

様式 2

事業費集計表  
(森林整備事業)

事業名： 水源林造成事業  
 施行箇所： 木曾川広域流域 50年経過契約地

(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 3 7 |             | × 7. 3910 |              | H 3 5 | 0   | × 0. 6756 | 0               |
| S 3 8 | 1, 432, 283 | × 7. 1067 | 10, 178, 806 | H 3 6 | 0   | × 0. 6496 | 0               |
| S 3 9 | 348, 158    | × 6. 8333 | 2, 379, 068  | H 3 7 | 0   | × 0. 6246 | 0               |
| S 4 0 | 269, 011    | × 6. 5705 | 1, 767, 537  | H 3 8 | 0   | × 0. 6006 | 0               |
| S 4 1 | 201, 568    | × 6. 3178 | 1, 273, 466  | H 3 9 | 0   | × 0. 5775 | 0               |
| S 4 2 | 146, 443    | × 6. 0748 | 889, 612     | H 4 0 | 0   | × 0. 5553 | 0               |
| S 4 3 | 140, 169    | × 5. 8412 | 818, 755     | H 4 1 | 0   | × 0. 5339 | 0               |
| S 4 4 | 0           | × 5. 6165 | 0            | H 4 2 | 0   | × 0. 5134 | 0               |
| S 4 5 | 67, 621     | × 5. 4005 | 365, 187     | H 4 3 | 0   | × 0. 4936 | 0               |
| S 4 6 | 0           | × 5. 1928 | 0            | H 4 4 | 0   | × 0. 4746 | 0               |
| S 4 7 | 59, 466     | × 4. 9931 | 296, 920     | H 4 5 | 0   | × 0. 4564 | 0               |
| S 4 8 | 7, 697      | × 4. 8010 | 36, 953      | H 4 6 | 0   | × 0. 4388 | 0               |
| S 4 9 | 171, 761    | × 4. 6164 | 792, 917     | H 4 7 | 0   | × 0. 4220 | 0               |
| S 5 0 | 0           | × 4. 4388 | 0            | H 4 8 | 0   | × 0. 4057 | 0               |
| S 5 1 | 257, 565    | × 4. 2681 | 1, 099, 313  | H 4 9 | 0   | × 0. 3901 | 0               |
| S 5 2 | 0           | × 4. 1039 | 0            | H 5 0 | 0   | × 0. 3751 | 0               |
| S 5 3 | 37, 333     | × 3. 9461 | 147, 320     | H 5 1 | 0   | × 0. 3607 | 0               |
| S 5 4 | 0           | × 3. 7943 | 0            | H 5 2 | 0   | × 0. 3468 | 0               |
| S 5 5 | 67, 206     | × 3. 6484 | 245, 194     | H 5 3 | 0   | × 0. 3335 | 0               |
| S 5 6 | 0           | × 3. 5081 | 0            | H 5 4 | 0   | × 0. 3207 | 0               |
| S 5 7 | 135, 824    | × 3. 3731 | 458, 148     |       |     |           |                 |
| S 5 8 | 100, 193    | × 3. 2434 | 324, 966     |       |     |           |                 |
| S 5 9 | 0           | × 3. 1187 | 0            |       |     |           |                 |
| S 6 0 | 0           | × 2. 9987 | 0            |       |     |           |                 |
| S 6 1 | 0           | × 2. 8834 | 0            |       |     |           |                 |
| S 6 2 | 0           | × 2. 7725 | 0            |       |     |           |                 |
| S 6 3 | 195, 777    | × 2. 6658 | 521, 902     |       |     |           |                 |
| H 1   | 0           | × 2. 5633 | 0            |       |     |           |                 |
| H 2   | 0           | × 2. 4647 | 0            |       |     |           |                 |
| H 3   | 0           | × 2. 3699 | 0            |       |     |           |                 |
| H 4   | 0           | × 2. 2788 | 0            |       |     |           |                 |
| H 5   | 0           | × 2. 1911 | 0            |       |     |           |                 |
| H 6   | 0           | × 2. 1068 | 0            |       |     |           |                 |
| H 7   | 0           | × 2. 0258 | 0            |       |     |           |                 |
| H 8   | 0           | × 1. 9479 | 0            |       |     |           |                 |
| H 9   | 0           | × 1. 8730 | 0            |       |     |           |                 |
| H 1 0 | 0           | × 1. 8009 | 0            |       |     |           |                 |
| H 1 1 | 0           | × 1. 7317 | 0            |       |     |           |                 |
| H 1 2 | 0           | × 1. 6651 | 0            |       |     |           |                 |
| H 1 3 | 0           | × 1. 6010 | 0            |       |     |           |                 |
| H 1 4 | 0           | × 1. 5395 | 0            |       |     |           |                 |
| H 1 5 | 0           | × 1. 4802 | 0            |       |     |           |                 |
| H 1 6 | 0           | × 1. 4233 | 0            |       |     |           |                 |
| H 1 7 | 0           | × 1. 3686 | 0            |       |     |           |                 |
| H 1 8 | 0           | × 1. 3159 | 0            |       |     |           |                 |
| H 1 9 | 0           | × 1. 2653 | 0            |       |     |           |                 |
| H 2 0 | 0           | × 1. 2167 | 0            |       |     |           |                 |
| H 2 1 | 0           | × 1. 1699 | 0            |       |     |           |                 |
| H 2 2 | 0           | × 1. 1249 | 0            |       |     |           |                 |
| H 2 3 | 0           | × 1. 0816 | 0            |       |     |           |                 |
| H 2 4 | 0           | × 1. 0400 | 0            |       |     |           |                 |
| H 2 5 | 0           | × 1. 0000 | 0            |       |     |           |                 |
| H 2 6 | 0           | × 0. 9615 | 0            |       |     |           |                 |
| H 2 7 | 0           | × 0. 9246 | 0            |       |     |           |                 |
| H 2 8 | 0           | × 0. 8890 | 0            |       |     |           |                 |
| H 2 9 | 0           | × 0. 8548 | 0            |       |     |           |                 |
| H 3 0 | 22, 240     | × 0. 8219 | 18, 279      |       |     |           |                 |
| H 3 1 | 0           | × 0. 7903 | 0            |       |     |           |                 |
| H 3 2 | 0           | × 0. 7599 | 0            |       |     |           |                 |
| H 3 3 | 0           | × 0. 7307 | 0            |       |     |           |                 |
| H 3 4 | 0           | × 0. 7026 | 0            |       |     |           |                 |
|       |             |           |              | 合 計   |     |           | 21, 614, 343    |
|       |             |           |              | C =   |     |           | 21, 614, 343 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 

|      |   |           |
|------|---|-----------|
| 浸透能大 | 急 | 要整備森林(疎林) |
|------|---|-----------|

 0.55  
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 

|      |   |       |
|------|---|-------|
| 浸透能大 | 急 | 整備済森林 |
|------|---|-------|

 0.45  
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) 70.08  
出典:気象統計情報(気象庁)
- A: 事業対象区域面積(ha) 825.85 ~ 825.85
- 360: 単位合わせのための調整値
- Y: 評価期間 80

| 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   |
|------|--------|----------|--------|--------|---------|
| 1962 | 7.3910 |          |        |        |         |
| 1963 | 7.1067 | 825.85   | 55.06  | 3,773  | 26,814  |
| 1964 | 6.8333 | 825.85   | 110.11 | 7,545  | 51,557  |
| 1965 | 6.5705 | 825.85   | 165.17 | 11,318 | 74,365  |
| 1966 | 6.3178 | 825.85   | 220.23 | 15,091 | 95,342  |
| 1967 | 6.0748 | 825.85   | 275.28 | 18,863 | 114,589 |
| 1968 | 5.8412 | 825.85   | 330.34 | 22,636 | 132,221 |
| 1969 | 5.6165 | 825.85   | 385.40 | 26,409 | 148,326 |
| 1970 | 5.4005 | 825.85   | 440.45 | 30,181 | 162,992 |
| 1971 | 5.1928 | 825.85   | 495.51 | 33,954 | 176,316 |
| 1972 | 4.9931 | 825.85   | 550.57 | 37,726 | 188,370 |
| 1973 | 4.8010 | 825.85   | 605.62 | 41,499 | 199,237 |
| 1974 | 4.6164 | 825.85   | 660.68 | 45,272 | 208,994 |
| 1975 | 4.4388 | 825.85   | 715.74 | 49,044 | 217,697 |
| 1976 | 4.2681 | 825.85   | 770.79 | 52,817 | 225,428 |
| 1977 | 4.1039 | 825.85   | 825.85 | 56,590 | 232,240 |
| 1978 | 3.9461 | 825.85   | 825.85 | 56,590 | 223,310 |
| 1979 | 3.7943 | 825.85   | 825.85 | 56,590 | 214,719 |
| 1980 | 3.6484 | 825.85   | 825.85 | 56,590 | 206,463 |
| 1981 | 3.5081 | 825.85   | 825.85 | 56,590 | 198,523 |
| 1982 | 3.3731 | 825.85   | 825.85 | 56,590 | 190,884 |
| 1983 | 3.2434 | 825.85   | 825.85 | 56,590 | 183,544 |
| 1984 | 3.1187 | 825.85   | 825.85 | 56,590 | 176,487 |
| 1985 | 2.9987 | 825.85   | 825.85 | 56,590 | 169,696 |
| 1986 | 2.8834 | 825.85   | 825.85 | 56,590 | 163,172 |
| 1987 | 2.7725 | 825.85   | 825.85 | 56,590 | 156,896 |
| 1988 | 2.6658 | 825.85   | 825.85 | 56,590 | 150,858 |
| 1989 | 2.5633 | 825.85   | 825.85 | 56,590 | 145,057 |
| 1990 | 2.4647 | 825.85   | 825.85 | 56,590 | 139,477 |
| 1991 | 2.3699 | 825.85   | 825.85 | 56,590 | 134,113 |
| 1992 | 2.2788 | 825.85   | 825.85 | 56,590 | 128,957 |
| 1993 | 2.1911 | 825.85   | 825.85 | 56,590 | 123,994 |
| 1994 | 2.1068 | 825.85   | 825.85 | 56,590 | 119,224 |
| 1995 | 2.0258 | 825.85   | 825.85 | 56,590 | 114,640 |
| 1996 | 1.9479 | 825.85   | 825.85 | 56,590 | 110,232 |
| 1997 | 1.8730 | 825.85   | 825.85 | 56,590 | 105,993 |
| 1998 | 1.8009 | 825.85   | 825.85 | 56,590 | 101,913 |
| 1999 | 1.7317 | 825.85   | 825.85 | 56,590 | 97,997  |
| 2000 | 1.6651 | 825.85   | 825.85 | 56,590 | 94,228  |
| 2001 | 1.6010 | 825.85   | 825.85 | 56,590 | 90,601  |
| 2002 | 1.5395 | 825.85   | 825.85 | 56,590 | 87,120  |
| 2003 | 1.4802 | 825.85   | 825.85 | 56,590 | 83,765  |
| 2004 | 1.4233 | 825.85   | 825.85 | 56,590 | 80,545  |
| 2005 | 1.3686 | 825.85   | 825.85 | 56,590 | 77,449  |
| 2006 | 1.3159 | 825.85   | 825.85 | 56,590 | 74,467  |
| 2007 | 1.2653 | 825.85   | 825.85 | 56,590 | 71,603  |
| 2008 | 1.2167 | 825.85   | 825.85 | 56,590 | 68,853  |
| 2009 | 1.1699 | 825.85   | 825.85 | 56,590 | 66,205  |
| 2010 | 1.1249 | 825.85   | 825.85 | 56,590 | 63,658  |
| 2011 | 1.0816 | 825.85   | 825.85 | 56,590 | 61,208  |
| 2012 | 1.0400 | 825.85   | 825.85 | 56,590 | 58,854  |
| 2013 | 1.0000 | 825.85   | 825.85 | 56,590 | 56,590  |
| 2014 | 0.9615 | 825.85   | 825.85 | 56,590 | 54,411  |
| 2015 | 0.9246 | 825.85   | 825.85 | 56,590 | 52,323  |
| 2016 | 0.8890 | 825.85   | 825.85 | 56,590 | 50,309  |
| 2017 | 0.8548 | 825.85   | 825.85 | 56,590 | 48,373  |
| 2018 | 0.8219 | 825.85   | 825.85 | 56,590 | 46,511  |
| 2019 | 0.7903 | 825.85   | 825.85 | 56,590 | 44,723  |
| 2020 | 0.7599 | 825.85   | 825.85 | 56,590 | 43,003  |
| 2021 | 0.7307 | 825.85   | 825.85 | 56,590 | 41,350  |
| 2022 | 0.7026 | 825.85   | 825.85 | 56,590 | 39,760  |
| 2023 | 0.6756 | 825.85   | 825.85 | 56,590 | 38,232  |
| 2024 | 0.6496 | 825.85   | 825.85 | 56,590 | 36,761  |

