 1978 | pri | 0.000 | 0.449 | 0.000 - 2.000 | 0.000 | 0.612 | 0 - 2.000 | 0.109 | 5.360 | 1.640 | 3.316 | 0.010 - 12 |
| 1979 | pri | 0.000 | 0.296 | 0.000 - 1.000 | 0.000 | 0.442 | 0 - 1.000 | 0.109 | 5.330 | 1.100 | 2.283 | 0.010 - 8.070 |
| 1980 | pri | 0.000 | 0.207 | 0.000 - 1.000 | 0.000 | 0.253 | 0 - 1.000 | 0.109 | 5.340 | 0.840 | 1.625 | 0.010 - 5.630 |
| 1981 | pri | 0.000 | 0.190 | 0.000 - 1.000 | 0.000 | 0.262 | 0 - 1.000 | 0.109 | 5.320 | 0.740 | 1.515 | 0.010 - 5.090 |
| 1982 | pri | 0.000 | 0.158 | 0.000 - 1.000 | 0.000 | 0.207 | 0 - 1.000 | 0.109 | 5.370 | 0.600 | 1.218 | 0.000 - 4.390 |
| 1983 | pri | 0.000 | 0.127 | 0.000 - 0.000 | 0.000 | 0.154 | 0 - 0.000 | 0.109 | 5.350 | 0.510 | 0.980 | 0.000 - 3.510 |
| 1984 | pri | 0.000 | 0.109 | 0.000 - 0.000 | 0.000 | 0.136 | 0 - 0.000 | 0.109 | 5.330 | 0.420 | 0.853 | 0.000 - 3.080 |
| 1985 | pri | 0.000 | 0.095 | 0.000 - 0.000 | 0.000 | 0.116 | 0 - 0.000 | 0.109 | 5.350 | 0.370 | 0.747 | 0.000 - 2.750 |
| 1986 | pri | 0.000 | 0.093 | 0.000 - 0.000 | 0.000 | 0.112 | 0 - 0.000 | 0.109 | 5.370 | 0.360 | 0.729 | 0.000 - 2.570 |
| 1987 | pri | 0.000 | 0.098 | 0.000 - 0.000 | 0.000 | 0.104 | 0 - 0.000 | 0.109 | 5.320 | 0.360 | 0.755 | 0.000 - 2.770 |
| 1988 | pri | 0.000 | 0.105 | 0.000 - 0.000 | 0.000 | 0.110 | 0 - 0.000 | 0.109 | 5.310 | 0.420 | 0.822 | 0.000 - 2.870 |
| 1989 | pri | 0.000 | 0.130 | 0.000 - 0.000 | 0.000 | 0.131 | 0 - 0.000 | 0.109 | 5.320 | 0.490 | 1.022 | 0.000 - 3.360 |
| 1990 | pri | 0.000 | 0.174 | 0.000 - 1.000 | 0.000 | 0.182 | 0 - 1.000 | 0.109 | 5.360 | 0.700 | 1.371 | 0.000 - 4.700 |
| 1991 | pri | 0.000 | 0.257 | 0.000 - 1.000 | 0.000 | 0.243 | 0 - 1.000 | 0.109 | 5.350 | 0.980 | 2.001 | 0.000 - 7.000 |
| 1992 | pri | 0.000 | 0.395 | 0.000 - 1.000 | 0.000 | 0.367 | 0 - 1.000 | 0.109 | 5.370 | 1.500 | 3.009 | 0.010 - 11 |
| 1993 | pri | 1.000 | 0.636 | 0.000 - 2.000 | 0.000 | 0.581 | 0 - 2.000 | 0.109 | 5.360 | 2.630 | 4.767 | 0.020 - 17 |
| 1994 | pri | 2.000 | 1.796 | 0.000 - 7.000 | 1.000 | 1.650 | 0 - 6.000 | 0.109 | 5.330 | 7.210 | 14 | 0.050 - 51 |
| 1995 | pri | 2.000 | 1.896 | 0.000 - 7.000 | 1.000 | 1.406 | 0 - 5.000 | 0.109 | 5.310 | 7.440 | 15 | 0.050 - 52 |
| 1996 | pri | 5.000 | 5.008 | 0.000 - 18 | 2.000 | 4.815 | 0 - 17 | 0.109 | 5.320 | 21 | 39 | 0.110 - 139 |
| 1997 | pri | 14 | 16 | 0.000 - 58 | 6.000 | 26 | 0 - 73 | 0.109 | 5.350 | 67 | 124 | 0.380 - 429 |
| 1998 | pri | 20 | 20 | 0.000 - 72 | 7.000 | 31 | 0 - 90 | 0.109 | 5.300 | 89 | 159 | 0.430 - 588 |
| 1999 | pri | 33 | 32 | 0.000 - 119 | 12 | 35 | 0 - 120 | 0.109 | 5.360 | 150 | 256 | 0.910 - 939 |
| 2000 | pri | 50 | 48 | 0.000 - 171 | 19 | 48 | 0 - 156 | 0.109 | 5.350 | 225 | 389 | 1.090 - 1,388 |
| 2001 | pri | 110 | 108 | 1.000 - 393 | 39 | 119 | 0 - 351 | 0.109 | 5.350 | 488 | 830 | 3.230 - 2,937 |
| 2002 | pri | 99 | 95 | 1.000 - 349 | 33 | 85 | 0 - 279 | 0.109 | 5.350 | 426 | 763 | 2.410 - 2,677 |
| 2003 | pri | 115 | 113 | 1.000 - 424 | 41 | 97 | 0 - 343 | 0.109 | 5.330 | 501 | 905 | 2.740 - 3,302 |
| 2004 | pri | 114 | 114 | 1.000 - 434 | 41 | 117 | 0 - 384 | 0.109 | 5.340 | 506 | 891 | 3.020 - 3,003 |
| 2005 | pri | 144 | 137 | 1.000 - 522 | 51 | 129 | 0 - 456 | 0.109 | 5.310 | 622 | 1,107 | 3.290 - 3,882 |
| 2006 | pri | 107 | 107 | 1.000 - 394 | 35 | 86 | 0 - 306 | 0.109 | 5.340 | 473 | 811 | 2.630 - 3,022 |
| 2007 | pri | 180 | 176 | 2.000 - 660 | 64 | 182 | 0 - 632 | 0.109 | 5.380 | 792 | 1,348 | 5.630 - 5,059 |
| 2008 | pri | 168 | 161 | 1.000 - 592 | 58 | 173 | 0 - 573 | 0.109 | 5.340 | 725 | 1,302 | 3.680 - 4,490 |
| 2009 | pri | 173 | 168 | 2.000 - 621 | 59 | 133 | 0 - 431 | 0.109 | 5.380 | 779 | 1,322 | 4.310 - 4,822 |
| 2010 | pri | 145 | 147 | 1.000 - 539 | 49 | 119 | 0 - 386 | 0.109 | 5.360 | 660 | 1,119 | 3.250 - 3,974 |
| 2011 | pri | 165 | 165 | 1.000 - 616 | 53 | 119 | 0 - 416 | 0.109 | 5.390 | 752 | 1,344 | 5.310 - 4,603 |
| 2012 | pri | 208 | 195 | 2.000 - 710 | 67 | 162 | 0 - 563 | 0.109 | 5.360 | 924 | 1,587 | 5.290 - 5,567 |
| 2013 | pri | 229 | 224 | 2.000 - 824 | 71 | 191 | 0 - 572 | 0.032 | 5.320 | 984 | 1,630 | 4.770 - 5,744 |
| 2014 | pri | 293 | 269 | 2.000 - 998 | 94 | 226 | 0 - 768 | 0.032 | 5.340 | 1,220 | 2,070 | 5.050 - 7,486 |
| 2015 | pri | 264 | 261 | 2.000 - 966 | 84 | 199 | 0 - 715 | 0.032 | 5.350 | 1,155 | 1,984 | 4.410 - 7,215 |
| 2016 | pri | 375 | 357 | 3.000 - 1,299 | 119 | 290 | 0 - 1,004 | 0.032 | 5.370 | 1,575 | 2,752 | 8.960 - 9,873 |
| 2017 | pri | 378 | 355 | 3.000 - 1,325 | 114 | 268 | 0 - 942 | 0.032 | 5.330 | 1,664 | 2,740 | 8.920 - 9,964 |
| 2018 | pri | 519 | 472 | 4.000 - 1,751 | 157 | 379 | 0 - 1,259 | 0.032 | 5.320 | 2,171 | 3,499 | 13 - 12,829 |
| 2019 | pri | 679 | 646 | 6.000 - 2,417 | 207 | 459 | 1 - 1,574 | 0.032 | 5.320 | 2,841 | 4,838 | 16 - 17,510 |
