

様式 2

事業費集計表
(治山事業)

事業名： 復旧治山
施行箇所： 桜島地区

都道府県名： 鹿児島

(単位：千円)

| 年度 | 事業費 | | | 年度 | 事業費 | | |
|-------|-------------|-----------|-------------|-------|------------------|-----------|-------|
| | 事業費 | 割引率 | 現在価値額 | | 事業費 | 割引率 | 現在価値額 |
| S 5 0 | | × 4. 4388 | | H 4 8 | 0 | × 0. 4057 | 0 |
| S 5 1 | 362, 900 | × 4. 2681 | 1, 548, 893 | H 4 9 | 0 | × 0. 3901 | 0 |
| S 5 2 | 692, 530 | × 4. 1039 | 2, 842, 074 | H 5 0 | 0 | × 0. 3751 | 0 |
| S 5 3 | 892, 604 | × 3. 9461 | 3, 522, 305 | H 5 1 | 0 | × 0. 3607 | 0 |
| S 5 4 | 1, 104, 908 | × 3. 7943 | 4, 192, 352 | H 5 2 | 0 | × 0. 3468 | 0 |
| S 5 5 | 1, 292, 389 | × 3. 6484 | 4, 715, 152 | H 5 3 | 0 | × 0. 3335 | 0 |
| S 5 6 | 1, 217, 905 | × 3. 5081 | 4, 272, 533 | H 5 4 | 0 | × 0. 3207 | 0 |
| S 5 7 | 1, 195, 518 | × 3. 3731 | 4, 032, 602 | H 5 5 | 0 | × 0. 3083 | 0 |
| S 5 8 | 1, 181, 799 | × 3. 2434 | 3, 833, 047 | H 5 6 | 0 | × 0. 2965 | 0 |
| S 5 9 | 1, 147, 700 | × 3. 1187 | 3, 579, 332 | H 5 7 | 0 | × 0. 2851 | 0 |
| S 6 0 | 1, 262, 300 | × 2. 9987 | 3, 785, 259 | H 5 8 | 0 | × 0. 2741 | 0 |
| S 6 1 | 1, 318, 744 | × 2. 8834 | 3, 802, 466 | H 5 9 | 0 | × 0. 2636 | 0 |
| S 6 2 | 1, 792, 634 | × 2. 7725 | 4, 970, 078 | H 6 0 | 0 | × 0. 2534 | 0 |
| S 6 3 | 1, 527, 998 | × 2. 6658 | 4, 073, 337 | H 6 1 | 0 | × 0. 2437 | 0 |
| H 1 | 1, 521, 898 | × 2. 5633 | 3, 901, 081 | H 6 2 | 0 | × 0. 2343 | 0 |
| H 2 | 1, 496, 699 | × 2. 4647 | 3, 688, 914 | H 6 3 | 0 | × 0. 2253 | 0 |
| H 3 | 1, 305, 199 | × 2. 3699 | 3, 093, 191 | H 6 4 | 0 | × 0. 2166 | 0 |
| H 4 | 1, 490, 629 | × 2. 2788 | 3, 396, 845 | H 6 5 | 0 | × 0. 2083 | 0 |
| H 5 | 1, 509, 886 | × 2. 1911 | 3, 308, 311 | H 6 6 | 0 | × 0. 2003 | 0 |
| H 6 | 1, 797, 475 | × 2. 1068 | 3, 786, 920 | H 6 7 | 0 | × 0. 1926 | 0 |
| H 7 | 1, 980, 498 | × 2. 0258 | 4, 012, 093 | H 6 8 | 0 | × 0. 1852 | 0 |
| H 8 | 1, 426, 999 | × 1. 9479 | 2, 779, 651 | H 6 9 | 0 | × 0. 1780 | 0 |
| H 9 | 1, 670, 684 | × 1. 8730 | 3, 129, 191 | H 7 0 | 0 | × 0. 1712 | 0 |
| H 1 0 | 2, 108, 806 | × 1. 8009 | 3, 797, 749 | H 7 1 | 0 | × 0. 1646 | 0 |
| H 1 1 | 2, 554, 433 | × 1. 7317 | 4, 423, 512 | H 7 2 | 0 | × 0. 1583 | 0 |
| H 1 2 | 2, 396, 109 | × 1. 6651 | 3, 989, 761 | H 7 3 | 0 | × 0. 1522 | 0 |
| H 1 3 | 1, 854, 037 | × 1. 6010 | 2, 968, 313 | H 7 4 | 0 | × 0. 1463 | 0 |
| H 1 4 | 1, 530, 439 | × 1. 5395 | 2, 356, 111 | H 7 5 | 0 | × 0. 1407 | 0 |
| H 1 5 | 1, 302, 351 | × 1. 4802 | 1, 927, 740 | H 7 6 | 0 | × 0. 1353 | 0 |
| H 1 6 | 1, 264, 511 | × 1. 4233 | 1, 799, 779 | H 7 7 | 0 | × 0. 1301 | 0 |
| H 1 7 | 1, 172, 017 | × 1. 3686 | 1, 604, 022 | H 7 8 | 0 | × 0. 1251 | 0 |
| H 1 8 | 1, 124, 079 | × 1. 3159 | 1, 479, 176 | H 7 9 | 0 | × 0. 1203 | 0 |
| H 1 9 | 569, 974 | × 1. 2653 | 721, 188 | H 8 0 | 0 | × 0. 1157 | 0 |
| H 2 0 | 978, 315 | × 1. 2167 | 1, 190, 316 | H 8 1 | 0 | × 0. 1112 | 0 |
| H 2 1 | 1, 615, 950 | × 1. 1699 | 1, 890, 500 | H 8 2 | 0 | × 0. 1069 | 0 |
| H 2 2 | 832, 343 | × 1. 1249 | 936, 303 | H 8 3 | 0 | × 0. 1028 | 0 |
| H 2 3 | 783, 856 | × 1. 0816 | 847, 819 | H 8 4 | 0 | × 0. 0989 | 0 |
| H 2 4 | 990, 391 | × 1. 0400 | 1, 030, 007 | H 8 5 | 0 | × 0. 0951 | 0 |
| H 2 5 | 2, 243, 264 | × 1. 0000 | 2, 243, 264 | | | | |
| H 2 6 | 1, 010, 147 | × 0. 9615 | 971, 256 | | | | |
| H 2 7 | 1, 430, 000 | × 0. 9246 | 1, 322, 178 | | | | |
| H 2 8 | 1, 430, 000 | × 0. 8890 | 1, 271, 270 | | | | |
| H 2 9 | 1, 430, 000 | × 0. 8548 | 1, 222, 364 | | | | |
| H 3 0 | 1, 430, 000 | × 0. 8219 | 1, 175, 317 | | | | |
| H 3 1 | 1, 430, 000 | × 0. 7903 | 1, 130, 129 | | | | |
| H 3 2 | 1, 430, 000 | × 0. 7599 | 1, 086, 657 | | | | |
| H 3 3 | 1, 430, 000 | × 0. 7307 | 1, 044, 901 | | | | |
| H 3 4 | 1, 430, 000 | × 0. 7026 | 1, 004, 718 | | | | |
| H 3 5 | 1, 388, 193 | × 0. 6756 | 937, 863 | | | | |
| H 3 6 | 0 | × 0. 6496 | 0 | | | | |
| H 3 7 | 0 | × 0. 6246 | 0 | | | | |
| H 3 8 | 0 | × 0. 6006 | 0 | | | | |
| H 3 9 | 0 | × 0. 5775 | 0 | | | | |
| H 4 0 | 0 | × 0. 5553 | 0 | | | | |
| H 4 1 | 0 | × 0. 5339 | 0 | | | | |
| H 4 2 | 0 | × 0. 5134 | 0 | | | | |
| H 4 3 | 0 | × 0. 4936 | 0 | | | | |
| H 4 4 | 0 | × 0. 4746 | 0 | | | | |
| H 4 5 | 0 | × 0. 4564 | 0 | | | | |
| H 4 6 | 0 | × 0. 4388 | 0 | | | | |
| H 4 7 | 0 | × 0. 4220 | 0 | | | | |
| | | | | 合 計 | 124, 637, 840 | | |
| | | | | C = | 124, 637, 840 千円 | | |