|      |        |        |        |        |           |
|------|--------|--------|--------|--------|-----------|
| 2025 | 0.6246 | 825.85 | 825.85 | 56,590 | 35,346    |
| 2026 | 0.6006 | 825.85 | 825.85 | 56,590 | 33,988    |
| 2027 | 0.5775 | 825.85 | 825.85 | 56,590 | 32,681    |
| 2028 | 0.5553 | 825.85 | 825.85 | 56,590 | 31,424    |
| 2029 | 0.5339 | 825.85 | 825.85 | 56,590 | 30,213    |
| 2030 | 0.5134 | 825.85 | 825.85 | 56,590 | 29,053    |
| 2031 | 0.4936 | 825.85 | 825.85 | 56,590 | 27,933    |
| 2032 | 0.4746 | 825.85 | 825.85 | 56,590 | 26,858    |
| 2033 | 0.4564 | 825.85 | 825.85 | 56,590 | 25,828    |
| 2034 | 0.4388 | 825.85 | 825.85 | 56,590 | 24,832    |
| 2035 | 0.4220 | 825.85 | 825.85 | 56,590 | 23,881    |
| 2036 | 0.4057 | 825.85 | 825.85 | 56,590 | 22,959    |
| 2037 | 0.3901 | 825.85 | 825.85 | 56,590 | 22,076    |
| 2038 | 0.3751 | 825.85 | 825.85 | 56,590 | 21,227    |
| 2039 | 0.3607 | 825.85 | 825.85 | 56,590 | 20,412    |
| 2040 | 0.3468 | 825.85 | 825.85 | 56,590 | 19,625    |
| 2041 | 0.3335 | 825.85 | 825.85 | 56,590 | 18,873    |
| 2042 | 0.3207 | 825.85 | 825.85 | 56,590 | 18,148    |
| 合計   |        |        |        |        | 7,606,896 |

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

- A: 事業対象区域面積 (ha) 825.85 ~ 825.85
- P: 年間平均降雨量 (mm/年) 1,798  
出典: 気象統計情報 (気象庁)
- 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/m<sup>3</sup>/S) 1,038,000,000  
出典: 「ダム年鑑2012」
- Y: 評価期間 80
- 10: 単位合わせのための調整値 10
- 365: 1年間の日数 365
- 86400: 1日の秒数 86,400

| 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   |
|-------|--------|----------|--------|--------|---------|
| 1,962 | 7.3910 |          |        |        |         |
| 1,963 | 7.1067 | 825.85   | 55.06  | 1,630  | 11,584  |
| 1,964 | 6.8333 | 825.85   | 110.11 | 3,259  | 22,270  |
| 1,965 | 6.5705 | 825.85   | 165.17 | 4,889  | 32,123  |
| 1,966 | 6.3178 | 825.85   | 220.23 | 6,518  | 41,179  |
| 1,967 | 6.0748 | 825.85   | 275.28 | 8,148  | 49,497  |
| 1,968 | 5.8412 | 825.85   | 330.34 | 9,777  | 57,109  |
| 1,969 | 5.6165 | 825.85   | 385.40 | 11,407 | 64,067  |
| 1,970 | 5.4005 | 825.85   | 440.45 | 13,037 | 70,406  |
| 1,971 | 5.1928 | 825.85   | 495.51 | 14,666 | 76,158  |
| 1,972 | 4.9931 | 825.85   | 550.57 | 16,296 | 81,368  |
| 1,973 | 4.8010 | 825.85   | 605.62 | 17,925 | 86,058  |
| 1,974 | 4.6164 | 825.85   | 660.68 | 19,555 | 90,274  |
| 1,975 | 4.4388 | 825.85   | 715.74 | 21,184 | 94,032  |
| 1,976 | 4.2681 | 825.85   | 770.79 | 22,814 | 97,372  |
| 1,977 | 4.1039 | 825.85   | 825.85 | 24,444 | 100,316 |
| 1,978 | 3.9461 | 825.85   | 825.85 | 24,444 | 96,458  |
| 1,979 | 3.7943 | 825.85   | 825.85 | 24,444 | 92,748  |
| 1,980 | 3.6484 | 825.85   | 825.85 | 24,444 | 89,181  |
| 1,981 | 3.5081 | 825.85   | 825.85 | 24,444 | 85,752  |
| 1,982 | 3.3731 | 825.85   | 825.85 | 24,444 | 82,452  |
| 1,983 | 3.2434 | 825.85   | 825.85 | 24,444 | 79,282  |
| 1,984 | 3.1187 | 825.85   | 825.85 | 24,444 | 76,234  |
| 1,985 | 2.9987 | 825.85   | 825.85 | 24,444 | 73,300  |
| 1,986 | 2.8834 | 825.85   | 825.85 | 24,444 | 70,482  |
| 1,987 | 2.7725 | 825.85   | 825.85 | 24,444 | 67,771  |
| 1,988 | 2.6658 | 825.85   | 825.85 | 24,444 | 65,163  |
| 1,989 | 2.5633 | 825.85   | 825.85 | 24,444 | 62,657  |
| 1,990 | 2.4647 | 825.85   | 825.85 | 24,444 | 60,247  |
| 1,991 | 2.3699 | 825.85   | 825.85 | 24,444 | 57,930  |
| 1,992 | 2.2788 | 825.85   | 825.85 | 24,444 | 55,703  |
| 1,993 | 2.1911 | 825.85   | 825.85 | 24,444 | 53,559  |
| 1,994 | 2.1068 | 825.85   | 825.85 | 24,444 | 51,499  |
| 1,995 | 2.0258 | 825.85   | 825.85 | 24,444 | 49,519  |
| 1,996 | 1.9479 | 825.85   | 825.85 | 24,444 | 47,614  |
| 1,997 | 1.8730 | 825.85   | 825.85 | 24,444 | 45,784  |
| 1,998 | 1.8009 | 825.85   | 825.85 | 24,444 | 44,021  |
| 1,999 | 1.7317 | 825.85   | 825.85 | 24,444 | 42,330  |
| 2,000 | 1.6651 | 825.85   | 825.85 | 24,444 | 40,702  |
| 2,001 | 1.6010 | 825.85   | 825.85 | 24,444 | 39,135  |
| 2,002 | 1.5395 | 825.85   | 825.85 | 24,444 | 37,632  |
| 2,003 | 1.4802 | 825.85   | 825.85 | 24,444 | 36,182  |
| 2,004 | 1.4233 | 825.85   | 825.85 | 24,444 | 34,791  |
| 2,005 | 1.3686 | 825.85   | 825.85 | 24,444 | 33,454  |
| 2,006 | 1.3159 | 825.85   | 825.85 | 24,444 | 32,166  |
| 2,007 | 1.2653 | 825.85   | 825.85 | 24,444 | 30,929  |
| 2,008 | 1.2167 | 825.85   | 825.85 | 24,444 | 29,741  |
| 2,009 | 1.1699 | 825.85   | 825.85 | 24,444 | 28,597  |
| 2,010 | 1.1249 | 825.85   | 825.85 | 24,444 | 27,497  |
| 2,011 | 1.0816 | 825.85   | 825.85 | 24,444 | 26,439  |
| 2,012 | 1.0400 | 825.85   | 825.85 | 24,444 | 25,422  |
| 2,013 | 1.0000 | 825.85   | 825.85 | 24,444 | 24,444  |
| 2,014 | 0.9615 | 825.85   | 825.85 | 24,444 | 23,503  |
| 2,015 | 0.9246 | 825.85   | 825.85 | 24,444 | 22,601  |
| 2,016 | 0.8890 | 825.85   | 825.85 | 24,444 | 21,731  |
| 2,017 | 0.8548 | 825.85   | 825.85 | 24,444 | 20,895  |
| 2,018 | 0.8219 | 825.85   | 825.85 | 24,444 | 20,091  |
| 2,019 | 0.7903 | 825.85   | 825.85 | 24,444 | 19,318  |
| 2,020 | 0.7599 | 825.85   | 825.85 | 24,444 | 18,575  |

