

## Appendix D: Simulated Monthly Surface Water Budgets

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| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1950                                                  | 14,672                      | 11,154                                                        | 7,465                             | 7,419                         | 96,673                   | 137,383       | 4,863               | 40,229                                             | 1,660              | 25,660                 | 65,071                         | 137,484        | -101         | -0.07                | 137,383       | 137,484        | -101                    | -0.07                           |
| Feb. 1950                                                  | 23,265                      | 11,302                                                        | 5,838                             | 3,508                         | 99,961                   | 143,875       | 66,530              | 34,057                                             | 1,460              | 18,772                 | 23,379                         | 144,197        | -322         | -0.22                | 281,257       | 281,681        | -423                    | -0.15                           |
| Mar. 1950                                                  | 17,783                      | 10,766                                                        | 6,879                             | 3,831                         | 97,613                   | 136,871       | 33,773              | 37,919                                             | 1,254              | 23,504                 | 40,767                         | 137,217        | -346         | -0.25                | 418,129       | 418,897        | -769                    | -0.18                           |
| Apr. 1950                                                  | 22,153                      | 9,075                                                         | 8,386                             | 49,082                        | 96,535                   | 185,231       | 78,742              | 43,075                                             | 1,877              | 28,942                 | 32,055                         | 184,692        | 539          | 0.29                 | 603,359       | 603,589        | -230                    | -0.04                           |
| May 1950                                                   | 59,176                      | 14,115                                                        | 11,583                            | 51,929                        | 117,895                  | 254,697       | 159,079             | 51,355                                             | 2,145              | 28,111                 | 10,881                         | 251,570        | 3,127        | 1.24                 | 858,056       | 855,159        | 2,897                   | 0.34                            |
| Jun. 1950                                                  | 193,387                     | 34,083                                                        | 20,079                            | 36,503                        | 131,531                  | 415,583       | 300,554             | 80,788                                             | 1,592              | 25,159                 | 1,174                          | 409,268        | 6,315        | 1.53                 | 1,273,639     | 1,264,427      | 9,212                   | 0.73                            |
| Jul. 1950                                                  | 75,927                      | 18,465                                                        | 22,009                            | 30,865                        | 139,850                  | 287,116       | 211,614             | 36,666                                             | 1,614              | 28,192                 | 11,587                         | 289,674        | -2,558       | -0.89                | 1,560,755     | 1,554,101      | 6,654                   | 0.43                            |
| Aug. 1950                                                  | 26,713                      | 9,796                                                         | 25,414                            | 11,901                        | 136,595                  | 210,420       | 149,998             | 28,121                                             | 1,211              | 21,543                 | 11,876                         | 212,749        | -2,329       | -1.10                | 1,771,175     | 1,766,850      | 4,325                   | 0.24                            |
| Sep. 1950                                                  | 30,901                      | 7,430                                                         | 12,796                            | 26,161                        | 123,729                  | 201,017       | 126,259             | 39,452                                             | 1,407              | 23,499                 | 10,099                         | 200,715        | 302          | 0.15                 | 1,972,191     | 1,967,565      | 4,627                   | 0.23                            |
| Oct. 1950                                                  | 13,394                      | 7,610                                                         | 7,493                             | 4,115                         | 129,799                  | 162,410       | 104,024             | 34,865                                             | 1,017              | 18,306                 | 5,634                          | 163,846        | -1,436       | -0.88                | 2,134,601     | 2,131,411      | 3,190                   | 0.15                            |
| Nov. 1950                                                  | 21,391                      | 12,191                                                        | 6,884                             | 9,622                         | 116,669                  | 166,756       | 92,633              | 38,512                                             | 1,052              | 19,451                 | 15,418                         | 167,066        | -310         | -0.19                | 2,301,357     | 2,298,477      | 2,880                   | 0.13                            |
| Dec. 1950                                                  | 10,051                      | 12,095                                                        | 7,253                             | 2,681                         | 114,254                  | 146,334       | 71,177              | 36,194                                             | 1,079              | 19,858                 | 19,026                         | 147,334        | -1,000       | -0.68                | 2,447,691     | 2,445,811      | 1,880                   | 0.08                            |
| Jan. 1951                                                  | 12,653                      | 9,343                                                         | 7,169                             | 9,084                         | 106,365                  | 144,614       | 58,304              | 38,387                                             | 1,095              | 21,754                 | 25,364                         | 144,904        | -290         | -0.20                | 2,592,305     | 2,590,715      | 1,590                   | 0.06                            |
| Feb. 1951                                                  | 12,886                      | 10,139                                                        | 6,433                             | 8,196                         | 100,491                  | 138,145       | 71,593              | 34,451                                             | 1,207              | 18,589                 | 12,927                         | 138,768        | -623         | -0.45                | 2,730,450     | 2,729,483      | 967                     | 0.04                            |
| Mar. 1951                                                  | 11,899                      | 9,374                                                         | 7,067                             | 12,255                        | 94,931                   | 135,525       | 42,140              | 37,477                                             | 1,207              | 23,515                 | 31,735                         | 136,073        | -548         | -0.40                | 2,865,975     | 2,865,556      | 419                     | 0.01                            |
| Apr. 1951                                                  | 29,382                      | 11,328                                                        | 24,560                            | 35,530                        | 91,681                   | 192,481       | 66,562              | 50,601                                             | 2,525              | 30,181                 | 41,023                         | 190,893        | 1,588        | 0.83                 | 3,058,456     | 3,056,448      | 2,007                   | 0.07                            |
| May 1951                                                   | 165,826                     | 29,628                                                        | 8,451                             | 50,535                        | 110,609                  | 365,048       | 194,543             | 110,207                                            | 2,492              | 30,091                 | 20,906                         | 358,239        | 6,810        | 1.88                 | 3,423,504     | 3,414,687      | 8,817                   | 0.26                            |
| Jun. 1951                                                  | 273,550                     | 90,709                                                        | 8,519                             | 49,021                        | 124,459                  | 546,259       | 293,534             | 192,817                                            | 1,950              | 28,087                 | 22,521                         | 538,909        | 7,351        | 1.35                 | 3,969,764     | 3,953,596      | 16,168                  | 0.41                            |
| Jul. 1951                                                  | 168,560                     | 43,215                                                        | 22,338                            | 33,182                        | 143,501                  | 410,795       | 274,126             | 92,325                                             | 1,842              | 25,595                 | 18,185                         | 412,073        | -1,278       | -0.31                | 4,380,559     | 4,365,669      | 14,889                  | 0.34                            |
| Aug. 1951                                                  | 89,432                      | 85,853                                                        | 16,985                            | 77,103                        | 133,262                  | 402,635       | 219,580             | 100,730                                            | 3,342              | 36,171                 | 43,709                         | 403,531        | -896         | -0.22                | 4,783,194     | 4,769,200      | 13,994                  | 0.29                            |
| Sep. 1951                                                  | 52,050                      | 13,668                                                        | 21,596                            | 22,543                        | 145,824                  | 255,681       | 161,156             | 56,489                                             | 1,349              | 21,369                 | 17,567                         | 257,929        | -2,249       | -0.88                | 5,038,875     | 5,027,130      | 11,745                  | 0.23                            |
| Oct. 1951                                                  | 29,165                      | 22,217                                                        | 11,563                            | 46,140                        | 143,756                  | 252,840       | 150,320             | 68,837                                             | 1,927              | 24,347                 | 11,602                         | 257,034        | -4,194       | -1.64                | 5,291,715     | 5,284,164      | 7,551                   | 0.14                            |
| Nov. 1951                                                  | 23,574                      | 28,143                                                        | 12,866                            | 10,142                        | 124,675                  | 199,400       | 97,927              | 57,933                                             | 1,342              | 19,943                 | 24,381                         | 201,527        | -2,127       | -1.06                | 5,491,116     | 5,485,691      | 5,425                   | 0.10                            |
| Dec. 1951                                                  | 20,829                      | 23,417                                                        | 6,474                             | 8,648                         | 118,425                  | 177,793       | 72,567              | 54,102                                             | 1,349              | 20,992                 | 29,719                         | 178,729        | -936         | -0.53                | 5,668,908     | 5,664,420      | 4,489                   | 0.08                            |
| Jan. 1952                                                  | 19,044                      | 26,622                                                        | 6,683                             | 733                           | 113,483                  | 166,565       | 63,639              | 50,254                                             | 1,316              | 20,110                 | 32,307                         | 167,626        | -1,060       | -0.63                | 5,835,474     | 5,832,045      | 3,428                   | 0.06                            |
| Feb. 1952                                                  | 17,080                      | 22,198                                                        | 6,562                             | 5,034                         | 99,615                   | 150,490       | 39,673              | 47,440                                             | 1,083              | 20,978                 | 41,926                         | 151,101        | -612         | -0.41                | 5,985,963     | 5,983,146      | 2,817                   | 0.05                            |