$$B = \sum_{t=1}^{T-1} \frac{t}{T \times (1+i)^t} + \sum_{t=T}^Y \frac{1}{(1+i)^t} \times \frac{(f1-f2) \times \alpha \times A \times U}{360}$$

- U: 治水ダムの単位雨量流出量当たりの年間減価償却費(円/㎡/sec) 3,520,000
出典:「ダム年鑑2012」
- f1: 事業実施前の流出係数 浸透能小 急 要整備森林(裸地) 0.90
出典:「治山設計」(山口伊佐夫著,1979)
- f2: 事業実施後、T年経過後の流出係数 浸透能小 急 要整備森林(疎林) 0.75
出典:「治山設計」(山口伊佐夫著,1979)
- T: 事業実施後、流出係数が安定するのに必要な年数 15
- α: 100年確率時雨量(mm/h) 106
H25年3月全体計画調査
- A: 事業対象区域面積(ha) 8.02 ~ 1,458.00
- 360: 単位合わせのための調整値
- Y: 評価期間 98

| 年度 | 社会的割引率 | 事業対象区域面積 | 事業効果面積 | 効果額 | 現在価値化 |
|------|--------|----------|----------|---------|---------|
| 1975 | 4.4388 | | | | |
| 1976 | 4.2681 | 8.02 | 0.53 | 82 | 350 |
| 1977 | 4.1039 | 23.18 | 2.08 | 323 | 1,326 |
| 1978 | 3.9461 | 42.86 | 4.93 | 765 | 3,019 |
| 1979 | 3.7943 | 67.06 | 9.40 | 1,459 | 5,536 |
| 1980 | 3.6484 | 95.49 | 15.78 | 2,449 | 8,935 |
| 1981 | 3.5081 | 122.17 | 23.92 | 3,712 | 13,022 |
| 1982 | 3.3731 | 148.56 | 33.82 | 5,248 | 17,702 |
| 1983 | 3.2434 | 174.51 | 45.46 | 7,054 | 22,879 |
| 1984 | 3.1187 | 199.73 | 58.77 | 9,120 | 28,443 |
| 1985 | 2.9987 | 227.43 | 73.94 | 11,473 | 34,404 |
| 1986 | 2.8834 | 256.44 | 91.03 | 14,125 | 40,728 |
| 1987 | 2.7725 | 295.81 | 110.76 | 17,187 | 47,651 |
| 1988 | 2.6658 | 329.34 | 132.72 | 20,595 | 54,902 |
| 1989 | 2.5633 | 362.87 | 156.90 | 24,347 | 62,409 |
| 1990 | 2.4647 | 395.67 | 183.29 | 28,442 | 70,101 |
| 1991 | 2.3699 | 424.39 | 211.02 | 32,745 | 77,602 |
| 1992 | 2.2788 | 457.19 | 239.97 | 37,237 | 84,856 |
| 1993 | 2.1911 | 490.29 | 269.78 | 41,863 | 91,726 |
| 1994 | 2.1068 | 529.80 | 300.64 | 46,651 | 98,284 |
| 1995 | 2.0258 | 573.39 | 332.51 | 51,597 | 104,525 |
| 1996 | 1.9479 | 604.74 | 364.68 | 56,588 | 110,228 |
| 1997 | 1.8730 | 641.34 | 397.53 | 61,686 | 115,538 |
| 1998 | 1.8009 | 687.70 | 431.74 | 66,994 | 120,649 |
| 1999 | 1.7317 | 743.83 | 468.01 | 72,623 | 125,761 |
| 2000 | 1.6651 | 796.46 | 505.95 | 78,510 | 130,727 |
| 2001 | 1.6010 | 837.28 | 544.67 | 84,518 | 135,313 |
| 2002 | 1.5395 | 870.96 | 583.03 | 90,471 | 139,280 |
| 2003 | 1.4802 | 899.54 | 621.01 | 96,364 | 142,638 |
| 2004 | 1.4233 | 927.24 | 658.66 | 102,206 | 145,470 |
| 2005 | 1.3686 | 953.05 | 695.82 | 107,972 | 147,770 |
| 2006 | 1.3159 | 977.69 | 732.70 | 113,695 | 149,611 |
| 2007 | 1.2653 | 990.23 | 768.26 | 119,213 | 150,840 |
| 2008 | 1.2167 | 1,011.81 | 803.00 | 124,604 | 151,606 |
| 2009 | 1.1699 | 1,047.24 | 837.50 | 129,957 | 152,037 |
| 2010 | 1.1249 | 1,065.61 | 870.30 | 135,047 | 151,914 |
| 2011 | 1.0816 | 1,082.81 | 902.18 | 139,994 | 151,418 |
| 2012 | 1.0400 | 1,104.53 | 933.07 | 144,787 | 150,578 |
| 2013 | 1.0000 | 1,153.81 | 964.15 | 149,610 | 149,610 |
| 2014 | 0.9615 | 1,176.12 | 992.95 | 154,079 | 148,147 |
| 2015 | 0.9246 | 1,207.47 | 1,020.35 | 158,331 | 146,393 |
| 2016 | 0.8890 | 1,238.96 | 1,047.14 | 162,488 | 144,452 |
| 2017 | 0.8548 | 1,270.31 | 1,073.78 | 166,622 | 142,428 |
| 2018 | 0.8219 | 1,301.80 | 1,100.58 | 170,780 | 140,364 |
| 2019 | 0.7903 | 1,333.15 | 1,127.64 | 174,979 | 138,286 |
| 2020 | 0.7599 | 1,364.64 | 1,155.07 | 179,236 | 136,201 |
| 2021 | 0.7307 | 1,395.99 | 1,182.98 | 183,567 | 134,132 |
| 2022 | 0.7026 | 1,427.48 | 1,212.13 | 188,090 | 132,152 |
| 2023 | 0.6756 | 1,458.00 | 1,241.87 | 192,705 | 130,191 |
| 2024 | 0.6496 | 1,458.00 | 1,269.24 | 196,952 | 127,940 |
| 2025 | 0.6246 | 1,458.00 | 1,295.40 | 201,011 | 125,551 |
| 2026 | 0.6006 | 1,458.00 | 1,320.42 | 204,894 | 123,059 |
| 2027 | 0.5775 | 1,458.00 | 1,343.97 | 208,548 | 120,436 |
| 2028 | 0.5553 | 1,458.00 | 1,364.26 | 211,696 | 117,555 |
| 2029 | 0.5339 | 1,458.00 | 1,383.04 | 214,610 | 114,580 |
| 2030 | 0.5134 | 1,458.00 | 1,399.75 | 217,203 | 111,512 |
| 2031 | 0.4936 | 1,458.00 | 1,414.35 | 219,469 | 108,330 |
| 2032 | 0.4746 | 1,458.00 | 1,426.87 | 221,412 | 105,082 |
| 2033 | 0.4564 | 1,458.00 | 1,437.28 | 223,027 | 101,790 |
| 2034 | 0.4388 | 1,458.00 | 1,445.61 | 224,320 | 98,432 |
| 2035 | 0.4220 | 1,458.00 | 1,451.83 | 225,285 | 95,070 |
| 2036 | 0.4057 | 1,458.00 | 1,455.97 | 225,927 | 91,659 |
| 2037 | 0.3901 | 1,458.00 | 1,458.00 | 226,242 | 88,257 |