| 2020 | pri | 520 | 489 | 6.000 - 1,790 | 156 | 332 | 1 - 1,153 | 0.032 | 5.320 | 2,233 | 3,805 | 12 - 13,575 |
| 2021 | pri | 879 | 833 | 6.000 - 3,096 | 265 | 606 | 1 - 2,080 | 0.032 | 5.340 | 3,663 | 6,380 | 20 - 22,438 |
| 2022 | pri | 1,182 | 1,126 | 10.000 - 4,249 | 341 | 768 | 1 - 2,670 | 0.032 | 5.330 | 4,851 | 8,625 | 31 - 31,656 |
| 2023 | pri | 1,151 | 1,077 | 10.000 - 4,011 | 331 | 739 | 1 - 2,528 | 0.032 | 5.340 | 4,920 | 8,188 | 31 - 29,594 |

**Appendix C8.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for the Afognak Commercial Fisheries Management Unit 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Afognak (Kodiak) Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 11 | 11 | 2.000 - 43 | 21 | 34 | 3 - 116 | 0.102 | 5.360 | 59 | 101 | 4.590 - 340 |
| 1978 | gui | 12 | 14 | 3.000 - 52 | 24 | 39 | 4 - 140 | 0.102 | 5.350 | 68 | 128 | 4.770 - 430 |
| 1979 | gui | 14 | 13 | 3.000 - 54 | 28 | 42 | 5 - 146 | 0.102 | 5.330 | 78 | 130 | 6.570 - 437 |
| 1980 | gui | 13 | 12 | 3.000 - 48 | 24 | 34 | 4 - 125 | 0.102 | 5.330 | 70 | 112 | 4.560 - 414 |
| 1981 | gui | 16 | 13 | 4.000 - 53 | 31 | 41 | 5 - 149 | 0.102 | 5.340 | 87 | 132 | 6.770 - 467 |
| 1982 | gui | 18 | 16 | 5.000 - 68 | 36 | 50 | 7 - 181 | 0.102 | 5.360 | 102 | 162 | 7.490 - 590 |
| 1983 | gui | 26 | 22 | 7.000 - 83 | 50 | 61 | 9 - 225 | 0.102 | 5.410 | 142 | 215 | 10 - 793 |
| 1984 | gui | 26 | 19 | 7.000 - 82 | 51 | 62 | 10 - 224 | 0.102 | 5.390 | 143 | 203 | 13 - 742 |
| 1985 | gui | 30 | 25 | 8.000 - 99 | 58 | 69 | 12 - 257 | 0.102 | 5.350 | 166 | 244 | 14 - 890 |
| 1986 | gui | 54 | 40 | 19 - 164 | 106 | 120 | 23 - 446 | 0.102 | 5.350 | 312 | 435 | 26 - 1,436 |
| 1987 | gui | 83 | 50 | 33 - 210 | 165 | 166 | 43 - 645 | 0.102 | 5.380 | 472 | 578 | 44 - 2,094 |
| 1988 | gui | 101 | 65 | 41 - 257 | 197 | 202 | 53 - 747 | 0.102 | 5.350 | 574 | 729 | 59 - 2,536 |
| 1989 | gui | 90 | 69 | 32 - 269 | 170 | 182 | 43 - 730 | 0.102 | 5.380 | 499 | 666 | 48 - 2,367 |
| 1990 | gui | 84 | 52 | 31 - 226 | 148 | 118 | 41 - 496 | 0.102 | 5.370 | 472 | 541 | 42 - 2,021 |
| 1991 | gui | 104 | 74 | 37 - 286 | 185 | 186 | 47 - 688 | 0.102 | 5.360 | 577 | 776 | 59 - 2,652 |
| 1992 | gui | 140 | 88 | 50 - 373 | 288 | 226 | 78 - 947 | 0.102 | 5.360 | 803 | 906 | 75 - 3,362 |
| 1993 | gui | 167 | 119 | 61 - 431 | 337 | 294 | 92 - 1,134 | 0.102 | 5.350 | 948 | 1,250 | 79 - 4,058 |
| 1994 | gui | 175 | 102 | 65 - 451 | 338 | 254 | 99 - 1,052 | 0.102 | 5.360 | 984 | 1,098 | 110 - 4,314 |
| 1995 | gui | 190 | 100 | 70 - 449 | 346 | 256 | 96 - 1,075 | 0.102 | 5.350 | 1,040 | 1,121 | 99 - 4,358 |
| 1996 | gui | 220 | 124 | 84 - 545 | 404 | 299 | 117 - 1,245 | 0.102 | 5.350 | 1,241 | 1,294 | 130 - 4,931 |
| 1997 | gui | 444 | 192 | 209 - 941 | 939 | 561 | 310 - 2,413 | 0.102 | 5.350 | 2,554 | 2,368 | 278 - 9,355 |
| 1998 | gui | 243 | 47 | 131 - 314 | 484 | 279 | 172 - 1,204 | 0.102 | 5.340 | 1,361 | 1,044 | 148 - 4,187 |
| 1999 | gui | 363 | 35 | 279 - 418 | 642 | 59 | 496 - 727 | 0.102 | 5.350 | 2,011 | 1,441 | 244 - 5,878 |
| 2000 | gui | 876 | 172 | 462 - 1,126 | 1,398 | 273 | 738 - 1,788 | 0.102 | 5.360 | 4,726 | 3,524 | 441 - 14,162 |
| 2001 | gui | 339 | 67 | 182 - 439 | 623 | 121 | 334 - 798 | 0.102 | 5.360 | 1,872 | 1,389 | 190 - 5,566 |
| 2002 | gui | 165 | 43 | 81 - 244 | 383 | 99 | 187 - 562 | 0.102 | 5.320 | 939 | 756 | 101 - 3,059 |
| 2003 | gui | 412 | 41 | 314 - 477 | 660 | 63 | 508 - 752 | 0.102 | 5.330 | 2,284 | 1,604 | 239 - 6,582 |
| 2004 | gui | 246 | 48 | 133 - 319 | 474 | 92 | 257 - 612 | 0.102 | 5.330 | 1,362 | 1,020 | 126 - 4,044 |
| 2005 | gui | 851 | 160 | 477 - 1,090 | 986 | 185 | 555 - 1,262 | 0.102 | 5.350 | 4,383 | 3,288 | 460 - 13,084 |
| 2006 | gui | 553 | 107 | 303 - 709 | 584 | 112 | 323 - 742 | 0.102 | 5.340 | 2,764 | 2,103 | 328 - 8,440 |
| 2007 | gui | 1,878 | 151 | 1,510 - 2,082 | 2,370 | 190 | 1,907 - 2,634 | 0.102 | 5.380 | 10,085 | 7,093 | 971 - 28,720 |
| 2008 | gui | 1,502 | 283 | 822 - 1,888 | 1,053 | 198 | 580 - 1,323 | 0.102 | 5.330 | 7,271 | 5,536 | 769 - 22,734 |
| 2009 | gui | 2,984 | 83 | 2,806 - 3,133 | 1,417 | 43 | 1,329 - 1,497 | 0.102 | 5.330 | 14,908 | 10,430 | 1,691 - 43,304 |
| 2010 | gui | 1,736 | 114 | 1,461 - 1,904 | 1,075 | 72 | 907 - 1,181 | 0.102 | 5.360 | 8,783 | 6,136 | 969 - 25,402 |
| 2011 | gui | 1,843 | 271 | 1,208 - 2,276 | 1,571 | 231 | 1,030 - 1,935 | 0.102 | 5.350 | 9,342 | 6,854 | 1,089 - 28,201 |
| 2012 | gui | 2,178 | 133 | 1,849 - 2,362 | 1,028 | 65 | 874 - 1,129 | 0.102 | 5.350 | 10,841 | 7,507 | 1,257 - 31,039 |
| 2013 | gui | 719 | 77 | 583 - 889 | 553 | 59 | 444 - 677 | 0.022 | 5.350 | 3,507 | 2,493 | 360 - 10,303 |
| 2014 | gui | 1,132 | 187 | 772 - 1,505 | 984 | 162 | 670 - 1,304 | 0.022 | 5.370 | 5,563 | 4,050 | 655 - 16,598 |
