

COS fall-run

| Year | Potential Eggs | Prespawm Egg Mortality | Eggs Laid | Entrants | Mortality | Residuals | Production | |
|------|----------------|------------------------|-----------|----------|-----------|-----------|------------|----------|
| 1923 | 56115000 | | 20000 | 56095000 | 6625284 | 42810120 | 0 | 19910164 |
| 1924 | 56115000 | | 366387 | 55748613 | 6625284 | 43288116 | 0 | 19085781 |
| 1925 | 56115000 | | 70467 | 56044533 | 6625284 | 43774380 | 0 | 18895437 |
| 1926 | 56115000 | | 30000 | 56085000 | 6625284 | 43654927 | 0 | 19055357 |
| 1927 | 56115000 | | 54840 | 56060160 | 6625284 | 44340095 | 0 | 18345349 |
| 1928 | 56115000 | | 20000 | 56095000 | 6625284 | 43748983 | 0 | 18971301 |
| 1929 | 56115000 | | 25000 | 56090000 | 6625284 | 43049242 | 0 | 19666042 |
| 1930 | 56115000 | | 80960 | 56034040 | 6625284 | 43706460 | 0 | 18952864 |
| 1931 | 56115000 | | 135940 | 55979060 | 6625284 | 42792703 | 0 | 19811641 |
| 1932 | 56115000 | | 46217961 | 9897039 | 6625284 | 11102239 | 0 | 5420084 |
| 1933 | 56115000 | | 7982020 | 48132980 | 6625284 | 39912884 | 0 | 14845380 |
| 1934 | 56115000 | | 52321925 | 3793075 | 6625284 | 6433331 | 0 | 3985028 |
| 1935 | 56115000 | | 54349890 | 1765110 | 6625284 | 4959683 | 0 | 3430711 |
| 1936 | 56115000 | | 167250 | 55947750 | 6625284 | 42820078 | 0 | 19752956 |
| 1937 | 56115000 | | 35000 | 56080000 | 6625284 | 43091554 | 0 | 19613730 |
| 1938 | 56115000 | | 30000 | 56085000 | 6625284 | 45032590 | 0 | 17677694 |
| 1939 | 56115000 | | 20000 | 56095000 | 6625284 | 43015640 | 0 | 19704644 |
| 1940 | 56115000 | | 108020 | 56006980 | 6625284 | 43828603 | 0 | 18803661 |
| 1941 | 56115000 | | 25000 | 56090000 | 6625284 | 44116997 | 0 | 18598287 |
| 1942 | 56115000 | | 20000 | 56095000 | 6625284 | 43428484 | 0 | 19291800 |
| 1943 | 56115000 | | 20000 | 56095000 | 6625284 | 43665793 | 0 | 19054491 |
| 1944 | 56115000 | | 20000 | 56095000 | 6625284 | 42492045 | 0 | 20228239 |
| 1945 | 56115000 | | 143830 | 55971170 | 6625284 | 42751969 | 0 | 19844485 |
| 1946 | 56115000 | | 30000 | 56085000 | 6625284 | 45540513 | 0 | 17169771 |
| 1947 | 56115000 | | 25000 | 56090000 | 6625284 | 43659016 | 0 | 19056268 |
| 1948 | 56115000 | | 35280 | 56079720 | 6625284 | 43241698 | 0 | 19463306 |
| 1949 | 56115000 | | 30000 | 56085000 | 6625284 | 43839598 | 0 | 18870686 |
| 1950 | 56115000 | | 30000 | 56085000 | 6625284 | 43178539 | 0 | 19531745 |
| 1951 | 56115000 | | 87230 | 56027770 | 6625284 | 43355034 | 0 | 19298020 |
| 1952 | 56115000 | | 25000 | 56090000 | 6625284 | 44270463 | 0 | 18444821 |
| 1953 | 56115000 | | 20000 | 56095000 | 6625284 | 43456131 | 0 | 19264153 |
| 1954 | 56115000 | | 20000 | 56095000 | 6625284 | 43757694 | 0 | 18962590 |
| 1955 | 56115000 | | 25000 | 56090000 | 6625284 | 42546211 | 0 | 20169073 |
| 1956 | 56115000 | | 645000 | 55470000 | 6625284 | 46352708 | 0 | 15742576 |
| 1957 | 56115000 | | 20000 | 56095000 | 6625284 | 43735790 | 0 | 18984494 |
| 1958 | 56115000 | | 25000 | 56090000 | 6625284 | 46678993 | 0 | 16036291 |
| 1959 | 56115000 | | 20000 | 56095000 | 6625284 | 43378499 | 0 | 19341785 |
| 1960 | 56115000 | | 86940 | 56028060 | 6625284 | 43061402 | 0 | 19591942 |
| 1961 | 56115000 | | 30000 | 56085000 | 6625284 | 43596278 | 0 | 19114006 |
| 1962 | 56115000 | | 30000 | 56085000 | 6625284 | 43874698 | 0 | 18835586 |
| 1963 | 56115000 | | 30000 | 56085000 | 6625284 | 44194927 | 0 | 18515357 |
| 1964 | 56115000 | | 20000 | 56095000 | 6625284 | 42844303 | 0 | 19875981 |
| 1965 | 56115000 | | 32200 | 56082800 | 6625284 | 43946809 | 0 | 18761275 |
| 1966 | 56115000 | | 20000 | 56095000 | 6625284 | 44066355 | 0 | 18653929 |

| | | | | | | | |
|---------|----------|----------|----------|---------|----------|---|----------|
| 1967 | 56115000 | 30000 | 56085000 | 6625284 | 43749734 | 0 | 18960550 |
| 1968 | 56115000 | 20000 | 56095000 | 6625284 | 43469106 | 0 | 19251178 |
| 1969 | 56115000 | 30000 | 56085000 | 6625284 | 44080628 | 0 | 18629656 |
| 1970 | 56115000 | 20000 | 56095000 | 6625284 | 58375389 | 0 | 4344895 |
| 1971 | 56115000 | 20000 | 56095000 | 6625284 | 44074421 | 0 | 18645863 |
| 1972 | 56115000 | 20000 | 56095000 | 6625284 | 43513418 | 0 | 19206866 |
| 1973 | 56115000 | 35000 | 56080000 | 6625284 | 43623791 | 0 | 19081493 |
| 1974 | 56115000 | 25000 | 56090000 | 6625284 | 47609796 | 0 | 15105488 |
| 1975 | 56115000 | 20000 | 56095000 | 6625284 | 43864462 | 0 | 18855822 |
| 1976 | 56115000 | 20000 | 56095000 | 6625284 | 43450868 | 0 | 19269416 |
| 1977 | 56115000 | 329331 | 55785669 | 6625284 | 42416449 | 0 | 19994504 |
| 1978 | 56115000 | 56110688 | 4312 | 6625284 | 3519108 | 0 | 3110488 |
| 1979 | 56115000 | 30000 | 56085000 | 6625284 | 43005010 | 0 | 19705274 |
| 1980 | 56115000 | 278420 | 55836580 | 6625284 | 43263333 | 0 | 19198531 |
| 1981 | 56115000 | 25000 | 56090000 | 6625284 | 43460372 | 0 | 19254912 |
| 1982 | 56115000 | 78760 | 56036240 | 6625284 | 45712245 | 0 | 16949279 |
| 1983 | 56115000 | 25000 | 56090000 | 6625284 | 48170155 | 0 | 14545129 |
| 1984 | 56115000 | 25000 | 56090000 | 6625284 | 45969561 | 0 | 16745723 |
| 1985 | 56115000 | 20000 | 56095000 | 6625284 | 42834639 | 0 | 19885645 |
| 1986 | 56115000 | 35280 | 56079720 | 6625284 | 48078847 | 0 | 14626157 |
| 1987 | 56115000 | 30000 | 56085000 | 6625284 | 43700523 | 0 | 19009761 |
| 1988 | 56115000 | 48040 | 56066960 | 6625284 | 43174539 | 0 | 19517705 |
| 1989 | 56115000 | 122860 | 55992140 | 6625284 | 43086068 | 0 | 19531356 |
| 1990 | 56115000 | 477428 | 55637572 | 6625284 | 42224689 | 0 | 20038167 |
| 1991 | 56115000 | 78320 | 56036680 | 6625284 | 43012189 | 0 | 19649775 |
| 1992 | 56115000 | 1545451 | 54569549 | 6625284 | 42807866 | 0 | 18386967 |
| 1993 | 56115000 | 4212004 | 51902996 | 6625284 | 46087441 | 0 | 12440839 |
| 1994 | 56115000 | 20000 | 56095000 | 6625284 | 42836742 | 0 | 19883542 |
| 1995 | 56115000 | 231970 | 55883030 | 6625284 | 46162034 | 0 | 16346280 |
| 1996 | 56115000 | 20000 | 56095000 | 6625284 | 43721745 | 0 | 18998539 |
| 1997 | 56115000 | 20000 | 56095000 | 6625284 | 44230400 | 0 | 18489884 |
| 1998 | 56115000 | 20000 | 56095000 | 6625284 | 50088714 | 0 | 12631570 |
| 1999 | 56115000 | 20000 | 56095000 | 6625284 | 43813254 | 0 | 18907030 |
| 2000 | 56115000 | 20000 | 56095000 | 6625284 | 43715032 | 0 | 19005252 |
| 2001 | 56115000 | 25000 | 56090000 | 6625284 | 43523634 | 0 | 19191650 |
| 2002 | 56115000 | 205476 | 55909524 | 6625284 | 43410383 | 0 | 19124425 |
| Average | | 2848065 | 53266935 | 6625284 | 42227865 | 0 | 17664355 |

PA Fall-run

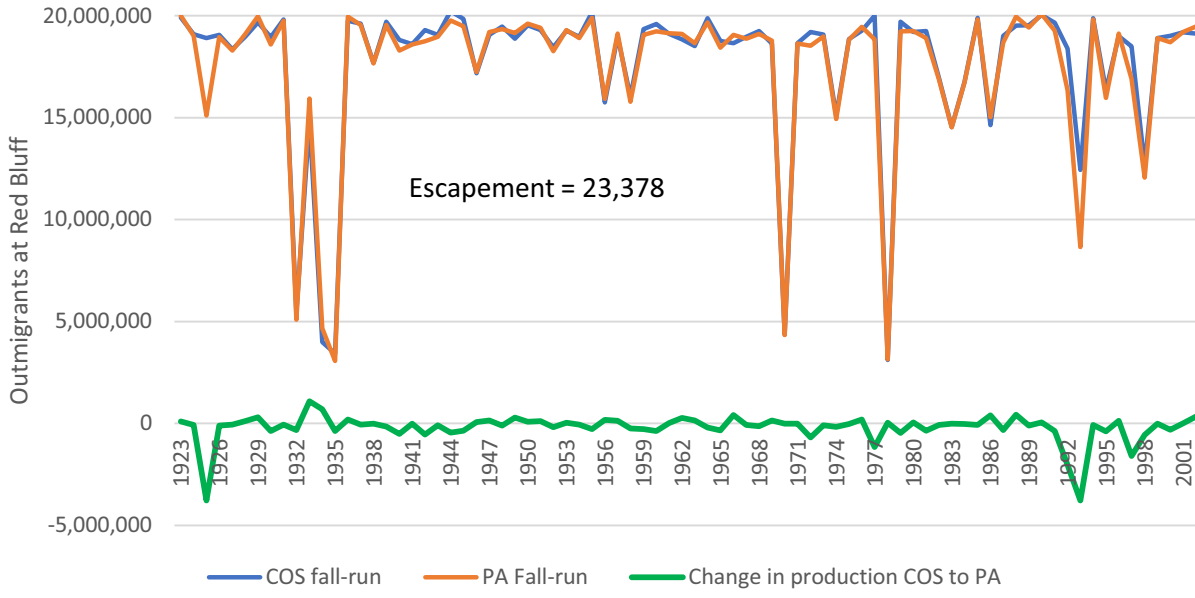
| Survivors | Year | Potential Egg | Prespawm E _g | Eggs Laid | Entrants | Mortality |
|-----------|------|---------------|-------------------------|------------|-----------|------------|
| 19910164 | 1923 | 56,115,000 | 47,402 | 56,067,598 | 6,625,284 | 42,684,737 |
| 19085781 | 1924 | 56,115,000 | 89,920 | 56,025,080 | 6,625,284 | 43,643,141 |
| 18895437 | 1925 | 56,115,000 | 10,594,595 | 45,520,405 | 6,625,284 | 37,036,159 |
| 19055357 | 1926 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,765,282 |
| 18345349 | 1927 | 56,115,000 | 43,580 | 56,071,420 | 6,625,284 | 44,405,869 |
| 18971301 | 1928 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,625,787 |
| 19666042 | 1929 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 42,736,388 |
| 18952864 | 1930 | 56,115,000 | 44,740 | 56,070,260 | 6,625,284 | 44,113,256 |
| 19811641 | 1931 | 56,115,000 | 46,660 | 56,068,340 | 6,625,284 | 42,943,004 |
| 5420084 | 1932 | 56,115,000 | 49,190,667 | 6,924,333 | 6,625,284 | 8,458,383 |
| 14845380 | 1933 | 56,115,000 | 3,386,898 | 52,728,102 | 6,625,284 | 43,417,167 |
| 3985028 | 1934 | 56,115,000 | 48,005,297 | 8,109,703 | 6,625,284 | 10,063,789 |
| 3430711 | 1935 | 56,115,000 | 56,099,816 | 15,184 | 6,625,284 | 3,583,258 |
| 19752956 | 1936 | 56,115,000 | 49,740 | 56,065,260 | 6,625,284 | 42,741,579 |
| 19613730 | 1937 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,161,297 |
| 17677694 | 1938 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 45,048,691 |
| 19704644 | 1939 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 43,167,394 |
| 18803661 | 1940 | 56,115,000 | 630,677 | 55,484,323 | 6,625,284 | 43,824,839 |
| 18598287 | 1941 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 44,119,655 |
| 19291800 | 1942 | 56,115,000 | 20,000 | 56,095,000 | 6,625,284 | 43,976,193 |
| 19054491 | 1943 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 43,753,958 |
| 20228239 | 1944 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 42,938,588 |
| 19844485 | 1945 | 56,115,000 | 106,515 | 56,008,485 | 6,625,284 | 43,145,040 |
| 17169771 | 1946 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 45,478,438 |
| 19056268 | 1947 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,512,218 |
| 19463306 | 1948 | 56,115,000 | 32,200 | 56,082,800 | 6,625,284 | 43,359,623 |
| 18870686 | 1949 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,561,441 |
| 19531745 | 1950 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,096,433 |
| 19298020 | 1951 | 56,115,000 | 65,180 | 56,049,820 | 6,625,284 | 43,271,332 |
| 18444821 | 1952 | 56,115,000 | 37,130 | 56,077,870 | 6,625,284 | 44,443,750 |
| 19264153 | 1953 | 56,115,000 | 20,000 | 56,095,000 | 6,625,284 | 43,428,192 |
| 18962590 | 1954 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,809,177 |
| 20169073 | 1955 | 56,115,000 | 35,280 | 56,079,720 | 6,625,284 | 42,807,985 |
| 15742576 | 1956 | 56,115,000 | 168,950 | 55,946,050 | 6,625,284 | 46,650,827 |
| 18984494 | 1957 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 43,597,814 |
| 16036291 | 1958 | 56,115,000 | 70,020 | 56,044,980 | 6,625,284 | 46,888,103 |
| 19341785 | 1959 | 56,115,000 | 20,000 | 56,095,000 | 6,625,284 | 43,664,112 |
| 19591942 | 1960 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,485,639 |
| 19114006 | 1961 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,572,280 |
| 18835586 | 1962 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,609,620 |
| 18515357 | 1963 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 44,053,879 |
| 19875981 | 1964 | 56,115,000 | 97,160 | 56,017,840 | 6,625,284 | 42,967,017 |
| 18761275 | 1965 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 44,284,738 |
| 18653929 | 1966 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,652,911 |