$$B = \sum_{t=1}^Y \frac{(f_1 - f_2) \times t \times \alpha \times A \times U}{Y \times 360 \times (1+i)^t}$$

| | | |
|------|--|-----------|
| U: | 治水ダムの単位雨量流出量当たりの年間減価償却費(円/㎡/sec) 出典:「ダム年鑑2012」 | 3,520,000 |
| f1: | 保全効果区域において事業を実施しない場合の将来の流出係数 出典:「治山設計」(山口伊佐夫著,1979) | 0.90 |
| f2: | 保全効果区域内の現在の流出係数 出典:「治山設計」(山口伊佐夫著,1979) | 0.75 |
| α: | 100年確率時雨量(mm/h) H25年3月全体計画調査 | 106 |
| A: | 保全効果区域面積(ha) | 865.00 |
| 360: | 単位合わせのための調整値 | |
| Y: | 評価期間 | 98 |

| 年度 | 社会的割引率 | t/Y | 事業効果面積 | 効果額 | 現在価値化 |
|------|--------|------|--------|--------|--------|
| 1975 | 4.4388 | | | | |
| 1976 | 4.2681 | 0.01 | 4.73 | 7 | 30 |
| 1977 | 4.1039 | 0.02 | 13.76 | 44 | 181 |
| 1978 | 3.9461 | 0.03 | 25.40 | 121 | 477 |
| 1979 | 3.7943 | 0.04 | 39.80 | 252 | 956 |
| 1980 | 3.6484 | 0.05 | 56.65 | 448 | 1,634 |
| 1981 | 3.5081 | 0.06 | 72.53 | 689 | 2,417 |
| 1982 | 3.3731 | 0.07 | 88.11 | 976 | 3,292 |
| 1983 | 3.2434 | 0.08 | 103.52 | 1,311 | 4,252 |
| 1984 | 3.1187 | 0.09 | 118.48 | 1,688 | 5,264 |
| 1985 | 2.9987 | 0.10 | 134.94 | 2,136 | 6,405 |
| 1986 | 2.8834 | 0.11 | 152.13 | 2,649 | 7,638 |
| 1987 | 2.7725 | 0.12 | 175.50 | 3,333 | 9,241 |
| 1988 | 2.6658 | 0.13 | 195.43 | 4,024 | 10,727 |
| 1989 | 2.5633 | 0.14 | 215.27 | 4,773 | 12,235 |
| 1990 | 2.4647 | 0.15 | 234.78 | 5,578 | 13,748 |
| 1991 | 2.3699 | 0.16 | 251.79 | 6,380 | 15,120 |
| 1992 | 2.2788 | 0.17 | 271.23 | 7,302 | 16,640 |
| 1993 | 2.1911 | 0.18 | 290.91 | 8,292 | 18,169 |
| 1994 | 2.1068 | 0.19 | 314.35 | 9,458 | 19,926 |
| 1995 | 2.0258 | 0.20 | 340.17 | 10,773 | 21,824 |
| 1996 | 1.9479 | 0.21 | 358.77 | 11,930 | 23,238 |
| 1997 | 1.8730 | 0.22 | 380.55 | 13,257 | 24,830 |
| 1998 | 1.8009 | 0.23 | 408.04 | 14,860 | 26,761 |
| 1999 | 1.7317 | 0.24 | 441.35 | 16,772 | 29,044 |
| 2000 | 1.6651 | 0.26 | 472.59 | 18,707 | 31,149 |
| 2001 | 1.6010 | 0.27 | 496.76 | 20,450 | 32,740 |
| 2002 | 1.5395 | 0.28 | 516.71 | 22,089 | 34,006 |
| 2003 | 1.4802 | 0.29 | 533.69 | 23,660 | 35,022 |
| 2004 | 1.4233 | 0.30 | 550.17 | 25,261 | 35,954 |
| 2005 | 1.3686 | 0.31 | 565.45 | 26,858 | 36,758 |
| 2006 | 1.3159 | 0.32 | 580.11 | 28,473 | 37,468 |
| 2007 | 1.2653 | 0.33 | 587.54 | 29,767 | 37,664 |
| 2008 | 1.2167 | 0.34 | 600.29 | 31,363 | 38,159 |
| 2009 | 1.1699 | 0.35 | 621.36 | 33,448 | 39,131 |
| 2010 | 1.1249 | 0.36 | 632.21 | 35,032 | 39,407 |
| 2011 | 1.0816 | 0.37 | 642.43 | 36,615 | 39,603 |
| 2012 | 1.0400 | 0.38 | 655.34 | 38,399 | 39,935 |
| 2013 | 1.0000 | 0.39 | 684.59 | 41,196 | 41,196 |
| 2014 | 0.9615 | 0.40 | 697.76 | 43,093 | 41,434 |
| 2015 | 0.9246 | 0.41 | 716.40 | 45,378 | 41,956 |
| 2016 | 0.8890 | 0.42 | 735.04 | 47,722 | 42,425 |
| 2017 | 0.8548 | 0.43 | 753.69 | 50,126 | 42,848 |
| 2018 | 0.8219 | 0.44 | 772.33 | 52,588 | 43,222 |
| 2019 | 0.7903 | 0.45 | 790.97 | 55,109 | 43,553 |
| 2020 | 0.7599 | 0.46 | 809.62 | 57,690 | 43,839 |
| 2021 | 0.7307 | 0.47 | 828.26 | 60,329 | 44,082 |
| 2022 | 0.7026 | 0.48 | 846.90 | 63,027 | 44,283 |
| 2023 | 0.6756 | 0.49 | 865.00 | 65,743 | 44,416 |
| 2024 | 0.6496 | 0.50 | 865.00 | 67,112 | 43,596 |
| 2025 | 0.6246 | 0.51 | 865.00 | 68,481 | 42,773 |
| 2026 | 0.6006 | 0.52 | 865.00 | 69,851 | 41,953 |
| 2027 | 0.5775 | 0.53 | 865.00 | 71,220 | 41,130 |
| 2028 | 0.5553 | 0.54 | 865.00 | 72,589 | 40,309 |
| 2029 | 0.5339 | 0.55 | 865.00 | 73,958 | 39,486 |
| 2030 | 0.5134 | 0.56 | 865.00 | 75,327 | 38,673 |
| 2031 | 0.4936 | 0.57 | 865.00 | 76,696 | 37,857 |
| 2032 | 0.4746 | 0.58 | 865.00 | 78,065 | 37,050 |
| 2033 | 0.4564 | 0.59 | 865.00 | 79,434 | 36,254 |
| 2034 | 0.4388 | 0.60 | 865.00 | 80,803 | 35,456 |
| 2035 | 0.4220 | 0.61 | 865.00 | 82,172 | 34,677 |
| 2036 | 0.4057 | 0.62 | 865.00 | 83,541 | 33,893 |
| 2037 | 0.3901 | 0.63 | 865.00 | 84,924 | 33,129 |
| 2038 | 0.3751 | 0.64 | 865.00 | 86,293 | 32,369 |
| 2039 | 0.3607 | 0.65 | 865.00 | 87,662 | 31,620 |