| Mar. 1952                                                  | 20,333                      | 25,020                                                        | 9,912                             | 21,432                        | 100,853                  | 177,551       | 38,618              | 58,513                                             | 1,534              | 25,047                 | 53,970                         | 177,681        | -130         | -0.07                | 6,163,514     | 6,160,827      | 2,687                   | 0.04                            |
| Apr. 1952                                                  | 51,933                      | 54,709                                                        | 7,002                             | 45,025                        | 93,496                   | 252,165       | 64,942              | 86,846                                             | 3,695              | 31,759                 | 63,359                         | 250,601        | 1,564        | 0.62                 | 6,415,680     | 6,411,428      | 4,251                   | 0.07                            |
| May 1952                                                   | 215,518                     | 157,452                                                       | 8,049                             | 75,294                        | 100,955                  | 557,269       | 198,633             | 192,418                                            | 7,614              | 41,002                 | 111,414                        | 551,081        | 6,188        | 1.12                 | 6,972,948     | 6,962,509      | 10,439                  | 0.15                            |
| Jun. 1952                                                  | 368,879                     | 190,105                                                       | 13,757                            | 16,413                        | 127,637                  | 716,791       | 388,858             | 242,589                                            | 2,602              | 24,658                 | 51,205                         | 709,913        | 6,878        | 0.96                 | 7,689,739     | 7,672,422      | 17,317                  | 0.23                            |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1952                                                  | 123,026                     | 35,962                                                        | 29,178                            | 17,047                        | 153,297                  | 358,511       | 258,699             | 62,432                                             | 1,340              | 21,841                 | 19,478                         | 363,790        | -5,280       | -1.46                | 8,048,250     | 8,036,212      | 12,037                  | 0.15                            |
| Aug. 1952                                                  | 92,611                      | 25,362                                                        | 26,087                            | 36,380                        | 145,013                  | 325,453       | 212,791             | 60,458                                             | 1,424              | 26,948                 | 24,715                         | 326,337        | -884         | -0.27                | 8,373,703     | 8,362,549      | 11,154                  | 0.13                            |
| Sep. 1952                                                  | 50,446                      | 11,975                                                        | 19,703                            | 10,105                        | 141,658                  | 233,886       | 157,341             | 49,313                                             | 1,041              | 19,305                 | 8,480                          | 235,479        | -1,593       | -0.68                | 8,607,589     | 8,598,029      | 9,560                   | 0.11                            |
| Oct. 1952                                                  | 19,409                      | 14,912                                                        | 7,884                             | 5,465                         | 148,160                  | 195,829       | 138,039             | 41,078                                             | 1,002              | 18,062                 | 3,215                          | 201,396        | -5,566       | -2.80                | 8,803,418     | 8,799,424      | 3,994                   | 0.05                            |
| Nov. 1952                                                  | 14,257                      | 16,015                                                        | 7,037                             | 12,373                        | 121,017                  | 170,699       | 84,993              | 47,094                                             | 1,110              | 20,656                 | 18,289                         | 172,143        | -1,444       | -0.84                | 8,974,118     | 8,971,567      | 2,550                   | 0.03                            |
| Dec. 1952                                                  | 15,776                      | 16,886                                                        | 7,506                             | 2,197                         | 118,844                  | 161,209       | 75,170              | 42,169                                             | 1,068              | 19,861                 | 24,219                         | 162,487        | -1,278       | -0.79                | 9,135,326     | 9,134,054      | 1,272                   | 0.01                            |
| Jan. 1953                                                  | 15,769                      | 16,361                                                        | 7,531                             | 4,695                         | 113,551                  | 157,907       | 66,897              | 44,546                                             | 1,185              | 20,622                 | 25,142                         | 158,391        | -484         | -0.31                | 9,293,233     | 9,292,446      | 787                     | 0.01                            |
| Feb. 1953                                                  | 17,593                      | 13,688                                                        | 6,507                             | 10,458                        | 96,861                   | 145,107       | 52,238              | 42,407                                             | 1,158              | 20,483                 | 29,119                         | 145,406        | -299         | -0.21                | 9,438,340     | 9,437,851      | 489                     | 0.01                            |
| Mar. 1953                                                  | 15,569                      | 14,419                                                        | 7,529                             | 11,899                        | 102,436                  | 151,852       | 53,037              | 43,897                                             | 1,422              | 22,457                 | 31,609                         | 152,423        | -571         | -0.38                | 9,590,192     | 9,590,274      | -82                     | 0.00                            |
| Apr. 1953                                                  | 18,127                      | 14,983                                                        | 7,563                             | 34,577                        | 96,955                   | 172,205       | 58,966              | 46,319                                             | 1,746              | 27,274                 | 37,631                         | 171,937        | 268          | 0.16                 | 9,762,396     | 9,762,211      | 185                     | 0.00                            |
| May 1953                                                   | 87,931                      | 16,072                                                        | 13,892                            | 48,254                        | 110,701                  | 276,850       | 147,297             | 68,201                                             | 6,336              | 29,082                 | 22,189                         | 273,105        | 3,745        | 1.36                 | 10,039,246    | 10,035,316     | 3,930                   | 0.04                            |
| Jun. 1953                                                  | 228,177                     | 55,694                                                        | 16,568                            | 37,985                        | 127,052                  | 465,476       | 282,537             | 132,325                                            | 2,128              | 26,843                 | 13,359                         | 457,191        | 8,285        | 1.80                 | 10,504,722    | 10,492,507     | 12,215                  | 0.12                            |
| Jul. 1953                                                  | 124,673                     | 31,607                                                        | 18,257                            | 46,007                        | 140,574                  | 361,119       | 242,634             | 73,009                                             | 3,043              | 29,592                 | 15,056                         | 363,334        | -2,215       | -0.61                | 10,865,840    | 10,855,841     | 9,999                   | 0.09                            |
| Aug. 1953                                                  | 90,906                      | 14,998                                                        | 29,837                            | 26,473                        | 140,905                  | 303,119       | 212,561             | 50,623                                             | 1,467              | 24,945                 | 15,384                         | 304,980        | -1,861       | -0.61                | 11,168,959    | 11,160,821     | 8,138                   | 0.07                            |
| Sep. 1953                                                  | 40,740                      | 10,233                                                        | 18,381                            | 4,121                         | 132,439                  | 205,914       | 137,452             | 43,831                                             | 1,129              | 18,750                 | 6,349                          | 207,511        | -1,597       | -0.77                | 11,374,873    | 11,368,332     | 6,542                   | 0.06                            |
| Oct. 1953                                                  | 17,854                      | 10,075                                                        | 10,728                            | 8,358                         | 134,490                  | 181,504       | 120,070             | 38,084                                             | 1,044              | 18,955                 | 5,076                          | 183,229        | -1,725       | -0.95                | 11,556,378    | 11,551,561     | 4,817                   | 0.04                            |
| Nov. 1953                                                  | 16,496                      | 14,390                                                        | 8,310                             | 10,118                        | 122,534                  | 171,848       | 105,434             | 43,414                                             | 1,128              | 18,678                 | 4,266                          | 172,921        | -1,073       | -0.62                | 11,728,226    | 11,724,482     | 3,744                   | 0.03                            |
| Dec. 1953                                                  | 14,314                      | 14,129                                                        | 9,588                             | 9,309                         | 110,792                  | 158,133       | 63,295              | 44,436                                             | 1,258              | 21,499                 | 28,754                         | 159,242        | -1,109       | -0.70                | 11,886,358    | 11,883,724     | 2,634                   | 0.02                            |
| Jan. 1954                                                  | 14,244                      | 13,668                                                        | 9,714                             | 2,744                         | 109,178                  | 149,548       | 62,403              | 40,027                                             | 1,308              | 20,110                 | 26,562                         | 150,411        | -863         | -0.58                | 12,035,906    | 12,034,135     | 1,772                   | 0.01                            |
| Feb. 1954                                                  | 13,153                      | 9,705                                                         | 8,047                             | 934                           | 95,526                   | 127,364       | 52,821              | 33,755                                             | 1,120              | 17,840                 | 22,425                         | 127,961        | -596         | -0.47                | 12,163,270    | 12,162,095     | 1,175                   | 0.01                            |
| Mar. 1954                                                  | 10,795                      | 9,653                                                         | 7,717                             | 7,418                         | 100,144                  | 135,727       | 48,163              | 36,180                                             | 1,305              | 21,806                 | 28,797                         | 136,250        | -523         | -0.38                | 12,298,998    | 12,298,345     | 652                     | 0.01                            |