| | | | | | | |
|----------|------|------------|------------|------------|-----------|------------|
| 18960550 | 1967 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,832,293 |
| 19251178 | 1968 | 56,115,000 | 20,000 | 56,095,000 | 6,625,284 | 43,609,040 |
| 18629656 | 1969 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 43,942,189 |
| 4344895 | 1970 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 58,382,879 |
| 18645863 | 1971 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 44,078,011 |
| 19206866 | 1972 | 56,115,000 | 53,492 | 56,061,508 | 6,625,284 | 44,161,490 |
| 19081493 | 1973 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,725,452 |
| 15105488 | 1974 | 56,115,000 | 35,000 | 56,080,000 | 6,625,284 | 47,771,648 |
| 18855822 | 1975 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 43,884,208 |
| 19269416 | 1976 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 43,258,933 |
| 19994504 | 1977 | 56,115,000 | 242,197 | 55,872,803 | 6,625,284 | 43,664,539 |
| 3110488 | 1978 | 56,115,000 | 56,101,944 | 13,056 | 6,625,284 | 3,493,642 |
| 19705274 | 1979 | 56,115,000 | 107,866 | 56,007,134 | 6,625,284 | 43,396,401 |
| 19198531 | 1980 | 56,115,000 | 141,590 | 55,973,410 | 6,625,284 | 43,343,947 |
| 19254912 | 1981 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 43,811,720 |
| 16949279 | 1982 | 56,115,000 | 113,730 | 56,001,270 | 6,625,284 | 45,754,495 |
| 14545129 | 1983 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 48,187,668 |
| 16745723 | 1984 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 46,002,001 |
| 19885645 | 1985 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 42,904,887 |
| 14626157 | 1986 | 56,115,000 | 119,640 | 55,995,360 | 6,625,284 | 47,593,843 |
| 19009761 | 1987 | 56,115,000 | 653,943 | 55,461,057 | 6,625,284 | 43,402,780 |
| 19517705 | 1988 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 42,760,982 |
| 19531356 | 1989 | 56,115,000 | 82,230 | 56,032,770 | 6,625,284 | 43,232,486 |
| 20038167 | 1990 | 56,115,000 | 951,010 | 55,163,990 | 6,625,284 | 41,706,972 |
| 19649775 | 1991 | 56,115,000 | 116,560 | 55,998,440 | 6,625,284 | 43,352,944 |
| 18386967 | 1992 | 56,115,000 | 3,174,727 | 52,940,273 | 6,625,284 | 43,216,192 |
| 12440839 | 1993 | 56,115,000 | 22,057,382 | 34,057,618 | 6,625,284 | 32,024,075 |
| 19883542 | 1994 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 42,898,083 |
| 16346280 | 1995 | 56,115,000 | 348,481 | 55,766,519 | 6,625,284 | 46,428,776 |
| 18998539 | 1996 | 56,115,000 | 20,000 | 56,095,000 | 6,625,284 | 43,593,242 |
| 18489884 | 1997 | 56,115,000 | 79,360 | 56,035,640 | 6,625,284 | 45,773,561 |
| 12631570 | 1998 | 56,115,000 | 30,000 | 56,085,000 | 6,625,284 | 50,646,357 |
| 18907030 | 1999 | 56,115,000 | 20,000 | 56,095,000 | 6,625,284 | 43,819,026 |
| 19005252 | 2000 | 56,115,000 | 25,000 | 56,090,000 | 6,625,284 | 44,015,100 |
| 19191650 | 2001 | 56,115,000 | 187,677 | 55,927,323 | 6,625,284 | 43,352,434 |
| 19124425 | 2002 | 56,115,000 | 204,180 | 55,910,820 | 6,625,284 | 43,073,912 |
| 17664355 | | Average | 3,184,418 | 52,930,582 | 6,625,284 | 42,095,565 |

| Residuals | Production | Survivors | Change in production COS % change | |
|-----------|------------|------------|-----------------------------------|-------|
| 0 | 20,008,145 | 20,008,145 | 97,981 | 0.5 |
| 0 | 19,007,223 | 19,007,223 | -78,558 | -0.4 |
| 0 | 15,109,530 | 15,109,530 | -3,785,907 | -20.0 |
| 0 | 18,945,002 | 18,945,002 | -110,355 | -0.6 |
| 0 | 18,290,835 | 18,290,835 | -54,514 | -0.3 |
| 0 | 19,084,497 | 19,084,497 | 113,196 | 0.6 |
| 0 | 19,973,896 | 19,973,896 | 307,854 | 1.6 |
| 0 | 18,582,288 | 18,582,288 | -370,576 | -2.0 |
| 0 | 19,750,620 | 19,750,620 | -61,021 | -0.3 |
| 0 | 5,091,234 | 5,091,234 | -328,850 | -6.1 |
| 0 | 15,936,219 | 15,936,219 | 1,090,839 | 7.3 |
| 0 | 4,671,198 | 4,671,198 | 686,170 | 17.2 |
| 0 | 3,057,210 | 3,057,210 | -373,501 | -10.9 |
| 0 | 19,948,965 | 19,948,965 | 196,009 | 1.0 |
| 0 | 19,548,987 | 19,548,987 | -64,743 | -0.3 |
| 0 | 17,661,593 | 17,661,593 | -16,101 | -0.1 |
| 0 | 19,547,890 | 19,547,890 | -156,754 | -0.8 |
| 0 | 18,284,768 | 18,284,768 | -518,893 | -2.8 |
| 0 | 18,590,629 | 18,590,629 | -7,658 | 0.0 |
| 0 | 18,744,091 | 18,744,091 | -547,709 | -2.8 |
| 0 | 18,961,326 | 18,961,326 | -93,165 | -0.5 |
| 0 | 19,771,696 | 19,771,696 | -456,543 | -2.3 |
| 0 | 19,488,729 | 19,488,729 | -355,756 | -1.8 |
| 0 | 17,231,846 | 17,231,846 | 62,075 | 0.4 |
| 0 | 19,198,066 | 19,198,066 | 141,798 | 0.7 |
| 0 | 19,348,461 | 19,348,461 | -114,845 | -0.6 |
| 0 | 19,148,843 | 19,148,843 | 278,157 | 1.5 |
| 0 | 19,613,851 | 19,613,851 | 82,106 | 0.4 |
| 0 | 19,403,772 | 19,403,772 | 105,752 | 0.5 |
| 0 | 18,259,404 | 18,259,404 | -185,417 | -1.0 |
| 0 | 19,292,092 | 19,292,092 | 27,939 | 0.1 |
| 0 | 18,901,107 | 18,901,107 | -61,483 | -0.3 |
| 0 | 19,897,019 | 19,897,019 | -272,054 | -1.3 |
| 0 | 15,920,507 | 15,920,507 | 177,931 | 1.1 |
| 0 | 19,117,470 | 19,117,470 | 132,976 | 0.7 |
| 0 | 15,782,161 | 15,782,161 | -254,130 | -1.6 |
| 0 | 19,056,172 | 19,056,172 | -285,613 | -1.5 |
| 0 | 19,224,645 | 19,224,645 | -367,297 | -1.9 |
| 0 | 19,138,004 | 19,138,004 | 23,998 | 0.1 |
| 0 | 19,100,664 | 19,100,664 | 265,078 | 1.4 |
| 0 | 18,656,405 | 18,656,405 | 141,048 | 0.8 |
| 0 | 19,676,107 | 19,676,107 | -199,874 | -1.0 |
| 0 | 18,425,546 | 18,425,546 | -335,729 | -1.8 |
| 0 | 19,057,373 | 19,057,373 | 403,444 | 2.2 |

| | | | | |
|---|------------|------------|------------|-------|
| 0 | 18,877,991 | 18,877,991 | -82,559 | -0.4 |
| 0 | 19,111,244 | 19,111,244 | -139,934 | -0.7 |
| 0 | 18,773,095 | 18,773,095 | 143,439 | 0.8 |
| 0 | 4,332,405 | 4,332,405 | -12,490 | -0.3 |
| 0 | 18,637,273 | 18,637,273 | -8,590 | 0.0 |
| 0 | 18,525,302 | 18,525,302 | -681,564 | -3.5 |
| 0 | 18,984,832 | 18,984,832 | -96,661 | -0.5 |
| 0 | 14,933,636 | 14,933,636 | -171,852 | -1.1 |
| 0 | 18,831,076 | 18,831,076 | -24,746 | -0.1 |
| 0 | 19,456,351 | 19,456,351 | 186,935 | 1.0 |
| 0 | 18,833,548 | 18,833,548 | -1,160,956 | -5.8 |
| 0 | 3,144,698 | 3,144,698 | 34,210 | 1.1 |
| 0 | 19,236,017 | 19,236,017 | -469,257 | -2.4 |
| 0 | 19,254,747 | 19,254,747 | 56,216 | 0.3 |
| 0 | 18,898,564 | 18,898,564 | -356,348 | -1.9 |
| 0 | 16,872,059 | 16,872,059 | -77,220 | -0.5 |
| 0 | 14,527,616 | 14,527,616 | -17,513 | -0.1 |
| 0 | 16,713,283 | 16,713,283 | -32,440 | -0.2 |
| 0 | 19,810,397 | 19,810,397 | -75,248 | -0.4 |
| 0 | 15,026,801 | 15,026,801 | 400,644 | 2.7 |
| 0 | 18,683,561 | 18,683,561 | -326,200 | -1.7 |
| 0 | 19,949,302 | 19,949,302 | 431,597 | 2.2 |
| 0 | 19,425,568 | 19,425,568 | -105,788 | -0.5 |
| 0 | 20,082,302 | 20,082,302 | 44,135 | 0.2 |
| 0 | 19,270,780 | 19,270,780 | -378,995 | -1.9 |
| 0 | 16,349,365 | 16,349,365 | -2,037,602 | -11.1 |
| 0 | 8,658,827 | 8,658,827 | -3,782,012 | -30.4 |
| 0 | 19,812,201 | 19,812,201 | -71,341 | -0.4 |
| 0 | 15,963,027 | 15,963,027 | -383,253 | -2.3 |
| 0 | 19,127,042 | 19,127,042 | 128,503 | 0.7 |
| 0 | 16,887,363 | 16,887,363 | -1,602,521 | -8.7 |
| 0 | 12,063,927 | 12,063,927 | -567,643 | -4.5 |
| 0 | 18,901,258 | 18,901,258 | -5,772 | 0.0 |
| 0 | 18,700,184 | 18,700,184 | -305,068 | -1.6 |
| 0 | 19,200,173 | 19,200,173 | 8,523 | 0.0 |
| 0 | 19,462,192 | 19,462,192 | 337,767 | 1.8 |
| 0 | 17,460,301 | 17,460,301 | -204,054 | -1.2 |