|       |        |        |        |        |           |
|-------|--------|--------|--------|--------|-----------|
| 2.021 | 0.7307 | 825.85 | 825.85 | 24,444 | 17,861    |
| 2.022 | 0.7026 | 825.85 | 825.85 | 24,444 | 17,174    |
| 2.023 | 0.6756 | 825.85 | 825.85 | 24,444 | 16,514    |
| 2.024 | 0.6496 | 825.85 | 825.85 | 24,444 | 15,879    |
| 2.025 | 0.6246 | 825.85 | 825.85 | 24,444 | 15,268    |
| 2.026 | 0.6006 | 825.85 | 825.85 | 24,444 | 14,681    |
| 2.027 | 0.5775 | 825.85 | 825.85 | 24,444 | 14,116    |
| 2.028 | 0.5553 | 825.85 | 825.85 | 24,444 | 13,574    |
| 2.029 | 0.5339 | 825.85 | 825.85 | 24,444 | 13,051    |
| 2.030 | 0.5134 | 825.85 | 825.85 | 24,444 | 12,550    |
| 2.031 | 0.4936 | 825.85 | 825.85 | 24,444 | 12,066    |
| 2.032 | 0.4746 | 825.85 | 825.85 | 24,444 | 11,601    |
| 2.033 | 0.4564 | 825.85 | 825.85 | 24,444 | 11,156    |
| 2.034 | 0.4388 | 825.85 | 825.85 | 24,444 | 10,726    |
| 2.035 | 0.4220 | 825.85 | 825.85 | 24,444 | 10,315    |
| 2.036 | 0.4057 | 825.85 | 825.85 | 24,444 | 9,917     |
| 2.037 | 0.3901 | 825.85 | 825.85 | 24,444 | 9,536     |
| 2.038 | 0.3751 | 825.85 | 825.85 | 24,444 | 9,169     |
| 2.039 | 0.3607 | 825.85 | 825.85 | 24,444 | 8,817     |
| 2.040 | 0.3468 | 825.85 | 825.85 | 24,444 | 8,477     |
| 2.041 | 0.3335 | 825.85 | 825.85 | 24,444 | 8,152     |
| 2.042 | 0.3207 | 825.85 | 825.85 | 24,444 | 7,839     |
| 合計    |        |        |        |        | 3,285,783 |

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

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

- Qx: 全貯留量のうち生活用水使用相当量 22.00 億  
出典:「日本の水資源(平成25年度版)」(国土交通省)
- Qy: 全貯留量-Qx 304.72 億
- A: 事業対象区域面積(ha) 825.85 ~ 825.85
- P: 年間平均降雨量(mm/年) 1,798  
出典:気象統計情報(気象庁)
- 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 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)
- Ux: 単位当たりの上水道給水原価(円/m3) 110.18  
出典:「地方公営企業年鑑(平成23年度版)」(総務省)等
- Uy: 単位当たりの雨水浄化費(円/m3) 68.60  
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」
- 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) 71.40
- Y: 評価期間 80
- 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   |
|------|--------|----------|--------|--------|---------|
| 1962 | 7.3910 |          |        |        |         |
| 1963 | 7.1067 | 825.85   | 55.06  | 3,535  | 25,122  |
| 1964 | 6.8333 | 825.85   | 110.11 | 7,070  | 48,311  |
| 1965 | 6.5705 | 825.85   | 165.17 | 10,605 | 69,680  |
| 1966 | 6.3178 | 825.85   | 220.23 | 14,140 | 89,334  |
| 1967 | 6.0748 | 825.85   | 275.28 | 17,675 | 107,372 |
| 1968 | 5.8412 | 825.85   | 330.34 | 21,209 | 123,886 |
| 1969 | 5.6165 | 825.85   | 385.40 | 24,744 | 138,975 |
| 1970 | 5.4005 | 825.85   | 440.45 | 28,279 | 152,721 |
| 1971 | 5.1928 | 825.85   | 495.51 | 31,814 | 165,204 |
| 1972 | 4.9931 | 825.85   | 550.57 | 35,349 | 176,501 |
| 1973 | 4.8010 | 825.85   | 605.62 | 38,884 | 186,682 |
| 1974 | 4.6164 | 825.85   | 660.68 | 42,419 | 195,823 |
| 1975 | 4.4388 | 825.85   | 715.74 | 45,954 | 203,981 |
| 1976 | 4.2681 | 825.85   | 770.79 | 49,489 | 211,224 |
| 1977 | 4.1039 | 825.85   | 825.85 | 53,024 | 217,605 |
| 1978 | 3.9461 | 825.85   | 825.85 | 53,024 | 209,238 |
| 1979 | 3.7943 | 825.85   | 825.85 | 53,024 | 201,189 |
| 1980 | 3.6484 | 825.85   | 825.85 | 53,024 | 193,453 |
| 1981 | 3.5081 | 825.85   | 825.85 | 53,024 | 186,013 |
| 1982 | 3.3731 | 825.85   | 825.85 | 53,024 | 178,855 |
| 1983 | 3.2434 | 825.85   | 825.85 | 53,024 | 171,978 |
| 1984 | 3.1187 | 825.85   | 825.85 | 53,024 | 165,366 |
| 1985 | 2.9987 | 825.85   | 825.85 | 53,024 | 159,003 |
| 1986 | 2.8834 | 825.85   | 825.85 | 53,024 | 152,889 |
| 1987 | 2.7725 | 825.85   | 825.85 | 53,024 | 147,009 |
| 1988 | 2.6658 | 825.85   | 825.85 | 53,024 | 141,351 |
| 1989 | 2.5633 | 825.85   | 825.85 | 53,024 | 135,916 |
| 1990 | 2.4647 | 825.85   | 825.85 | 53,024 | 130,688 |
| 1991 | 2.3699 | 825.85   | 825.85 | 53,024 | 125,662 |
| 1992 | 2.2788 | 825.85   | 825.85 | 53,024 | 120,831 |
| 1993 | 2.1911 | 825.85   | 825.85 | 53,024 | 116,181 |
| 1994 | 2.1068 | 825.85   | 825.85 | 53,024 | 111,711 |
| 1995 | 2.0258 | 825.85   | 825.85 | 53,024 | 107,416 |
| 1996 | 1.9479 | 825.85   | 825.85 | 53,024 | 103,285 |
| 1997 | 1.8730 | 825.85   | 825.85 | 53,024 | 99,314  |
| 1998 | 1.8009 | 825.85   | 825.85 | 53,024 | 95,491  |
| 1999 | 1.7317 | 825.85   | 825.85 | 53,024 | 91,822  |
| 2000 | 1.6651 | 825.85   | 825.85 | 53,024 | 88,290  |
| 2001 | 1.6010 | 825.85   | 825.85 | 53,024 | 84,891  |
| 2002 | 1.5395 | 825.85   | 825.85 | 53,024 | 81,630  |
| 2003 | 1.4802 | 825.85   | 825.85 | 53,024 | 78,486  |
| 2004 | 1.4233 | 825.85   | 825.85 | 53,024 | 75,469  |
| 2005 | 1.3686 | 825.85   | 825.85 | 53,024 | 72,569  |
| 2006 | 1.3159 | 825.85   | 825.85 | 53,024 | 69,774  |
| 2007 | 1.2653 | 825.85   | 825.85 | 53,024 | 67,091  |
| 2008 | 1.2167 | 825.85   | 825.85 | 53,024 | 64,514  |
| 2009 | 1.1699 | 825.85   | 825.85 | 53,024 | 62,033  |
| 2010 | 1.1249 | 825.85   | 825.85 | 53,024 | 59,647  |
| 2011 | 1.0816 | 825.85   | 825.85 | 53,024 | 57,351  |
| 2012 | 1.0400 | 825.85   | 825.85 | 53,024 | 55,145  |

|      |        |        |        |        |           |
|------|--------|--------|--------|--------|-----------|
| 2013 | 1.0000 | 825.85 | 825.85 | 53,024 | 53,024    |
| 2014 | 0.9615 | 825.85 | 825.85 | 53,024 | 50,983    |
| 2015 | 0.9246 | 825.85 | 825.85 | 53,024 | 49,026    |
| 2016 | 0.8890 | 825.85 | 825.85 | 53,024 | 47,138    |
| 2017 | 0.8548 | 825.85 | 825.85 | 53,024 | 45,325    |
| 2018 | 0.8219 | 825.85 | 825.85 | 53,024 | 43,580    |
| 2019 | 0.7903 | 825.85 | 825.85 | 53,024 | 41,905    |
| 2020 | 0.7599 | 825.85 | 825.85 | 53,024 | 40,293    |
| 2021 | 0.7307 | 825.85 | 825.85 | 53,024 | 38,745    |
| 2022 | 0.7026 | 825.85 | 825.85 | 53,024 | 37,255    |
| 2023 | 0.6756 | 825.85 | 825.85 | 53,024 | 35,823    |
| 2024 | 0.6496 | 825.85 | 825.85 | 53,024 | 34,444    |
| 2025 | 0.6246 | 825.85 | 825.85 | 53,024 | 33,119    |
| 2026 | 0.6006 | 825.85 | 825.85 | 53,024 | 31,846    |
| 2027 | 0.5775 | 825.85 | 825.85 | 53,024 | 30,621    |
| 2028 | 0.5553 | 825.85 | 825.85 | 53,024 | 29,444    |
| 2029 | 0.5339 | 825.85 | 825.85 | 53,024 | 28,310    |
| 2030 | 0.5134 | 825.85 | 825.85 | 53,024 | 27,223    |
| 2031 | 0.4936 | 825.85 | 825.85 | 53,024 | 26,173    |
| 2032 | 0.4746 | 825.85 | 825.85 | 53,024 | 25,165    |
| 2033 | 0.4564 | 825.85 | 825.85 | 53,024 | 24,200    |
| 2034 | 0.4388 | 825.85 | 825.85 | 53,024 | 23,267    |
| 2035 | 0.4220 | 825.85 | 825.85 | 53,024 | 22,376    |
| 2036 | 0.4057 | 825.85 | 825.85 | 53,024 | 21,512    |
| 2037 | 0.3901 | 825.85 | 825.85 | 53,024 | 20,685    |
| 2038 | 0.3751 | 825.85 | 825.85 | 53,024 | 19,889    |
| 2039 | 0.3607 | 825.85 | 825.85 | 53,024 | 19,126    |
| 2040 | 0.3468 | 825.85 | 825.85 | 53,024 | 18,389    |
| 2041 | 0.3335 | 825.85 | 825.85 | 53,024 | 17,684    |
| 2042 | 0.3207 | 825.85 | 825.85 | 53,024 | 17,005    |
| 合計   |        |        |        |        | 7,127,547 |

$$B = \sum_{t=1}^{T-1} \frac{t}{T \times (1+i)^t} + \sum_{t=T}^Y \frac{1}{(1+i)^t} \times \frac{(V1-V2) \times A \times U}{1.0}$$