| Apr. 1954                                                  | 13,675                      | 4,925                                                         | 13,384                            | 11,248                        | 99,867                   | 143,099       | 71,294              | 30,371                                             | 978                | 21,450                 | 19,271                         | 143,363        | -264         | -0.18                | 12,442,097    | 12,441,709     | 388                     | 0.00                            |
| May 1954                                                   | 92,762                      | 6,872                                                         | 14,568                            | 19,144                        | 114,827                  | 248,173       | 165,426             | 40,420                                             | 1,168              | 23,940                 | 12,861                         | 243,815        | 4,358        | 1.77                 | 12,690,270    | 12,685,523     | 4,746                   | 0.04                            |
| Jun. 1954                                                  | 85,348                      | 9,912                                                         | 22,001                            | 14,749                        | 112,152                  | 244,163       | 164,009             | 39,796                                             | 1,087              | 23,381                 | 14,801                         | 243,073        | 1,090        | 0.45                 | 12,934,432    | 12,928,597     | 5,836                   | 0.05                            |
| Jul. 1954                                                  | 69,118                      | 15,571                                                        | 14,878                            | 35,378                        | 107,984                  | 242,929       | 155,893             | 33,452                                             | 2,371              | 32,298                 | 20,445                         | 244,459        | -1,530       | -0.63                | 13,177,361    | 13,173,055     | 4,306                   | 0.03                            |
| Aug. 1954                                                  | 51,669                      | 8,851                                                         | 15,045                            | 21,898                        | 109,824                  | 207,288       | 138,673             | 26,907                                             | 2,440              | 28,780                 | 11,686                         | 208,486        | -1,198       | -0.58                | 13,384,649    | 13,381,541     | 3,108                   | 0.02                            |
| Sep. 1954                                                  | 20,705                      | 4,582                                                         | 13,679                            | 22,506                        | 101,111                  | 162,583       | 92,075              | 31,901                                             | 1,073              | 25,352                 | 12,462                         | 162,864        | -281         | -0.17                | 13,547,231    | 13,544,405     | 2,827                   | 0.02                            |
| Oct. 1954                                                  | 18,580                      | 7,280                                                         | 7,798                             | 5,427                         | 106,153                  | 145,237       | 86,263              | 32,917                                             | 884                | 19,559                 | 6,096                          | 145,719        | -482         | -0.33                | 13,692,468    | 13,690,124     | 2,344                   | 0.02                            |
| Nov. 1954                                                  | 11,593                      | 8,037                                                         | 7,978                             | 4,899                         | 96,711                   | 129,217       | 68,720              | 37,079                                             | 889                | 19,558                 | 3,875                          | 130,121        | -904         | -0.70                | 13,821,685    | 13,820,245     | 1,440                   | 0.01                            |
| Dec. 1954                                                  | 9,625                       | 9,992                                                         | 6,718                             | 6,090                         | 95,262                   | 127,687       | 61,097              | 34,790                                             | 952                | 21,006                 | 10,730                         | 128,573        | -887         | -0.69                | 13,949,372    | 13,948,818     | 553                     | 0.00                            |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1955                                                  | 9,038                       | 9,956                                                         | 6,940                             | 3,882                         | 90,767                   | 120,584       | 47,587              | 33,433                                             | 990                | 21,114                 | 17,941                         | 121,065        | -481         | -0.40                | 14,069,956    | 14,069,883     | 73                      | 0.00                            |
| Feb. 1955                                                  | 8,248                       | 9,382                                                         | 6,149                             | 7,193                         | 80,808                   | 111,780       | 38,609              | 31,241                                             | 972                | 19,791                 | 21,353                         | 111,965        | -186         | -0.17                | 14,181,735    | 14,181,848     | -113                    | 0.00                            |
| Mar. 1955                                                  | 9,094                       | 11,439                                                        | 6,571                             | 12,489                        | 89,951                   | 129,544       | 54,091              | 35,956                                             | 1,138              | 21,696                 | 16,892                         | 129,773        | -229         | -0.18                | 14,311,279    | 14,311,621     | -342                    | 0.00                            |
| Apr. 1955                                                  | 15,706                      | 7,159                                                         | 10,558                            | 7,967                         | 87,211                   | 128,601       | 62,961              | 29,457                                             | 992                | 21,089                 | 13,983                         | 128,483        | 118          | 0.09                 | 14,439,880    | 14,440,104     | -224                    | 0.00                            |
| May 1955                                                   | 89,156                      | 8,848                                                         | 15,563                            | 51,092                        | 96,115                   | 260,774       | 152,975             | 44,833                                             | 6,966              | 29,210                 | 22,695                         | 256,679        | 4,095        | 1.58                 | 14,700,654    | 14,696,783     | 3,871                   | 0.03                            |
| Jun. 1955                                                  | 133,028                     | 22,695                                                        | 7,354                             | 43,887                        | 99,828                   | 306,791       | 181,516             | 70,566                                             | 2,694              | 30,242                 | 17,864                         | 302,881        | 3,910        | 1.28                 | 15,007,446    | 14,999,665     | 7,781                   | 0.05                            |
| Jul. 1955                                                  | 62,108                      | 12,912                                                        | 20,958                            | 39,658                        | 102,040                  | 237,676       | 144,440             | 40,982                                             | 1,406              | 30,793                 | 22,199                         | 239,819        | -2,144       | -0.90                | 15,245,121    | 15,239,484     | 5,637                   | 0.04                            |
| Aug. 1955                                                  | 75,552                      | 19,425                                                        | 13,736                            | 44,784                        | 101,015                  | 254,512       | 165,330             | 39,293                                             | 1,708              | 33,485                 | 15,378                         | 255,194        | -683         | -0.27                | 15,499,633    | 15,494,678     | 4,955                   | 0.03                            |
| Sep. 1955                                                  | 36,163                      | 8,045                                                         | 10,015                            | 36,563                        | 105,949                  | 196,735       | 125,982             | 36,542                                             | 1,462              | 26,240                 | 6,849                          | 197,075        | -340         | -0.17                | 15,696,368    | 15,691,753     | 4,614                   | 0.03                            |
| Oct. 1955                                                  | 14,905                      | 9,828                                                         | 7,470                             | 8,780                         | 107,387                  | 148,370       | 96,248              | 32,405                                             | 997                | 18,965                 | 1,845                          | 150,458        | -2,088       | -1.40                | 15,844,738    | 15,842,212     | 2,526                   | 0.02                            |
| Nov. 1955                                                  | 11,983                      | 12,562                                                        | 6,441                             | 8,429                         | 90,134                   | 129,548       | 60,718              | 37,013                                             | 1,232              | 20,589                 | 10,983                         | 130,536        | -987         | -0.76                | 15,974,286    | 15,972,748     | 1,538                   | 0.01                            |
| Dec. 1955                                                  | 10,856                      | 11,701                                                        | 6,707                             | 2,440                         | 93,003                   | 124,707       | 56,505              | 34,073                                             | 1,225              | 19,241                 | 14,607                         | 125,650        | -943         | -0.75                | 16,098,993    | 16,098,397     | 595                     | 0.00                            |
| Jan. 1956                                                  | 8,905                       | 9,581                                                         | 7,026                             | 5,735                         | 89,761                   | 121,008       | 47,226              | 33,504                                             | 1,219              | 20,278                 | 19,353                         | 121,580        | -572         | -0.47                | 16,220,001    | 16,219,978     | 23                      | 0.00                            |
| Feb. 1956                                                  | 8,553                       | 8,434                                                         | 6,483                             | 10,506                        | 82,128                   | 116,104       | 42,686              | 32,087                                             | 1,227              | 19,746                 | 20,695                         | 116,441        | -337         | -0.29                | 16,336,105    | 16,336,419     | -313                    | 0.00                            |
| Mar. 1956                                                  | 18,816                      | 9,551                                                         | 6,943                             | 10,178                        | 85,265                   | 130,754       | 53,706              | 33,944                                             | 1,324              | 21,477                 | 20,362                         | 130,813        | -59          | -0.05                | 16,466,860    | 16,467,232     | -373                    | 0.00                            |
| Apr. 1956                                                  | 17,127                      | 7,438                                                         | 7,003                             | 16,652                        | 82,525                   | 130,746       | 56,939              | 34,043                                             | 1,400              | 22,432                 | 15,335                         | 130,149        | 597          | 0.46                 | 16,597,605    | 16,597,381     | 224                     | 0.00                            |
| May 1956                                                   | 166,174                     | 29,311                                                        | 11,614                            | 36,234                        | 93,635                   | 336,969       | 193,179             | 85,144                                             | 1,778              | 27,862                 | 20,888                         | 328,851        | 8,118        | 2.44                 | 16,934,574    | 16,926,232     | 8,342                   | 0.05                            |