Sacramento River fall Chinook



% change

| | |
|-------------------------|----------|
| Mean | -1.18907 |
| Standard Error | 0.575091 |
| Median | -0.34444 |
| Mode | #N/A |
| Standard Deviation | 5.143769 |
| Sample Variance | 26.45836 |
| Kurtosis | 16.35453 |
| Skewness | -2.57407 |
| Range | 47.61868 |
| Minimum | -30.4 |
| Maximum | 17.2187 |
| Sum | -95.1258 |
| Count | 80 |
| Largest(2) | 7.348003 |
| Smallest(2) | -20.0361 |
| Confidence Level(95.0%) | 1.14469 |

COS late fall

| Year | Potential E | Prespaw | f Eggs Laid | Entrants | Mortality | Residuals | Production | Survivors |
|------|-------------|---------|-------------|----------|-----------|-----------|------------|-----------|
| 1 | 13325000 | 0 | 13325000 | 0 | 10224222 | 0 | 3100778 | 3100778 |
| 2 | 13325000 | 0 | 13325000 | 0 | 10157041 | 0 | 3167959 | 3167959 |
| 3 | 13325000 | 0 | 13325000 | 0 | 10224344 | 0 | 3100656 | 3100656 |
| 4 | 13325000 | 0 | 13325000 | 0 | 10323140 | 0 | 3001860 | 3001860 |
| 5 | 13325000 | 0 | 13325000 | 0 | 10657413 | 0 | 2667587 | 2667587 |
| 6 | 13325000 | 0 | 13325000 | 0 | 10595306 | 0 | 2729694 | 2729694 |
| 7 | 13325000 | 0 | 13325000 | 0 | 10166045 | 0 | 3158955 | 3158955 |
| 8 | 13325000 | 0 | 13325000 | 0 | 10212682 | 0 | 3112318 | 3112318 |
| 9 | 13325000 | 0 | 13325000 | 0 | 10870939 | 0 | 2454061 | 2454061 |
| 10 | 13325000 | 0 | 13325000 | 0 | 10589844 | 0 | 2735156 | 2735156 |
| 11 | 13325000 | 0 | 13325000 | 0 | 11065742 | 0 | 2259258 | 2259258 |
| 12 | 13325000 | 0 | 13325000 | 0 | 11459472 | 0 | 1865528 | 1865528 |
| 13 | 13325000 | 0 | 13325000 | 0 | 10485470 | 0 | 2839530 | 2839530 |
| 14 | 13325000 | 0 | 13325000 | 0 | 10296676 | 0 | 3028324 | 3028324 |
| 15 | 13325000 | 0 | 13325000 | 0 | 10196690 | 0 | 3128310 | 3128310 |
| 16 | 13325000 | 0 | 13325000 | 0 | 10669433 | 0 | 2655567 | 2655567 |
| 17 | 13325000 | 0 | 13325000 | 0 | 10307882 | 0 | 3017118 | 3017118 |
| 18 | 13325000 | 0 | 13325000 | 0 | 10469192 | 0 | 2855808 | 2855808 |
| 19 | 13325000 | 0 | 13325000 | 0 | 10381899 | 0 | 2943101 | 2943101 |
| 20 | 13325000 | 0 | 13325000 | 0 | 10512659 | 0 | 2812341 | 2812341 |
| 21 | 13325000 | 0 | 13325000 | 0 | 10383739 | 0 | 2941261 | 2941261 |
| 22 | 13325000 | 0 | 13325000 | 0 | 10112044 | 0 | 3212956 | 3212956 |
| 23 | 13325000 | 0 | 13325000 | 0 | 10336578 | 0 | 2988422 | 2988422 |
| 24 | 13325000 | 0 | 13325000 | 0 | 10588647 | 0 | 2736353 | 2736353 |
| 25 | 13325000 | 0 | 13325000 | 0 | 10282696 | 0 | 3042304 | 3042304 |
| 26 | 13325000 | 0 | 13325000 | 0 | 10394710 | 0 | 2930290 | 2930290 |
| 27 | 13325000 | 0 | 13325000 | 0 | 10318785 | 0 | 3006215 | 3006215 |
| 28 | 13325000 | 0 | 13325000 | 0 | 10254101 | 0 | 3070899 | 3070899 |
| 29 | 13325000 | 0 | 13325000 | 0 | 10599339 | 0 | 2725661 | 2725661 |
| 30 | 13325000 | 0 | 13325000 | 0 | 10353707 | 0 | 2971293 | 2971293 |
| 31 | 13325000 | 0 | 13325000 | 0 | 10400648 | 0 | 2924352 | 2924352 |
| 32 | 13325000 | 0 | 13325000 | 0 | 10618318 | 0 | 2706682 | 2706682 |
| 33 | 13325000 | 0 | 13325000 | 0 | 10332678 | 0 | 2992322 | 2992322 |
| 34 | 13325000 | 0 | 13325000 | 0 | 10451212 | 0 | 2873788 | 2873788 |
| 35 | 13325000 | 0 | 13325000 | 0 | 10137405 | 0 | 3187595 | 3187595 |
| 36 | 13325000 | 0 | 13325000 | 0 | 10750762 | 0 | 2574238 | 2574238 |
| 37 | 13325000 | 0 | 13325000 | 0 | 10169250 | 0 | 3155750 | 3155750 |
| 38 | 13325000 | 0 | 13325000 | 0 | 10267499 | 0 | 3057501 | 3057501 |
| 39 | 13325000 | 0 | 13325000 | 0 | 10387518 | 0 | 2937482 | 2937482 |
| 40 | 13325000 | 0 | 13325000 | 0 | 10363523 | 0 | 2961477 | 2961477 |
| 41 | 13325000 | 0 | 13325000 | 0 | 10363065 | 0 | 2961935 | 2961935 |
| 42 | 13325000 | 0 | 13325000 | 0 | 10325070 | 0 | 2999930 | 2999930 |
| 43 | 13325000 | 0 | 13325000 | 0 | 10539355 | 0 | 2785645 | 2785645 |
| 44 | 13325000 | 0 | 13325000 | 0 | 10641097 | 0 | 2683903 | 2683903 |

| | | | | | | | | |
|----|----------|---|----------|---|----------|---|---------|---------|
| 45 | 13325000 | 0 | 13325000 | 0 | 10333939 | 0 | 2991061 | 2991061 |
| 46 | 13325000 | 0 | 13325000 | 0 | 10326193 | 0 | 2998807 | 2998807 |
| 47 | 13325000 | 0 | 13325000 | 0 | 10402631 | 0 | 2922369 | 2922369 |
| 48 | 13325000 | 0 | 13325000 | 0 | 10651477 | 0 | 2673523 | 2673523 |
| 49 | 13325000 | 0 | 13325000 | 0 | 10442111 | 0 | 2882889 | 2882889 |
| 50 | 13325000 | 0 | 13325000 | 0 | 10494558 | 0 | 2830442 | 2830442 |
| 51 | 13325000 | 0 | 13325000 | 0 | 10536989 | 0 | 2788011 | 2788011 |
| 52 | 13325000 | 0 | 13325000 | 0 | 10754562 | 0 | 2570438 | 2570438 |
| 53 | 13325000 | 0 | 13325000 | 0 | 10489431 | 0 | 2835569 | 2835569 |
| 54 | 13325000 | 0 | 13325000 | 0 | 10051344 | 0 | 3273656 | 3273656 |
| 55 | 13325000 | 0 | 13325000 | 0 | 11650902 | 0 | 1674098 | 1674098 |
| 56 | 13325000 | 0 | 13325000 | 0 | 10485592 | 0 | 2839408 | 2839408 |
| 57 | 13325000 | 0 | 13325000 | 0 | 10214919 | 0 | 3110081 | 3110081 |
| 58 | 13325000 | 0 | 13325000 | 0 | 10388144 | 0 | 2936856 | 2936856 |
| 59 | 13325000 | 0 | 13325000 | 0 | 10385316 | 0 | 2939684 | 2939684 |
| 60 | 13325000 | 0 | 13325000 | 0 | 10657032 | 0 | 2667968 | 2667968 |
| 61 | 13325000 | 0 | 13325000 | 0 | 10902578 | 0 | 2422422 | 2422422 |
| 62 | 13325000 | 0 | 13325000 | 0 | 10428247 | 0 | 2896753 | 2896753 |
| 63 | 13325000 | 0 | 13325000 | 0 | 10411863 | 0 | 2913137 | 2913137 |
| 64 | 13325000 | 0 | 13325000 | 0 | 10612778 | 0 | 2712222 | 2712222 |
| 65 | 13325000 | 0 | 13325000 | 0 | 10256491 | 0 | 3068509 | 3068509 |
| 66 | 13325000 | 0 | 13325000 | 0 | 10271163 | 0 | 3053837 | 3053837 |
| 67 | 13325000 | 0 | 13325000 | 0 | 10232885 | 0 | 3092115 | 3092115 |
| 68 | 13325000 | 0 | 13325000 | 0 | 10312323 | 0 | 3012677 | 3012677 |
| 69 | 13325000 | 0 | 13325000 | 0 | 10281545 | 0 | 3043455 | 3043455 |
| 70 | 13325000 | 0 | 13325000 | 0 | 10227810 | 0 | 3097190 | 3097190 |
| 71 | 13325000 | 0 | 13325000 | 0 | 10577622 | 0 | 2747378 | 2747378 |
| 72 | 13325000 | 0 | 13325000 | 0 | 10209411 | 0 | 3115589 | 3115589 |
| 73 | 13325000 | 0 | 13325000 | 0 | 11011052 | 0 | 2313948 | 2313948 |
| 74 | 13325000 | 0 | 13325000 | 0 | 10381493 | 0 | 2943507 | 2943507 |
| 75 | 13325000 | 0 | 13325000 | 0 | 10731255 | 0 | 2593745 | 2593745 |
| 76 | 13325000 | 0 | 13325000 | 0 | 10979515 | 0 | 2345485 | 2345485 |
| 77 | 13325000 | 0 | 13325000 | 0 | 10442326 | 0 | 2882674 | 2882674 |
| 78 | 13325000 | 0 | 13325000 | 0 | 10435043 | 0 | 2889957 | 2889957 |
| 79 | 13325000 | 0 | 13325000 | 0 | 10191495 | 0 | 3133505 | 3133505 |
| 80 | 13325000 | 0 | 13325000 | 0 | 10473213 | 0 | 2851787 | 2851787 |
| | Average | 0 | 13325000 | 0 | 10460914 | 0 | 2864086 | 2864086 |

PA late fall-run

| Year | Potential E; | Prespawn f | Eggs Laid | Entrants | Mortality | Residuals |
|------|--------------|------------|-----------|----------|-----------|-----------|
| 1923 | 13325000 | 0 | 13325000 | 0 | 10112876 | 0 |
| 1924 | 13325000 | 0 | 13325000 | 0 | 10217046 | 0 |
| 1925 | 13325000 | 0 | 13325000 | 0 | 10265718 | 0 |
| 1926 | 13325000 | 0 | 13325000 | 0 | 10202517 | 0 |
| 1927 | 13325000 | 0 | 13325000 | 0 | 10669931 | 0 |
| 1928 | 13325000 | 0 | 13325000 | 0 | 10425863 | 0 |
| 1929 | 13325000 | 0 | 13325000 | 0 | 10171762 | 0 |
| 1930 | 13325000 | 0 | 13325000 | 0 | 10136506 | 0 |
| 1931 | 13325000 | 0 | 13325000 | 0 | 10917827 | 0 |
| 1932 | 13325000 | 0 | 13325000 | 0 | 10728394 | 0 |
| 1933 | 13325000 | 0 | 13325000 | 0 | 10869033 | 0 |
| 1934 | 13325000 | 0 | 13325000 | 0 | 11696064 | 0 |
| 1935 | 13325000 | 0 | 13325000 | 0 | 10522390 | 0 |
| 1936 | 13325000 | 0 | 13325000 | 0 | 10177833 | 0 |
| 1937 | 13325000 | 0 | 13325000 | 0 | 10127923 | 0 |
| 1938 | 13325000 | 0 | 13325000 | 0 | 10656610 | 0 |
| 1939 | 13325000 | 0 | 13325000 | 0 | 10386069 | 0 |
| 1940 | 13325000 | 0 | 13325000 | 0 | 10528401 | 0 |
| 1941 | 13325000 | 0 | 13325000 | 0 | 10412784 | 0 |
| 1942 | 13325000 | 0 | 13325000 | 0 | 10549016 | 0 |
| 1943 | 13325000 | 0 | 13325000 | 0 | 10558657 | 0 |
| 1944 | 13325000 | 0 | 13325000 | 0 | 10122409 | 0 |
| 1945 | 13325000 | 0 | 13325000 | 0 | 10361805 | 0 |
| 1946 | 13325000 | 0 | 13325000 | 0 | 10606510 | 0 |
| 1947 | 13325000 | 0 | 13325000 | 0 | 10312741 | 0 |
| 1948 | 13325000 | 0 | 13325000 | 0 | 10258873 | 0 |
| 1949 | 13325000 | 0 | 13325000 | 0 | 10345521 | 0 |
| 1950 | 13325000 | 0 | 13325000 | 0 | 10222393 | 0 |
| 1951 | 13325000 | 0 | 13325000 | 0 | 10623172 | 0 |
| 1952 | 13325000 | 0 | 13325000 | 0 | 10407163 | 0 |
| 1953 | 13325000 | 0 | 13325000 | 0 | 10476896 | 0 |
| 1954 | 13325000 | 0 | 13325000 | 0 | 10466139 | 0 |
| 1955 | 13325000 | 0 | 13325000 | 0 | 10380453 | 0 |
| 1956 | 13325000 | 0 | 13325000 | 0 | 10466299 | 0 |
| 1957 | 13325000 | 0 | 13325000 | 0 | 10338065 | 0 |
| 1958 | 13325000 | 0 | 13325000 | 0 | 10759567 | 0 |
| 1959 | 13325000 | 0 | 13325000 | 0 | 10318825 | 0 |
| 1960 | 13325000 | 0 | 13325000 | 0 | 10131188 | 0 |
| 1961 | 13325000 | 0 | 13325000 | 0 | 10279819 | 0 |
| 1962 | 13325000 | 0 | 13325000 | 0 | 10413436 | 0 |
| 1963 | 13325000 | 0 | 13325000 | 0 | 10359678 | 0 |
| 1964 | 13325000 | 0 | 13325000 | 0 | 10215594 | 0 |
| 1965 | 13325000 | 0 | 13325000 | 0 | 10547565 | 0 |
| 1966 | 13325000 | 0 | 13325000 | 0 | 10583467 | 0 |