| 2015 | gui | 1,439 | 130 | 1,204 - 1,707 | 551 | 50 | 462 - 656 | 0.022 | 5.330 | 6,908 | 4,865 | 777 - 19,671 |
| 2016 | gui | 3,893 | 1,157 | 1,540 - 4,299 | 941 | 284 | 377 - 1,067 | 0.022 | 5.350 | 13,025 | 12,323 | 1,399 - 46,993 |
| 2017 | gui | 3,346 | 592 | 2,221 - 3,987 | 943 | 168 | 621 - 1,130 | 0.022 | 5.320 | 15,165 | 11,296 | 1,716 - 45,920 |
| 2018 | gui | 2,767 | 199 | 2,408 - 3,183 | 467 | 35 | 402 - 543 | 0.022 | 5.320 | 13,338 | 9,387 | 1,367 - 37,698 |
| 2019 | gui | 2,420 | 319 | 1,975 - 3,001 | 336 | 45 | 273 - 419 | 0.022 | 5.370 | 11,764 | 8,241 | 1,206 - 33,452 |
| 2020 | gui | 3,092 | 263 | 2,618 - 3,647 | 121 | 12 | 99 - 146 | 0.022 | 5.360 | 15,109 | 10,462 | 1,651 - 42,928 |
| 2021 | gui | 4,124 | 247 | 3,643 - 4,624 | 725 | 45 | 638 - 817 | 0.022 | 5.360 | 20,048 | 13,903 | 2,189 - 56,874 |
| 2022 | gui | 3,891 | 361 | 3,229 - 4,658 | 254 | 25 | 210 - 305 | 0.022 | 5.360 | 18,658 | 13,021 | 2,062 - 53,718 |
| 2023 | gui | 9,312 | 482 | 7,793 - 9,803 | 652 | 37 | 547 - 703 | 0.022 | 5.360 | 44,383 | 30,552 | 5,450 - 124,447 |
| 1977 | pri | 3.000 | 3.666 | 0.000 - 14 | 6.000 | 17 | 0 - 55 | 0.109 | 5.320 | 15 | 33 | 0.860 - 119 |
| 1978 | pri | 3.000 | 4.566 | 0.000 - 16 | 7.000 | 19 | 0 - 63 | 0.109 | 5.300 | 18 | 41 | 1.100 - 139 |
| 1979 | pri | 4.000 | 4.595 | 0.000 - 17 | 8.000 | 22 | 0 - 74 | 0.109 | 5.360 | 20 | 46 | 1.280 - 151 |
| 1980 | pri | 3.000 | 4.200 | 0.000 - 15 | 7.000 | 20 | 0 - 59 | 0.109 | 5.340 | 18 | 43 | 1.200 - 141 |
| 1981 | pri | 4.000 | 4.539 | 1.000 - 17 | 9.000 | 24 | 0 - 78 | 0.109 | 5.330 | 22 | 47 | 1.350 - 162 |
| 1982 | pri | 5.000 | 5.427 | 1.000 - 20 | 11 | 28 | 0 - 84 | 0.109 | 5.310 | 26 | 55 | 1.500 - 188 |
| 1983 | pri | 6.000 | 6.768 | 1.000 - 25 | 15 | 34 | 1 - 118 | 0.109 | 5.330 | 38 | 71 | 2.620 - 244 |
| 1984 | pri | 6.000 | 7.078 | 1.000 - 26 | 15 | 36 | 0 - 126 | 0.109 | 5.310 | 36 | 72 | 2.550 - 231 |
| 1985 | pri | 8.000 | 8.457 | 1.000 - 32 | 18 | 41 | 0 - 134 | 0.109 | 5.350 | 44 | 90 | 2.510 - 305 |
| 1986 | pri | 14 | 14 | 3.000 - 55 | 32 | 73 | 1 - 230 | 0.109 | 5.310 | 82 | 151 | 5.980 - 493 |
| 1987 | pri | 21 | 18 | 4.000 - 74 | 47 | 103 | 2 - 323 | 0.109 | 5.340 | 119 | 196 | 8.850 - 694 |
| 1988 | pri | 26 | 25 | 5.000 - 91 | 59 | 138 | 2 - 406 | 0.109 | 5.340 | 151 | 259 | 10 - 882 |
| 1989 | pri | 23 | 24 | 4.000 - 87 | 52 | 105 | 2 - 371 | 0.109 | 5.330 | 134 | 227 | 10 - 815 |
| 1990 | pri | 21 | 19 | 4.000 - 73 | 48 | 77 | 2 - 285 | 0.109 | 5.310 | 120 | 189 | 8.290 - 687 |
| 1991 | pri | 27 | 27 | 5.000 - 100 | 59 | 108 | 2 - 387 | 0.109 | 5.310 | 156 | 267 | 9.610 - 961 |
| 1992 | pri | 35 | 32 | 7.000 - 126 | 81 | 143 | 3 - 495 | 0.109 | 5.340 | 208 | 317 | 14 - 1,144 |
| 1993 | pri | 43 | 40 | 8.000 - 153 | 99 | 174 | 3 - 644 | 0.109 | 5.290 | 245 | 420 | 18 - 1,468 |
| 1994 | pri | 43 | 37 | 9.000 - 149 | 96 | 166 | 4 - 599 | 0.109 | 5.330 | 252 | 398 | 18 - 1,402 |
| 1995 | pri | 47 | 42 | 9.000 - 158 | 102 | 175 | 4 - 591 | 0.109 | 5.330 | 267 | 417 | 18 - 1,530 |
| 1996 | pri | 56 | 47 | 11 - 191 | 125 | 197 | 5 - 711 | 0.109 | 5.350 | 325 | 490 | 25 - 1,744 |
| 1997 | pri | 80 | 65 | 18 - 264 | 191 | 322 | 7 - 1,109 | 0.109 | 5.340 | 478 | 704 | 33 - 2,643 |
| 1998 | pri | 66 | 49 | 13 - 197 | 148 | 242 | 4 - 851 | 0.109 | 5.350 | 385 | 552 | 31 - 1,989 |
| 1999 | pri | 74 | 52 | 15 - 206 | 155 | 222 | 6 - 817 | 0.109 | 5.320 | 419 | 568 | 27 - 2,062 |
| 2000 | pri | 80 | 55 | 14 - 230 | 145 | 179 | 6 - 661 | 0.109 | 5.340 | 448 | 549 | 32 - 2,140 |
| 2001 | pri | 80 | 58 | 18 - 244 | 152 | 238 | 6 - 887 | 0.109 | 5.370 | 450 | 599 | 33 - 2,245 |
| 2002 | pri | 72 | 74 | 17 - 272 | 150 | 284 | 5 - 991 | 0.109 | 5.310 | 411 | 751 | 30 - 2,375 |
| 2003 | pri | 64 | 58 | 13 - 225 | 128 | 293 | 4 - 976 | 0.109 | 5.320 | 365 | 650 | 25 - 2,119 |
| 2004 | pri | 107 | 102 | 25 - 396 | 206 | 396 | 6 - 1,456 | 0.109 | 5.300 | 616 | 995 | 43 - 3,506 |
| 2005 | pri | 181 | 127 | 34 - 513 | 270 | 367 | 11 - 1,368 | 0.109 | 5.320 | 959 | 1,289 | 71 - 4,702 |
| 2006 | pri | 147 | 118 | 33 - 465 | 225 | 348 | 10 - 1,230 | 0.109 | 5.290 | 791 | 1,150 | 61 - 4,069 |
| 2007 | pri | 299 | 206 | 66 - 859 | 387 | 522 | 19 - 1,940 | 0.109 | 5.330 | 1,545 | 2,026 | 124 - 7,591 |
| 2008 | pri | 331 | 223 | 61 - 911 | 383 | 519 | 19 - 1,882 | 0.109 | 5.340 | 1,686 | 2,204 | 127 - 8,297 |
| 2009 | pri | 395 | 219 | 94 - 961 | 450 | 583 | 18 - 2,214 | 0.109 | 5.320 | 2,070 | 2,255 | 175 - 8,494 |
| 2010 | pri | 412 | 277 | 86 - 1,115 | 409 | 577 | 14 - 2,207 | 0.109 | 5.330 | 1,995 | 2,582 | 161 - 10,275 |
| 2011 | pri | 355 | 239 | 76 - 983 | 277 | 388 | 14 - 1,386 | 0.109 | 5.330 | 1,704 | 2,279 | 100 - 8,507 |
| 2012 | pri | 595 | 320 | 142 - 1,384 | 394 | 431 | 20 - 1,643 | 0.109 | 5.360 | 2,884 | 3,296 | 250 - 12,495 |