| Jun. 1956                                                  | 195,625                     | 44,644                                                        | 9,182                             | 22,492                        | 109,543                  | 381,486       | 248,760             | 97,431                                             | 1,149              | 22,802                 | 8,284                          | 378,426        | 3,060        | 0.81                 | 17,316,061    | 17,304,658     | 11,403                  | 0.07                            |
| Jul. 1956                                                  | 70,898                      | 18,238                                                        | 16,294                            | 61,678                        | 110,349                  | 277,456       | 166,424             | 48,933                                             | 1,930              | 37,109                 | 26,305                         | 280,703        | -3,246       | -1.16                | 17,593,517    | 17,585,361     | 8,156                   | 0.05                            |
| Aug. 1956                                                  | 51,754                      | 14,486                                                        | 13,349                            | 35,477                        | 113,967                  | 229,033       | 160,630             | 35,813                                             | 2,852              | 24,424                 | 6,962                          | 230,682        | -1,649       | -0.72                | 17,822,550    | 17,816,042     | 6,508                   | 0.04                            |
| Sep. 1956                                                  | 24,603                      | 6,679                                                         | 17,681                            | 2,293                         | 103,014                  | 154,270       | 100,883             | 25,998                                             | 967                | 18,624                 | 9,569                          | 156,042        | -1,772       | -1.14                | 17,976,820    | 17,972,084     | 4,735                   | 0.03                            |
| Oct. 1956                                                  | 13,030                      | 8,238                                                         | 7,049                             | 4,538                         | 105,134                  | 137,988       | 89,795              | 30,799                                             | 971                | 17,564                 | 1,608                          | 140,737        | -2,749       | -1.97                | 18,114,808    | 18,112,822     | 1,986                   | 0.01                            |
| Nov. 1956                                                  | 11,186                      | 13,282                                                        | 6,149                             | 12,620                        | 89,267                   | 132,503       | 49,089              | 39,658                                             | 1,062              | 21,260                 | 22,038                         | 133,107        | -604         | -0.46                | 18,247,311    | 18,245,929     | 1,382                   | 0.01                            |
| Dec. 1956                                                  | 9,184                       | 13,071                                                        | 6,595                             | 6,861                         | 94,621                   | 130,332       | 67,384              | 35,607                                             | 1,003              | 18,848                 | 8,527                          | 131,368        | -1,036       | -0.79                | 18,377,643    | 18,377,297     | 345                     | 0.00                            |
| Jan. 1957                                                  | 9,001                       | 10,465                                                        | 6,829                             | 4,541                         | 86,497                   | 117,334       | 40,136              | 34,220                                             | 1,098              | 20,314                 | 22,063                         | 117,830        | -497         | -0.42                | 18,494,976    | 18,495,127     | -151                    | 0.00                            |
| Feb. 1957                                                  | 11,001                      | 9,652                                                         | 6,134                             | 7,879                         | 79,600                   | 114,266       | 52,219              | 31,910                                             | 1,088              | 17,615                 | 11,677                         | 114,508        | -242         | -0.21                | 18,609,242    | 18,609,636     | -394                    | 0.00                            |
| Mar. 1957                                                  | 10,014                      | 9,859                                                         | 6,843                             | 11,018                        | 84,147                   | 121,880       | 47,192              | 34,480                                             | 1,181              | 20,883                 | 18,538                         | 122,275        | -394         | -0.32                | 18,731,123    | 18,731,910     | -788                    | 0.00                            |
| Apr. 1957                                                  | 56,762                      | 21,710                                                        | 7,473                             | 78,721                        | 78,420                   | 243,086       | 104,722             | 71,426                                             | 5,775              | 37,057                 | 21,155                         | 240,136        | 2,950        | 1.22                 | 18,974,208    | 18,972,046     | 2,162                   | 0.01                            |
| May 1957                                                   | 305,038                     | 184,462                                                       | 8,735                             | 133,276                       | 67,770                   | 699,281       | 205,237             | 233,413                                            | 21,416             | 69,511                 | 162,549                        | 692,126        | 7,155        | 1.03                 | 19,673,489    | 19,664,172     | 9,317                   | 0.05                            |
| Jun. 1957                                                  | 441,259                     | 220,107                                                       | 8,473                             | 30,307                        | 90,722                   | 790,870       | 331,299             | 270,073                                            | 8,826              | 38,513                 | 136,316                        | 785,027        | 5,842        | 0.74                 | 20,464,359    | 20,449,200     | 15,159                  | 0.07                            |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1957                                                  | 305,709                     | 128,633                                                       | 10,067                            | 33,091                        | 135,862                  | 613,362       | 410,759             | 129,730                                            | 3,225              | 29,346                 | 40,291                         | 613,352        | 10           | 0.00                 | 21,077,721    | 21,062,552     | 15,169                  | 0.07                            |
| Aug. 1957                                                  | 147,243                     | 40,568                                                        | 25,949                            | 48,559                        | 143,174                  | 405,493       | 288,466             | 67,820                                             | 3,079              | 27,039                 | 21,716                         | 408,119        | -2,625       | -0.65                | 21,483,214    | 21,470,670     | 12,544                  | 0.06                            |
| Sep. 1957                                                  | 63,769                      | 19,354                                                        | 12,178                            | 12,853                        | 146,111                  | 254,266       | 188,879             | 47,982                                             | 1,503              | 18,431                 | 2,289                          | 259,084        | -4,819       | -1.88                | 21,737,480    | 21,729,755     | 7,725                   | 0.04                            |
| Oct. 1957                                                  | 45,950                      | 31,958                                                        | 18,563                            | 38,335                        | 120,780                  | 255,586       | 132,682             | 64,613                                             | 2,371              | 25,943                 | 31,486                         | 257,096        | -1,510       | -0.59                | 21,993,065    | 21,986,851     | 6,215                   | 0.03                            |
| Nov. 1957                                                  | 33,979                      | 38,438                                                        | 7,422                             | 8,061                         | 111,397                  | 199,296       | 85,463              | 59,195                                             | 1,700              | 19,043                 | 35,918                         | 201,319        | -2,022       | -1.01                | 22,192,362    | 22,188,169     | 4,193                   | 0.02                            |
| Dec. 1957                                                  | 24,266                      | 30,777                                                        | 7,344                             | 2,288                         | 113,586                  | 178,260       | 88,263              | 50,092                                             | 1,523              | 17,883                 | 22,253                         | 180,014        | -1,754       | -0.98                | 22,370,622    | 22,368,183     | 2,439                   | 0.01                            |
| Jan. 1958                                                  | 21,714                      | 23,304                                                        | 11,919                            | 6,607                         | 98,217                   | 161,761       | 25,367              | 46,994                                             | 1,563              | 22,902                 | 65,927                         | 162,752        | -991         | -0.61                | 22,532,383    | 22,530,935     | 1,447                   | 0.01                            |
| Feb. 1958                                                  | 22,179                      | 21,079                                                        | 6,729                             | 8,689                         | 88,186                   | 146,863       | 30,679              | 44,659                                             | 1,720              | 20,005                 | 50,090                         | 147,152        | -290         | -0.20                | 22,679,246    | 22,678,088     | 1,158                   | 0.01                            |
| Mar. 1958                                                  | 25,876                      | 24,816                                                        | 9,386                             | 18,611                        | 92,249                   | 170,938       | 29,918              | 53,344                                             | 2,194              | 24,433                 | 61,203                         | 171,092        | -153         | -0.09                | 22,850,184    | 22,849,179     | 1,005                   | 0.00                            |
| Apr. 1958                                                  | 51,539                      | 34,525                                                        | 7,200                             | 42,251                        | 81,510                   | 217,027       | 44,136              | 66,304                                             | 2,833              | 31,108                 | 71,432                         | 215,812        | 1,214        | 0.56                 | 23,067,210    | 23,064,991     | 2,219                   | 0.01                            |
| May 1958                                                   | 332,712                     | 277,953                                                       | 8,656                             | 87,319                        | 71,758                   | 778,398       | 149,919             | 249,905                                            | 8,470              | 67,796                 | 293,924                        | 770,015        | 8,383        | 1.08                 | 23,845,608    | 23,835,006     | 10,602                  | 0.04                            |
| Jun. 1958                                                  | 253,211                     | 107,861                                                       | 9,259                             | 43,180                        | 123,135                  | 536,646       | 315,101             | 135,229                                            | 2,637              | 27,754                 | 54,143                         | 534,864        | 1,782        | 0.33                 | 24,382,255    | 24,369,871     | 12,384                  | 0.05                            |
| Jul. 1958                                                  | 80,304                      | 23,601                                                        | 21,118                            | 57,457                        | 148,847                  | 331,327       | 244,391             | 39,374                                             | 1,701              | 30,536                 | 19,444                         | 335,446        | -4,119       | -1.24                | 24,713,581    | 24,705,316     | 8,265                   | 0.03                            |