$$B = \sum_{t=1}^{T-1} \frac{t}{T \times (1+i)^t} + \sum_{t=T}^Y \frac{1}{(1+i)^t} \times \frac{(D2-D1) \times A \times P \times U \times 10}{365 \times 86400}$$

- A: 事業対象区域面積 (ha) 8.02 ~ 1,458.00
- P: 年間平均降雨量 (mm/年)
H25年3月全体計画調査 2,313
- D1: 事業実施前の貯留率 0.51
出典:「森林の間伐と水収支」(近嵐ら、1987)
- D2: 事業実施後、T年経過後の貯留率 0.56
出典:「森林の間伐と水収支」(近嵐ら、1987)
- T: 事業実施後、流出係数が安定するのに必要な年数 15
- U: 開発流量当りの利水ダム年間減価償却費 (円/m3/S) 1,038,000,000
出典:「ダム年鑑2012」
- Y: 評価期間 98
- 10: 単位合わせのための調整値
- 365: 1年間の日数
- 86400: 1日の秒数

| 年度 | 社会的割引率 | 事業対象区域面積 | 事業効果面積 | 効果額 | 現在価値化 |
|-------|--------|----------|----------|--------|--------|
| 1,975 | 4.4388 | | | | |
| 1,976 | 4.2681 | 8.02 | 0.53 | 20 | 85 |
| 1,977 | 4.1039 | 23.18 | 2.08 | 79 | 324 |
| 1,978 | 3.9461 | 42.86 | 4.93 | 188 | 742 |
| 1,979 | 3.7943 | 67.06 | 9.40 | 358 | 1,358 |
| 1,980 | 3.6484 | 95.49 | 15.78 | 601 | 2,193 |
| 1,981 | 3.5081 | 122.17 | 23.92 | 911 | 3,196 |
| 1,982 | 3.3731 | 148.56 | 33.82 | 1,287 | 4,341 |
| 1,983 | 3.2434 | 174.51 | 45.46 | 1,730 | 5,611 |
| 1,984 | 3.1187 | 199.73 | 58.77 | 2,237 | 6,977 |
| 1,985 | 2.9987 | 227.43 | 73.94 | 2,815 | 8,441 |
| 1,986 | 2.8834 | 256.44 | 91.03 | 3,465 | 9,991 |
| 1,987 | 2.7725 | 295.81 | 110.76 | 4,216 | 11,689 |
| 1,988 | 2.6658 | 329.34 | 132.72 | 5,052 | 13,468 |
| 1,989 | 2.5633 | 362.87 | 156.90 | 5,973 | 15,311 |
| 1,990 | 2.4647 | 395.67 | 183.29 | 6,977 | 17,196 |
| 1,991 | 2.3699 | 424.39 | 211.02 | 8,033 | 19,037 |
| 1,992 | 2.2788 | 457.19 | 239.97 | 9,135 | 20,817 |
| 1,993 | 2.1911 | 490.29 | 269.78 | 10,269 | 22,500 |
| 1,994 | 2.1068 | 529.80 | 300.64 | 11,444 | 24,110 |
| 1,995 | 2.0258 | 573.39 | 332.51 | 12,657 | 25,641 |
| 1,996 | 1.9479 | 604.74 | 364.68 | 13,882 | 27,041 |
| 1,997 | 1.8730 | 641.34 | 397.53 | 15,132 | 28,342 |
| 1,998 | 1.8009 | 687.70 | 431.74 | 16,435 | 29,598 |
| 1,999 | 1.7317 | 743.83 | 468.01 | 17,815 | 30,850 |
| 2,000 | 1.6651 | 796.46 | 505.95 | 19,259 | 32,068 |
| 2,001 | 1.6010 | 837.28 | 544.67 | 20,733 | 33,194 |
| 2,002 | 1.5395 | 870.96 | 583.03 | 22,194 | 34,168 |
| 2,003 | 1.4802 | 899.54 | 621.01 | 23,639 | 34,990 |
| 2,004 | 1.4233 | 927.24 | 658.66 | 25,073 | 35,686 |
| 2,005 | 1.3686 | 953.05 | 695.82 | 26,487 | 36,250 |
| 2,006 | 1.3159 | 977.69 | 732.70 | 27,891 | 36,702 |
| 2,007 | 1.2653 | 990.23 | 768.26 | 29,245 | 37,004 |
| 2,008 | 1.2167 | 1,011.81 | 803.00 | 30,567 | 37,191 |
| 2,009 | 1.1699 | 1,047.24 | 837.50 | 31,880 | 37,296 |
| 2,010 | 1.1249 | 1,065.61 | 870.30 | 33,129 | 37,267 |
| 2,011 | 1.0816 | 1,082.81 | 902.18 | 34,342 | 37,144 |
| 2,012 | 1.0400 | 1,104.53 | 933.07 | 35,518 | 36,939 |
| 2,013 | 1.0000 | 1,153.81 | 964.15 | 36,701 | 36,701 |
| 2,014 | 0.9615 | 1,176.12 | 992.95 | 37,798 | 36,343 |
| 2,015 | 0.9246 | 1,207.47 | 1,020.35 | 38,841 | 35,912 |
| 2,016 | 0.8890 | 1,238.96 | 1,047.14 | 39,860 | 35,436 |
| 2,017 | 0.8548 | 1,270.31 | 1,073.78 | 40,875 | 34,940 |
| 2,018 | 0.8219 | 1,301.80 | 1,100.58 | 41,895 | 34,434 |
| 2,019 | 0.7903 | 1,333.15 | 1,127.64 | 42,925 | 33,924 |
| 2,020 | 0.7599 | 1,364.64 | 1,155.07 | 43,969 | 33,412 |
| 2,021 | 0.7307 | 1,395.99 | 1,182.98 | 45,031 | 32,904 |
| 2,022 | 0.7026 | 1,427.48 | 1,212.13 | 46,141 | 32,419 |
| 2,023 | 0.6756 | 1,458.00 | 1,241.87 | 47,273 | 31,938 |
| 2,024 | 0.6496 | 1,458.00 | 1,269.24 | 48,315 | 31,385 |
| 2,025 | 0.6246 | 1,458.00 | 1,295.40 | 49,311 | 30,800 |
| 2,026 | 0.6006 | 1,458.00 | 1,320.42 | 50,263 | 30,188 |
| 2,027 | 0.5775 | 1,458.00 | 1,343.97 | 51,160 | 29,545 |
| 2,028 | 0.5553 | 1,458.00 | 1,364.26 | 51,932 | 28,838 |
| 2,029 | 0.5339 | 1,458.00 | 1,383.04 | 52,647 | 28,108 |
| 2,030 | 0.5134 | 1,458.00 | 1,399.75 | 53,283 | 27,355 |
| 2,031 | 0.4936 | 1,458.00 | 1,414.35 | 53,839 | 26,575 |
| 2,032 | 0.4746 | 1,458.00 | 1,426.87 | 54,315 | 25,778 |
| 2,033 | 0.4564 | 1,458.00 | 1,437.28 | 54,712 | 24,971 |