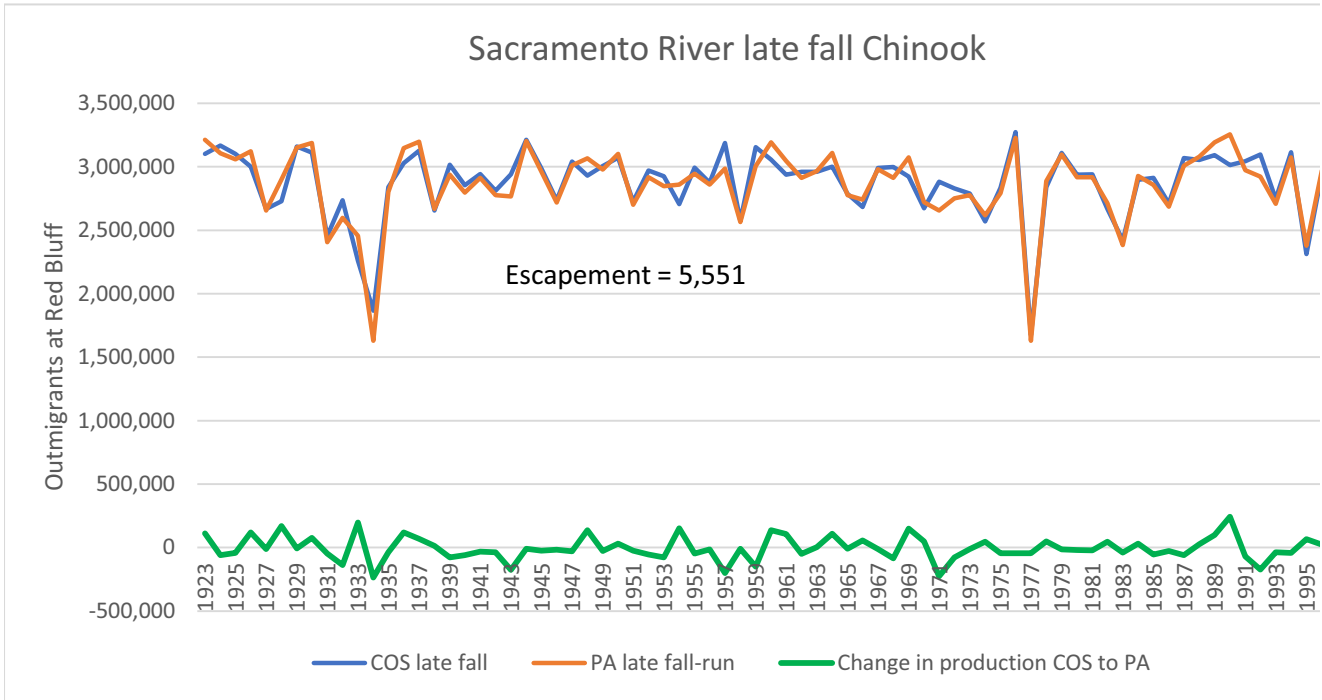
| | | | | | | |
|------|----------|---|----------|---|----------|---|
| 1967 | 13325000 | 0 | 13325000 | 0 | 10344378 | 0 |
| 1968 | 13325000 | 0 | 13325000 | 0 | 10410985 | 0 |
| 1969 | 13325000 | 0 | 13325000 | 0 | 10251910 | 0 |
| 1970 | 13325000 | 0 | 13325000 | 0 | 10603840 | 0 |
| 1971 | 13325000 | 0 | 13325000 | 0 | 10669020 | 0 |
| 1972 | 13325000 | 0 | 13325000 | 0 | 10572961 | 0 |
| 1973 | 13325000 | 0 | 13325000 | 0 | 10549050 | 0 |
| 1974 | 13325000 | 0 | 13325000 | 0 | 10708263 | 0 |
| 1975 | 13325000 | 0 | 13325000 | 0 | 10532908 | 0 |
| 1976 | 13325000 | 0 | 13325000 | 0 | 10096939 | 0 |
| 1977 | 13325000 | 0 | 13325000 | 0 | 11695239 | 0 |
| 1978 | 13325000 | 0 | 13325000 | 0 | 10437221 | 0 |
| 1979 | 13325000 | 0 | 13325000 | 0 | 10228901 | 0 |
| 1980 | 13325000 | 0 | 13325000 | 0 | 10406097 | 0 |
| 1981 | 13325000 | 0 | 13325000 | 0 | 10405973 | 0 |
| 1982 | 13325000 | 0 | 13325000 | 0 | 10611459 | 0 |
| 1983 | 13325000 | 0 | 13325000 | 0 | 10940955 | 0 |
| 1984 | 13325000 | 0 | 13325000 | 0 | 10397251 | 0 |
| 1985 | 13325000 | 0 | 13325000 | 0 | 10467028 | 0 |
| 1986 | 13325000 | 0 | 13325000 | 0 | 10638486 | 0 |
| 1987 | 13325000 | 0 | 13325000 | 0 | 10316987 | 0 |
| 1988 | 13325000 | 0 | 13325000 | 0 | 10244694 | 0 |
| 1989 | 13325000 | 0 | 13325000 | 0 | 10132400 | 0 |
| 1990 | 13325000 | 0 | 13325000 | 0 | 10069107 | 0 |
| 1991 | 13325000 | 0 | 13325000 | 0 | 10352340 | 0 |
| 1992 | 13325000 | 0 | 13325000 | 0 | 10401887 | 0 |
| 1993 | 13325000 | 0 | 13325000 | 0 | 10615278 | 0 |
| 1994 | 13325000 | 0 | 13325000 | 0 | 10251750 | 0 |
| 1995 | 13325000 | 0 | 13325000 | 0 | 10945511 | 0 |
| 1996 | 13325000 | 0 | 13325000 | 0 | 10357976 | 0 |
| 1997 | 13325000 | 0 | 13325000 | 0 | 10526996 | 0 |
| 1998 | 13325000 | 0 | 13325000 | 0 | 11034680 | 0 |
| 1999 | 13325000 | 0 | 13325000 | 0 | 10469620 | 0 |
| 2000 | 13325000 | 0 | 13325000 | 0 | 10537841 | 0 |
| 2001 | 13325000 | 0 | 13325000 | 0 | 10249357 | 0 |
| 2002 | 13325000 | 0 | 13325000 | 0 | 10374876 | 0 |
| | Average | 0 | 13325000 | 0 | 10464762 | 0 |

Production Survivors

Change in production COS % change

| | | | |
|---------|---------|----------|-------|
| 3212124 | 3212124 | 111,346 | 3.6 |
| 3107954 | 3107954 | -60,005 | -1.9 |
| 3059282 | 3059282 | -41,374 | -1.3 |
| 3122483 | 3122483 | 120,623 | 4.0 |
| 2655069 | 2655069 | -12,518 | -0.5 |
| 2899137 | 2899137 | 169,443 | 6.2 |
| 3153238 | 3153238 | -5,717 | -0.2 |
| 3188494 | 3188494 | 76,176 | 2.4 |
| 2407173 | 2407173 | -46,888 | -1.9 |
| 2596606 | 2596606 | -138,550 | -5.1 |
| 2455967 | 2455967 | 196,709 | 8.7 |
| 1628936 | 1628936 | -236,592 | -12.7 |
| 2802610 | 2802610 | -36,920 | -1.3 |
| 3147167 | 3147167 | 118,843 | 3.9 |
| 3197077 | 3197077 | 68,767 | 2.2 |
| 2668390 | 2668390 | 12,823 | 0.5 |
| 2938931 | 2938931 | -78,187 | -2.6 |
| 2796599 | 2796599 | -59,209 | -2.1 |
| 2912216 | 2912216 | -30,885 | -1.0 |
| 2775984 | 2775984 | -36,357 | -1.3 |
| 2766343 | 2766343 | -174,918 | -5.9 |
| 3202591 | 3202591 | -10,365 | -0.3 |
| 2963195 | 2963195 | -25,227 | -0.8 |
| 2718490 | 2718490 | -17,863 | -0.7 |
| 3012259 | 3012259 | -30,045 | -1.0 |
| 3066127 | 3066127 | 135,837 | 4.6 |
| 2979479 | 2979479 | -26,736 | -0.9 |
| 3102607 | 3102607 | 31,708 | 1.0 |
| 2701828 | 2701828 | -23,833 | -0.9 |
| 2917837 | 2917837 | -53,456 | -1.8 |
| 2848104 | 2848104 | -76,248 | -2.6 |
| 2858861 | 2858861 | 152,179 | 5.6 |
| 2944547 | 2944547 | -47,775 | -1.6 |
| 2858701 | 2858701 | -15,087 | -0.5 |
| 2986935 | 2986935 | -200,660 | -6.3 |
| 2565433 | 2565433 | -8,805 | -0.3 |
| 3006175 | 3006175 | -149,575 | -4.7 |
| 3193812 | 3193812 | 136,311 | 4.5 |
| 3045181 | 3045181 | 107,699 | 3.7 |
| 2911564 | 2911564 | -49,913 | -1.7 |
| 2965322 | 2965322 | 3,387 | 0.1 |
| 3109406 | 3109406 | 109,476 | 3.6 |
| 2777435 | 2777435 | -8,210 | -0.3 |
| 2741533 | 2741533 | 57,630 | 2.1 |

| | | | |
|---------|---------|----------|------|
| 2980622 | 2980622 | -10,439 | -0.3 |
| 2914015 | 2914015 | -84,792 | -2.8 |
| 3073090 | 3073090 | 150,721 | 5.2 |
| 2721160 | 2721160 | 47,637 | 1.8 |
| 2655980 | 2655980 | -226,909 | -7.9 |
| 2752039 | 2752039 | -78,403 | -2.8 |
| 2775950 | 2775950 | -12,061 | -0.4 |
| 2616737 | 2616737 | 46,299 | 1.8 |
| 2792092 | 2792092 | -43,477 | -1.5 |
| 3228061 | 3228061 | -45,595 | -1.4 |
| 1629761 | 1629761 | -44,337 | -2.6 |
| 2887779 | 2887779 | 48,371 | 1.7 |
| 3096099 | 3096099 | -13,982 | -0.4 |
| 2918903 | 2918903 | -17,953 | -0.6 |
| 2919027 | 2919027 | -20,657 | -0.7 |
| 2713541 | 2713541 | 45,573 | 1.7 |
| 2384045 | 2384045 | -38,377 | -1.6 |
| 2927749 | 2927749 | 30,996 | 1.1 |
| 2857972 | 2857972 | -55,165 | -1.9 |
| 2686514 | 2686514 | -25,708 | -0.9 |
| 3008013 | 3008013 | -60,496 | -2.0 |
| 3080306 | 3080306 | 26,469 | 0.9 |
| 3192600 | 3192600 | 100,485 | 3.2 |
| 3255893 | 3255893 | 243,216 | 8.1 |
| 2972660 | 2972660 | -70,795 | -2.3 |
| 2923113 | 2923113 | -174,077 | -5.6 |
| 2709722 | 2709722 | -37,656 | -1.4 |
| 3073250 | 3073250 | -42,339 | -1.4 |
| 2379489 | 2379489 | 65,541 | 2.8 |
| 2967024 | 2967024 | 23,517 | 0.8 |
| 2798004 | 2798004 | 204,259 | 7.9 |
| 2290320 | 2290320 | -55,165 | -2.4 |
| 2855380 | 2855380 | -27,294 | -0.9 |
| 2787159 | 2787159 | -102,798 | -3.6 |
| 3075643 | 3075643 | -57,862 | -1.8 |
| 2950124 | 2950124 | 98,337 | 3.4 |
| 2860238 | 2860238 | -3,848 | -0.1 |



| <i>% change</i> | | <i>% change</i> | |
|-------------------------|----------|-------------------------|----------|
| Mean | -0.15428 | Mean | -0.15428 |
| Standard Error | 0.390793 | Standard Error | 0.390793 |
| Median | -0.67775 | Median | -0.67775 |
| Mode | #N/A | Mode | #N/A |
| Standard Deviation | 3.495357 | Standard Deviation | 3.495357 |
| Sample Variance | 12.21752 | Sample Variance | 12.21752 |
| Kurtosis | 1.851418 | Kurtosis | 1.851418 |
| Skewness | -0.11101 | Skewness | -0.11101 |
| Range | 21.3891 | Range | 21.3891 |
| Minimum | -12.6823 | Minimum | -12.6823 |
| Maximum | 8.706797 | Maximum | 8.706797 |
| Sum | -12.3422 | Sum | -12.3422 |
| Count | 80 | Count | 80 |
| Largest(1) | 8.706797 | Largest(2) | 8.073086 |
| Smallest(1) | -12.6823 | Smallest(2) | -7.87089 |
| Confidence Level(95.0%) | 0.777854 | Confidence Level(95.0%) | 0.777854 |



| <i>% change</i> | |
|-------------------------|----------|
| Mean | -0.15428 |
| Standard Error | 0.390793 |
| Median | -0.67775 |
| Mode | #N/A |
| Standard Deviation | 3.495357 |
| Sample Variance | 12.21752 |
| Kurtosis | 1.851418 |
| Skewness | -0.11101 |
| Range | 21.3891 |
| Minimum | -12.6823 |
| Maximum | 8.706797 |
| Sum | -12.3422 |
| Count | 80 |
| Largest(2) | 8.073086 |
| Smallest(2) | -7.87089 |
| Confidence Level(95.0%) | 0.777854 |