| Aug. 1958                                                  | 57,920                      | 25,693                                                        | 33,862                            | 21,905                        | 142,032                  | 281,412       | 225,107             | 30,161                                             | 1,296              | 21,521                 | 6,328                          | 284,412        | -3,000       | -1.06                | 24,994,993    | 24,989,728     | 5,265                   | 0.02                            |
| Sep. 1958                                                  | 36,926                      | 11,907                                                        | 16,086                            | 27,246                        | 130,303                  | 222,467       | 159,108             | 31,571                                             | 1,105              | 23,714                 | 7,876                          | 223,374        | -907         | -0.41                | 25,217,460    | 25,213,103     | 4,357                   | 0.02                            |
| Oct. 1958                                                  | 19,399                      | 17,116                                                        | 8,202                             | 10,207                        | 125,408                  | 180,333       | 116,423             | 42,129                                             | 1,157              | 19,235                 | 3,343                          | 182,286        | -1,954       | -1.08                | 25,397,793    | 25,395,389     | 2,404                   | 0.01                            |
| Nov. 1958                                                  | 13,767                      | 19,026                                                        | 7,958                             | 7,356                         | 112,721                  | 160,828       | 83,559              | 42,615                                             | 1,259              | 18,863                 | 15,837                         | 162,134        | -1,306       | -0.81                | 25,558,621    | 25,557,523     | 1,098                   | 0.00                            |
| Dec. 1958                                                  | 20,292                      | 19,202                                                        | 9,210                             | 8,279                         | 110,031                  | 167,014       | 82,106              | 43,992                                             | 1,358              | 20,155                 | 20,048                         | 167,659        | -645         | -0.39                | 25,725,635    | 25,725,182     | 453                     | 0.00                            |
| Jan. 1959                                                  | 17,158                      | 17,041                                                        | 8,378                             | 12,690                        | 104,451                  | 159,719       | 70,665              | 43,571                                             | 1,174              | 21,174                 | 23,901                         | 160,485        | -766         | -0.48                | 25,885,353    | 25,885,667     | -314                    | 0.00                            |
| Feb. 1959                                                  | 19,522                      | 16,627                                                        | 7,236                             | 12,885                        | 90,717                   | 146,987       | 59,306              | 42,968                                             | 1,673              | 19,560                 | 23,487                         | 146,994        | -7           | 0.00                 | 26,032,341    | 26,032,661     | -320                    | 0.00                            |
| Mar. 1959                                                  | 19,361                      | 20,709                                                        | 8,258                             | 23,947                        | 94,117                   | 166,392       | 54,213              | 49,817                                             | 2,375              | 24,554                 | 35,697                         | 166,656        | -264         | -0.16                | 26,198,733    | 26,199,317     | -584                    | 0.00                            |
| Apr. 1959                                                  | 55,549                      | 35,091                                                        | 7,570                             | 28,538                        | 82,170                   | 208,918       | 45,470              | 62,052                                             | 7,744              | 29,567                 | 62,389                         | 207,222        | 1,696        | 0.82                 | 26,407,651    | 26,406,539     | 1,112                   | 0.00                            |
| May 1959                                                   | 126,453                     | 62,874                                                        | 8,768                             | 73,520                        | 95,143                   | 366,758       | 160,376             | 89,179                                             | 9,168              | 38,350                 | 66,268                         | 363,342        | 3,417        | 0.94                 | 26,774,409    | 26,769,881     | 4,529                   | 0.02                            |
| Jun. 1959                                                  | 227,567                     | 69,254                                                        | 12,972                            | 18,437                        | 121,398                  | 449,629       | 299,795             | 108,045                                            | 2,118              | 22,646                 | 11,381                         | 443,985        | 5,643        | 1.26                 | 27,224,038    | 27,213,866     | 10,172                  | 0.04                            |
| Jul. 1959                                                  | 92,287                      | 29,207                                                        | 32,965                            | 18,868                        | 138,322                  | 311,650       | 255,187             | 30,305                                             | 1,285              | 23,150                 | 5,213                          | 315,140        | -3,491       | -1.11                | 27,535,688    | 27,529,006     | 6,681                   | 0.02                            |
| Aug. 1959                                                  | 79,892                      | 27,102                                                        | 32,460                            | 13,398                        | 131,072                  | 283,924       | 225,614             | 27,130                                             | 1,223              | 23,473                 | 7,593                          | 285,033        | -1,109       | -0.39                | 27,819,611    | 27,814,039     | 5,573                   | 0.02                            |
| Sep. 1959                                                  | 42,030                      | 18,580                                                        | 17,803                            | 40,722                        | 119,816                  | 238,950       | 152,469             | 45,847                                             | 1,624              | 26,695                 | 11,475                         | 238,110        | 841          | 0.35                 | 28,058,562    | 28,052,149     | 6,413                   | 0.02                            |
| Oct. 1959                                                  | 40,003                      | 28,883                                                        | 10,868                            | 49,829                        | 115,299                  | 244,881       | 134,098             | 66,691                                             | 1,943              | 29,286                 | 13,629                         | 245,647        | -766         | -0.31                | 28,303,443    | 28,297,795     | 5,648                   | 0.02                            |
| Nov. 1959                                                  | 25,882                      | 26,263                                                        | 7,391                             | 3,948                         | 114,413                  | 177,896       | 99,936              | 49,908                                             | 1,324              | 17,958                 | 10,865                         | 179,992        | -2,096       | -1.17                | 28,481,339    | 28,477,787     | 3,552                   | 0.01                            |
| Dec. 1959                                                  | 21,237                      | 23,975                                                        | 10,209                            | 2,166                         | 106,402                  | 163,989       | 71,274              | 46,945                                             | 1,461              | 20,243                 | 25,234                         | 165,158        | -1,168       | -0.71                | 28,645,329    | 28,642,945     | 2,384                   | 0.01                            |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1960                                                  | 12,103                      | 16,990                                                        | 7,849                             | 7,741                         | 99,015                   | 143,698       | 44,046              | 41,374                                             | 1,363              | 22,136                 | 35,836                         | 144,755        | -1,057       | -0.73                | 28,789,027    | 28,787,700     | 1,326                   | 0.00                            |
| Feb. 1960                                                  | 15,628                      | 17,662                                                        | 6,890                             | 18,029                        | 90,621                   | 148,830       | 53,043              | 44,685                                             | 1,621              | 21,311                 | 28,199                         | 148,859        | -29          | -0.02                | 28,937,856    | 28,936,559     | 1,297                   | 0.00                            |
| Mar 1960                                                   | 63,468                      | 34,064                                                        | 8,157                             | 10,172                        | 88,019                   | 203,881       | 68,827              | 61,721                                             | 10,133             | 25,118                 | 37,908                         | 203,706        | 174          | 0.09                 | 29,141,737    | 29,140,265     | 1,471                   | 0.01                            |
| Apr. 1960                                                  | 67,744                      | 19,488                                                        | 8,002                             | 36,568                        | 88,916                   | 220,717       | 83,595              | 52,228                                             | 11,457             | 29,090                 | 43,696                         | 220,066        | 651          | 0.30                 | 29,362,454    | 29,360,332     | 2,123                   | 0.01                            |
| May 1960                                                   | 174,631                     | 50,575                                                        | 8,972                             | 48,968                        | 112,457                  | 395,603       | 234,307             | 92,916                                             | 16,679             | 30,695                 | 15,704                         | 390,302        | 5,301        | 1.35                 | 29,758,057    | 29,750,633     | 7,424                   | 0.02                            |
| Jun. 1960                                                  | 232,082                     | 56,513                                                        | 13,589                            | 20,115                        | 127,877                  | 450,176       | 296,878             | 118,844                                            | 3,923              | 23,065                 | 3,528                          | 446,238        | 3,938        | 0.88                 | 30,208,233    | 30,196,871     | 11,362                  | 0.04                            |
| Jul. 1960                                                  | 99,895                      | 27,365                                                        | 32,258                            | 33,841                        | 136,388                  | 329,748       | 250,345             | 40,205                                             | 2,010              | 28,473                 | 12,101                         | 333,134        | -3,386       | -1.02                | 30,537,981    | 30,530,005     | 7,976                   | 0.03                            |
| Aug. 1960                                                  | 66,891                      | 17,527                                                        | 30,641                            | 5,862                         | 131,653                  | 252,574       | 199,517             | 25,954                                             | 1,225              | 21,138                 | 8,377                          | 256,212        | -3,638       | -1.43                | 30,790,555    | 30,786,217     | 4,338                   | 0.01                            |
| Sep. 1960                                                  | 40,499                      | 12,324                                                        | 14,947                            | 16,496                        | 118,204                  | 202,469       | 136,446             | 34,287                                             | 1,175              | 22,627                 | 8,084                          | 202,619        | -150         | -0.07                | 30,993,024    | 30,988,836     | 4,188                   | 0.01                            |