| 2013 | pri | 376 | 199 | 101 - 894 | 220 | 269 | 8 - 995 | 0.032 | 5.310 | 1,709 | 1,856 | 144 - 7,238 |
| 2014 | pri | 572 | 330 | 150 - 1,428 | 268 | 342 | 11 - 1,293 | 0.032 | 5.310 | 2,568 | 3,175 | 202 - 11,731 |
| 2015 | pri | 428 | 258 | 92 - 1,100 | 163 | 218 | 6 - 792 | 0.032 | 5.340 | 1,967 | 2,339 | 139 - 8,807 |
| 2016 | pri | 591 | 339 | 143 - 1,478 | 183 | 272 | 7 - 986 | 0.032 | 5.340 | 2,628 | 3,093 | 188 - 11,679 |
| 2017 | pri | 716 | 412 | 170 - 1,784 | 183 | 245 | 6 - 902 | 0.032 | 5.310 | 3,174 | 3,740 | 238 - 13,841 |
| 2018 | pri | 1,021 | 517 | 251 - 2,276 | 220 | 284 | 8 - 1,023 | 0.032 | 5.320 | 4,578 | 5,087 | 401 - 19,192 |
| 2019 | pri | 655 | 389 | 158 - 1,644 | 120 | 206 | 4 - 743 | 0.032 | 5.290 | 2,935 | 3,561 | 255 - 13,121 |
| 2020 | pri | 1,186 | 634 | 333 - 2,728 | 192 | 276 | 6 - 1,014 | 0.032 | 5.310 | 5,264 | 6,104 | 436 - 22,886 |
| 2021 | pri | 1,489 | 805 | 380 - 3,487 | 187 | 291 | 9 - 1,073 | 0.032 | 5.280 | 6,593 | 7,565 | 511 - 28,953 |
| 2022 | pri | 1,439 | 788 | 381 - 3,349 | 163 | 278 | 5 - 967 | 0.032 | 5.320 | 6,387 | 7,337 | 453 - 26,681 |
| 2023 | pri | 1,187 | 689 | 278 - 2,961 | 109 | 179 | 5 - 653 | 0.032 | 5.330 | 5,215 | 6,317 | 451 - 23,744 |

**Appendix C9.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for the Eastside Kodiak Commercial Fisheries Management Unit 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Eastside Kodiak Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 40 | 41 | 10.000 - 155 | 75 | 124 | 14 - 441 | 0.102 | 5.430 | 225 | 392 | 16 - 1,319 |
| 1978 | gui | 27 | 27 | 8.000 - 104 | 51 | 81 | 10 - 259 | 0.102 | 5.400 | 157 | 280 | 11 - 893 |
| 1979 | gui | 13 | 10 | 4.000 - 42 | 25 | 30 | 5 - 108 | 0.102 | 5.400 | 74 | 105 | 5.830 - 365 |
| 1980 | gui | 4.000 | 2.630 | 1.000 - 11 | 7.000 | 8.064 | 1 - 29 | 0.102 | 5.360 | 21 | 26 | 1.780 - 95 |
| 1981 | gui | 3.000 | 1.906 | 1.000 - 8.000 | 5.000 | 5.626 | 1 - 22 | 0.102 | 5.410 | 14 | 18 | 0.940 - 67 |
| 1982 | gui | 2.000 | 1.281 | 1.000 - 5.000 | 3.000 | 3.954 | 1 - 15 | 0.102 | 5.430 | 10 | 13 | 0.720 - 47 |
| 1983 | gui | 2.000 | 2.002 | 1.000 - 8.000 | 4.000 | 5.694 | 1 - 21 | 0.102 | 5.390 | 13 | 19 | 1.020 - 68 |
| 1984 | gui | 1.000 | 0.676 | 0.000 - 3.000 | 2.000 | 2.000 | 0 - 7.000 | 0.102 | 5.390 | 5.360 | 7.161 | 0.380 - 25 |
| 1985 | gui | 1.000 | 0.537 | 0.000 - 2.000 | 1.000 | 1.594 | 0 - 6.000 | 0.102 | 5.400 | 4.380 | 5.690 | 0.330 - 21 |
| 1986 | gui | 1.000 | 0.479 | 0.000 - 2.000 | 1.000 | 1.503 | 0 - 6.000 | 0.102 | 5.390 | 3.890 | 4.972 | 0.250 - 18 |
| 1987 | gui | 1.000 | 0.469 | 0.000 - 2.000 | 1.000 | 1.332 | 0 - 5.000 | 0.102 | 5.360 | 3.620 | 4.579 | 0.270 - 17 |
| 1988 | gui | 1.000 | 0.484 | 0.000 - 2.000 | 1.000 | 1.407 | 0 - 5.000 | 0.102 | 5.410 | 3.660 | 5.023 | 0.290 - 18 |
| 1989 | gui | 1.000 | 0.535 | 0.000 - 2.000 | 1.000 | 1.499 | 0 - 5.000 | 0.102 | 5.410 | 4.360 | 5.667 | 0.320 - 20 |
| 1990 | gui | 1.000 | 0.470 | 0.000 - 2.000 | 1.000 | 1.128 | 0 - 5.000 | 0.102 | 5.410 | 4.240 | 4.966 | 0.350 - 18 |
| 1991 | gui | 1.000 | 0.618 | 0.000 - 3.000 | 2.000 | 1.411 | 0 - 5.000 | 0.102 | 5.410 | 5.350 | 6.626 | 0.440 - 24 |
| 1992 | gui | 1.000 | 0.811 | 0.000 - 4.000 | 2.000 | 1.725 | 1 - 7.000 | 0.102 | 5.430 | 7.480 | 8.034 | 0.510 - 31 |
| 1993 | gui | 2.000 | 1.199 | 1.000 - 5.000 | 3.000 | 2.492 | 1 - 9.000 | 0.102 | 5.420 | 10 | 12 | 0.780 - 46 |
| 1994 | gui | 3.000 | 1.795 | 1.000 - 8.000 | 4.000 | 3.484 | 1 - 14 | 0.102 | 5.390 | 15 | 18 | 1.190 - 66 |
| 1995 | gui | 18 | 12 | 7.000 - 54 | 30 | 30 | 8 - 113 | 0.102 | 5.380 | 100 | 121 | 7.860 - 451 |
| 1996 | gui | 73 | 61 | 25 - 250 | 155 | 157 | 42 - 628 | 0.102 | 5.410 | 429 | 582 | 36 - 2,161 |
| 1997 | gui | 65 | 41 | 26 - 178 | 133 | 114 | 42 - 434 | 0.102 | 5.360 | 380 | 427 | 30 - 1,593 |
| 1998 | gui | 89 | 10 | 70 - 109 | 143 | 82 | 56 - 356 | 0.102 | 5.390 | 508 | 369 | 42 - 1,487 |
| 1999 | gui | 96 | 8.702 | 78 - 113 | 291 | 23 | 242 - 334 | 0.102 | 5.400 | 612 | 428 | 55 - 1,728 |
| 2000 | gui | 362 | 19 | 318 - 396 | 1,007 | 49 | 893 - 1,087 | 0.102 | 5.440 | 2,269 | 1,590 | 228 - 6,494 |
| 2001 | gui | 221 | 17 | 183 - 252 | 366 | 28 | 304 - 412 | 0.102 | 5.390 | 1,247 | 875 | 108 - 3,617 |
| 2002 | gui | 259 | 20 | 213 - 290 | 650 | 44 | 535 - 709 | 0.102 | 5.370 | 1,560 | 1,105 | 143 - 4,477 |
| 2003 | gui | 892 | 47 | 774 - 961 | 777 | 42 | 677 - 842 | 0.102 | 5.360 | 4,687 | 3,238 | 385 - 13,266 |
| 2004 | gui | 626 | 39 | 530 - 685 | 394 | 27 | 328 - 435 | 0.102 | 5.390 | 3,212 | 2,231 | 297 - 9,159 |
| 2005 | gui | 1,015 | 67 | 840 - 1,105 | 643 | 44 | 532 - 704 | 0.102 | 5.370 | 5,135 | 3,633 | 419 - 14,644 |
| 2006 | gui | 1,174 | 82 | 980 - 1,294 | 687 | 49 | 574 - 763 | 0.102 | 5.380 | 5,975 | 4,212 | 599 - 17,037 |