$$B = \sum_{t=1}^Y \frac{t \times (D_2 - D_1) \times A \times P \times U \times 10}{365 \times 86400 \times Y \times (1+i)^t}$$

| | | |
|--------|---|---------------|
| A: | 保全効果区域面積 (ha) | 865.00 |
| P: | 年間平均降雨量 (mm/年) H25年3月全体計画調査 | 2,313 |
| D1: | 保全効果区域を放置した場合に想定される将来の貯留率 出典:「森林の間伐と水収支」(近嵐ら、1987) | 0.51 |
| D2: | 保全効果区域内の現在の貯留率 出典:「森林の間伐と水収支」(近嵐ら、1987) | 0.56 |
| U: | 開発流量当りの利水ダム年間減価償却費 (円/m ³ /S) 出典:「ダム年鑑2012」 | 1,038,000,000 |
| Y: | 評価期間 | 98 |
| 10: | 単位合わせのための調整値 | |
| 365: | 1年間の日数 | |
| 86400: | 1日の秒数 | |

| 年度 | 社会的割引率 | t/Y | 事業効果面積 | 効果額 | 現在価値化 |
|------|--------|--------|--------|--------|--------|
| 1975 | 4.4388 | | | | |
| 1976 | 4.2681 | 0.0102 | 4.73 | 2 | 9 |
| 1977 | 4.1039 | 0.0204 | 13.76 | 11 | 45 |
| 1978 | 3.9461 | 0.0306 | 25.40 | 30 | 118 |
| 1979 | 3.7943 | 0.0408 | 39.80 | 62 | 235 |
| 1980 | 3.6484 | 0.0510 | 56.65 | 110 | 401 |
| 1981 | 3.5081 | 0.0612 | 72.53 | 169 | 593 |
| 1982 | 3.3731 | 0.0714 | 88.11 | 239 | 806 |
| 1983 | 3.2434 | 0.0816 | 103.52 | 322 | 1,044 |
| 1984 | 3.1187 | 0.0918 | 118.48 | 414 | 1,291 |
| 1985 | 2.9987 | 0.1020 | 134.94 | 524 | 1,571 |
| 1986 | 2.8834 | 0.1122 | 152.13 | 650 | 1,874 |
| 1987 | 2.7725 | 0.1224 | 175.50 | 818 | 2,268 |
| 1988 | 2.6658 | 0.1327 | 195.43 | 987 | 2,631 |
| 1989 | 2.5633 | 0.1429 | 215.27 | 1,171 | 3,002 |
| 1990 | 2.4647 | 0.1531 | 234.78 | 1,368 | 3,372 |
| 1991 | 2.3699 | 0.1633 | 251.79 | 1,565 | 3,709 |
| 1992 | 2.2788 | 0.1735 | 271.23 | 1,791 | 4,081 |
| 1993 | 2.1911 | 0.1837 | 290.91 | 2,034 | 4,457 |
| 1994 | 2.1068 | 0.1939 | 314.35 | 2,320 | 4,888 |
| 1995 | 2.0258 | 0.2041 | 340.17 | 2,643 | 5,354 |
| 1996 | 1.9479 | 0.2143 | 358.77 | 2,927 | 5,702 |
| 1997 | 1.8730 | 0.2245 | 380.55 | 3,252 | 6,091 |
| 1998 | 1.8009 | 0.2347 | 408.04 | 3,645 | 6,564 |
| 1999 | 1.7317 | 0.2449 | 441.35 | 4,114 | 7,124 |
| 2000 | 1.6651 | 0.2551 | 472.59 | 4,589 | 7,641 |
| 2001 | 1.6010 | 0.2653 | 496.76 | 5,017 | 8,032 |
| 2002 | 1.5395 | 0.2755 | 516.71 | 5,419 | 8,343 |
| 2003 | 1.4802 | 0.2857 | 533.69 | 5,804 | 8,591 |
| 2004 | 1.4233 | 0.2959 | 550.17 | 6,197 | 8,820 |
| 2005 | 1.3686 | 0.3061 | 565.45 | 6,589 | 9,018 |
| 2006 | 1.3159 | 0.3163 | 580.11 | 6,985 | 9,192 |
| 2007 | 1.2653 | 0.3265 | 587.54 | 7,302 | 9,239 |
| 2008 | 1.2167 | 0.3367 | 600.29 | 7,694 | 9,361 |
| 2009 | 1.1699 | 0.3469 | 621.36 | 8,205 | 9,599 |
| 2010 | 1.1249 | 0.3571 | 632.21 | 8,594 | 9,667 |
| 2011 | 1.0816 | 0.3673 | 642.43 | 8,982 | 9,715 |
| 2012 | 1.0400 | 0.3776 | 655.34 | 9,420 | 9,797 |
| 2013 | 1.0000 | 0.3878 | 684.59 | 10,106 | 10,106 |
| 2014 | 0.9615 | 0.3980 | 697.76 | 10,571 | 10,164 |
| 2015 | 0.9246 | 0.4082 | 716.40 | 11,132 | 10,293 |
| 2016 | 0.8890 | 0.4184 | 735.04 | 11,707 | 10,408 |
| 2017 | 0.8548 | 0.4286 | 753.69 | 12,297 | 10,511 |
| 2018 | 0.8219 | 0.4388 | 772.33 | 12,901 | 10,603 |
| 2019 | 0.7903 | 0.4490 | 790.97 | 13,519 | 10,684 |
| 2020 | 0.7599 | 0.4592 | 809.62 | 14,152 | 10,754 |
| 2021 | 0.7307 | 0.4694 | 828.26 | 14,799 | 10,814 |
| 2022 | 0.7026 | 0.4796 | 846.90 | 15,461 | 10,863 |
| 2023 | 0.6756 | 0.4898 | 865.00 | 16,128 | 10,896 |
| 2024 | 0.6496 | 0.5000 | 865.00 | 16,464 | 10,695 |
| 2025 | 0.6246 | 0.5102 | 865.00 | 16,799 | 10,493 |
| 2026 | 0.6006 | 0.5204 | 865.00 | 17,135 | 10,291 |
| 2027 | 0.5775 | 0.5306 | 865.00 | 17,471 | 10,090 |
| 2028 | 0.5553 | 0.5408 | 865.00 | 17,807 | 9,888 |
| 2029 | 0.5339 | 0.5510 | 865.00 | 18,143 | 9,687 |
| 2030 | 0.5134 | 0.5612 | 865.00 | 18,479 | 9,487 |
| 2031 | 0.4936 | 0.5714 | 865.00 | 18,815 | 9,287 |
| 2032 | 0.4746 | 0.5816 | 865.00 | 19,150 | 9,089 |
| 2033 | 0.4564 | 0.5918 | 865.00 | 19,486 | 8,893 |
| 2034 | 0.4388 | 0.6020 | 865.00 | 19,822 | 8,698 |
| 2035 | 0.4220 | 0.6122 | 865.00 | 20,158 | 8,507 |