COS spring-run

| Year | Potential E | Prespawm | Eggs Laid | Entrants | Mortality | Residuals | Productior | Survivors |
|------|-------------|----------|-----------|----------|-----------|-----------|------------|-----------|
| 1923 | 1210000 | 154 | 1209846 | 0 | 733963 | 0 | 475883 | 475883 |
| 1924 | 1210000 | 802 | 1209198 | 0 | 747844 | 0 | 461354 | 461354 |
| 1925 | 1210000 | 569 | 1209431 | 0 | 913090 | 0 | 296341 | 296341 |
| 1926 | 1210000 | 0 | 1210000 | 0 | 740574 | 0 | 469426 | 469426 |
| 1927 | 1210000 | 182 | 1209818 | 0 | 756041 | 0 | 453777 | 453777 |
| 1928 | 1210000 | 0 | 1210000 | 0 | 745426 | 0 | 464574 | 464574 |
| 1929 | 1210000 | 0 | 1210000 | 0 | 731815 | 0 | 478185 | 478185 |
| 1930 | 1210000 | 1131 | 1208869 | 0 | 799585 | 0 | 409284 | 409284 |
| 1931 | 1210000 | 833 | 1209167 | 0 | 751093 | 0 | 458074 | 458074 |
| 1932 | 1210000 | 309907 | 900093 | 0 | 899234 | 0 | 859 | 859 |
| 1933 | 1210000 | 8158 | 1201842 | 0 | 1197469 | 0 | 4373 | 4373 |
| 1934 | 1210000 | 392513 | 817487 | 0 | 817466 | 0 | 21 | 21 |
| 1935 | 1210000 | 437102 | 772898 | 0 | 772897 | 0 | 1 | 1 |
| 1936 | 1210000 | 768 | 1209232 | 0 | 763648 | 0 | 445584 | 445584 |
| 1937 | 1210000 | 0 | 1210000 | 0 | 756071 | 0 | 453929 | 453929 |
| 1938 | 1210000 | 48 | 1209952 | 0 | 755668 | 0 | 454284 | 454284 |
| 1939 | 1210000 | 124 | 1209876 | 0 | 732434 | 0 | 477442 | 477442 |
| 1940 | 1210000 | 0 | 1210000 | 0 | 758607 | 0 | 451393 | 451393 |
| 1941 | 1210000 | 0 | 1210000 | 0 | 746411 | 0 | 463589 | 463589 |
| 1942 | 1210000 | 0 | 1210000 | 0 | 743484 | 0 | 466516 | 466516 |
| 1943 | 1210000 | 0 | 1210000 | 0 | 748781 | 0 | 461219 | 461219 |
| 1944 | 1210000 | 0 | 1210000 | 0 | 733502 | 0 | 476498 | 476498 |
| 1945 | 1210000 | 215 | 1209785 | 0 | 762272 | 0 | 447513 | 447513 |
| 1946 | 1210000 | 0 | 1210000 | 0 | 763020 | 0 | 446980 | 446980 |
| 1947 | 1210000 | 0 | 1210000 | 0 | 745681 | 0 | 464319 | 464319 |
| 1948 | 1210000 | 48 | 1209952 | 0 | 764698 | 0 | 445254 | 445254 |
| 1949 | 1210000 | 106 | 1209894 | 0 | 752391 | 0 | 457503 | 457503 |
| 1950 | 1210000 | 0 | 1210000 | 0 | 747811 | 0 | 462189 | 462189 |
| 1951 | 1210000 | 147 | 1209853 | 0 | 758706 | 0 | 451147 | 451147 |
| 1952 | 1210000 | 0 | 1210000 | 0 | 759122 | 0 | 450878 | 450878 |
| 1953 | 1210000 | 0 | 1210000 | 0 | 746003 | 0 | 463997 | 463997 |
| 1954 | 1210000 | 0 | 1210000 | 0 | 745698 | 0 | 464302 | 464302 |
| 1955 | 1210000 | 0 | 1210000 | 0 | 750765 | 0 | 459235 | 459235 |
| 1956 | 1210000 | 1429 | 1208571 | 0 | 781577 | 0 | 426994 | 426994 |
| 1957 | 1210000 | 0 | 1210000 | 0 | 742780 | 0 | 467220 | 467220 |
| 1958 | 1210000 | 20 | 1209980 | 0 | 745976 | 0 | 464004 | 464004 |
| 1959 | 1210000 | 0 | 1210000 | 0 | 726769 | 0 | 483231 | 483231 |
| 1960 | 1210000 | 180 | 1209820 | 0 | 734440 | 0 | 475380 | 475380 |
| 1961 | 1210000 | 134 | 1209866 | 0 | 751725 | 0 | 458141 | 458141 |
| 1962 | 1210000 | 0 | 1210000 | 0 | 750201 | 0 | 459799 | 459799 |
| 1963 | 1210000 | 0 | 1210000 | 0 | 746014 | 0 | 463986 | 463986 |
| 1964 | 1210000 | 20 | 1209980 | 0 | 738559 | 0 | 471421 | 471421 |
| 1965 | 1210000 | 10 | 1209990 | 0 | 765019 | 0 | 444971 | 444971 |
| 1966 | 1210000 | 0 | 1210000 | 0 | 758969 | 0 | 451031 | 451031 |

| | | | | | | | | |
|------|---------|--------|---------|---|---------|---|--------|--------|
| 1967 | 1210000 | 0 | 1210000 | 0 | 754442 | 0 | 455558 | 455558 |
| 1968 | 1210000 | 48 | 1209952 | 0 | 739405 | 0 | 470547 | 470547 |
| 1969 | 1210000 | 48 | 1209952 | 0 | 761998 | 0 | 447954 | 447954 |
| 1970 | 1210000 | 0 | 1210000 | 0 | 762580 | 0 | 447420 | 447420 |
| 1971 | 1210000 | 0 | 1210000 | 0 | 748862 | 0 | 461138 | 461138 |
| 1972 | 1210000 | 0 | 1210000 | 0 | 751121 | 0 | 458879 | 458879 |
| 1973 | 1210000 | 0 | 1210000 | 0 | 751220 | 0 | 458780 | 458780 |
| 1974 | 1210000 | 20 | 1209980 | 0 | 764008 | 0 | 445972 | 445972 |
| 1975 | 1210000 | 0 | 1210000 | 0 | 741865 | 0 | 468135 | 468135 |
| 1976 | 1210000 | 0 | 1210000 | 0 | 734509 | 0 | 475491 | 475491 |
| 1977 | 1210000 | 1909 | 1208091 | 0 | 750476 | 0 | 457615 | 457615 |
| 1978 | 1210000 | 798096 | 411904 | 0 | 411904 | 0 | 0 | 0 |
| 1979 | 1210000 | 0 | 1210000 | 0 | 738083 | 0 | 471917 | 471917 |
| 1980 | 1210000 | 955 | 1209045 | 0 | 763160 | 0 | 445885 | 445885 |
| 1981 | 1210000 | 0 | 1210000 | 0 | 753599 | 0 | 456401 | 456401 |
| 1982 | 1210000 | 342 | 1209658 | 0 | 764536 | 0 | 445122 | 445122 |
| 1983 | 1210000 | 6045 | 1203955 | 0 | 751236 | 0 | 452719 | 452719 |
| 1984 | 1210000 | 0 | 1210000 | 0 | 743561 | 0 | 466439 | 466439 |
| 1985 | 1210000 | 0 | 1210000 | 0 | 751586 | 0 | 458414 | 458414 |
| 1986 | 1210000 | 24 | 1209976 | 0 | 748434 | 0 | 461542 | 461542 |
| 1987 | 1210000 | 20 | 1209980 | 0 | 730043 | 0 | 479937 | 479937 |
| 1988 | 1210000 | 896 | 1209104 | 0 | 748960 | 0 | 460144 | 460144 |
| 1989 | 1210000 | 1004 | 1208996 | 0 | 755639 | 0 | 453357 | 453357 |
| 1990 | 1210000 | 1206 | 1208794 | 0 | 760265 | 0 | 448529 | 448529 |
| 1991 | 1210000 | 1538 | 1208462 | 0 | 747647 | 0 | 460815 | 460815 |
| 1992 | 1210000 | 6132 | 1203868 | 0 | 802080 | 0 | 401788 | 401788 |
| 1993 | 1210000 | 3912 | 1206088 | 0 | 1180256 | 0 | 25832 | 25832 |
| 1994 | 1210000 | 338 | 1209662 | 0 | 733894 | 0 | 475768 | 475768 |
| 1995 | 1210000 | 343 | 1209657 | 0 | 771173 | 0 | 438484 | 438484 |
| 1996 | 1210000 | 1078 | 1208922 | 0 | 727948 | 0 | 480974 | 480974 |
| 1997 | 1210000 | 484 | 1209516 | 0 | 745807 | 0 | 463709 | 463709 |
| 1998 | 1210000 | 102 | 1209898 | 0 | 763032 | 0 | 446866 | 446866 |
| 1999 | 1210000 | 0 | 1210000 | 0 | 735489 | 0 | 474511 | 474511 |
| 2000 | 1210000 | 0 | 1210000 | 0 | 728429 | 0 | 481571 | 481571 |
| 2001 | 1210000 | 106 | 1209894 | 0 | 727078 | 0 | 482816 | 482816 |
| 2002 | 1210000 | 1716 | 1208284 | 0 | 765983 | 0 | 442301 | 442301 |
| | Average | 24762 | 1185238 | 0 | 762420 | 0 | 422818 | 422818 |