| 2007 | gui | 3,169 | 89 | 2,944 - 3,298 | 2,499 | 73 | 2,314 - 2,609 | 0.102 | 5.410 | 16,788 | 11,495 | 1,301 - 46,306 |
| 2008 | gui | 1,951 | 119 | 1,628 - 2,084 | 730 | 47 | 605 - 792 | 0.102 | 5.390 | 9,571 | 6,719 | 986 - 27,660 |
| 2009 | gui | 2,152 | 62 | 2,005 - 2,251 | 581 | 22 | 535 - 620 | 0.102 | 5.410 | 10,736 | 7,421 | 889 - 30,376 |
| 2010 | gui | 1,550 | 100 | 1,288 - 1,663 | 939 | 61 | 781 - 1,016 | 0.102 | 5.380 | 7,828 | 5,512 | 701 - 22,348 |
| 2011 | gui | 1,722 | 107 | 1,428 - 1,840 | 452 | 30 | 376 - 493 | 0.102 | 5.380 | 8,435 | 5,854 | 815 - 24,042 |
| 2012 | gui | 2,855 | 162 | 2,473 - 3,091 | 464 | 29 | 401 - 513 | 0.102 | 5.400 | 14,035 | 9,669 | 1,474 - 40,249 |
| 2013 | gui | 1,822 | 106 | 1,616 - 2,018 | 549 | 35 | 483 - 615 | 0.022 | 5.430 | 8,901 | 6,248 | 900 - 25,388 |
| 2014 | gui | 3,179 | 115 | 2,905 - 3,349 | 775 | 32 | 702 - 831 | 0.022 | 5.360 | 15,464 | 10,740 | 1,293 - 44,691 |
| 2015 | gui | 2,347 | 129 | 2,032 - 2,534 | 674 | 40 | 580 - 738 | 0.022 | 5.430 | 11,523 | 7,898 | 1,063 - 32,356 |
| 2016 | gui | 3,030 | 119 | 2,773 - 3,236 | 889 | 39 | 807 - 961 | 0.022 | 5.410 | 14,639 | 10,380 | 1,539 - 42,800 |
| 2017 | gui | 3,589 | 89 | 3,402 - 3,740 | 689 | 24 | 641 - 734 | 0.022 | 5.390 | 17,656 | 12,102 | 1,518 - 49,254 |
| 2018 | gui | 3,506 | 93 | 3,298 - 3,658 | 626 | 23 | 580 - 670 | 0.022 | 5.360 | 16,965 | 11,756 | 1,616 - 48,392 |
| 2019 | gui | 5,278 | 146 | 4,923 - 5,493 | 639 | 24 | 588 - 681 | 0.022 | 5.390 | 25,702 | 17,835 | 2,207 - 73,074 |
| 2020 | gui | 1,377 | 38 | 1,300 - 1,444 | 321 | 14 | 294 - 348 | 0.022 | 5.400 | 6,773 | 4,666 | 592 - 19,213 |
| 2021 | gui | 2,264 | 93 | 2,075 - 2,444 | 569 | 27 | 514 - 621 | 0.022 | 5.400 | 11,096 | 7,683 | 1,052 - 31,281 |
| 2022 | gui | 1,625 | 51 | 1,511 - 1,708 | 323 | 15 | 292 - 351 | 0.022 | 5.410 | 7,983 | 5,522 | 622 - 22,513 |
| 2023 | gui | 1,902 | 101 | 1,660 - 2,056 | 183 | 13 | 157 - 208 | 0.022 | 5.390 | 9,078 | 6,411 | 793 - 25,858 |
| 1977 | pri | 5.000 | 11 | 0.000 - 38 | 7.000 | 37 | 0 - 104 | 0.109 | 5.370 | 29 | 94 | 0.890 - 288 |
| 1978 | pri | 4.000 | 6.262 | 0.000 - 23 | 5.000 | 20 | 0 - 63 | 0.109 | 5.410 | 20 | 62 | 0.820 - 184 |
| 1979 | pri | 2.000 | 2.729 | 0.000 - 10.000 | 2.000 | 8.160 | 0 - 29 | 0.109 | 5.380 | 9.450 | 23 | 0.360 - 79 |
| 1980 | pri | 0.000 | 0.738 | 0.000 - 3.000 | 1.000 | 2.349 | 0 - 8.000 | 0.109 | 5.360 | 2.530 | 6.316 | 0.090 - 22 |
| 1981 | pri | 0.000 | 0.512 | 0.000 - 2.000 | 0.000 | 1.833 | 0 - 6.000 | 0.109 | 5.370 | 1.830 | 4.622 | 0.050 - 15 |
| 1982 | pri | 0.000 | 0.334 | 0.000 - 1.000 | 0.000 | 1.064 | 0 - 3.000 | 0.109 | 5.340 | 1.290 | 2.939 | 0.050 - 10 |
| 1983 | pri | 0.000 | 0.545 | 0.000 - 2.000 | 0.000 | 1.716 | 0 - 5.000 | 0.109 | 5.340 | 1.620 | 4.631 | 0.060 - 15 |
| 1984 | pri | 0.000 | 0.189 | 0.000 - 1.000 | 0.000 | 0.594 | 0 - 2.000 | 0.109 | 5.370 | 0.690 | 1.639 | 0.020 - 5.650 |
| 1985 | pri | 0.000 | 0.149 | 0.000 - 1.000 | 0.000 | 0.457 | 0 - 2.000 | 0.109 | 5.340 | 0.540 | 1.290 | 0.020 - 4.480 |
| 1986 | pri | 0.000 | 0.129 | 0.000 - 0.000 | 0.000 | 0.416 | 0 - 1.000 | 0.109 | 5.320 | 0.480 | 1.154 | 0.020 - 3.680 |
| 1987 | pri | 0.000 | 0.126 | 0.000 - 0.000 | 0.000 | 0.430 | 0 - 1.000 | 0.109 | 5.370 | 0.450 | 1.173 | 0.020 - 3.760 |
| 1988 | pri | 0.000 | 0.133 | 0.000 - 0.000 | 0.000 | 0.427 | 0 - 1.000 | 0.109 | 5.340 | 0.450 | 1.131 | 0.020 - 3.840 |
| 1989 | pri | 0.000 | 0.155 | 0.000 - 1.000 | 0.000 | 0.446 | 0 - 2.000 | 0.109 | 5.400 | 0.530 | 1.410 | 0.020 - 4.690 |
| 1990 | pri | 0.000 | 0.149 | 0.000 - 1.000 | 0.000 | 0.418 | 0 - 1.000 | 0.109 | 5.390 | 0.560 | 1.244 | 0.020 - 4.280 |
| 1991 | pri | 0.000 | 0.181 | 0.000 - 1.000 | 0.000 | 0.474 | 0 - 2.000 | 0.109 | 5.360 | 0.700 | 1.528 | 0.020 - 4.940 |
| 1992 | pri | 0.000 | 0.270 | 0.000 - 1.000 | 0.000 | 0.636 | 0 - 2.000 | 0.109 | 5.350 | 0.930 | 2.128 | 0.040 - 7.520 |
| 1993 | pri | 0.000 | 0.367 | 0.000 - 1.000 | 0.000 | 0.845 | 0 - 3.000 | 0.109 | 5.380 | 1.300 | 3.119 | 0.050 - 10 |
| 1994 | pri | 0.000 | 0.531 | 0.000 - 2.000 | 0.000 | 1.383 | 0 - 4.000 | 0.109 | 5.380 | 1.900 | 4.494 | 0.070 - 15 |
| 1995 | pri | 2.000 | 3.461 | 0.000 - 12 | 3.000 | 11 | 0 - 31 | 0.109 | 5.350 | 12 | 28 | 0.540 - 102 |
| 1996 | pri | 10.000 | 16 | 1.000 - 58 | 13 | 56 | 0 - 167 | 0.109 | 5.370 | 53 | 135 | 1.740 - 482 |
| 1997 | pri | 9.000 | 12 | 1.000 - 43 | 11 | 37 | 0 - 128 | 0.109 | 5.370 | 44 | 102 | 1.600 - 349 |
| 1998 | pri | 15 | 15 | 1.000 - 57 | 19 | 43 | 0 - 151 | 0.109 | 5.400 | 80 | 138 | 2.990 - 501 |
| 1999 | pri | 15 | 15 | 1.000 - 58 | 18 | 48 | 0 - 164 | 0.109 | 5.380 | 78 | 135 | 3.300 - 515 |
| 2000 | pri | 48 | 46 | 3.000 - 171 | 54 | 120 | 1 - 436 | 0.109 | 5.360 | 240 | 412 | 9.510 - 1,468 |