| Oct. 1960                                                  | 20,400                      | 19,044                                                        | 9,350                             | 43,910                        | 125,714                  | 218,417       | 135,427             | 54,782                                             | 2,017              | 25,686                 | 2,189                          | 220,100        | -1,683       | -0.77                | 31,211,441    | 31,208,937     | 2,505                   | 0.01                            |
| Nov. 1960                                                  | 16,635                      | 20,321                                                        | 7,950                             | 3,581                         | 103,599                  | 152,086       | 74,061              | 45,862                                             | 1,774              | 20,505                 | 11,614                         | 153,816        | -1,730       | -1.13                | 31,363,527    | 31,362,752     | 775                     | 0.00                            |
| Dec. 1960                                                  | 18,379                      | 19,883                                                        | 7,965                             | 13,607                        | 103,786                  | 163,619       | 67,657              | 48,851                                             | 1,920              | 22,468                 | 23,329                         | 164,225        | -606         | -0.37                | 31,527,146    | 31,526,978     | 169                     | 0.00                            |
| Jan. 1961                                                  | 30,472                      | 18,554                                                        | 7,848                             | 1,383                         | 101,551                  | 159,809       | 69,953              | 43,474                                             | 1,865              | 20,466                 | 24,778                         | 160,536        | -728         | -0.45                | 31,686,955    | 31,687,514     | -559                    | 0.00                            |
| Feb. 1961                                                  | 19,115                      | 15,594                                                        | 6,716                             | 6,684                         | 89,262                   | 137,371       | 57,306              | 38,826                                             | 1,998              | 19,288                 | 20,485                         | 137,901        | -530         | -0.39                | 31,824,326    | 31,825,416     | -1,089                  | 0.00                            |
| Mar. 1961                                                  | 24,778                      | 20,293                                                        | 7,497                             | 28,536                        | 92,927                   | 174,031       | 75,159              | 50,800                                             | 3,109              | 25,711                 | 19,087                         | 173,866        | 165          | 0.09                 | 31,998,357    | 31,999,281     | -924                    | 0.00                            |
| Apr. 1961                                                  | 36,393                      | 17,021                                                        | 7,413                             | 17,969                        | 90,596                   | 169,392       | 64,847              | 48,167                                             | 5,290              | 25,108                 | 25,553                         | 168,965        | 427          | 0.25                 | 32,167,749    | 32,168,246     | -497                    | 0.00                            |
| May 1961                                                   | 170,829                     | 88,123                                                        | 8,626                             | 86,958                        | 91,877                   | 446,413       | 174,632             | 132,567                                            | 11,991             | 43,266                 | 76,698                         | 439,154        | 7,259        | 1.64                 | 32,614,162    | 32,607,400     | 6,761                   | 0.02                            |
| Jun. 1961                                                  | 254,807                     | 232,245                                                       | 9,239                             | 36,219                        | 91,207                   | 623,717       | 222,191             | 193,668                                            | 3,883              | 44,522                 | 155,532                        | 619,796        | 3,921        | 0.63                 | 33,237,879    | 33,227,197     | 10,682                  | 0.03                            |
| Jul. 1961                                                  | 96,511                      | 27,365                                                        | 19,833                            | 58,656                        | 146,474                  | 348,840       | 247,513             | 45,750                                             | 3,620              | 29,177                 | 25,620                         | 351,680        | -2,840       | -0.81                | 33,586,719    | 33,578,876     | 7,842                   | 0.02                            |
| Aug. 1961                                                  | 103,662                     | 26,497                                                        | 29,528                            | 41,946                        | 143,691                  | 345,324       | 258,833             | 44,070                                             | 3,914              | 27,447                 | 11,089                         | 345,354        | -30          | -0.01                | 33,932,043    | 33,924,231     | 7,812                   | 0.02                            |
| Sep. 1961                                                  | 88,839                      | 44,659                                                        | 10,222                            | 81,733                        | 121,991                  | 347,443       | 169,053             | 94,150                                             | 4,398              | 35,063                 | 43,070                         | 345,734        | 1,710        | 0.49                 | 34,279,487    | 34,269,964     | 9,522                   | 0.03                            |
| Oct. 1961                                                  | 65,373                      | 72,328                                                        | 9,089                             | 13,376                        | 110,529                  | 270,696       | 92,485              | 86,099                                             | 2,669              | 26,048                 | 65,758                         | 273,059        | -2,363       | -0.87                | 34,550,183    | 34,543,023     | 7,159                   | 0.02                            |
| Nov. 1961                                                  | 47,493                      | 62,479                                                        | 10,510                            | 6,833                         | 107,406                  | 234,720       | 81,949              | 68,919                                             | 2,474              | 21,679                 | 61,790                         | 236,811        | -2,091       | -0.89                | 34,784,902    | 34,779,834     | 5,068                   | 0.01                            |
| Dec. 1961                                                  | 31,783                      | 43,056                                                        | 10,028                            | 2,898                         | 106,431                  | 194,196       | 37,371              | 56,053                                             | 2,111              | 22,543                 | 77,715                         | 195,793        | -1,597       | -0.82                | 34,979,099    | 34,975,628     | 3,471                   | 0.01                            |
| Jan. 1962                                                  | 28,386                      | 35,755                                                        | 10,193                            | 11,721                        | 101,351                  | 187,406       | 24,877              | 56,836                                             | 2,162              | 23,886                 | 80,217                         | 187,978        | -572         | -0.30                | 35,166,505    | 35,163,605     | 2,899                   | 0.01                            |
| Feb. 1962                                                  | 34,835                      | 45,684                                                        | 7,322                             | 8,071                         | 89,650                   | 185,562       | 53,187              | 52,481                                             | 2,524              | 20,703                 | 56,914                         | 185,809        | -248         | -0.13                | 35,352,066    | 35,349,415     | 2,652                   | 0.01                            |
| Mar. 1962                                                  | 31,465                      | 40,800                                                        | 7,888                             | 4,738                         | 96,723                   | 181,614       | 41,292              | 49,955                                             | 2,519              | 22,801                 | 65,942                         | 182,510        | -896         | -0.49                | 35,533,680    | 35,531,925     | 1,755                   | 0.00                            |
| Apr. 1962                                                  | 89,842                      | 35,002                                                        | 8,350                             | 15,829                        | 94,348                   | 243,371       | 112,155             | 56,482                                             | 7,404              | 23,852                 | 41,951                         | 241,844        | 1,528        | 0.63                 | 35,777,051    | 35,773,769     | 3,283                   | 0.01                            |
| May 1962                                                   | 162,664                     | 27,493                                                        | 9,418                             | 44,532                        | 121,804                  | 365,911       | 231,569             | 70,014                                             | 3,377              | 28,464                 | 27,007                         | 360,431        | 5,480        | 1.51                 | 36,142,962    | 36,134,200     | 8,762                   | 0.02                            |
| Jun. 1962                                                  | 176,839                     | 65,165                                                        | 9,549                             | 67,099                        | 113,047                  | 431,698       | 202,741             | 120,065                                            | 2,456              | 37,335                 | 65,422                         | 428,020        | 3,679        | 0.86                 | 36,574,661    | 36,562,219     | 12,441                  | 0.03                            |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1962                                                  | 127,055                     | 76,095                                                        | 12,375                            | 42,901                        | 141,252                  | 399,677       | 291,591             | 52,297                                             | 1,980              | 26,209                 | 28,510                         | 400,588        | -910         | -0.23                | 36,974,338    | 36,962,807     | 11,531                  | 0.03                            |
| Aug. 1962                                                  | 65,410                      | 27,485                                                        | 41,248                            | 15,869                        | 148,154                  | 298,166       | 238,056             | 31,356                                             | 1,437              | 20,908                 | 8,709                          | 300,467        | -2,300       | -0.77                | 37,272,504    | 37,263,273     | 9,231                   | 0.02                            |
| Sep. 1962                                                  | 33,722                      | 21,021                                                        | 19,372                            | 7,620                         | 140,055                  | 221,790       | 168,686             | 34,989                                             | 1,275              | 17,731                 | 1,126                          | 223,808        | -2,018       | -0.91                | 37,494,294    | 37,487,081     | 7,213                   | 0.02                            |
| Oct. 1962                                                  | 24,584                      | 25,097                                                        | 9,667                             | 14,688                        | 122,533                  | 196,569       | 101,019             | 50,791                                             | 1,607              | 22,091                 | 21,768                         | 197,275        | -706         | -0.36                | 37,690,863    | 37,684,356     | 6,507                   | 0.02                            |
| Nov. 1962                                                  | 19,004                      | 22,519                                                        | 8,298                             | 7,875                         | 121,623                  | 179,319       | 95,275              | 50,924                                             | 1,273              | 18,211                 | 15,265                         | 180,948        | -1,629       | -0.90                | 37,870,183    | 37,865,304     | 4,879                   | 0.01                            |