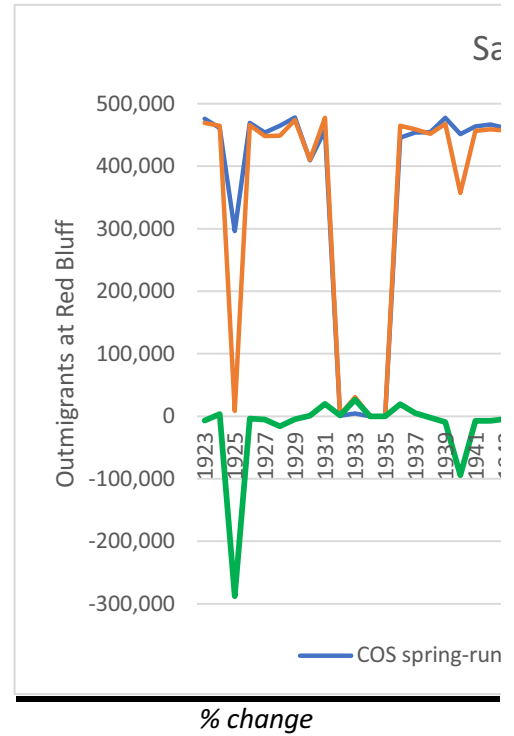
PA spring-run

| Year | Potential E | Prespawm | Eggs Laid | Entrants | Mortality | Residuals | Productior | Survivors |
|------|-------------|----------|-----------|----------|-----------|-----------|------------|-----------|
| 1923 | 1210000 | 134 | 1209866 | 0 | 740557 | 0 | 469309 | 469309 |
| 1924 | 1210000 | 266 | 1209734 | 0 | 745003 | 0 | 464731 | 464731 |
| 1925 | 1210000 | 17424 | 1192576 | 0 | 1184057 | 0 | 8519 | 8519 |
| 1926 | 1210000 | 0 | 1210000 | 0 | 744132 | 0 | 465868 | 465868 |
| 1927 | 1210000 | 78 | 1209922 | 0 | 761590 | 0 | 448332 | 448332 |
| 1928 | 1210000 | 0 | 1210000 | 0 | 761222 | 0 | 448778 | 448778 |
| 1929 | 1210000 | 0 | 1210000 | 0 | 736318 | 0 | 473682 | 473682 |
| 1930 | 1210000 | 20 | 1209980 | 0 | 799752 | 0 | 410228 | 410228 |
| 1931 | 1210000 | 53 | 1209947 | 0 | 732280 | 0 | 477667 | 477667 |
| 1932 | 1210000 | 530553 | 679447 | 0 | 677284 | 0 | 2163 | 2163 |
| 1933 | 1210000 | 1990 | 1208010 | 0 | 1177329 | 0 | 30681 | 30681 |
| 1934 | 1210000 | 174734 | 1035266 | 0 | 1035265 | 0 | 1 | 1 |
| 1935 | 1210000 | 767033 | 442967 | 0 | 442967 | 0 | 0 | 0 |
| 1936 | 1210000 | 456 | 1209544 | 0 | 744710 | 0 | 464834 | 464834 |
| 1937 | 1210000 | 0 | 1210000 | 0 | 750973 | 0 | 459027 | 459027 |
| 1938 | 1210000 | 48 | 1209952 | 0 | 757981 | 0 | 451971 | 451971 |
| 1939 | 1210000 | 124 | 1209876 | 0 | 741967 | 0 | 467909 | 467909 |
| 1940 | 1210000 | 262 | 1209738 | 0 | 852693 | 0 | 357045 | 357045 |
| 1941 | 1210000 | 0 | 1210000 | 0 | 753585 | 0 | 456415 | 456415 |
| 1942 | 1210000 | 0 | 1210000 | 0 | 750983 | 0 | 459017 | 459017 |
| 1943 | 1210000 | 0 | 1210000 | 0 | 752892 | 0 | 457108 | 457108 |
| 1944 | 1210000 | 0 | 1210000 | 0 | 739464 | 0 | 470536 | 470536 |
| 1945 | 1210000 | 78 | 1209922 | 0 | 756422 | 0 | 453500 | 453500 |
| 1946 | 1210000 | 0 | 1210000 | 0 | 765227 | 0 | 444773 | 444773 |
| 1947 | 1210000 | 0 | 1210000 | 0 | 751323 | 0 | 458677 | 458677 |
| 1948 | 1210000 | 20 | 1209980 | 0 | 740640 | 0 | 469340 | 469340 |
| 1949 | 1210000 | 134 | 1209866 | 0 | 753011 | 0 | 456855 | 456855 |
| 1950 | 1210000 | 0 | 1210000 | 0 | 745084 | 0 | 464916 | 464916 |
| 1951 | 1210000 | 114 | 1209886 | 0 | 756803 | 0 | 453083 | 453083 |
| 1952 | 1210000 | 0 | 1210000 | 0 | 777371 | 0 | 432629 | 432629 |
| 1953 | 1210000 | 0 | 1210000 | 0 | 748890 | 0 | 461110 | 461110 |
| 1954 | 1210000 | 0 | 1210000 | 0 | 752622 | 0 | 457378 | 457378 |
| 1955 | 1210000 | 24 | 1209976 | 0 | 760748 | 0 | 449228 | 449228 |
| 1956 | 1210000 | 558 | 1209442 | 0 | 770006 | 0 | 439436 | 439436 |
| 1957 | 1210000 | 0 | 1210000 | 0 | 748701 | 0 | 461299 | 461299 |
| 1958 | 1210000 | 78 | 1209922 | 0 | 755674 | 0 | 454248 | 454248 |
| 1959 | 1210000 | 0 | 1210000 | 0 | 739137 | 0 | 470863 | 470863 |
| 1960 | 1210000 | 0 | 1210000 | 0 | 762351 | 0 | 447649 | 447649 |
| 1961 | 1210000 | 0 | 1210000 | 0 | 752549 | 0 | 457451 | 457451 |
| 1962 | 1210000 | 0 | 1210000 | 0 | 750687 | 0 | 459313 | 459313 |
| 1963 | 1210000 | 0 | 1210000 | 0 | 743973 | 0 | 466027 | 466027 |
| 1964 | 1210000 | 121 | 1209879 | 0 | 749884 | 0 | 459995 | 459995 |
| 1965 | 1210000 | 0 | 1210000 | 0 | 765848 | 0 | 444152 | 444152 |
| 1966 | 1210000 | 0 | 1210000 | 0 | 765843 | 0 | 444157 | 444157 |

| | | | | | | | | |
|------|---------|--------|---------|---|---------|---|--------|--------|
| 1967 | 1210000 | 0 | 1210000 | 0 | 759920 | 0 | 450080 | 450080 |
| 1968 | 1210000 | 48 | 1209952 | 0 | 743820 | 0 | 466132 | 466132 |
| 1969 | 1210000 | 0 | 1210000 | 0 | 754963 | 0 | 455037 | 455037 |
| 1970 | 1210000 | 0 | 1210000 | 0 | 767150 | 0 | 442850 | 442850 |
| 1971 | 1210000 | 0 | 1210000 | 0 | 760952 | 0 | 449048 | 449048 |
| 1972 | 1210000 | 0 | 1210000 | 0 | 760253 | 0 | 449747 | 449747 |
| 1973 | 1210000 | 0 | 1210000 | 0 | 760374 | 0 | 449626 | 449626 |
| 1974 | 1210000 | 20 | 1209980 | 0 | 773417 | 0 | 436563 | 436563 |
| 1975 | 1210000 | 0 | 1210000 | 0 | 748714 | 0 | 461286 | 461286 |
| 1976 | 1210000 | 0 | 1210000 | 0 | 739699 | 0 | 470301 | 470301 |
| 1977 | 1210000 | 807 | 1209193 | 0 | 747471 | 0 | 461722 | 461722 |
| 1978 | 1210000 | 911744 | 298256 | 0 | 298256 | 0 | 0 | 0 |
| 1979 | 1210000 | 173 | 1209827 | 0 | 753968 | 0 | 455859 | 455859 |
| 1980 | 1210000 | 299 | 1209701 | 0 | 753290 | 0 | 456411 | 456411 |
| 1981 | 1210000 | 0 | 1210000 | 0 | 762064 | 0 | 447936 | 447936 |
| 1982 | 1210000 | 182 | 1209818 | 0 | 769487 | 0 | 440331 | 440331 |
| 1983 | 1210000 | 6230 | 1203770 | 0 | 756725 | 0 | 447045 | 447045 |
| 1984 | 1210000 | 0 | 1210000 | 0 | 745021 | 0 | 464979 | 464979 |
| 1985 | 1210000 | 0 | 1210000 | 0 | 745294 | 0 | 464706 | 464706 |
| 1986 | 1210000 | 130 | 1209870 | 0 | 760326 | 0 | 449544 | 449544 |
| 1987 | 1210000 | 2625 | 1207375 | 0 | 758874 | 0 | 448501 | 448501 |
| 1988 | 1210000 | 0 | 1210000 | 0 | 737355 | 0 | 472645 | 472645 |
| 1989 | 1210000 | 434 | 1209566 | 0 | 746556 | 0 | 463010 | 463010 |
| 1990 | 1210000 | 1612 | 1208388 | 0 | 784964 | 0 | 423424 | 423424 |
| 1991 | 1210000 | 588 | 1209412 | 0 | 782817 | 0 | 426595 | 426595 |
| 1992 | 1210000 | 7324 | 1202676 | 0 | 921707 | 0 | 280969 | 280969 |
| 1993 | 1210000 | 31875 | 1178125 | 0 | 1178070 | 0 | 55 | 55 |
| 1994 | 1210000 | 304 | 1209696 | 0 | 738186 | 0 | 471510 | 471510 |
| 1995 | 1210000 | 319 | 1209681 | 0 | 769849 | 0 | 439832 | 439832 |
| 1996 | 1210000 | 1116 | 1208884 | 0 | 739182 | 0 | 469702 | 469702 |
| 1997 | 1210000 | 658 | 1209342 | 0 | 752608 | 0 | 456734 | 456734 |
| 1998 | 1210000 | 0 | 1210000 | 0 | 748366 | 0 | 461634 | 461634 |
| 1999 | 1210000 | 0 | 1210000 | 0 | 738224 | 0 | 471776 | 471776 |
| 2000 | 1210000 | 0 | 1210000 | 0 | 732615 | 0 | 477385 | 477385 |
| 2001 | 1210000 | 362 | 1209638 | 0 | 747820 | 0 | 461818 | 461818 |
| 2002 | 1210000 | 798 | 1209202 | 0 | 762385 | 0 | 446817 | 446817 |
| | Average | 30774 | 1179226 | 0 | 766207 | 0 | 413019 | 413019 |

Change in production COS % change

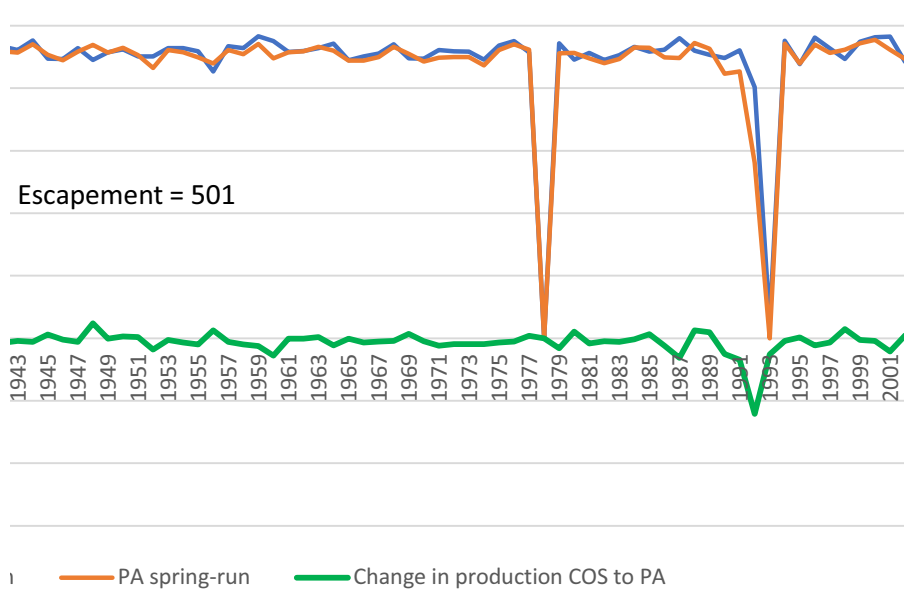
| | |
|----------|--------|
| -6,574 | -1.4 |
| 3,377 | 0.7 |
| -287,822 | -97.1 |
| -3,558 | -0.8 |
| -5,445 | -1.2 |
| -15,796 | -3.4 |
| -4,503 | -0.9 |
| 944 | 0.2 |
| 19,593 | 4.3 |
| 1,304 | 151.8 |
| 26,308 | 601.6 |
| -20 | -95.2 |
| -1 | -100.0 |
| 19,250 | 4.3 |
| 5,098 | 1.1 |
| -2,313 | -0.5 |
| -9,533 | -2.0 |
| -94,348 | -20.9 |
| -7,174 | -1.5 |
| -7,499 | -1.6 |
| -4,111 | -0.9 |
| -5,962 | -1.3 |
| 5,987 | 1.3 |
| -2,207 | -0.5 |
| -5,642 | -1.2 |
| 24,086 | 5.4 |
| -648 | -0.1 |
| 2,727 | 0.6 |
| 1,936 | 0.4 |
| -18,249 | -4.0 |
| -2,887 | -0.6 |
| -6,924 | -1.5 |
| -10,007 | -2.2 |
| 12,442 | 2.9 |
| -5,921 | -1.3 |
| -9,756 | -2.1 |
| -12,368 | -2.6 |
| -27,731 | -5.8 |
| -690 | -0.2 |
| -486 | -0.1 |
| 2,041 | 0.4 |
| -11,426 | -2.4 |
| -819 | -0.2 |
| -6,874 | -1.5 |



| | |
|-------------------------|----------|
| Mean | 3.136346 |
| Standard Error | 8.19476 |
| Median | -1.08392 |
| Mode | #N/A |
| Standard Deviation | 73.29616 |
| Sample Variance | 5372.328 |
| Kurtosis | 58.01361 |
| Skewness | 7.036708 |
| Range | 701.6007 |
| Minimum | -100 |
| Maximum | 601.6007 |
| Sum | 250.9077 |
| Count | 80 |
| Largest(1) | 601.6007 |
| Smallest(1) | -100 |
| Confidence Level(95.0%) | 16.31126 |

| | |
|----------|-------|
| -5,478 | -1.2 |
| -4,415 | -0.9 |
| 7,083 | 1.6 |
| -4,570 | -1.0 |
| -12,090 | -2.6 |
| -9,132 | -2.0 |
| -9,154 | -2.0 |
| -9,409 | -2.1 |
| -6,849 | -1.5 |
| -5,190 | -1.1 |
| 4,107 | 0.9 |
| 0 | 0.0 |
| -16,058 | -3.4 |
| 10,526 | 2.4 |
| -8,465 | -1.9 |
| -4,791 | -1.1 |
| -5,674 | -1.3 |
| -1,460 | -0.3 |
| 6,292 | 1.4 |
| -11,998 | -2.6 |
| -31,436 | -6.6 |
| 12,501 | 2.7 |
| 9,653 | 2.1 |
| -25,105 | -5.6 |
| -34,220 | -7.4 |
| -120,819 | -30.1 |
| -25,777 | -99.8 |
| -4,258 | -0.9 |
| 1,348 | 0.3 |
| -11,272 | -2.3 |
| -6,975 | -1.5 |
| 14,768 | 3.3 |
| -2,735 | -0.6 |
| -4,186 | -0.9 |
| -20,998 | -4.3 |
| 4,516 | 1.0 |
| -9,799 | -2.3 |

sacramento River spring Chinook



% change

- Mean
- Standard Error
- Median
- Mode
- Standard Deviation
- Sample Variance
- Kurtosis
- Skewness
- Range
- Minimum
- Maximum
- Sum
- Count
- Largest(2)
- Smallest(2)
- Confidence Level(95.0%)