$$B = \sum_{t=1}^{T-1} \frac{t}{T \times (1+i)^t} + \sum_{t=T}^Y \frac{1}{(1+i)^t} \times (D2-D1) \times A \times P \times u \times 10$$

$$u = \frac{U_x \times Q_x + U_y \times Q_y}{Q_x + Q_y}$$

| | | |
|-----|---|-----------------|
| Qx: | 全貯留量のうち生活用水使用相当量 | 0.00 億 |
| Qy: | 全貯留量 - Qx | 1.00 億 |
| A: | 事業対象区域面積 (ha) | 8.02 ~ 1,458.00 |
| P: | 年間平均降雨量 (mm/年) H25年3月全体計画調査 | 2,313 |
| T: | 事業実施後、貯留率が安定するのに必要な年数 | 15 |
| D1: | 事業実施前の貯留率 出典:「森林の間伐と水収支」(近嵐ら、1987) | 0.51 |
| D2: | 事業実施後、T年経過後の貯留率 出典:「森林の間伐と水収支」(近嵐ら、1987) | 0.56 |
| Ux: | 単位当たりの上水道給水原価 (円/m ³) 鹿児島市HPより | 195.00 |
| Uy: | 単位当たりの雨水浄化費 (円/m ³) | 68.60 |
| u: | 単位当たりの水質浄化費 (Ux と Uy を用いて Qx と Qy で比例按分して算出) | 68.60 |
| Y: | 評価期間 | 98 |
| 10: | 単位合わせのための調整値 | |

| 年度 | 社会的割引率 | 事業対象区域面積 | 事業効果面積 | 効果額 | 現在価値化 |
|------|--------|----------|----------|---------|--------|
| 1975 | 4.4388 | | | | |
| 1976 | 4.2681 | 8.02 | 0.53 | 42 | 179 |
| 1977 | 4.1039 | 23.18 | 2.08 | 165 | 677 |
| 1978 | 3.9461 | 42.86 | 4.93 | 391 | 1,543 |
| 1979 | 3.7943 | 67.06 | 9.40 | 746 | 2,831 |
| 1980 | 3.6484 | 95.49 | 15.78 | 1,252 | 4,568 |
| 1981 | 3.5081 | 122.17 | 23.92 | 1,898 | 6,658 |
| 1982 | 3.3731 | 148.56 | 33.82 | 2,683 | 9,050 |
| 1983 | 3.2434 | 174.51 | 45.46 | 3,607 | 11,699 |
| 1984 | 3.1187 | 199.73 | 58.77 | 4,663 | 14,542 |
| 1985 | 2.9987 | 227.43 | 73.94 | 5,866 | 17,590 |
| 1986 | 2.8834 | 256.44 | 91.03 | 7,222 | 20,824 |
| 1987 | 2.7725 | 295.81 | 110.76 | 8,787 | 24,362 |
| 1988 | 2.6658 | 329.34 | 132.72 | 10,529 | 28,068 |
| 1989 | 2.5633 | 362.87 | 156.90 | 12,448 | 31,908 |
| 1990 | 2.4647 | 395.67 | 183.29 | 14,541 | 35,839 |
| 1991 | 2.3699 | 424.39 | 211.02 | 16,741 | 39,674 |
| 1992 | 2.2788 | 457.19 | 239.97 | 19,038 | 43,384 |
| 1993 | 2.1911 | 490.29 | 269.78 | 21,403 | 46,896 |
| 1994 | 2.1068 | 529.80 | 300.64 | 23,852 | 50,251 |
| 1995 | 2.0258 | 573.39 | 332.51 | 26,380 | 53,441 |
| 1996 | 1.9479 | 604.74 | 364.68 | 28,932 | 56,357 |
| 1997 | 1.8730 | 641.34 | 397.53 | 31,538 | 59,071 |
| 1998 | 1.8009 | 687.70 | 431.74 | 34,253 | 61,686 |
| 1999 | 1.7317 | 743.83 | 468.01 | 37,130 | 64,298 |
| 2000 | 1.6651 | 796.46 | 505.95 | 40,140 | 66,837 |
| 2001 | 1.6010 | 837.28 | 544.67 | 43,212 | 69,182 |
| 2002 | 1.5395 | 870.96 | 583.03 | 46,255 | 71,210 |
| 2003 | 1.4802 | 899.54 | 621.01 | 49,268 | 72,926 |
| 2004 | 1.4233 | 927.24 | 658.66 | 52,255 | 74,375 |
| 2005 | 1.3686 | 953.05 | 695.82 | 55,204 | 75,552 |
| 2006 | 1.3159 | 977.69 | 732.70 | 58,129 | 76,492 |
| 2007 | 1.2653 | 990.23 | 768.26 | 60,951 | 77,121 |
| 2008 | 1.2167 | 1,011.81 | 803.00 | 63,707 | 77,512 |
| 2009 | 1.1699 | 1,047.24 | 837.50 | 66,444 | 77,733 |
| 2010 | 1.1249 | 1,065.61 | 870.30 | 69,046 | 77,670 |
| 2011 | 1.0816 | 1,082.81 | 902.18 | 71,575 | 77,416 |
| 2012 | 1.0400 | 1,104.53 | 933.07 | 74,026 | 76,987 |
| 2013 | 1.0000 | 1,153.81 | 964.15 | 76,492 | 76,492 |
| 2014 | 0.9615 | 1,176.12 | 992.95 | 78,777 | 75,744 |
| 2015 | 0.9246 | 1,207.47 | 1,020.35 | 80,950 | 74,846 |
| 2016 | 0.8890 | 1,238.96 | 1,047.14 | 83,076 | 73,855 |
| 2017 | 0.8548 | 1,270.31 | 1,073.78 | 85,189 | 72,820 |
| 2018 | 0.8219 | 1,301.80 | 1,100.58 | 87,316 | 71,765 |
| 2019 | 0.7903 | 1,333.15 | 1,127.64 | 89,462 | 70,702 |
| 2020 | 0.7599 | 1,364.64 | 1,155.07 | 91,639 | 69,636 |
| 2021 | 0.7307 | 1,395.99 | 1,182.98 | 93,853 | 68,578 |
| 2022 | 0.7026 | 1,427.48 | 1,212.13 | 96,166 | 67,566 |
| 2023 | 0.6756 | 1,458.00 | 1,241.87 | 98,525 | 66,563 |
| 2024 | 0.6496 | 1,458.00 | 1,269.24 | 100,696 | 65,412 |
| 2025 | 0.6246 | 1,458.00 | 1,295.40 | 102,772 | 64,191 |