| 2001 | pri | 37 | 35 | 3.000 - 133 | 39 | 115 | 1 - 334 | 0.109 | 5.390 | 189 | 328 | 5.850 - 1,159 |
| 2002 | pri | 39 | 39 | 4.000 - 146 | 36 | 84 | 0 - 291 | 0.109 | 5.350 | 198 | 333 | 8.080 - 1,142 |
| 2003 | pri | 107 | 104 | 7.000 - 395 | 84 | 185 | 1 - 629 | 0.109 | 5.370 | 500 | 885 | 19 - 3,216 |
| 2004 | pri | 88 | 82 | 7.000 - 314 | 67 | 157 | 1 - 535 | 0.109 | 5.360 | 435 | 716 | 14 - 2,568 |
| 2005 | pri | 151 | 149 | 15 - 553 | 92 | 240 | 1 - 831 | 0.109 | 5.380 | 709 | 1,242 | 30 - 4,430 |
| 2006 | pri | 154 | 152 | 13 - 588 | 74 | 168 | 1 - 576 | 0.109 | 5.350 | 737 | 1,239 | 28 - 4,471 |
| 2007 | pri | 332 | 321 | 30 - 1,210 | 125 | 286 | 2 - 985 | 0.109 | 5.350 | 1,515 | 2,646 | 60 - 9,746 |
| 2008 | pri | 244 | 239 | 20 - 921 | 76 | 173 | 1 - 569 | 0.109 | 5.380 | 1,107 | 1,902 | 44 - 6,913 |
| 2009 | pri | 261 | 245 | 24 - 931 | 71 | 189 | 1 - 649 | 0.109 | 5.410 | 1,200 | 1,982 | 47 - 7,330 |
| 2010 | pri | 278 | 276 | 25 - 1,066 | 64 | 156 | 1 - 533 | 0.109 | 5.340 | 1,230 | 2,135 | 46 - 7,883 |
| 2011 | pri | 232 | 215 | 16 - 829 | 46 | 105 | 1 - 360 | 0.109 | 5.350 | 1,014 | 1,756 | 36 - 5,995 |
| 2012 | pri | 389 | 351 | 31 - 1,312 | 70 | 163 | 1 - 560 | 0.109 | 5.370 | 1,686 | 2,786 | 55 - 9,959 |
| 2013 | pri | 268 | 248 | 24 - 937 | 48 | 110 | 1 - 369 | 0.032 | 5.370 | 1,163 | 1,964 | 48 - 6,907 |
| 2014 | pri | 403 | 376 | 35 - 1,432 | 66 | 165 | 1 - 549 | 0.032 | 5.350 | 1,757 | 2,971 | 64 - 11,139 |
| 2015 | pri | 344 | 324 | 29 - 1,218 | 53 | 122 | 1 - 415 | 0.032 | 5.340 | 1,476 | 2,560 | 65 - 8,954 |
| 2016 | pri | 404 | 369 | 31 - 1,395 | 60 | 153 | 1 - 478 | 0.032 | 5.360 | 1,748 | 2,809 | 64 - 10,338 |
| 2017 | pri | 454 | 428 | 34 - 1,658 | 71 | 162 | 1 - 575 | 0.032 | 5.380 | 1,964 | 3,249 | 80 - 11,712 |
| 2018 | pri | 445 | 392 | 33 - 1,502 | 64 | 150 | 1 - 521 | 0.032 | 5.370 | 1,890 | 3,092 | 66 - 11,102 |
| 2019 | pri | 601 | 571 | 45 - 2,150 | 85 | 188 | 1 - 678 | 0.032 | 5.370 | 2,595 | 4,413 | 85 - 15,114 |
| 2020 | pri | 192 | 179 | 19 - 680 | 27 | 59 | 0 - 202 | 0.032 | 5.320 | 806 | 1,374 | 40 - 5,005 |
| 2021 | pri | 321 | 303 | 26 - 1,130 | 46 | 118 | 1 - 395 | 0.032 | 5.360 | 1,392 | 2,333 | 52 - 8,463 |
| 2022 | pri | 230 | 218 | 21 - 831 | 32 | 84 | 1 - 286 | 0.032 | 5.380 | 999 | 1,754 | 39 - 6,142 |
| 2023 | pri | 263 | 238 | 22 - 915 | 38 | 93 | 0 - 305 | 0.032 | 5.360 | 1,125 | 1,775 | 40 - 6,415 |

**Appendix C10.** Black rockfish harvest, release, release mortality, weight, and total mortality estimates by year and user group for the Eastside Kodiak Commercial Fisheries Management Unit 1977 - 2023. User “gui” indicates guided trips while “pri” indicates unguided trips. Harvest, release and release mortalities are estimated in numbers of fish.

| Northeast Kodiak Black Rockfish | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | User | Harvest | H. SD | H. 95% CI | Releases | R. SD | R. 95% CI | Rel. Mort. Rate | Mean wt lbs | Total Mortality (lbs) | TM. SD | TM. 95% CI |
| 1977 | gui | 1,302 | 436 | 668 - 2,359 | 918 | 699 | 293 - 2,775 | 0.102 | 4.770 | 6,601 | 2,450 | 3,201 - 12,724 |
| 1978 | gui | 1,305 | 412 | 677 - 2,294 | 911 | 663 | 300 - 2,745 | 0.102 | 4.770 | 6,673 | 2,296 | 3,380 - 12,258 |
| 1979 | gui | 1,530 | 466 | 783 - 2,633 | 1,070 | 762 | 325 - 3,230 | 0.102 | 4.770 | 7,844 | 2,595 | 3,891 - 14,217 |
| 1980 | gui | 1,204 | 368 | 643 - 2,038 | 869 | 611 | 269 - 2,528 | 0.102 | 4.760 | 6,126 | 2,058 | 3,085 - 11,158 |
| 1981 | gui | 1,888 | 567 | 1,014 - 3,184 | 1,292 | 973 | 422 - 3,991 | 0.102 | 4.780 | 9,682 | 3,229 | 4,962 - 17,484 |
| 1982 | gui | 1,709 | 495 | 914 - 2,872 | 1,174 | 859 | 397 - 3,584 | 0.102 | 4.780 | 8,676 | 2,831 | 4,491 - 15,551 |
| 1983 | gui | 1,680 | 482 | 913 - 2,827 | 1,163 | 813 | 401 - 3,465 | 0.102 | 4.760 | 8,537 | 2,728 | 4,397 - 14,968 |
| 1984 | gui | 2,187 | 667 | 1,186 - 3,738 | 1,524 | 1,093 | 474 - 4,570 | 0.102 | 4.770 | 11,093 | 3,792 | 5,661 - 20,497 |
| 1985 | gui | 1,912 | 568 | 1,029 - 3,229 | 1,345 | 992 | 437 - 4,032 | 0.102 | 4.780 | 9,844 | 3,208 | 4,913 - 17,493 |
| 1986 | gui | 1,787 | 521 | 948 - 2,984 | 1,249 | 854 | 404 - 3,627 | 0.102 | 4.770 | 9,044 | 2,975 | 4,668 - 16,209 |
| 1987 | gui | 1,732 | 517 | 894 - 2,886 | 1,212 | 893 | 379 - 3,820 | 0.102 | 4.750 | 8,765 | 2,941 | 4,275 - 15,768 |
| 1988 | gui | 2,146 | 654 | 1,161 - 3,688 | 1,496 | 1,059 | 490 - 4,390 | 0.102 | 4.790 | 10,955 | 3,698 | 5,647 - 20,290 |
| 1989 | gui | 1,733 | 510 | 922 - 2,921 | 1,194 | 844 | 424 - 3,638 | 0.102 | 4.770 | 8,836 | 2,882 | 4,568 - 15,461 |
| 1990 | gui | 1,605 | 458 | 868 - 2,650 | 939 | 538 | 342 - 2,398 | 0.102 | 4.770 | 8,070 | 2,511 | 4,088 - 13,825 |