| Dec. 1962                                                  | 18,904                      | 23,489                                                        | 8,280                             | 1,989                         | 111,507                  | 164,168       | 70,651              | 47,427                                             | 1,346              | 19,780                 | 26,246                         | 165,451        | -1,282       | -0.78                | 38,034,351    | 38,030,755     | 3,596                   | 0.01                            |
| Jan. 1963                                                  | 10,373                      | 20,204                                                        | 8,235                             | 8,381                         | 103,782                  | 150,974       | 52,016              | 42,367                                             | 1,476              | 21,585                 | 34,768                         | 152,213        | -1,239       | -0.82                | 38,185,325    | 38,182,968     | 2,357                   | 0.01                            |
| Feb. 1963                                                  | 14,310                      | 19,476                                                        | 6,896                             | 3,027                         | 93,641                   | 137,350       | 51,989              | 37,536                                             | 1,569              | 18,329                 | 28,264                         | 137,686        | -336         | -0.24                | 38,322,675    | 38,320,654     | 2,021                   | 0.01                            |
| Mar. 1963                                                  | 17,946                      | 18,760                                                        | 10,810                            | 17,323                        | 93,144                   | 157,983       | 28,078              | 47,812                                             | 1,832              | 25,060                 | 55,287                         | 158,069        | -85          | -0.05                | 38,480,658    | 38,478,723     | 1,935                   | 0.01                            |
| Apr. 1963                                                  | 18,665                      | 9,593                                                         | 13,534                            | 6,390                         | 103,042                  | 151,224       | 78,605              | 31,631                                             | 1,209              | 20,081                 | 20,018                         | 151,544        | -320         | -0.21                | 38,631,882    | 38,630,267     | 1,616                   | 0.00                            |
| May 1963                                                   | 87,793                      | 8,192                                                         | 24,580                            | 14,959                        | 119,052                  | 254,576       | 184,260             | 31,405                                             | 1,042              | 21,620                 | 12,553                         | 250,881        | 3,695        | 1.46                 | 38,886,458    | 38,881,147     | 5,311                   | 0.01                            |
| Jun. 1963                                                  | 96,027                      | 29,743                                                        | 12,363                            | 73,968                        | 107,235                  | 319,336       | 185,882             | 76,783                                             | 2,116              | 33,907                 | 16,997                         | 315,686        | 3,650        | 1.15                 | 39,205,795    | 39,196,834     | 8,961                   | 0.02                            |
| Jul. 1963                                                  | 55,683                      | 11,403                                                        | 30,797                            | 23,081                        | 120,209                  | 241,174       | 172,905             | 25,460                                             | 1,093              | 27,398                 | 17,691                         | 244,547        | -3,373       | -1.39                | 39,446,968    | 39,441,380     | 5,588                   | 0.01                            |
| Aug. 1963                                                  | 65,842                      | 20,067                                                        | 19,319                            | 64,750                        | 116,336                  | 286,315       | 190,358             | 41,712                                             | 1,705              | 36,316                 | 15,173                         | 285,264        | 1,051        | 0.37                 | 39,733,283    | 39,726,644     | 6,639                   | 0.02                            |
| Sep. 1963                                                  | 56,840                      | 20,038                                                        | 13,321                            | 47,346                        | 115,574                  | 253,119       | 155,038             | 53,594                                             | 1,617              | 31,514                 | 10,651                         | 252,413        | 706          | 0.28                 | 39,986,402    | 39,979,057     | 7,345                   | 0.02                            |
| Oct. 1963                                                  | 19,842                      | 14,736                                                        | 9,883                             | 9,870                         | 122,282                  | 176,612       | 117,356             | 42,088                                             | 1,019              | 19,347                 | 2,915                          | 182,725        | -6,113       | -3.40                | 40,163,014    | 40,161,783     | 1,232                   | 0.00                            |
| Nov. 1963                                                  | 16,927                      | 18,678                                                        | 8,653                             | 4,141                         | 100,998                  | 149,398       | 62,780              | 44,834                                             | 935                | 20,443                 | 21,424                         | 150,416        | -1,018       | -0.68                | 40,312,413    | 40,312,199     | 214                     | 0.00                            |
| Dec. 1963                                                  | 16,653                      | 18,879                                                        | 8,819                             | 5,615                         | 100,608                  | 150,575       | 54,826              | 42,773                                             | 1,071              | 21,159                 | 31,649                         | 151,477        | -902         | -0.60                | 40,462,988    | 40,463,676     | -688                    | 0.00                            |
| Jan. 1964                                                  | 13,534                      | 17,000                                                        | 9,095                             | 3,319                         | 100,267                  | 143,214       | 57,682              | 38,335                                             | 1,130              | 19,917                 | 27,109                         | 144,172        | -959         | -0.67                | 40,606,201    | 40,607,848     | -1,647                  | 0.00                            |
| Feb. 1964                                                  | 12,009                      | 13,700                                                        | 8,492                             | 9,110                         | 91,288                   | 134,599       | 53,712              | 36,669                                             | 1,260              | 20,032                 | 23,267                         | 134,939        | -339         | -0.25                | 40,740,801    | 40,742,787     | -1,986                  | 0.00                            |
| Mar. 1964                                                  | 19,144                      | 14,663                                                        | 10,345                            | 13,936                        | 92,720                   | 150,808       | 59,766              | 43,046                                             | 2,264              | 22,602                 | 23,230                         | 150,908        | -100         | -0.07                | 40,891,608    | 40,893,694     | -2,086                  | -0.01                           |
| Apr. 1964                                                  | 24,222                      | 16,879                                                        | 9,486                             | 29,709                        | 87,016                   | 167,311       | 68,388              | 44,478                                             | 4,171              | 26,895                 | 22,942                         | 166,874        | 437          | 0.26                 | 41,058,920    | 41,060,568     | -1,649                  | 0.00                            |
| May 1964                                                   | 106,798                     | 17,877                                                        | 16,985                            | 47,037                        | 103,800                  | 292,497       | 181,043             | 51,512                                             | 2,668              | 32,280                 | 20,683                         | 288,186        | 4,312        | 1.49                 | 41,351,417    | 41,348,754     | 2,663                   | 0.01                            |
| Jun. 1964                                                  | 131,834                     | 22,556                                                        | 10,195                            | 29,628                        | 117,515                  | 311,729       | 215,280             | 66,565                                             | 1,914              | 26,078                 | 3,318                          | 313,154        | -1,426       | -0.46                | 41,663,146    | 41,661,909     | 1,237                   | 0.00                            |
| Jul. 1964                                                  | 94,612                      | 17,558                                                        | 30,260                            | 20,143                        | 117,999                  | 280,572       | 213,802             | 30,904                                             | 1,412              | 27,740                 | 8,219                          | 282,077        | -1,505       | -0.54                | 41,943,718    | 41,943,986     | -268                    | 0.00                            |
| Aug. 1964                                                  | 61,341                      | 13,596                                                        | 26,258                            | 14,793                        | 112,861                  | 228,849       | 162,578             | 27,031                                             | 1,223              | 28,121                 | 11,234                         | 230,187        | -1,338       | -0.58                | 42,172,566    | 42,174,172     | -1,606                  | 0.00                            |
| Sep. 1964                                                  | 25,454                      | 9,669                                                         | 12,911                            | 11,005                        | 105,630                  | 164,669       | 105,507             | 26,291                                             | 1,094              | 24,163                 | 8,749                          | 165,804        | -1,135       | -0.69                | 42,337,236    | 42,339,976     | -2,741                  | -0.01                           |
| Oct. 1964                                                  | 11,246                      | 13,385                                                        | 9,524                             | 3,478                         | 109,244                  | 146,877       | 97,306              | 30,366                                             | 986                | 18,349                 | 1,474                          | 148,481        | -1,604       | -1.09                | 42,484,112    | 42,488,457     | -4,345                  | -0.01                           |
| Nov. 1964                                                  | 11,944                      | 16,316                                                        | 8,467                             | 9,080                         | 100,252                  | 146,059       | 81,641              | 40,279                                             | 1,177              | 19,156                 | 3,750                          | 146,003        | 57           | 0.04                 | 42,630,172    | 42,634,460     | -4,288                  | -0.01                           |
| Dec. 1964                                                  | 12,855                      | 15,904                                                        | 8,907                             | 4,131                         | 94,586                   | 136,382       | 63,080              | 39,277                                             | 1,171              | 20,901                 | 12,721                         | 137,150        | -769         | -0.56                | 42,766,553    | 42,771,610     | -5,057                  | -0.01                           |

| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1965                                                  | 11,713                      | 13,920                                                        | 8,621                             | 9,203                         | 93,414                   | 136,871       | 63,660              | 38,101                                             | 1,194              | 21,269                 | 13,296                         | 137,520        | -649         | -0.47                | 42,903,424    | 42,909,130     | -5,705                  | -0.01                           |