- U: 1m3の土砂を保全するために要する単位当たりの砂防ダム建設コスト(円/m3) 5.600  
 出典:「砂防便覧」平成20年版
- V1: 事業実施前における1ha当りの年間浸食土砂量(m3) 20.00  
 出典:「治山全体調査の考え方進め方」森林の公益的機能に関する文献要約集「森林水文」  
 荒廃地等
- V2: 事業実施後における1ha当りの年間浸食土砂量(m3) 1.30  
 出典:「治山全体調査の考え方進め方」森林の公益的機能に関する文献要約集「森林水文」  
 整備済森林
- A: 事業対象区域面積(ha) 825.85 ~ 825.85
- T: 事業実施後、流出係数が安定するのに必要な年数 15
- Y: 評価期間 80

| 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   |
|------|--------|----------|--------|--------|---------|
| 1962 | 7.3910 |          |        |        |         |
| 1963 | 7.1067 | 825.85   | 55.06  | 5,766  | 40,977  |
| 1964 | 6.8333 | 825.85   | 110.11 | 11,531 | 78,795  |
| 1965 | 6.5705 | 825.85   | 165.17 | 17,297 | 113,650 |
| 1966 | 6.3178 | 825.85   | 220.23 | 23,062 | 145,701 |
| 1967 | 6.0748 | 825.85   | 275.28 | 28,828 | 175,124 |
| 1968 | 5.8412 | 825.85   | 330.34 | 34,593 | 202,065 |
| 1969 | 5.6165 | 825.85   | 385.40 | 40,359 | 226,676 |
| 1970 | 5.4005 | 825.85   | 440.45 | 46,124 | 249,093 |
| 1971 | 5.1928 | 825.85   | 495.51 | 51,890 | 269,454 |
| 1972 | 4.9931 | 825.85   | 550.57 | 57,655 | 287,877 |
| 1973 | 4.8010 | 825.85   | 605.62 | 63,421 | 304,484 |
| 1974 | 4.6164 | 825.85   | 660.68 | 69,186 | 319,390 |
| 1975 | 4.4388 | 825.85   | 715.74 | 74,952 | 332,697 |
| 1976 | 4.2681 | 825.85   | 770.79 | 80,717 | 344,508 |
| 1977 | 4.1039 | 825.85   | 825.85 | 86,483 | 354,918 |
| 1978 | 3.9461 | 825.85   | 825.85 | 86,483 | 341,271 |
| 1979 | 3.7943 | 825.85   | 825.85 | 86,483 | 328,142 |
| 1980 | 3.6484 | 825.85   | 825.85 | 86,483 | 315,525 |
| 1981 | 3.5081 | 825.85   | 825.85 | 86,483 | 303,391 |
| 1982 | 3.3731 | 825.85   | 825.85 | 86,483 | 291,716 |
| 1983 | 3.2434 | 825.85   | 825.85 | 86,483 | 280,499 |
| 1984 | 3.1187 | 825.85   | 825.85 | 86,483 | 269,715 |
| 1985 | 2.9987 | 825.85   | 825.85 | 86,483 | 259,337 |
| 1986 | 2.8834 | 825.85   | 825.85 | 86,483 | 249,365 |
| 1987 | 2.7725 | 825.85   | 825.85 | 86,483 | 239,774 |
| 1988 | 2.6658 | 825.85   | 825.85 | 86,483 | 230,546 |
| 1989 | 2.5633 | 825.85   | 825.85 | 86,483 | 221,682 |
| 1990 | 2.4647 | 825.85   | 825.85 | 86,483 | 213,155 |
| 1991 | 2.3699 | 825.85   | 825.85 | 86,483 | 204,956 |
| 1992 | 2.2788 | 825.85   | 825.85 | 86,483 | 197,077 |
| 1993 | 2.1911 | 825.85   | 825.85 | 86,483 | 189,493 |
| 1994 | 2.1068 | 825.85   | 825.85 | 86,483 | 182,202 |
| 1995 | 2.0258 | 825.85   | 825.85 | 86,483 | 175,197 |
| 1996 | 1.9479 | 825.85   | 825.85 | 86,483 | 168,460 |
| 1997 | 1.8730 | 825.85   | 825.85 | 86,483 | 161,983 |
| 1998 | 1.8009 | 825.85   | 825.85 | 86,483 | 155,747 |
| 1999 | 1.7317 | 825.85   | 825.85 | 86,483 | 149,763 |
| 2000 | 1.6651 | 825.85   | 825.85 | 86,483 | 144,003 |
| 2001 | 1.6010 | 825.85   | 825.85 | 86,483 | 138,459 |
| 2002 | 1.5395 | 825.85   | 825.85 | 86,483 | 133,141 |
| 2003 | 1.4802 | 825.85   | 825.85 | 86,483 | 128,012 |
| 2004 | 1.4233 | 825.85   | 825.85 | 86,483 | 123,091 |
| 2005 | 1.3686 | 825.85   | 825.85 | 86,483 | 118,361 |
| 2006 | 1.3159 | 825.85   | 825.85 | 86,483 | 113,803 |
| 2007 | 1.2653 | 825.85   | 825.85 | 86,483 | 109,427 |
| 2008 | 1.2167 | 825.85   | 825.85 | 86,483 | 105,224 |
| 2009 | 1.1699 | 825.85   | 825.85 | 86,483 | 101,176 |
| 2010 | 1.1249 | 825.85   | 825.85 | 86,483 | 97,285  |
| 2011 | 1.0816 | 825.85   | 825.85 | 86,483 | 93,540  |
| 2012 | 1.0400 | 825.85   | 825.85 | 86,483 | 89,942  |
| 2013 | 1.0000 | 825.85   | 825.85 | 86,483 | 86,483  |
| 2014 | 0.9615 | 825.85   | 825.85 | 86,483 | 83,153  |
| 2015 | 0.9246 | 825.85   | 825.85 | 86,483 | 79,962  |
| 2016 | 0.8890 | 825.85   | 825.85 | 86,483 | 76,883  |
| 2017 | 0.8548 | 825.85   | 825.85 | 86,483 | 73,926  |
| 2018 | 0.8219 | 825.85   | 825.85 | 86,483 | 71,080  |
| 2019 | 0.7903 | 825.85   | 825.85 | 86,483 | 68,348  |
| 2020 | 0.7599 | 825.85   | 825.85 | 86,483 | 65,718  |
| 2021 | 0.7307 | 825.85   | 825.85 | 86,483 | 63,193  |
| 2022 | 0.7026 | 825.85   | 825.85 | 86,483 | 60,763  |
| 2023 | 0.6756 | 825.85   | 825.85 | 86,483 | 58,428  |
| 2024 | 0.6496 | 825.85   | 825.85 | 86,483 | 56,179  |
| 2025 | 0.6246 | 825.85   | 825.85 | 86,483 | 54,017  |
| 2026 | 0.6006 | 825.85   | 825.85 | 86,483 | 51,942  |
| 2027 | 0.5775 | 825.85   | 825.85 | 86,483 | 49,944  |
| 2028 | 0.5553 | 825.85   | 825.85 | 86,483 | 48,024  |



|      |        |        |        |        |            |
|------|--------|--------|--------|--------|------------|
| 2029 | 0.5339 | 825.85 | 825.85 | 86,483 | 46,173     |
| 2030 | 0.5134 | 825.85 | 825.85 | 86,483 | 44,400     |
| 2031 | 0.4936 | 825.85 | 825.85 | 86,483 | 42,688     |
| 2032 | 0.4746 | 825.85 | 825.85 | 86,483 | 41,045     |
| 2033 | 0.4564 | 825.85 | 825.85 | 86,483 | 39,471     |
| 2034 | 0.4388 | 825.85 | 825.85 | 86,483 | 37,949     |
| 2035 | 0.4220 | 825.85 | 825.85 | 86,483 | 36,496     |
| 2036 | 0.4057 | 825.85 | 825.85 | 86,483 | 35,086     |
| 2037 | 0.3901 | 825.85 | 825.85 | 86,483 | 33,737     |
| 2038 | 0.3751 | 825.85 | 825.85 | 86,483 | 32,440     |
| 2039 | 0.3607 | 825.85 | 825.85 | 86,483 | 31,194     |
| 2040 | 0.3468 | 825.85 | 825.85 | 86,483 | 29,992     |
| 2041 | 0.3335 | 825.85 | 825.85 | 86,483 | 28,842     |
| 2042 | 0.3207 | 825.85 | 825.85 | 86,483 | 27,735     |
| 合計   |        |        |        |        | 11,625,160 |