| 1991 | gui | 1,874 | 556 | 1,017 - 3,142 | 1,084 | 661 | 378 - 2,933 | 0.102 | 4.770 | 9,485 | 3,063 | 4,895 - 16,761 |
| 1992 | gui | 1,668 | 478 | 914 - 2,757 | 1,030 | 577 | 373 - 2,618 | 0.102 | 4.790 | 8,443 | 2,670 | 4,432 - 14,993 |
| 1993 | gui | 1,746 | 499 | 941 - 2,913 | 1,080 | 607 | 385 - 2,712 | 0.102 | 4.710 | 8,814 | 2,528 | 4,719 - 14,645 |
| 1994 | gui | 1,495 | 414 | 791 - 2,425 | 877 | 484 | 330 - 2,147 | 0.102 | 4.350 | 6,922 | 1,930 | 3,643 - 11,264 |
| 1995 | gui | 1,368 | 383 | 756 - 2,274 | 761 | 445 | 279 - 2,010 | 0.102 | 4.590 | 6,644 | 1,883 | 3,686 - 11,065 |
| 1996 | gui | 1,887 | 443 | 1,224 - 2,919 | 1,103 | 614 | 435 - 2,791 | 0.102 | 4.770 | 9,524 | 2,557 | 5,785 - 15,617 |
| 1997 | gui | 1,657 | 366 | 1,091 - 2,509 | 1,139 | 583 | 443 - 2,610 | 0.102 | 4.760 | 8,439 | 2,164 | 5,119 - 13,347 |
| 1998 | gui | 830 | 45 | 740 - 918 | 590 | 295 | 228 - 1,352 | 0.102 | 3.710 | 3,308 | 308 | 2,750 - 3,954 |
| 1999 | gui | 1,505 | 59 | 1,384 - 1,612 | 1,455 | 56 | 1,340 - 1,557 | 0.102 | 4.370 | 7,217 | 384 | 6,477 - 7,971 |
| 2000 | gui | 1,708 | 59 | 1,579 - 1,811 | 1,744 | 62 | 1,612 - 1,853 | 0.102 | 4.940 | 9,287 | 434 | 8,449 - 10,160 |
| 2001 | gui | 1,723 | 65 | 1,582 - 1,837 | 1,663 | 61 | 1,532 - 1,771 | 0.102 | 4.850 | 9,149 | 593 | 8,005 - 10,343 |
| 2002 | gui | 1,796 | 91 | 1,590 - 1,949 | 1,566 | 81 | 1,386 - 1,702 | 0.102 | 5.330 | 10,406 | 588 | 9,148 - 11,469 |
| 2003 | gui | 2,125 | 94 | 1,925 - 2,288 | 2,594 | 113 | 2,353 - 2,788 | 0.102 | 4.790 | 11,423 | 625 | 10,131 - 12,594 |
| 2004 | gui | 2,357 | 106 | 2,136 - 2,554 | 1,271 | 61 | 1,146 - 1,385 | 0.102 | 5.270 | 13,101 | 644 | 11,767 - 14,295 |
| 2005 | gui | 3,843 | 107 | 3,619 - 4,035 | 3,600 | 102 | 3,382 - 3,778 | 0.102 | 4.730 | 19,911 | 696 | 18,499 - 21,180 |
| 2006 | gui | 3,008 | 113 | 2,767 - 3,197 | 1,380 | 55 | 1,265 - 1,479 | 0.102 | 4.990 | 15,704 | 655 | 14,353 - 16,900 |
| 2007 | gui | 3,215 | 163 | 2,906 - 3,538 | 1,075 | 57 | 964 - 1,188 | 0.102 | 5.720 | 19,014 | 1,106 | 16,944 - 21,197 |
| 2008 | gui | 4,830 | 185 | 4,460 - 5,176 | 1,199 | 50 | 1,100 - 1,292 | 0.102 | 5.540 | 27,432 | 1,163 | 25,180 - 29,700 |
| 2009 | gui | 4,551 | 297 | 3,923 - 5,069 | 957 | 65 | 825 - 1,076 | 0.102 | 5.350 | 24,913 | 1,817 | 21,048 - 28,240 |
| 2010 | gui | 3,774 | 321 | 3,165 - 4,409 | 487 | 43 | 405 - 572 | 0.102 | 4.700 | 17,944 | 1,769 | 14,727 - 21,600 |
| 2011 | gui | 5,550 | 199 | 5,141 - 5,915 | 958 | 39 | 880 - 1,030 | 0.102 | 5.380 | 30,356 | 1,308 | 27,796 - 32,889 |
| 2012 | gui | 4,684 | 221 | 4,250 - 5,122 | 628 | 33 | 565 - 694 | 0.102 | 4.860 | 23,053 | 1,188 | 20,825 - 25,463 |
| 2013 | gui | 5,454 | 185 | 5,105 - 5,818 | 356 | 15 | 327 - 388 | 0.022 | 4.940 | 26,991 | 1,016 | 25,072 - 29,028 |
| 2014 | gui | 8,431 | 251 | 7,915 - 8,891 | 728 | 28 | 674 - 782 | 0.022 | 5.060 | 42,729 | 1,416 | 39,861 - 45,474 |
| 2015 | gui | 7,870 | 441 | 7,038 - 8,746 | 549 | 34 | 486 - 616 | 0.022 | 4.760 | 37,413 | 4,843 | 28,405 - 47,484 |
| 2016 | gui | 7,416 | 293 | 6,842 - 7,987 | 537 | 24 | 491 - 586 | 0.022 | 4.610 | 34,274 | 1,552 | 31,200 - 37,283 |
| 2017 | gui | 4,469 | 150 | 4,170 - 4,756 | 312 | 15 | 284 - 341 | 0.022 | 4.170 | 18,646 | 750 | 17,218 - 20,125 |
| 2018 | gui | 6,210 | 179 | 5,870 - 6,562 | 336 | 15 | 308 - 365 | 0.022 | 4.610 | 28,613 | 964 | 26,797 - 30,558 |
| 2019 | gui | 7,444 | 254 | 6,943 - 7,924 | 1,155 | 45 | 1,067 - 1,241 | 0.022 | 5.150 | 38,417 | 1,522 | 35,555 - 41,425 |
| 2020 | gui | 3,225 | 148 | 2,935 - 3,512 | 169 | 11 | 149 - 191 | 0.022 | 5.070 | 16,346 | 976 | 14,502 - 18,340 |
| 2021 | gui | 7,997 | 163 | 7,652 - 8,297 | 804 | 24 | 756 - 851 | 0.022 | 3.930 | 31,461 | 829 | 29,831 - 33,150 |
| 2022 | gui | 9,111 | 289 | 8,488 - 9,616 | 496 | 22 | 454 - 539 | 0.022 | 3.840 | 34,942 | 1,488 | 32,034 - 37,803 |
| 2023 | gui | 7,475 | 246 | 6,967 - 7,931 | 460 | 20 | 422 - 499 | 0.022 | 4.300 | 32,188 | 1,229 | 29,753 - 34,612 |
| 1977 | pri | 1,143 | 419 | 538 - 2,163 | 564 | 663 | 11 - 2,370 | 0.109 | 4.510 | 5,398 | 2,122 | 2,518 - 10,771 |
| 1978 | pri | 1,136 | 394 | 552 - 2,076 | 540 | 670 | 12 - 2,508 | 0.109 | 4.530 | 5,410 | 2,016 | 2,540 - 10,355 |
| 1979 | pri | 1,314 | 445 | 666 - 2,364 | 640 | 797 | 13 - 2,876 | 0.109 | 4.510 | 6,248 | 2,296 | 3,061 - 11,956 |
| 1980 | pri | 1,041 | 348 | 524 - 1,893 | 500 | 635 | 10 - 2,170 | 0.109 | 4.500 | 4,955 | 1,818 | 2,378 - 9,286 |
| 1981 | pri | 1,629 | 535 | 792 - 2,867 | 790 | 1,003 | 17 - 3,556 | 0.109 | 4.520 | 7,779 | 2,787 | 3,653 - 14,532 |
| 1982 | pri | 1,471 | 491 | 749 - 2,659 | 727 | 839 | 15 - 3,070 | 0.109 | 4.520 | 7,084 | 2,509 | 3,399 - 13,285 |
| 1983 | pri | 1,451 | 480 | 728 - 2,576 | 696 | 866 | 14 - 3,030 | 0.109 | 4.500 | 6,890 | 2,494 | 3,349 - 13,094 |