% change

| | |
|-------------|----------|
| Mean | 3.136346 |
| Standard E | 8.19476 |
| Median | -1.08392 |
| Mode | #N/A |
| Standard C | 73.29616 |
| Sample Va | 5372.328 |
| Kurtosis | 58.01361 |
| Skewness | 7.036708 |
| Range | 701.6007 |
| Minimum | -100 |
| Maximum | 601.6007 |
| Sum | 250.9077 |
| Count | 80 |
| Largest(2) | 151.8044 |
| Smallest(2) | -99.7871 |
| Confidence | 16.31126 |

3.136346
8.19476
-1.08392
#N/A
73.29616
5372.328
58.01361
7.036708
701.6007
-100
601.6007
250.9077
80
151.8044
-99.7871
16.31126

Scenario 1 winter-run

| Year | Potential E | Prespaw | Eggs Laid | Entrants | Mortality | Residuals | Production | Survivors |
|------|-------------|---------|-----------|----------|-----------|-----------|------------|-----------|
| 1923 | 5913000 | 9000 | 5904000 | 0 | 3699958 | 0 | 2204042 | 2204042 |
| 1924 | 5913000 | 9000 | 5904000 | 0 | 3853758 | 0 | 2050242 | 2050242 |
| 1925 | 5913000 | 9000 | 5904000 | 0 | 3763138 | 0 | 2140862 | 2140862 |
| 1926 | 5913000 | 12000 | 5901000 | 0 | 3862285 | 0 | 2038715 | 2038715 |
| 1927 | 5913000 | 9000 | 5904000 | 0 | 3875258 | 0 | 2028742 | 2028742 |
| 1928 | 5913000 | 60000 | 5853000 | 0 | 3849121 | 0 | 2003879 | 2003879 |
| 1929 | 5913000 | 9000 | 5904000 | 0 | 3721677 | 0 | 2182323 | 2182323 |
| 1930 | 5913000 | 9000 | 5904000 | 0 | 3734640 | 0 | 2169360 | 2169360 |
| 1931 | 5913000 | 9000 | 5904000 | 0 | 3888110 | 0 | 2015890 | 2015890 |
| 1932 | 5913000 | 9000 | 5904000 | 0 | 5697767 | 0 | 206233 | 206233 |
| 1933 | 5913000 | 9000 | 5904000 | 0 | 4573531 | 0 | 1330469 | 1330469 |
| 1934 | 5913000 | 9000 | 5904000 | 0 | 5729204 | 0 | 174796 | 174796 |
| 1935 | 5913000 | 9015 | 5903985 | 0 | 5763017 | 0 | 140968 | 140968 |
| 1936 | 5913000 | 9000 | 5904000 | 0 | 3954175 | 0 | 1949825 | 1949825 |
| 1937 | 5913000 | 9000 | 5904000 | 0 | 4058874 | 0 | 1845126 | 1845126 |
| 1938 | 5913000 | 9000 | 5904000 | 0 | 3915091 | 0 | 1988909 | 1988909 |
| 1939 | 5913000 | 60000 | 5853000 | 0 | 3965160 | 0 | 1887840 | 1887840 |
| 1940 | 5913000 | 9000 | 5904000 | 0 | 3805517 | 0 | 2098483 | 2098483 |
| 1941 | 5913000 | 66000 | 5847000 | 0 | 3884774 | 23948 | 1938278 | 1962226 |
| 1942 | 5913000 | 69000 | 5844000 | 0 | 3851859 | 0 | 1992141 | 1992141 |
| 1943 | 5913000 | 54000 | 5859000 | 0 | 3833631 | 0 | 2025369 | 2025369 |
| 1944 | 5913000 | 9000 | 5904000 | 0 | 3792049 | 8403 | 2103548 | 2111951 |
| 1945 | 5913000 | 9000 | 5904000 | 0 | 3859493 | 0 | 2044507 | 2044507 |
| 1946 | 5913000 | 9000 | 5904000 | 0 | 3958682 | 22139 | 1923179 | 1945318 |
| 1947 | 5913000 | 9000 | 5904000 | 0 | 3790892 | 0 | 2113108 | 2113108 |
| 1948 | 5913000 | 9000 | 5904000 | 0 | 3867746 | 0 | 2036254 | 2036254 |
| 1949 | 5913000 | 9000 | 5904000 | 0 | 3867159 | 0 | 2036841 | 2036841 |
| 1950 | 5913000 | 9000 | 5904000 | 0 | 4002813 | 5469 | 1895718 | 1901187 |
| 1951 | 5913000 | 9000 | 5904000 | 0 | 3940169 | 0 | 1963831 | 1963831 |
| 1952 | 5913000 | 69000 | 5844000 | 0 | 3897639 | 2013 | 1944348 | 1946361 |
| 1953 | 5913000 | 69000 | 5844000 | 0 | 3812951 | 0 | 2031049 | 2031049 |
| 1954 | 5913000 | 9000 | 5904000 | 0 | 3699625 | 0 | 2204375 | 2204375 |
| 1955 | 5913000 | 69000 | 5844000 | 0 | 3827264 | 0 | 2016736 | 2016736 |
| 1956 | 5913000 | 12000 | 5901000 | 0 | 3996822 | 0 | 1904178 | 1904178 |
| 1957 | 5913000 | 69000 | 5844000 | 0 | 3911173 | 2724 | 1930103 | 1932827 |
| 1958 | 5913000 | 9000 | 5904000 | 0 | 3778705 | 6824 | 2118471 | 2125295 |
| 1959 | 5913000 | 60000 | 5853000 | 0 | 3801992 | 0 | 2051008 | 2051008 |
| 1960 | 5913000 | 60000 | 5853000 | 0 | 4036774 | 0 | 1816226 | 1816226 |
| 1961 | 5913000 | 9000 | 5904000 | 0 | 3809946 | 0 | 2094054 | 2094054 |
| 1962 | 5913000 | 6000 | 5907000 | 0 | 4039451 | 0 | 1867549 | 1867549 |
| 1963 | 5913000 | 69000 | 5844000 | 0 | 4088213 | 0 | 1755787 | 1755787 |
| 1964 | 5913000 | 60000 | 5853000 | 0 | 3753275 | 0 | 2099725 | 2099725 |
| 1965 | 5913000 | 9000 | 5904000 | 0 | 3874086 | 0 | 2029914 | 2029914 |
| 1966 | 5913000 | 9000 | 5904000 | 0 | 3824341 | 1 | 2079658 | 2079659 |

| | | | | | | | | |
|------|---------|-------|---------|---|---------|-------|---------|---------|
| 1967 | 5913000 | 9000 | 5904000 | 0 | 3883207 | 0 | 2020793 | 2020793 |
| 1968 | 5913000 | 3000 | 5910000 | 0 | 3969826 | 0 | 1940174 | 1940174 |
| 1969 | 5913000 | 57000 | 5856000 | 0 | 3979720 | 0 | 1876280 | 1876280 |
| 1970 | 5913000 | 69000 | 5844000 | 0 | 3887626 | 0 | 1956374 | 1956374 |
| 1971 | 5913000 | 63000 | 5850000 | 0 | 3769342 | 18102 | 2062556 | 2080658 |
| 1972 | 5913000 | 9000 | 5904000 | 0 | 3712496 | 0 | 2191504 | 2191504 |
| 1973 | 5913000 | 9000 | 5904000 | 0 | 3974151 | 0 | 1929849 | 1929849 |
| 1974 | 5913000 | 60000 | 5853000 | 0 | 4167376 | 1 | 1685623 | 1685624 |
| 1975 | 5913000 | 6000 | 5907000 | 0 | 3765063 | 0 | 2141937 | 2141937 |
| 1976 | 5913000 | 9000 | 5904000 | 0 | 3771744 | 0 | 2132256 | 2132256 |
| 1977 | 5913000 | 15000 | 5898000 | 0 | 3923883 | 0 | 1974117 | 1974117 |
| 1978 | 5913000 | 7569 | 5905431 | 0 | 5885616 | 0 | 19815 | 19815 |
| 1979 | 5913000 | 60000 | 5853000 | 0 | 4024858 | 0 | 1828142 | 1828142 |
| 1980 | 5913000 | 9012 | 5903988 | 0 | 3987930 | 0 | 1916058 | 1916058 |
| 1981 | 5913000 | 60000 | 5853000 | 0 | 3908400 | 0 | 1944600 | 1944600 |
| 1982 | 5913000 | 9000 | 5904000 | 0 | 3994439 | 0 | 1909561 | 1909561 |
| 1983 | 5913000 | 69414 | 5843586 | 0 | 3838370 | 0 | 2005216 | 2005216 |
| 1984 | 5913000 | 60000 | 5853000 | 0 | 3790714 | 0 | 2062286 | 2062286 |
| 1985 | 5913000 | 15000 | 5898000 | 0 | 3722105 | 0 | 2175895 | 2175895 |
| 1986 | 5913000 | 9000 | 5904000 | 0 | 3810841 | 0 | 2093159 | 2093159 |
| 1987 | 5913000 | 60000 | 5853000 | 0 | 3879417 | 0 | 1973583 | 1973583 |
| 1988 | 5913000 | 9000 | 5904000 | 0 | 3823544 | 0 | 2080456 | 2080456 |
| 1989 | 5913000 | 6000 | 5907000 | 0 | 3855211 | 0 | 2051789 | 2051789 |
| 1990 | 5913000 | 9000 | 5904000 | 0 | 4050618 | 0 | 1853382 | 1853382 |
| 1991 | 5913000 | 9000 | 5904000 | 0 | 3821791 | 0 | 2082209 | 2082209 |
| 1992 | 5913000 | 9000 | 5904000 | 0 | 3860515 | 0 | 2043485 | 2043485 |
| 1993 | 5913000 | 9000 | 5904000 | 0 | 4102675 | 0 | 1801325 | 1801325 |
| 1994 | 5913000 | 9000 | 5904000 | 0 | 3790184 | 0 | 2113816 | 2113816 |
| 1995 | 5913000 | 9000 | 5904000 | 0 | 3874396 | 0 | 2029604 | 2029604 |
| 1996 | 5913000 | 12064 | 5900936 | 0 | 3761669 | 0 | 2139267 | 2139267 |
| 1997 | 5913000 | 60000 | 5853000 | 0 | 3712857 | 0 | 2140143 | 2140143 |
| 1998 | 5913000 | 9000 | 5904000 | 0 | 3694653 | 0 | 2209347 | 2209347 |
| 1999 | 5913000 | 60000 | 5853000 | 0 | 3707015 | 0 | 2145985 | 2145985 |
| 2000 | 5913000 | 63000 | 5850000 | 0 | 3813796 | 0 | 2036204 | 2036204 |
| 2001 | 5913000 | 66000 | 5847000 | 0 | 3704425 | 0 | 2142575 | 2142575 |
| 2002 | 5913000 | 9000 | 5904000 | 0 | 3808783 | 0 | 2095217 | 2095217 |
| | Average | 26651 | 5886349 | 0 | 3969263 | 1120 | 1915966 | 1917086 |