$$B = \sum_{t=11}^Y \frac{V \times U}{(1+i)^t}$$

$$V = 0.01 \times A \times R \times N \times H \times 10,000$$

- U: 1m3の土砂を保全するために要する単位当たりの砂防ダム建設コスト(円/m3) 5,600  
出典:「砂防便覧」平成20年版
- V: 崩壊見込み量(m3/年) 0.00 ~ 1,199.92
- A: 事業対象区域面積(ha) 825.85 ~ 825.85
- R: 流域内崩壊率 0.0179  
出典:「治山全体調査」S42からS46
- N: 雨量比=50年確率日雨量/既往最大日雨量 0.8117  
出典:気象統計情報(気象庁)
- H: 平均崩壊深(m) 1.0  
出典:都道府県等への聞き取り
- Y: 評価期間 80
- 10,000: 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 | 崩壊見込み量   | 効果額   | 現在価値化  |
|------|--------|----------|----------|-------|--------|
| 1962 | 7.3910 |          |          |       |        |
| 1963 | 7.1067 | 825.85   | 0.00     | 0     | 0      |
| 1964 | 6.8333 | 825.85   | 0.00     | 0     | 0      |
| 1965 | 6.5705 | 825.85   | 0.00     | 0     | 0      |
| 1966 | 6.3178 | 825.85   | 0.00     | 0     | 0      |
| 1967 | 6.0748 | 825.85   | 0.00     | 0     | 0      |
| 1968 | 5.8412 | 825.85   | 0.00     | 0     | 0      |
| 1969 | 5.6165 | 825.85   | 0.00     | 0     | 0      |
| 1970 | 5.4005 | 825.85   | 0.00     | 0     | 0      |
| 1971 | 5.1928 | 825.85   | 0.00     | 0     | 0      |
| 1972 | 4.9931 | 825.85   | 0.00     | 0     | 0      |
| 1973 | 4.8010 | 825.85   | 1,199.92 | 6,720 | 32,263 |
| 1974 | 4.6164 | 825.85   | 1,199.92 | 6,720 | 31,022 |
| 1975 | 4.4388 | 825.85   | 1,199.92 | 6,720 | 29,829 |
| 1976 | 4.2681 | 825.85   | 1,199.92 | 6,720 | 28,682 |
| 1977 | 4.1039 | 825.85   | 1,199.92 | 6,720 | 27,578 |
| 1978 | 3.9461 | 825.85   | 1,199.92 | 6,720 | 26,518 |
| 1979 | 3.7943 | 825.85   | 1,199.92 | 6,720 | 25,498 |
| 1980 | 3.6484 | 825.85   | 1,199.92 | 6,720 | 24,517 |
| 1981 | 3.5081 | 825.85   | 1,199.92 | 6,720 | 23,574 |
| 1982 | 3.3731 | 825.85   | 1,199.92 | 6,720 | 22,667 |
| 1983 | 3.2434 | 825.85   | 1,199.92 | 6,720 | 21,796 |
| 1984 | 3.1187 | 825.85   | 1,199.92 | 6,720 | 20,958 |
| 1985 | 2.9987 | 825.85   | 1,199.92 | 6,720 | 20,151 |
| 1986 | 2.8834 | 825.85   | 1,199.92 | 6,720 | 19,376 |
| 1987 | 2.7725 | 825.85   | 1,199.92 | 6,720 | 18,631 |
| 1988 | 2.6658 | 825.85   | 1,199.92 | 6,720 | 17,914 |
| 1989 | 2.5633 | 825.85   | 1,199.92 | 6,720 | 17,225 |
| 1990 | 2.4647 | 825.85   | 1,199.92 | 6,720 | 16,563 |
| 1991 | 2.3699 | 825.85   | 1,199.92 | 6,720 | 15,926 |
| 1992 | 2.2788 | 825.85   | 1,199.92 | 6,720 | 15,314 |
| 1993 | 2.1911 | 825.85   | 1,199.92 | 6,720 | 14,724 |
| 1994 | 2.1068 | 825.85   | 1,199.92 | 6,720 | 14,158 |
| 1995 | 2.0258 | 825.85   | 1,199.92 | 6,720 | 13,613 |
| 1996 | 1.9479 | 825.85   | 1,199.92 | 6,720 | 13,090 |
| 1997 | 1.8730 | 825.85   | 1,199.92 | 6,720 | 12,587 |
| 1998 | 1.8009 | 825.85   | 1,199.92 | 6,720 | 12,102 |
| 1999 | 1.7317 | 825.85   | 1,199.92 | 6,720 | 11,637 |
| 2000 | 1.6651 | 825.85   | 1,199.92 | 6,720 | 11,189 |
| 2001 | 1.6010 | 825.85   | 1,199.92 | 6,720 | 10,759 |
| 2002 | 1.5395 | 825.85   | 1,199.92 | 6,720 | 10,345 |
| 2003 | 1.4802 | 825.85   | 1,199.92 | 6,720 | 9,947  |
| 2004 | 1.4233 | 825.85   | 1,199.92 | 6,720 | 9,565  |
| 2005 | 1.3686 | 825.85   | 1,199.92 | 6,720 | 9,197  |
| 2006 | 1.3159 | 825.85   | 1,199.92 | 6,720 | 8,843  |
| 2007 | 1.2653 | 825.85   | 1,199.92 | 6,720 | 8,503  |
| 2008 | 1.2167 | 825.85   | 1,199.92 | 6,720 | 8,176  |
| 2009 | 1.1699 | 825.85   | 1,199.92 | 6,720 | 7,862  |
| 2010 | 1.1249 | 825.85   | 1,199.92 | 6,720 | 7,559  |
| 2011 | 1.0816 | 825.85   | 1,199.92 | 6,720 | 7,268  |
| 2012 | 1.0400 | 825.85   | 1,199.92 | 6,720 | 6,989  |
| 2013 | 1.0000 | 825.85   | 1,199.92 | 6,720 | 6,720  |
| 2014 | 0.9615 | 825.85   | 1,199.92 | 6,720 | 6,461  |
| 2015 | 0.9246 | 825.85   | 1,199.92 | 6,720 | 6,213  |
| 2016 | 0.8890 | 825.85   | 1,199.92 | 6,720 | 5,974  |
| 2017 | 0.8548 | 825.85   | 1,199.92 | 6,720 | 5,744  |
| 2018 | 0.8219 | 825.85   | 1,199.92 | 6,720 | 5,523  |
| 2019 | 0.7903 | 825.85   | 1,199.92 | 6,720 | 5,311  |
| 2020 | 0.7599 | 825.85   | 1,199.92 | 6,720 | 5,107  |

|      |        |        |          |       |         |
|------|--------|--------|----------|-------|---------|
| 2021 | 0.7307 | 825.85 | 1,199.92 | 6,720 | 4,910   |
| 2022 | 0.7026 | 825.85 | 1,199.92 | 6,720 | 4,721   |
| 2023 | 0.6756 | 825.85 | 1,199.92 | 6,720 | 4,540   |
| 2024 | 0.6496 | 825.85 | 1,199.92 | 6,720 | 4,365   |
| 2025 | 0.6246 | 825.85 | 1,199.92 | 6,720 | 4,197   |
| 2026 | 0.6006 | 825.85 | 1,199.92 | 6,720 | 4,036   |
| 2027 | 0.5775 | 825.85 | 1,199.92 | 6,720 | 3,881   |
| 2028 | 0.5553 | 825.85 | 1,199.92 | 6,720 | 3,732   |
| 2029 | 0.5339 | 825.85 | 1,199.92 | 6,720 | 3,588   |
| 2030 | 0.5134 | 825.85 | 1,199.92 | 6,720 | 3,450   |
| 2031 | 0.4936 | 825.85 | 1,199.92 | 6,720 | 3,317   |
| 2032 | 0.4746 | 825.85 | 1,199.92 | 6,720 | 3,189   |
| 2033 | 0.4564 | 825.85 | 1,199.92 | 6,720 | 3,067   |
| 2034 | 0.4388 | 825.85 | 1,199.92 | 6,720 | 2,949   |
| 2035 | 0.4220 | 825.85 | 1,199.92 | 6,720 | 2,836   |
| 2036 | 0.4057 | 825.85 | 1,199.92 | 6,720 | 2,726   |
| 2037 | 0.3901 | 825.85 | 1,199.92 | 6,720 | 2,621   |
| 2038 | 0.3751 | 825.85 | 1,199.92 | 6,720 | 2,521   |
| 2039 | 0.3607 | 825.85 | 1,199.92 | 6,720 | 2,424   |
| 2040 | 0.3468 | 825.85 | 1,199.92 | 6,720 | 2,330   |
| 2041 | 0.3335 | 825.85 | 1,199.92 | 6,720 | 2,241   |
| 2042 | 0.3207 | 825.85 | 1,199.92 | 6,720 | 2,155   |
| 合計   |        |        |          |       | 784,964 |

$$B = \sum_{t=1}^Y \frac{V2 - V1}{Y \times (1+i)^t} \times D \times BEF \times (1 + R) \times 0.5 \times \frac{44}{12} \times U$$