| 1984 | pri | 1,901 | 629 | 962 - 3,388 | 913 | 1,173 | 20 - 4,410 | 0.109 | 4.510 | 9,049 | 3,288 | 4,436 - 17,141 |
| 1985 | pri | 1,665 | 540 | 825 - 2,937 | 803 | 999 | 15 - 3,572 | 0.109 | 4.520 | 7,947 | 2,803 | 3,834 - 14,602 |
| 1986 | pri | 1,521 | 507 | 779 - 2,718 | 749 | 888 | 17 - 3,354 | 0.109 | 4.530 | 7,297 | 2,627 | 3,510 - 13,647 |
| 1987 | pri | 1,479 | 488 | 723 - 2,597 | 737 | 859 | 15 - 3,099 | 0.109 | 4.530 | 7,066 | 2,508 | 3,347 - 13,101 |
| 1988 | pri | 1,861 | 611 | 940 - 3,329 | 901 | 1,044 | 22 - 3,976 | 0.109 | 4.500 | 8,854 | 3,146 | 4,301 - 16,256 |
| 1989 | pri | 1,500 | 476 | 752 - 2,586 | 739 | 850 | 15 - 3,110 | 0.109 | 4.500 | 7,160 | 2,456 | 3,430 - 13,079 |
| 1990 | pri | 1,392 | 442 | 716 - 2,420 | 602 | 601 | 15 - 2,200 | 0.109 | 4.520 | 6,628 | 2,242 | 3,208 - 11,968 |
| 1991 | pri | 1,648 | 554 | 805 - 2,921 | 695 | 722 | 17 - 2,755 | 0.109 | 4.520 | 7,800 | 2,839 | 3,699 - 14,603 |
| 1992 | pri | 1,444 | 462 | 751 - 2,527 | 639 | 662 | 14 - 2,499 | 0.109 | 4.530 | 6,837 | 2,343 | 3,464 - 12,427 |
| 1993 | pri | 1,503 | 476 | 791 - 2,614 | 661 | 708 | 16 - 2,548 | 0.109 | 4.190 | 6,627 | 2,144 | 3,498 - 11,859 |
| 1994 | pri | 1,276 | 403 | 655 - 2,234 | 557 | 528 | 13 - 2,026 | 0.109 | 4.340 | 5,847 | 1,869 | 3,002 - 10,337 |
| 1995 | pri | 1,181 | 367 | 616 - 2,058 | 487 | 494 | 13 - 1,872 | 0.109 | 4.480 | 5,574 | 1,750 | 2,870 - 9,711 |
| 1996 | pri | 1,516 | 434 | 857 - 2,526 | 656 | 637 | 15 - 2,375 | 0.109 | 4.250 | 6,797 | 2,010 | 3,828 - 11,625 |
| 1997 | pri | 1,490 | 405 | 868 - 2,404 | 739 | 708 | 15 - 2,608 | 0.109 | 4.520 | 7,107 | 2,156 | 3,953 - 12,129 |
| 1998 | pri | 1,148 | 305 | 670 - 1,873 | 604 | 552 | 12 - 2,060 | 0.109 | 4.210 | 5,148 | 1,376 | 2,982 - 8,376 |
| 1999 | pri | 1,134 | 295 | 665 - 1,798 | 506 | 508 | 12 - 1,884 | 0.109 | 4.630 | 5,551 | 1,440 | 3,300 - 8,784 |
| 2000 | pri | 1,382 | 369 | 805 - 2,237 | 628 | 636 | 15 - 2,355 | 0.109 | 4.460 | 6,562 | 1,744 | 3,810 - 10,564 |
| 2001 | pri | 1,443 | 386 | 827 - 2,333 | 578 | 576 | 15 - 2,136 | 0.109 | 4.390 | 6,639 | 1,791 | 3,845 - 10,811 |
| 2002 | pri | 1,292 | 361 | 742 - 2,194 | 569 | 568 | 13 - 2,086 | 0.109 | 4.600 | 6,261 | 1,743 | 3,613 - 10,682 |
| 2003 | pri | 1,465 | 382 | 829 - 2,332 | 525 | 493 | 13 - 1,907 | 0.109 | 4.850 | 7,424 | 1,925 | 4,235 - 11,784 |
| 2004 | pri | 1,919 | 509 | 1,124 - 3,120 | 668 | 636 | 16 - 2,373 | 0.109 | 4.710 | 9,409 | 2,477 | 5,610 - 15,220 |
| 2005 | pri | 2,976 | 817 | 1,675 - 4,923 | 1,059 | 1,157 | 25 - 4,234 | 0.109 | 4.580 | 14,258 | 3,901 | 8,052 - 23,806 |
| 2006 | pri | 2,549 | 654 | 1,516 - 4,079 | 811 | 778 | 13 - 2,870 | 0.109 | 3.790 | 9,999 | 2,692 | 5,754 - 16,313 |
| 2007 | pri | 3,501 | 876 | 2,064 - 5,521 | 992 | 967 | 17 - 3,622 | 0.109 | 5.160 | 18,739 | 4,698 | 11,161 - 29,301 |
| 2008 | pri | 3,680 | 939 | 2,163 - 5,832 | 866 | 881 | 13 - 3,395 | 0.109 | 5.160 | 19,474 | 4,980 | 11,631 - 31,180 |
| 2009 | pri | 3,249 | 859 | 1,900 - 5,249 | 597 | 628 | 9 - 2,248 | 0.109 | 4.670 | 15,507 | 4,204 | 9,021 - 25,530 |
| 2010 | pri | 4,225 | 1,131 | 2,421 - 6,829 | 591 | 701 | 8 - 2,553 | 0.109 | 4.960 | 21,207 | 5,898 | 12,072 - 34,886 |
| 2011 | pri | 4,613 | 1,065 | 2,799 - 6,975 | 570 | 583 | 7 - 2,108 | 0.109 | 4.550 | 21,351 | 4,959 | 12,997 - 32,594 |
| 2012 | pri | 4,492 | 1,055 | 2,742 - 6,916 | 425 | 503 | 6 - 1,866 | 0.109 | 4.750 | 21,631 | 5,112 | 13,213 - 33,037 |
| 2013 | pri | 5,042 | 1,170 | 3,059 - 7,594 | 410 | 396 | 6 - 1,435 | 0.032 | 4.220 | 21,395 | 5,079 | 12,876 - 32,584 |
| 2014 | pri | 6,232 | 1,414 | 3,748 - 9,323 | 441 | 463 | 7 - 1,707 | 0.032 | 5.650 | 35,060 | 8,145 | 21,323 - 53,153 |
| 2015 | pri | 6,495 | 1,476 | 4,016 - 9,754 | 443 | 453 | 7 - 1,644 | 0.032 | 4.840 | 31,505 | 7,254 | 19,462 - 47,660 |
| 2016 | pri | 7,381 | 1,839 | 4,263 - 11,517 | 461 | 498 | 6 - 1,875 | 0.032 | 4.490 | 33,119 | 8,711 | 19,039 - 53,650 |
| 2017 | pri | 4,769 | 1,132 | 2,929 - 7,357 | 312 | 309 | 4 - 1,155 | 0.032 | 4.260 | 20,410 | 4,850 | 12,379 - 31,524 |
| 2018 | pri | 5,749 | 1,291 | 3,550 - 8,604 | 374 | 377 | 6 - 1,398 | 0.032 | 4.090 | 23,588 | 5,353 | 14,438 - 35,479 |
| 2019 | pri | 6,514 | 1,399 | 4,114 - 9,642 | 450 | 543 | 6 - 2,040 | 0.032 | 4.920 | 32,341 | 7,121 | 20,283 - 47,764 |
| 2020 | pri | 3,970 | 1,060 | 2,346 - 6,509 | 318 | 324 | 4 - 1,160 | 0.032 | 4.270 | 17,004 | 4,768 | 9,729 - 28,216 |
| 2021 | pri | 6,654 | 1,507 | 4,044 - 10,021 | 403 | 437 | 6 - 1,609 | 0.032 | 3.800 | 25,304 | 5,776 | 15,361 - 38,381 |
| 2022 | pri | 6,290 | 1,478 | 3,832 - 9,572 | 373 | 395 | 6 - 1,457 | 0.032 | 3.740 | 23,573 | 5,599 | 14,097 - 36,052 |
| 2023 | pri | 6,015 | 1,408 | 3,573 - 9,041 | 357 | 375 | 5 - 1,404 | 0.032 | 4.240 | 25,549 | 5,999 | 15,092 - 38,717 |