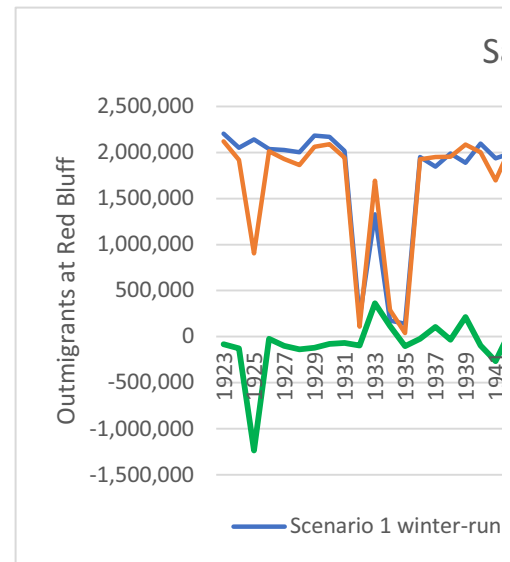
Scenario 2 winter-run

| Year | Potential E | Prespaw | Eggs Laid | Entrants | Mortality | Residuals | Productior | Survivors |
|------|-------------|---------|-----------|----------|-----------|-----------|------------|-----------|
| 1923 | 5913000 | 9000 | 5904000 | 0 | 3780902 | 0 | 2123098 | 2123098 |
| 1924 | 5913000 | 9000 | 5904000 | 0 | 3983126 | 0 | 1920874 | 1920874 |
| 1925 | 5913000 | 9000 | 5904000 | 0 | 5000200 | 0 | 903800 | 903800 |
| 1926 | 5913000 | 9000 | 5904000 | 0 | 3889400 | 0 | 2014600 | 2014600 |
| 1927 | 5913000 | 9000 | 5904000 | 0 | 3973885 | 0 | 1930115 | 1930115 |
| 1928 | 5913000 | 60000 | 5853000 | 0 | 3987800 | 0 | 1865200 | 1865200 |
| 1929 | 5913000 | 9000 | 5904000 | 0 | 3842049 | 0 | 2061951 | 2061951 |
| 1930 | 5913000 | 9000 | 5904000 | 0 | 3813208 | 0 | 2090792 | 2090792 |
| 1931 | 5913000 | 9000 | 5904000 | 0 | 3958498 | 0 | 1945502 | 1945502 |
| 1932 | 5913000 | 9000 | 5904000 | 0 | 5795626 | 0 | 108374 | 108374 |
| 1933 | 5913000 | 9000 | 5904000 | 0 | 4211192 | 0 | 1692808 | 1692808 |
| 1934 | 5913000 | 9000 | 5904000 | 0 | 5613298 | 0 | 290702 | 290702 |
| 1935 | 5913000 | 9422 | 5903578 | 0 | 5866027 | 0 | 37551 | 37551 |
| 1936 | 5913000 | 9000 | 5904000 | 0 | 3978800 | 0 | 1925200 | 1925200 |
| 1937 | 5913000 | 9000 | 5904000 | 0 | 3952334 | 1 | 1951665 | 1951666 |
| 1938 | 5913000 | 9000 | 5904000 | 0 | 3948534 | 0 | 1955466 | 1955466 |
| 1939 | 5913000 | 60000 | 5853000 | 0 | 3753504 | 13476 | 2086020 | 2099496 |
| 1940 | 5913000 | 9000 | 5904000 | 0 | 3901761 | 0 | 2002239 | 2002239 |
| 1941 | 5913000 | 69000 | 5844000 | 0 | 4147799 | 0 | 1696201 | 1696201 |
| 1942 | 5913000 | 69000 | 5844000 | 0 | 3775811 | 0 | 2068189 | 2068189 |
| 1943 | 5913000 | 54000 | 5859000 | 0 | 3818805 | 9391 | 2030804 | 2040195 |
| 1944 | 5913000 | 9000 | 5904000 | 0 | 4029194 | 0 | 1874806 | 1874806 |
| 1945 | 5913000 | 9000 | 5904000 | 0 | 3960620 | 0 | 1943380 | 1943380 |
| 1946 | 5913000 | 12000 | 5901000 | 0 | 4027651 | 21374 | 1851975 | 1873349 |
| 1947 | 5913000 | 9000 | 5904000 | 0 | 3953251 | 0 | 1950749 | 1950749 |
| 1948 | 5913000 | 9000 | 5904000 | 0 | 3880639 | 0 | 2023361 | 2023361 |
| 1949 | 5913000 | 12000 | 5901000 | 0 | 3980772 | 0 | 1920228 | 1920228 |
| 1950 | 5913000 | 9000 | 5904000 | 0 | 3956441 | 0 | 1947559 | 1947559 |
| 1951 | 5913000 | 9000 | 5904000 | 0 | 3943523 | 0 | 1960477 | 1960477 |
| 1952 | 5913000 | 69000 | 5844000 | 0 | 4245215 | 0 | 1598785 | 1598785 |
| 1953 | 5913000 | 69000 | 5844000 | 0 | 3808167 | 0 | 2035833 | 2035833 |
| 1954 | 5913000 | 9000 | 5904000 | 0 | 3830779 | 8652 | 2064569 | 2073221 |
| 1955 | 5913000 | 69000 | 5844000 | 0 | 4160624 | 0 | 1683376 | 1683376 |
| 1956 | 5913000 | 12000 | 5901000 | 0 | 4037762 | 0 | 1863238 | 1863238 |
| 1957 | 5913000 | 69000 | 5844000 | 0 | 3865915 | 1 | 1978084 | 1978085 |
| 1958 | 5913000 | 39000 | 5874000 | 0 | 4188433 | 0 | 1685567 | 1685567 |
| 1959 | 5913000 | 60000 | 5853000 | 0 | 3714539 | 0 | 2138461 | 2138461 |
| 1960 | 5913000 | 66000 | 5847000 | 0 | 3782046 | 0 | 2064954 | 2064954 |
| 1961 | 5913000 | 9000 | 5904000 | 0 | 3846485 | 0 | 2057515 | 2057515 |
| 1962 | 5913000 | 9000 | 5904000 | 0 | 3993598 | 0 | 1910402 | 1910402 |
| 1963 | 5913000 | 69000 | 5844000 | 0 | 4022744 | 0 | 1821256 | 1821256 |
| 1964 | 5913000 | 54000 | 5859000 | 0 | 4034032 | 0 | 1824968 | 1824968 |
| 1965 | 5913000 | 9000 | 5904000 | 0 | 3902145 | 0 | 2001855 | 2001855 |
| 1966 | 5913000 | 9000 | 5904000 | 0 | 4017785 | 34431 | 1851784 | 1886215 |

| | | | | | | | | |
|---------|---------|-------|---------|---|---------|-------|---------|---------|
| 1967 | 5913000 | 12000 | 5901000 | 0 | 3851976 | 0 | 2049024 | 2049024 |
| 1968 | 5913000 | 3000 | 5910000 | 0 | 3761109 | 0 | 2148891 | 2148891 |
| 1969 | 5913000 | 69000 | 5844000 | 0 | 4025670 | 0 | 1818330 | 1818330 |
| 1970 | 5913000 | 69000 | 5844000 | 0 | 3779737 | 2 | 2064261 | 2064263 |
| 1971 | 5913000 | 63000 | 5850000 | 0 | 4116422 | 0 | 1733578 | 1733578 |
| 1972 | 5913000 | 9000 | 5904000 | 0 | 3922471 | 0 | 1981529 | 1981529 |
| 1973 | 5913000 | 9000 | 5904000 | 0 | 3960213 | 0 | 1943787 | 1943787 |
| 1974 | 5913000 | 60000 | 5853000 | 0 | 4433957 | 0 | 1419043 | 1419043 |
| 1975 | 5913000 | 6000 | 5907000 | 0 | 3765287 | 0 | 2141713 | 2141713 |
| 1976 | 5913000 | 9000 | 5904000 | 0 | 3733841 | 0 | 2170159 | 2170159 |
| 1977 | 5913000 | 15000 | 5898000 | 0 | 3894656 | 0 | 2003344 | 2003344 |
| 1978 | 5913000 | 18332 | 5894668 | 0 | 5893173 | 0 | 1495 | 1495 |
| 1979 | 5913000 | 60000 | 5853000 | 0 | 4444606 | 0 | 1408394 | 1408394 |
| 1980 | 5913000 | 9000 | 5904000 | 0 | 3979130 | 2546 | 1922324 | 1924870 |
| 1981 | 5913000 | 60000 | 5853000 | 0 | 4134490 | 1117 | 1717393 | 1718510 |
| 1982 | 5913000 | 9000 | 5904000 | 0 | 4056815 | 37431 | 1809754 | 1847185 |
| 1983 | 5913000 | 69432 | 5843568 | 0 | 3795331 | 1 | 2048236 | 2048237 |
| 1984 | 5913000 | 60000 | 5853000 | 0 | 3794486 | 0 | 2058514 | 2058514 |
| 1985 | 5913000 | 15000 | 5898000 | 0 | 3964556 | 0 | 1933444 | 1933444 |
| 1986 | 5913000 | 9000 | 5904000 | 0 | 3899484 | 0 | 2004516 | 2004516 |
| 1987 | 5913000 | 60000 | 5853000 | 0 | 4408424 | 0 | 1444576 | 1444576 |
| 1988 | 5913000 | 9000 | 5904000 | 0 | 3829853 | 0 | 2074147 | 2074147 |
| 1989 | 5913000 | 9000 | 5904000 | 0 | 3849300 | 0 | 2054700 | 2054700 |
| 1990 | 5913000 | 12000 | 5901000 | 0 | 4098687 | 0 | 1802313 | 1802313 |
| 1991 | 5913000 | 9000 | 5904000 | 0 | 3800523 | 0 | 2103477 | 2103477 |
| 1992 | 5913000 | 9000 | 5904000 | 0 | 3937779 | 0 | 1966221 | 1966221 |
| 1993 | 5913000 | 9000 | 5904000 | 0 | 5193481 | 0 | 710519 | 710519 |
| 1994 | 5913000 | 9000 | 5904000 | 0 | 3881730 | 0 | 2022270 | 2022270 |
| 1995 | 5913000 | 9000 | 5904000 | 0 | 3917674 | 0 | 1986326 | 1986326 |
| 1996 | 5913000 | 9064 | 5903936 | 0 | 3739175 | 0 | 2164761 | 2164761 |
| 1997 | 5913000 | 60000 | 5853000 | 0 | 4082539 | 0 | 1770461 | 1770461 |
| 1998 | 5913000 | 9000 | 5904000 | 0 | 3878905 | 0 | 2025095 | 2025095 |
| 1999 | 5913000 | 60000 | 5853000 | 0 | 3730437 | 0 | 2122563 | 2122563 |
| 2000 | 5913000 | 63000 | 5850000 | 0 | 3931477 | 0 | 1918523 | 1918523 |
| 2001 | 5913000 | 60000 | 5853000 | 0 | 4020198 | 0 | 1832802 | 1832802 |
| 2002 | 5913000 | 9000 | 5904000 | 0 | 3850609 | 0 | 2053391 | 2053391 |
| Average | | 27428 | 5885572 | 0 | 4069164 | 1605 | 1814803 | 1816408 |

Change in production COS % change

| | |
|------------|-------|
| -80,944 | -3.7 |
| -129,368 | -6.3 |
| -1,237,062 | -57.8 |
| -24,115 | -1.2 |
| -98,627 | -4.9 |
| -138,679 | -6.9 |
| -120,372 | -5.5 |
| -78,568 | -3.6 |
| -70,388 | -3.5 |
| -97,859 | -47.5 |
| 362,339 | 27.2 |
| 115,906 | 66.3 |
| -103,417 | -73.4 |
| -24,625 | -1.3 |
| 106,540 | 5.8 |
| -33,443 | -1.7 |
| 211,656 | 11.2 |
| -96,244 | -4.6 |
| -266,025 | -13.7 |
| 76,048 | 3.8 |
| 14,826 | 0.7 |
| -237,145 | -11.3 |
| -101,127 | -4.9 |
| -71,969 | -3.7 |
| -162,359 | -7.7 |
| -12,893 | -0.6 |
| -116,613 | -5.7 |
| 46,372 | 2.4 |
| -3,354 | -0.2 |
| -347,576 | -17.9 |
| 4,784 | 0.2 |
| -131,154 | -5.9 |
| -333,360 | -16.5 |
| -40,940 | -2.2 |
| 45,258 | 2.3 |
| -439,728 | -20.8 |
| 87,453 | 4.3 |
| 248,728 | 13.7 |
| -36,539 | -1.7 |
| 42,853 | 2.3 |
| 65,469 | 3.7 |
| -274,757 | -13.1 |
| -28,059 | -1.4 |
| -193,444 | -9.3 |



% change

| | |
|-------------------------|----------|
| Mean | -6.60595 |
| Standard Error | 2.186547 |
| Median | -3.17753 |
| Mode | #N/A |
| Standard Deviation | 19.55707 |
| Sample Variance | 382.479 |
| Kurtosis | 8.340491 |
| Skewness | -1.47368 |
| Range | 158.7645 |
| Minimum | -92.4552 |
| Maximum | 66.3093 |
| Sum | -528.476 |
| Count | 80 |
| Largest(1) | 66.3093 |
| Smallest(1) | -92.4552 |
| Confidence Level(95.0%) | 4.352213 |

| | |
|------------|-------|
| 28,231 | 1.4 |
| 208,717 | 10.8 |
| -57,950 | -3.1 |
| 107,889 | 5.5 |
| -347,080 | -16.8 |
| -209,975 | -9.6 |
| 13,938 | 0.7 |
| -266,581 | -15.8 |
| -224 | 0.0 |
| 37,903 | 1.8 |
| 29,227 | 1.5 |
| -18,320 | -92.5 |
| -419,748 | -23.0 |
| 8,812 | 0.5 |
| -226,090 | -11.6 |
| -62,376 | -3.3 |
| 43,021 | 2.1 |
| -3,772 | -0.2 |
| -242,451 | -11.1 |
| -88,643 | -4.2 |
| -529,007 | -26.8 |
| -6,309 | -0.3 |
| 2,911 | 0.1 |
| -51,069 | -2.8 |
| 21,268 | 1.0 |
| -77,264 | -3.8 |
| -1,090,806 | -60.6 |
| -91,546 | -4.3 |
| -43,278 | -2.1 |
| 25,494 | 1.2 |
| -369,682 | -17.3 |
| -184,252 | -8.3 |
| -23,422 | -1.1 |
| -117,681 | -5.8 |
| -309,773 | -14.5 |
| -41,826 | -2.0 |
| -100,678 | -5.3 |

acramento River winter Chinook