- U: 二酸化炭素に関する原単位(円/CO2-ton) 6,046  
出典:「二酸化炭素地中貯留技術研究開発成果報告書」(財)地球環境産業技術研究機構(平成18年3月)
- V1: 事業を実施しない場合の評価最終年の当該森林の見込蓄積量(m3) スギ 69,018  
事業を実施する場合の評価最終年の当該森林の見込蓄積量の1/2を想定) ヒノキ 45,814  
マツ 3,950  
広葉樹 11,885  
0  
0
- V2: 事業を実施する場合の評価最終年の当該森林の見込蓄積量(m3) スギ 138,037  
出典:人工林分密度管理図((一社)日本森林技術協会)、 ヒノキ 91,629  
森林農地整備センター収穫予測表((独)森林総合研究所)等 マツ 7,900  
広葉樹 23,771  
0  
0
- Y: 評価期間 80
- D: 容積密度(t/m3) スギ 0.314  
出典:「日本国温室効果ガスインベントリ報告書」(2012年4月)(国立環境 ヒノキ 0.407  
研究所温室効果ガスインベントリオフィス編) マツ 0.451  
広葉樹 0.624  
0  
0
- BEF: バイオマス拡大係数(地上部バイオマス量/幹バイオマス量) 樹齢20年越 スギ 1.23  
出典:「日本国温室効果ガスインベントリ報告書」(2012年4月)(国立環境 樹齢20年越 ヒノキ 1.24  
研究所温室効果ガスインベントリオフィス編) 樹齢20年越 マツ 1.23  
樹齢20年越 広葉樹 1.26  
樹齢20年越 0  
樹齢20年越 0
- R: 地上部に対する地下部の比率(地下部バイオマス量/地上部バイオマス量) スギ 0.25  
出典:「日本国温室効果ガスインベントリ報告書」(2012年4月)(国立環境 ヒノキ 0.26  
研究所温室効果ガスインベントリオフィス編) マツ 0.26  
広葉樹 0.26  
0  
0
- 0.5: 植物中の炭素含有率
- 44/12: 炭素から二酸化炭素への換算係数

| 年度   | 社会的割引率 | スギ     |       | ヒノキ    |       | マツ     |     | 広葉樹    |       | 事業効果蓄積 | 効果額 | 事業効果蓄積 | 効果額 |
|------|--------|--------|-------|--------|-------|--------|-----|--------|-------|--------|-----|--------|-----|
|      |        | 事業効果蓄積 | 効果額   | 事業効果蓄積 | 効果額   | 事業効果蓄積 | 効果額 | 事業効果蓄積 | 効果額   |        |     |        |     |
| 1962 | 7.3910 |        |       |        |       |        |     |        |       |        |     |        |     |
| 1963 | 7.1067 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1964 | 6.8333 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1965 | 6.5705 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1966 | 6.3178 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1967 | 6.0748 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1968 | 5.8412 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1969 | 5.6165 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1970 | 5.4005 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1971 | 5.1928 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1972 | 4.9931 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1973 | 4.8010 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1974 | 4.6164 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1975 | 4.4388 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1976 | 4.2681 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1977 | 4.1039 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1978 | 3.9461 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1979 | 3.7943 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1980 | 3.6484 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1981 | 3.5081 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1982 | 3.3731 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1983 | 3.2434 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1984 | 3.1187 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1985 | 2.9987 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1986 | 2.8834 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1987 | 2.7725 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1988 | 2.6658 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1989 | 2.5633 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1990 | 2.4647 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1991 | 2.3699 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1992 | 2.2788 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1993 | 2.1911 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1994 | 2.1068 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |
| 1995 | 2.0258 | 862.73 | 4,616 | 572.68 | 4,037 | 49.38  | 383 | 148.57 | 1,631 |        |     |        |     |

|      |        |        |       |        |       |       |     |        |       |  |  |  |  |
|------|--------|--------|-------|--------|-------|-------|-----|--------|-------|--|--|--|--|
| 1996 | 1.9479 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 1997 | 1.8730 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 1998 | 1.8009 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 1999 | 1.7317 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2000 | 1.6651 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2001 | 1.6010 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2002 | 1.5395 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2003 | 1.4802 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2004 | 1.4233 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2005 | 1.3686 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2006 | 1.3159 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2007 | 1.2653 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2008 | 1.2167 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2009 | 1.1699 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2010 | 1.1249 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2011 | 1.0816 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2012 | 1.0400 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2013 | 1.0000 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2014 | 0.9615 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2015 | 0.9246 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2016 | 0.8890 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2017 | 0.8548 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2018 | 0.8219 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2019 | 0.7903 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2020 | 0.7599 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2021 | 0.7307 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2022 | 0.7026 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2023 | 0.6756 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2024 | 0.6496 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2025 | 0.6246 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2026 | 0.6006 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2027 | 0.5775 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2028 | 0.5553 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2029 | 0.5339 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2030 | 0.5134 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2031 | 0.4936 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2032 | 0.4746 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2033 | 0.4564 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2034 | 0.4388 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2035 | 0.4220 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2036 | 0.4057 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2037 | 0.3901 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2038 | 0.3751 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2039 | 0.3607 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2040 | 0.3468 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2041 | 0.3335 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 2042 | 0.3207 | 862.73 | 4.616 | 572.68 | 4.037 | 49.38 | 383 | 148.57 | 1,631 |  |  |  |  |
| 合計   |        |        |       |        |       |       |     |        |       |  |  |  |  |

| 年度   | 社会的割引率 | 合計     |        |
|------|--------|--------|--------|
|      |        | 効果額    | 現在価値化  |
| 1962 | 7.3910 |        |        |
| 1963 | 7.1067 | 10,667 | 75,807 |
| 1964 | 6.8333 | 10,667 | 72,891 |
| 1965 | 6.5705 | 10,667 | 70,088 |
| 1966 | 6.3178 | 10,667 | 67,392 |
| 1967 | 6.0748 | 10,667 | 64,800 |
| 1968 | 5.8412 | 10,667 | 62,308 |
| 1969 | 5.6165 | 10,667 | 59,911 |
| 1970 | 5.4005 | 10,667 | 57,607 |
| 1971 | 5.1928 | 10,667 | 55,392 |
| 1972 | 4.9931 | 10,667 | 53,261 |
| 1973 | 4.8010 | 10,667 | 51,212 |
| 1974 | 4.6164 | 10,667 | 49,243 |
| 1975 | 4.4388 | 10,667 | 47,349 |
| 1976 | 4.2681 | 10,667 | 45,528 |
| 1977 | 4.1039 | 10,667 | 43,776 |
| 1978 | 3.9461 | 10,667 | 42,093 |
| 1979 | 3.7943 | 10,667 | 40,474 |
| 1980 | 3.6484 | 10,667 | 38,917 |
| 1981 | 3.5081 | 10,667 | 37,421 |
| 1982 | 3.3731 | 10,667 | 35,981 |
| 1983 | 3.2434 | 10,667 | 34,597 |
| 1984 | 3.1187 | 10,667 | 33,267 |
| 1985 | 2.9987 | 10,667 | 31,987 |
| 1986 | 2.8834 | 10,667 | 30,757 |
| 1987 | 2.7725 | 10,667 | 29,574 |
| 1988 | 2.6658 | 10,667 | 28,436 |
| 1989 | 2.5633 | 10,667 | 27,343 |
| 1990 | 2.4647 | 10,667 | 26,291 |
| 1991 | 2.3699 | 10,667 | 25,280 |
| 1992 | 2.2788 | 10,667 | 24,308 |
| 1993 | 2.1911 | 10,667 | 23,372 |
| 1994 | 2.1068 | 10,667 | 22,473 |
| 1995 | 2.0258 | 10,667 | 21,609 |
| 1996 | 1.9479 | 10,667 | 20,778 |
| 1997 | 1.8730 | 10,667 | 19,979 |
| 1998 | 1.8009 | 10,667 | 19,210 |
| 1999 | 1.7317 | 10,667 | 18,472 |
| 2000 | 1.6651 | 10,667 | 17,762 |

|      |        |        |           |
|------|--------|--------|-----------|
| 2001 | 1.6010 | 10,667 | 17,078    |
| 2002 | 1.5395 | 10,667 | 16,422    |
| 2003 | 1.4802 | 10,667 | 15,789    |
| 2004 | 1.4233 | 10,667 | 15,182    |
| 2005 | 1.3686 | 10,667 | 14,599    |
| 2006 | 1.3159 | 10,667 | 14,037    |
| 2007 | 1.2653 | 10,667 | 13,497    |
| 2008 | 1.2167 | 10,667 | 12,979    |
| 2009 | 1.1699 | 10,667 | 12,479    |
| 2010 | 1.1249 | 10,667 | 11,999    |
| 2011 | 1.0816 | 10,667 | 11,537    |
| 2012 | 1.0400 | 10,667 | 11,094    |
| 2013 | 1.0000 | 10,667 | 10,667    |
| 2014 | 0.9615 | 10,667 | 10,256    |
| 2015 | 0.9246 | 10,667 | 9,863     |
| 2016 | 0.8890 | 10,667 | 9,483     |
| 2017 | 0.8548 | 10,667 | 9,118     |
| 2018 | 0.8219 | 10,667 | 8,767     |
| 2019 | 0.7903 | 10,667 | 8,430     |
| 2020 | 0.7599 | 10,667 | 8,106     |
| 2021 | 0.7307 | 10,667 | 7,794     |
| 2022 | 0.7026 | 10,667 | 7,495     |
| 2023 | 0.6756 | 10,667 | 7,207     |
| 2024 | 0.6496 | 10,667 | 6,929     |
| 2025 | 0.6246 | 10,667 | 6,663     |
| 2026 | 0.6006 | 10,667 | 6,407     |
| 2027 | 0.5775 | 10,667 | 6,160     |
| 2028 | 0.5553 | 10,667 | 5,923     |
| 2029 | 0.5339 | 10,667 | 5,695     |
| 2030 | 0.5134 | 10,667 | 5,476     |
| 2031 | 0.4936 | 10,667 | 5,265     |
| 2032 | 0.4746 | 10,667 | 5,063     |
| 2033 | 0.4564 | 10,667 | 4,868     |
| 2034 | 0.4388 | 10,667 | 4,681     |
| 2035 | 0.4220 | 10,667 | 4,501     |
| 2036 | 0.4057 | 10,667 | 4,328     |
| 2037 | 0.3901 | 10,667 | 4,161     |
| 2038 | 0.3751 | 10,667 | 4,001     |
| 2039 | 0.3607 | 10,667 | 3,848     |
| 2040 | 0.3468 | 10,667 | 3,699     |
| 2041 | 0.3335 | 10,667 | 3,557     |
| 2042 | 0.3207 | 10,667 | 3,421     |
| 合計   |        |        | 1,885,470 |

$$B = \sum_{t=1}^{T-1} \frac{t}{T \times (1+i)^t} + \sum_{t=T}^Y \frac{1}{(1+i)^t} \times (C1 - C2) \times A \times 0.3 \times \frac{44}{12} \times U$$