$$B = \sum_{t=1}^Y \frac{t \times (D_2 - D_1) \times A \times P \times u \times 10}{Y \times (1 + i)^t}$$

$$u = \frac{U_x \times Q_x + U_y \times Q_y}{Q_x + Q_y}$$

| | | |
|-----|--|--------|
| Qx: | 全貯留量のうち生活用水使用相当量 | 0.00 億 |
| Qy: | 全貯留量 - Qx | 1.00 億 |
| A: | 保全効果区域面積 (ha) | 865.00 |
| P: | 年間平均降雨量 (mm/年) | 2,313 |
| D1: | H25年3月全体計画調査 保全効果区域を放置した場合に想定される将来の貯留率 出典:「森林の間伐と水収支」(近嵐ら、1987) | 0.51 |
| D2: | 保全効果区域内の現在の貯留率 出典:「森林の間伐と水収支」(近嵐ら、1987) | 0.56 |
| Ux: | 単位当たりの上水道給水原価 (円/m3) 鹿児島市HPより | 195.00 |
| Uy: | 単位当たりの雨水浄化費 (円/m3) 出典:「地球環境・人間生活にかかる農業及び森林の多面的な機能の評価に関する調査研究報告書」(三菱総合研究所H13.11)「雨水利用ハンドブック」 | 68.60 |
| u: | 単位当たりの水質浄化費 (Ux と Uy を用いて Qx と Qy で比例按分して算出) | 68.60 |
| Y: | 評価期間 | 98 |
| 10: | 単位合わせのための調整値 | |

| 年度 | 社会的割引率 | t/Y | 事業効果面積 | 効果額 | 現在価値化 |
|------|--------|--------|--------|--------|--------|
| 1975 | 4.4388 | | | | |
| 1976 | 4.2681 | 0.0102 | 4.73 | 4 | 17 |
| 1977 | 4.1039 | 0.0204 | 13.76 | 22 | 90 |
| 1978 | 3.9461 | 0.0306 | 25.40 | 62 | 245 |
| 1979 | 3.7943 | 0.0408 | 39.80 | 129 | 489 |
| 1980 | 3.6484 | 0.0510 | 56.65 | 229 | 835 |
| 1981 | 3.5081 | 0.0612 | 72.53 | 352 | 1,235 |
| 1982 | 3.3731 | 0.0714 | 88.11 | 499 | 1,683 |
| 1983 | 3.2434 | 0.0816 | 103.52 | 670 | 2,173 |
| 1984 | 3.1187 | 0.0918 | 118.48 | 863 | 2,691 |
| 1985 | 2.9987 | 0.1020 | 134.94 | 1,092 | 3,275 |
| 1986 | 2.8834 | 0.1122 | 152.13 | 1,354 | 3,904 |
| 1987 | 2.7725 | 0.1224 | 175.50 | 1,704 | 4,724 |
| 1988 | 2.6658 | 0.1327 | 195.43 | 2,057 | 5,484 |
| 1989 | 2.5633 | 0.1429 | 215.27 | 2,441 | 6,257 |
| 1990 | 2.4647 | 0.1531 | 234.78 | 2,852 | 7,029 |
| 1991 | 2.3699 | 0.1633 | 251.79 | 3,262 | 7,731 |
| 1992 | 2.2788 | 0.1735 | 271.23 | 3,733 | 8,507 |
| 1993 | 2.1911 | 0.1837 | 290.91 | 4,240 | 9,290 |
| 1994 | 2.1068 | 0.1939 | 314.35 | 4,836 | 10,188 |
| 1995 | 2.0258 | 0.2041 | 340.17 | 5,508 | 11,158 |
| 1996 | 1.9479 | 0.2143 | 358.77 | 6,100 | 11,882 |
| 1997 | 1.8730 | 0.2245 | 380.55 | 6,778 | 12,695 |
| 1998 | 1.8009 | 0.2347 | 408.04 | 7,598 | 13,683 |
| 1999 | 1.7317 | 0.2449 | 441.35 | 8,575 | 14,849 |
| 2000 | 1.6651 | 0.2551 | 472.59 | 9,565 | 15,927 |
| 2001 | 1.6010 | 0.2653 | 496.76 | 10,456 | 16,740 |
| 2002 | 1.5395 | 0.2755 | 516.71 | 11,294 | 17,387 |
| 2003 | 1.4802 | 0.2857 | 533.69 | 12,097 | 17,906 |
| 2004 | 1.4233 | 0.2959 | 550.17 | 12,916 | 18,383 |
| 2005 | 1.3686 | 0.3061 | 565.45 | 13,732 | 18,794 |
| 2006 | 1.3159 | 0.3163 | 580.11 | 14,557 | 19,156 |
| 2007 | 1.2653 | 0.3265 | 587.54 | 15,219 | 19,257 |
| 2008 | 1.2167 | 0.3367 | 600.29 | 16,035 | 19,510 |
| 2009 | 1.1699 | 0.3469 | 621.36 | 17,101 | 20,006 |
| 2010 | 1.1249 | 0.3571 | 632.21 | 17,911 | 20,148 |
| 2011 | 1.0816 | 0.3673 | 642.43 | 18,720 | 20,248 |
| 2012 | 1.0400 | 0.3776 | 655.34 | 19,632 | 20,417 |
| 2013 | 1.0000 | 0.3878 | 684.59 | 21,062 | 21,062 |
| 2014 | 0.9615 | 0.3980 | 697.76 | 22,032 | 21,184 |
| 2015 | 0.9246 | 0.4082 | 716.40 | 23,201 | 21,452 |
| 2016 | 0.8890 | 0.4184 | 735.04 | 24,399 | 21,691 |
| 2017 | 0.8548 | 0.4286 | 753.69 | 25,628 | 21,907 |
| 2018 | 0.8219 | 0.4388 | 772.33 | 26,887 | 22,098 |
| 2019 | 0.7903 | 0.4490 | 790.97 | 28,176 | 22,267 |
| 2020 | 0.7599 | 0.4592 | 809.62 | 29,495 | 22,413 |
| 2021 | 0.7307 | 0.4694 | 828.26 | 30,845 | 22,538 |
| 2022 | 0.7026 | 0.4796 | 846.90 | 32,224 | 22,641 |
| 2023 | 0.6756 | 0.4898 | 865.00 | 33,613 | 22,709 |
| 2024 | 0.6496 | 0.5000 | 865.00 | 34,313 | 22,290 |
| 2025 | 0.6246 | 0.5102 | 865.00 | 35,013 | 21,869 |
| 2026 | 0.6006 | 0.5204 | 865.00 | 35,713 | 21,449 |
| 2027 | 0.5775 | 0.5306 | 865.00 | 36,413 | 21,029 |

$$B = \sum_{t=1}^{T-1} \frac{t}{T \times (1+i)^t} + \sum_{t=T}^Y \frac{1}{(1+i)^t} \times D \times R$$