$$C1 = \frac{s \times e1}{30}$$

$$C2 = \frac{s \times e2}{30}$$

- U: 二酸化炭素に関する原単位(円/t-CO2) 6.046  
出典:「二酸化炭素地中貯留技術研究開発成果報告書」(財)地球環境産業技術研究機構(平成18年3月)
- C1: 事業を実施しない場合の年間流出土砂量に含まれる炭素量(t-C/ha) ①事業対象区域 0.57
- C2: 事業を実施した場合の年間流出土砂量に含まれる炭素量(t-C/ha) ①事業対象区域 0.04
- T: 事業実施後、流出係数が安定するのに必要な年数 15
- Y: ①侵食深が30cmに達するまでの年数(To) 又は ①事業対象区域 80  
②評価期間内に侵食深が30cmに達しない場合は評価期間
- A: ①事業対象区域面積(ha) 又は 825.85 ~ 825.85  
②保全効果区域面積(ha)
- s: 単位面積当たりの土壌平均炭素蓄積量(t-C/ha) 85.31  
出典:「日本国温室効果ガスインベントリ報告書」(2012年4月)(国立環境研究所温室効果ガスインベントリオフィス編)
- 44/12: 炭素から二酸化炭素への換算係数
- e1:: 事業を実施しない場合の侵食深(cm/年) ①事業対象区域 0.200  
出典:「治山全体調査の考え方進め方」「森林の公益的機能に関する文献要約集」「森林水文」

|         |     |  |
|---------|-----|--|
| ①事業対象区域 | 荒地等 |  |
|---------|-----|--|
- e2:: 事業を実施した場合の侵食深(cm/年) ①事業対象区域 0.013  
出典:「治山全体調査の考え方進め方」「森林の公益的機能に関する文献要約集」「森林水文」

|         |       |  |
|---------|-------|--|
| ①事業対象区域 | 整備済森林 |  |
|---------|-------|--|
- 30: 土壌炭素の測定深度(cm)
- 0.3: 流出土砂排出炭素係数

| 年度   | 社会的割引率 | 事業対象区域   |        |       |        | 効果対象面積 | 効果額 | 現在価値化 |
|------|--------|----------|--------|-------|--------|--------|-----|-------|
|      |        | 事業対象区域面積 | 効果対象面積 | 効果額   | 現在価値化  |        |     |       |
| 1962 | 7.3910 |          |        |       |        |        |     |       |
| 1963 | 7.1067 | 825.85   | 55.06  | 194   | 1,379  |        |     |       |
| 1964 | 6.8333 | 825.85   | 110.11 | 388   | 2,651  |        |     |       |
| 1965 | 6.5705 | 825.85   | 165.17 | 582   | 3,824  |        |     |       |
| 1966 | 6.3178 | 825.85   | 220.23 | 776   | 4,903  |        |     |       |
| 1967 | 6.0748 | 825.85   | 275.28 | 970   | 5,893  |        |     |       |
| 1968 | 5.8412 | 825.85   | 330.34 | 1,164 | 6,799  |        |     |       |
| 1969 | 5.6165 | 825.85   | 385.40 | 1,359 | 7,633  |        |     |       |
| 1970 | 5.4005 | 825.85   | 440.45 | 1,553 | 8,387  |        |     |       |
| 1971 | 5.1928 | 825.85   | 495.51 | 1,747 | 9,072  |        |     |       |
| 1972 | 4.9931 | 825.85   | 550.57 | 1,941 | 9,692  |        |     |       |
| 1973 | 4.8010 | 825.85   | 605.62 | 2,135 | 10,250 |        |     |       |
| 1974 | 4.6164 | 825.85   | 660.68 | 2,329 | 10,752 |        |     |       |
| 1975 | 4.4388 | 825.85   | 715.74 | 2,523 | 11,199 |        |     |       |
| 1976 | 4.2681 | 825.85   | 770.79 | 2,717 | 11,596 |        |     |       |
| 1977 | 4.1039 | 825.85   | 825.85 | 2,911 | 11,946 |        |     |       |
| 1978 | 3.9461 | 825.85   | 825.85 | 2,911 | 11,487 |        |     |       |
| 1979 | 3.7943 | 825.85   | 825.85 | 2,911 | 11,045 |        |     |       |
| 1980 | 3.6484 | 825.85   | 825.85 | 2,911 | 10,620 |        |     |       |
| 1981 | 3.5081 | 825.85   | 825.85 | 2,911 | 10,212 |        |     |       |
| 1982 | 3.3731 | 825.85   | 825.85 | 2,911 | 9,819  |        |     |       |
| 1983 | 3.2434 | 825.85   | 825.85 | 2,911 | 9,442  |        |     |       |
| 1984 | 3.1187 | 825.85   | 825.85 | 2,911 | 9,079  |        |     |       |
| 1985 | 2.9987 | 825.85   | 825.85 | 2,911 | 8,729  |        |     |       |
| 1986 | 2.8834 | 825.85   | 825.85 | 2,911 | 8,394  |        |     |       |
| 1987 | 2.7725 | 825.85   | 825.85 | 2,911 | 8,071  |        |     |       |
| 1988 | 2.6658 | 825.85   | 825.85 | 2,911 | 7,760  |        |     |       |
| 1989 | 2.5633 | 825.85   | 825.85 | 2,911 | 7,462  |        |     |       |
| 1990 | 2.4647 | 825.85   | 825.85 | 2,911 | 7,175  |        |     |       |
| 1991 | 2.3699 | 825.85   | 825.85 | 2,911 | 6,899  |        |     |       |
| 1992 | 2.2788 | 825.85   | 825.85 | 2,911 | 6,634  |        |     |       |
| 1993 | 2.1911 | 825.85   | 825.85 | 2,911 | 6,378  |        |     |       |
| 1994 | 2.1068 | 825.85   | 825.85 | 2,911 | 6,133  |        |     |       |
| 1995 | 2.0258 | 825.85   | 825.85 | 2,911 | 5,897  |        |     |       |
| 1996 | 1.9479 | 825.85   | 825.85 | 2,911 | 5,670  |        |     |       |
| 1997 | 1.8730 | 825.85   | 825.85 | 2,911 | 5,452  |        |     |       |
| 1998 | 1.8009 | 825.85   | 825.85 | 2,911 | 5,242  |        |     |       |
| 1999 | 1.7317 | 825.85   | 825.85 | 2,911 | 5,041  |        |     |       |
| 2000 | 1.6651 | 825.85   | 825.85 | 2,911 | 4,847  |        |     |       |
| 2001 | 1.6010 | 825.85   | 825.85 | 2,911 | 4,661  |        |     |       |

|      |        |        |        |       |         |  |  |   |
|------|--------|--------|--------|-------|---------|--|--|---|
| 2002 | 1.5395 | 825.85 | 825.85 | 2,911 | 4,481   |  |  |   |
| 2003 | 1.4802 | 825.85 | 825.85 | 2,911 | 4,309   |  |  |   |
| 2004 | 1.4233 | 825.85 | 825.85 | 2,911 | 4,143   |  |  |   |
| 2005 | 1.3686 | 825.85 | 825.85 | 2,911 | 3,984   |  |  |   |
| 2006 | 1.3159 | 825.85 | 825.85 | 2,911 | 3,831   |  |  |   |
| 2007 | 1.2653 | 825.85 | 825.85 | 2,911 | 3,683   |  |  |   |
| 2008 | 1.2167 | 825.85 | 825.85 | 2,911 | 3,542   |  |  |   |
| 2009 | 1.1699 | 825.85 | 825.85 | 2,911 | 3,406   |  |  |   |
| 2010 | 1.1249 | 825.85 | 825.85 | 2,911 | 3,275   |  |  |   |
| 2011 | 1.0816 | 825.85 | 825.85 | 2,911 | 3,149   |  |  |   |
| 2012 | 1.0400 | 825.85 | 825.85 | 2,911 | 3,027   |  |  |   |
| 2013 | 1.0000 | 825.85 | 825.85 | 2,911 | 2,911   |  |  |   |
| 2014 | 0.9615 | 825.85 | 825.85 | 2,911 | 2,799   |  |  |   |
| 2015 | 0.9246 | 825.85 | 825.85 | 2,911 | 2,692   |  |  |   |
| 2016 | 0.8890 | 825.85 | 825.85 | 2,911 | 2,588   |  |  |   |
| 2017 | 0.8548 | 825.85 | 825.85 | 2,911 | 2,488   |  |  |   |
| 2018 | 0.8219 | 825.85 | 825.85 | 2,911 | 2,393   |  |  |   |
| 2019 | 0.7903 | 825.85 | 825.85 | 2,911 | 2,301   |  |  |   |
| 2020 | 0.7599 | 825.85 | 825.85 | 2,911 | 2,212   |  |  |   |
| 2021 | 0.7307 | 825.85 | 825.85 | 2,911 | 2,127   |  |  |   |
| 2022 | 0.7026 | 825.85 | 825.85 | 2,911 | 2,045   |  |  |   |
| 2023 | 0.6756 | 825.85 | 825.85 | 2,911 | 1,967   |  |  |   |
| 2024 | 0.6496 | 825.85 | 825.85 | 2,911 | 1,891   |  |  |   |
| 2025 | 0.6246 | 825.85 | 825.85 | 2,911 | 1,818   |  |  |   |
| 2026 | 0.6006 | 825.85 | 825.85 | 2,911 | 1,748   |  |  |   |
| 2027 | 0.5775 | 825.85 | 825.85 | 2,911 | 1,681   |  |  |   |
| 2028 | 0.5553 | 825.85 | 825.85 | 2,911 | 1,616   |  |  |   |
| 2029 | 0.5339 | 825.85 | 825.85 | 2,911 | 1,554   |  |  |   |
| 2030 | 0.5134 | 825.85 | 825.85 | 2,911 | 1,495   |  |  |   |
| 2031 | 0.4936 | 825.85 | 825.85 | 2,911 | 1,437   |  |  |   |
| 2032 | 0.4746 | 825.85 | 825.85 | 2,911 | 1,382   |  |  |   |
| 2033 | 0.4564 | 825.85 | 825.85 | 2,911 | 1,329   |  |  |   |
| 2034 | 0.4388 | 825.85 | 825.85 | 2,911 | 1,277   |  |  |   |
| 2035 | 0.4220 | 825.85 | 825.85 | 2,911 | 1,228   |  |  |   |
| 2036 | 0.4057 | 825.85 | 825.85 | 2,911 | 1,181   |  |  |   |
| 2037 | 0.3901 | 825.85 | 825.85 | 2,911 | 1,136   |  |  |   |
| 2038 | 0.3751 | 825.85 | 825.85 | 2,911 | 1,092   |  |  |   |
| 2039 | 0.3607 | 825.85 | 825.85 | 2,911 | 1,050   |  |  |   |
| 2040 | 0.3468 | 825.85 | 825.85 | 2,911 | 1,010   |  |  |   |
| 2041 | 0.3335 | 825.85 | 825.85 | 2,911 | 971     |  |  |   |
| 2042 | 0.3207 | 825.85 | 825.85 | 2,911 | 934     |  |  |   |
| 合計   |        |        |        |       | 391,308 |  |  | 0 |



$$B = \sum_{t=1}^Y \frac{V_t \times @}{(1+i)^t}$$

Y: 評価期間 80

Vt主: 人工林 主伐量 t年後における伐採材積(m3)  
出典:人工林林分密度管理図((一社)日本森林技術協会)、  
森林農地整備センター収獲予測表((独)森林総合研究所)等

スギ 0.00 ~ 110,429.42  
ヒノキ 0.00 ~ 68,721.62  
マツ 0.00 ~ 5,727.72  
広葉樹 0.00 ~ 23,770.73  
0  
0

@: 人工林 主伐材 木材市場価格(円/m3)  
出典:「山林素地及び山元立木価格調((一財)日本不動産研究所)」(平成24年3月末現)

スギ 1,570  
ヒノキ 6,518  
マツ 1,248  
広葉樹 0  
0  
0

| 年度   | 社会的割引率 | スギ     |     | ヒノキ    |     | マツ     |     | 広葉樹    |     | 事業効果材積 | 効果額 |
|------|--------|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|
|      |        | 事業効果材積 | 効果額 | 事業効果材積 | 効果額 | 事業効果材積 | 効果額 | 事業効果材積 | 効果額 |        |     |
| 1962 | 7.3910 |        |     |        |     |        |     |        |     |        |     |
| 1963 | 7.1067 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1964 | 6.8333 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1965 | 6.5705 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1966 | 6.3178 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1967 | 6.0748 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1968 | 5.8412 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1969 | 5.6165 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1970 | 5.4005 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1971 | 5.1928 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1972 | 4.9931 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1973 | 4.8010 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1974 | 4.6164 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1975 | 4.4388 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1976 | 4.2681 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1977 | 4.1039 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1978 | 3.9461 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1979 | 3.7943 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1980 | 3.6484 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1981 | 3.5081 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1982 | 3.3731 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1983 | 3.2434 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1984 | 3.1187 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1985 | 2.9987 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1986 | 2.8834 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1987 | 2.7725 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1988 | 2.6658 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1989 | 2.5633 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1990 | 2.4647 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1991 | 2.3699 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1992 | 2.2788 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1993 | 2.1911 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1994 | 2.1068 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1995 | 2.0258 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1996 | 1.9479 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1997 | 1.8730 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1998 | 1.8009 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 1999 | 1.7317 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2000 | 1.6651 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2001 | 1.6010 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2002 | 1.5395 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2003 | 1.4802 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2004 | 1.4233 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2005 | 1.3686 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2006 | 1.3159 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2007 | 1.2653 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2008 | 1.2167 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2009 | 1.1699 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2010 | 1.1249 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2011 | 1.0816 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2012 | 1.0400 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2013 | 1.0000 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2014 | 0.9615 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2015 | 0.9246 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2016 | 0.8890 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2017 | 0.8548 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2018 | 0.8219 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2019 | 0.7903 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2020 | 0.7599 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |
| 2021 | 0.7307 | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   | 0.00   | 0   |        |     |

|      |        |            |         |           |         |          |       |           |   |  |  |
|------|--------|------------|---------|-----------|---------|----------|-------|-----------|---|--|--|
| 2022 | 0.7026 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2023 | 0.6756 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2024 | 0.6496 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2025 | 0.6246 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2026 | 0.6006 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2027 | 0.5775 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2028 | 0.5553 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2029 | 0.5339 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2030 | 0.5134 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2031 | 0.4936 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2032 | 0.4746 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2033 | 0.4564 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2034 | 0.4388 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2035 | 0.4220 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2036 | 0.4057 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2037 | 0.3901 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2038 | 0.3751 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2039 | 0.3607 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2040 | 0.3468 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2041 | 0.3335 | 0.00       | 0       | 0.00      | 0       | 0.00     | 0     | 0.00      | 0 |  |  |
| 2042 | 0.3207 | 110,429.42 | 173.374 | 68,721.62 | 447,928 | 5,727.72 | 7,148 | 23,770.73 | 0 |  |  |
| 合計   |        |            |         |           |         |          |       |           |   |  |  |

| 年度   | 社会的割引率 | 事業効果材積 | 効果額 | 合計  |       |
|------|--------|--------|-----|-----|-------|
|      |        |        |     | 効果額 | 現在価値化 |
| 1962 | 7.3910 |        |     | 0   | 0     |
| 1963 | 7.1067 |        |     | 0   | 0     |
| 1964 | 6.8333 |        |     | 0   | 0     |
| 1965 | 6.5705 |        |     | 0   | 0     |
| 1966 | 6.3178 |        |     | 0   | 0     |
| 1967 | 6.0748 |        |     | 0   | 0     |
| 1968 | 5.8412 |        |     | 0   | 0     |
| 1969 | 5.6165 |        |     | 0   | 0     |
| 1970 | 5.4005 |        |     | 0   | 0     |
| 1971 | 5.1928 |        |     | 0   | 0     |
| 1972 | 4.9931 |        |     | 0   | 0     |
| 1973 | 4.8010 |        |     | 0   | 0     |
| 1974 | 4.6164 |        |     | 0   | 0     |
| 1975 | 4.4388 |        |     | 0   | 0     |
| 1976 | 4.2681 |        |     | 0   | 0     |
| 1977 | 4.1039 |        |     | 0   | 0     |
| 1978 | 3.9461 |        |     | 0   | 0     |
| 1979 | 3.7943 |        |     | 0   | 0     |
| 1980 | 3.6484 |        |     | 0   | 0     |
| 1981 | 3.5081 |        |     | 0   | 0     |
| 1982 | 3.3731 |        |     | 0   | 0     |
| 1983 | 3.2434 |        |     | 0   | 0     |
| 1984 | 3.1187 |        |     | 0   | 0     |
| 1985 | 2.9987 |        |     | 0   | 0     |
| 1986 | 2.8834 |        |     | 0   | 0     |
| 1987 | 2.7725 |        |     | 0   | 0     |
| 1988 | 2.6658 |        |     | 0   | 0     |
| 1989 | 2.5633 |        |     | 0   | 0     |
| 1990 | 2.4647 |        |     | 0   | 0     |
| 1991 | 2.3699 |        |     | 0   | 0     |
| 1992 | 2.2788 |        |     | 0   | 0     |
| 1993 | 2.1911 |        |     | 0   | 0     |
| 1994 | 2.1068 |        |     | 0   | 0     |
| 1995 | 2.0258 |        |     | 0   | 0     |
| 1996 | 1.9479 |        |     | 0   | 0     |
| 1997 | 1.8730 |        |     | 0   | 0     |
| 1998 | 1.8009 |        |     | 0   | 0     |
| 1999 | 1.7317 |        |     | 0   | 0     |
| 2000 | 1.6651 |        |     | 0   | 0     |
| 2001 | 1.6010 |        |     | 0   | 0     |
| 2002 | 1.5395 |        |     | 0   | 0     |
| 2003 | 1.4802 |        |     | 0   | 0     |
| 2004 | 1.4233 |        |     | 0   | 0     |
| 2005 | 1.3686 |        |     | 0   | 0     |
| 2006 | 1.3159 |        |     | 0   | 0     |
| 2007 | 1.2653 |        |     | 0   | 0     |
| 2008 | 1.2167 |        |     | 0   | 0     |
| 2009 | 1.1699 |        |     | 0   | 0     |
| 2010 | 1.1249 |        |     | 0   | 0     |
| 2011 | 1.0816 |        |     | 0   | 0     |
| 2012 | 1.0400 |        |     | 0   | 0     |
| 2013 | 1.0000 |        |     | 0   | 0     |
| 2014 | 0.9615 |        |     | 0   | 0     |
| 2015 | 0.9246 |        |     | 0   | 0     |
| 2016 | 0.8890 |        |     | 0   | 0     |
| 2017 | 0.8548 |        |     | 0   | 0     |
| 2018 | 0.8219 |        |     | 0   | 0     |
| 2019 | 0.7903 |        |     | 0   | 0     |
| 2020 | 0.7599 |        |     | 0   | 0     |
| 2021 | 0.7307 |        |     | 0   | 0     |
| 2022 | 0.7026 |        |     | 0   | 0     |
| 2023 | 0.6756 |        |     | 0   | 0     |
| 2024 | 0.6496 |        |     | 0   | 0     |
| 2025 | 0.6246 |        |     | 0   | 0     |
| 2026 | 0.6006 |        |     | 0   | 0     |

|      |        |  |  |         |         |
|------|--------|--|--|---------|---------|
| 2027 | 0.5775 |  |  | 0       | 0       |
| 2028 | 0.5553 |  |  | 0       | 0       |
| 2029 | 0.5339 |  |  | 0       | 0       |
| 2030 | 0.5134 |  |  | 0       | 0       |
| 2031 | 0.4936 |  |  | 0       | 0       |
| 2032 | 0.4746 |  |  | 0       | 0       |
| 2033 | 0.4564 |  |  | 0       | 0       |
| 2034 | 0.4388 |  |  | 0       | 0       |
| 2035 | 0.4220 |  |  | 0       | 0       |
| 2036 | 0.4057 |  |  | 0       | 0       |
| 2037 | 0.3901 |  |  | 0       | 0       |
| 2038 | 0.3751 |  |  | 0       | 0       |
| 2039 | 0.3607 |  |  | 0       | 0       |
| 2040 | 0.3468 |  |  | 0       | 0       |
| 2041 | 0.3335 |  |  | 0       | 0       |
| 2042 | 0.3207 |  |  | 628,450 | 201,544 |
| 合計   |        |  |  |         | 201,544 |