- D: 山腹崩壊等によって被害を被る家屋や資材等の年平均の被害想定額 111,105,075,953
- R: H25年3月全体計画調査
年間山腹崩壊発生率 0.037
- T: 整備期間 48
- Y: 評価期間 98

| 年度 | 社会的割引率 | t/T | 効果額 | 現在価値化 |
|------|--------|--------|-----------|-----------|
| 1975 | 4.4388 | | | |
| 1976 | 4.2681 | 0.0055 | 22,610 | 96,502 |
| 1977 | 4.1039 | 0.0159 | 65,363 | 268,243 |
| 1978 | 3.9461 | 0.0294 | 120,860 | 476,926 |
| 1979 | 3.7943 | 0.0460 | 189,101 | 717,506 |
| 1980 | 3.6484 | 0.0655 | 269,263 | 982,379 |
| 1981 | 3.5081 | 0.0838 | 344,492 | 1,208,512 |
| 1982 | 3.3731 | 0.1019 | 418,899 | 1,412,988 |
| 1983 | 3.2434 | 0.1197 | 492,073 | 1,595,990 |
| 1984 | 3.1187 | 0.1370 | 563,192 | 1,756,427 |
| 1985 | 2.9987 | 0.1560 | 641,298 | 1,923,060 |
| 1986 | 2.8834 | 0.1759 | 723,105 | 2,085,001 |
| 1987 | 2.7725 | 0.2029 | 834,099 | 2,312,539 |
| 1988 | 2.6658 | 0.2259 | 928,650 | 2,475,595 |
| 1989 | 2.5633 | 0.2489 | 1,023,200 | 2,622,769 |
| 1990 | 2.4647 | 0.2714 | 1,115,695 | 2,749,853 |
| 1991 | 2.3699 | 0.2911 | 1,196,679 | 2,836,010 |
| 1992 | 2.2788 | 0.3136 | 1,289,174 | 2,937,770 |
| 1993 | 2.1911 | 0.3363 | 1,382,492 | 3,029,178 |
| 1994 | 2.1068 | 0.3634 | 1,493,897 | 3,147,342 |
| 1995 | 2.0258 | 0.3933 | 1,616,812 | 3,275,338 |
| 1996 | 1.9479 | 0.4148 | 1,705,196 | 3,321,551 |
| 1997 | 1.8730 | 0.4399 | 1,808,380 | 3,387,096 |
| 1998 | 1.8009 | 0.4717 | 1,939,106 | 3,492,136 |
| 1999 | 1.7317 | 0.5102 | 2,097,375 | 3,632,024 |
| 2000 | 1.6651 | 0.5463 | 2,245,778 | 3,739,445 |
| 2001 | 1.6010 | 0.5743 | 2,360,883 | 3,779,774 |
| 2002 | 1.5395 | 0.5974 | 2,455,844 | 3,780,772 |
| 2003 | 1.4802 | 0.6170 | 2,536,418 | 3,754,406 |
| 2004 | 1.4233 | 0.6360 | 2,614,525 | 3,721,253 |
| 2005 | 1.3686 | 0.6537 | 2,687,287 | 3,677,821 |
| 2006 | 1.3159 | 0.6706 | 2,756,761 | 3,627,622 |
| 2007 | 1.2653 | 0.6792 | 2,792,115 | 3,532,863 |
| 2008 | 1.2167 | 0.6940 | 2,852,956 | 3,471,192 |
| 2009 | 1.1699 | 0.7183 | 2,952,851 | 3,454,540 |
| 2010 | 1.1249 | 0.7309 | 3,004,648 | 3,379,929 |
| 2011 | 1.0816 | 0.7427 | 3,053,156 | 3,302,294 |
| 2012 | 1.0400 | 0.7576 | 3,114,409 | 3,238,985 |
| 2013 | 1.0000 | 0.7914 | 3,253,357 | 3,253,357 |
| 2014 | 0.9615 | 0.8067 | 3,316,253 | 3,188,577 |
| 2015 | 0.9246 | 0.8282 | 3,404,637 | 3,147,927 |
| 2016 | 0.8890 | 0.8498 | 3,493,432 | 3,105,661 |
| 2017 | 0.8548 | 0.8713 | 3,581,817 | 3,061,737 |
| 2018 | 0.8219 | 0.8929 | 3,670,612 | 3,016,876 |
| 2019 | 0.7903 | 0.9144 | 3,758,996 | 2,970,735 |
| 2020 | 0.7599 | 0.9360 | 3,847,791 | 2,923,936 |
| 2021 | 0.7307 | 0.9575 | 3,936,175 | 2,876,163 |
| 2022 | 0.7026 | 0.9791 | 4,024,970 | 2,827,944 |
| 2023 | 0.6756 | 1.0000 | 4,110,888 | 2,777,316 |
| 2024 | 0.6496 | 1.0000 | 4,110,888 | 2,670,433 |
| 2025 | 0.6246 | 1.0000 | 4,110,888 | 2,567,661 |
| 2026 | 0.6006 | 1.0000 | 4,110,888 | 2,468,999 |
| 2027 | 0.5775 | 1.0000 | 4,110,888 | 2,374,038 |
| 2028 | 0.5553 | 1.0000 | 4,110,888 | 2,282,776 |
| 2029 | 0.5339 | 1.0000 | 4,110,888 | 2,194,803 |
| 2030 | 0.5134 | 1.0000 | 4,110,888 | 2,110,530 |
| 2031 | 0.4936 | 1.0000 | 4,110,888 | 2,029,134 |
| 2032 | 0.4746 | 1.0000 | 4,110,888 | 1,951,027 |
| 2033 | 0.4564 | 1.0000 | 4,110,888 | 1,876,209 |
| 2034 | 0.4388 | 1.0000 | 4,110,888 | 1,803,858 |
| 2035 | 0.4220 | 1.0000 | 4,110,888 | 1,734,795 |
| 2036 | 0.4057 | 1.0000 | 4,110,888 | 1,667,787 |
| 2037 | 0.3901 | 1.0000 | 4,110,888 | 1,603,657 |
| 2038 | 0.3751 | 1.0000 | 4,110,888 | 1,541,994 |
| 2039 | 0.3607 | 1.0000 | 4,110,888 | 1,482,797 |
| 2040 | 0.3468 | 1.0000 | 4,110,888 | 1,425,656 |
| 2041 | 0.3335 | 1.0000 | 4,110,888 | 1,370,981 |
| 2042 | 0.3207 | 1.0000 | 4,110,888 | 1,318,362 |
| 2043 | 0.3083 | 1.0000 | 4,110,888 | 1,267,387 |
| 2044 | 0.2965 | 1.0000 | 4,110,888 | 1,218,878 |
| 2045 | 0.2851 | 1.0000 | 4,110,888 | 1,172,014 |