| Feb. 1965                                                  | 11,039                      | 13,053                                                        | 7,509                             | 9,730                         | 81,916                   | 123,247       | 50,763              | 34,693                                             | 1,175              | 19,884                 | 16,987                         | 123,503        | -256         | -0.21                | 43,026,671    | 43,032,633     | -5,961                  | -0.01                           |
| Mar. 1965                                                  | 12,861                      | 14,102                                                        | 8,668                             | 12,028                        | 89,893                   | 137,553       | 64,102              | 38,460                                             | 1,573              | 21,618                 | 12,118                         | 137,871        | -318         | -0.23                | 43,164,224    | 43,170,503     | -6,279                  | -0.01                           |
| Apr. 1965                                                  | 29,290                      | 13,612                                                        | 11,369                            | 24,477                        | 84,458                   | 163,205       | 83,799              | 41,633                                             | 1,965              | 23,865                 | 11,271                         | 162,533        | 672          | 0.41                 | 43,327,429    | 43,333,037     | -5,607                  | -0.01                           |
| May. 1965                                                  | 107,038                     | 16,760                                                        | 16,446                            | 50,000                        | 101,994                  | 292,238       | 185,506             | 54,695                                             | 2,531              | 31,774                 | 13,067                         | 287,574        | 4,664        | 1.61                 | 43,619,667    | 43,620,611     | -944                    | 0.00                            |
| Jun. 1965                                                  | 401,171                     | 227,995                                                       | 10,484                            | 98,307                        | 78,452                   | 816,410       | 306,115             | 232,519                                            | 36,774             | 68,827                 | 163,777                        | 808,013        | 8,397        | 1.03                 | 44,436,076    | 44,428,623     | 7,453                   | 0.02                            |
| Jul. 1965                                                  | 250,366                     | 119,104                                                       | 12,052                            | 92,722                        | 114,214                  | 588,458       | 267,072             | 148,126                                            | 6,017              | 45,046                 | 121,677                        | 587,939        | 520          | 0.09                 | 45,024,535    | 45,016,562     | 7,973                   | 0.02                            |
| Aug. 1965                                                  | 176,026                     | 84,626                                                        | 18,306                            | 23,296                        | 128,466                  | 430,720       | 269,497             | 84,270                                             | 4,623              | 27,198                 | 47,602                         | 433,189        | -2,469       | -0.57                | 45,455,255    | 45,449,751     | 5,504                   | 0.01                            |
| Sep. 1965                                                  | 66,801                      | 30,500                                                        | 22,981                            | 54,832                        | 122,740                  | 297,854       | 148,104             | 65,379                                             | 3,629              | 28,334                 | 53,451                         | 298,897        | -1,043       | -0.35                | 45,753,109    | 45,748,648     | 4,461                   | 0.01                            |
| Oct. 1965                                                  | 40,087                      | 34,596                                                        | 12,172                            | 14,481                        | 110,714                  | 212,050       | 66,695              | 56,801                                             | 2,500              | 24,511                 | 64,010                         | 214,517        | -2,467       | -1.16                | 45,965,159    | 45,963,165     | 1,994                   | 0.00                            |
| Nov. 1965                                                  | 25,816                      | 24,689                                                        | 8,186                             | 2,800                         | 108,119                  | 169,610       | 54,767              | 51,038                                             | 1,776              | 18,138                 | 45,782                         | 171,500        | -1,890       | -1.11                | 46,134,769    | 46,134,664     | 104                     | 0.00                            |
| Dec. 1965                                                  | 19,600                      | 26,487                                                        | 11,099                            | 6,473                         | 104,917                  | 168,576       | 46,226              | 44,196                                             | 1,911              | 21,132                 | 56,700                         | 170,165        | -1,588       | -0.94                | 46,303,345    | 46,304,829     | -1,484                  | 0.00                            |
| Jan. 1966                                                  | 17,741                      | 26,187                                                        | 10,534                            | 2,398                         | 97,279                   | 154,140       | 22,813              | 42,701                                             | 1,814              | 21,637                 | 65,761                         | 154,727        | -587         | -0.38                | 46,457,485    | 46,459,556     | -2,071                  | 0.00                            |
| Feb. 1966                                                  | 17,380                      | 22,479                                                        | 6,738                             | 10,283                        | 84,682                   | 141,561       | 22,328              | 41,652                                             | 2,021              | 20,187                 | 55,615                         | 141,802        | -241         | -0.17                | 46,599,045    | 46,601,358     | -2,313                  | 0.00                            |
| Mar. 1966                                                  | 21,582                      | 19,839                                                        | 8,297                             | 2,983                         | 99,588                   | 152,289       | 62,319              | 41,847                                             | 2,421              | 19,609                 | 26,713                         | 152,908        | -619         | -0.41                | 46,751,335    | 46,754,266     | -2,932                  | -0.01                           |
| Apr. 1966                                                  | 21,460                      | 11,586                                                        | 8,694                             | 24,088                        | 94,506                   | 160,332       | 70,798              | 37,009                                             | 2,778              | 24,621                 | 25,175                         | 160,381        | -49          | -0.03                | 46,911,667    | 46,914,647     | -2,980                  | -0.01                           |
| May 1966                                                   | 79,378                      | 7,615                                                         | 25,018                            | 9,410                         | 109,979                  | 231,399       | 156,670             | 38,102                                             | 2,088              | 20,946                 | 10,390                         | 228,196        | 3,203        | 1.39                 | 47,143,066    | 47,142,843     | 223                     | 0.00                            |
| Jun. 1966                                                  | 87,394                      | 17,480                                                        | 12,361                            | 45,568                        | 103,703                  | 266,506       | 157,576             | 53,525                                             | 1,597              | 30,792                 | 20,351                         | 263,839        | 2,667        | 1.01                 | 47,409,572    | 47,406,683     | 2,890                   | 0.01                            |
| Jul. 1966                                                  | 67,150                      | 14,956                                                        | 28,379                            | 26,860                        | 110,601                  | 247,946       | 173,389             | 27,353                                             | 1,879              | 30,457                 | 16,884                         | 249,962        | -2,016       | -0.81                | 47,657,518    | 47,656,645     | 873                     | 0.00                            |
| Aug. 1966                                                  | 61,797                      | 13,462                                                        | 26,483                            | 32,938                        | 108,648                  | 243,328       | 163,524             | 30,816                                             | 1,294              | 32,142                 | 15,600                         | 243,375        | -47          | -0.02                | 47,900,846    | 47,900,020     | 826                     | 0.00                            |
| Sep. 1966                                                  | 31,952                      | 19,238                                                        | 12,383                            | 43,746                        | 103,918                  | 211,237       | 122,362             | 43,798                                             | 1,429              | 32,180                 | 11,318                         | 211,086        | 151          | 0.07                 | 48,112,083    | 48,111,106     | 977                     | 0.00                            |
| Oct. 1966                                                  | 18,824                      | 14,909                                                        | 10,564                            | 16,069                        | 111,510                  | 171,876       | 106,925             | 39,158                                             | 1,290              | 22,326                 | 3,438                          | 173,137        | -1,261       | -0.73                | 48,283,959    | 48,284,243     | -285                    | 0.00                            |
| Nov. 1966                                                  | 13,148                      | 14,607                                                        | 11,187                            | 4,413                         | 99,322                   | 142,677       | 78,460              | 39,185                                             | 1,159              | 18,622                 | 6,325                          | 143,751        | -1,074       | -0.75                | 48,426,635    | 48,427,994     | -1,358                  | 0.00                            |
| Dec. 1966                                                  | 10,939                      | 14,994                                                        | 12,777                            | 1,484                         | 94,912                   | 135,106       | 57,645              | 35,888                                             | 1,172              | 20,809                 | 20,509                         | 136,023        | -917         | -0.68                | 48,561,742    | 48,564,017     | -2,275                  | 0.00                            |
| Jan. 1967                                                  | 11,997                      | 14,006                                                        | 12,444                            | 7,962                         | 92,545                   | 138,954       | 60,549              | 37,643                                             | 1,328              | 21,346                 | 18,474                         | 139,341        | -387         | -0.28                | 48,700,696    | 48,703,358     | -2,662                  | -0.01                           |
| Feb. 1967                                                  | 10,156                      | 11,053                                                        | 9,651                             | 3,612                         | 83,760                   | 118,231       | 52,474              | 31,983                                             | 1,163              | 18,266                 | 14,804                         | 118,691        | -460         | -0.39                | 48,818,927    | 48,822,049     | -3,122                  | -0.01                           |
| Mar. 1967                                                  | 9,537                       | 10,843                                                        | 10,756                            | 7,375                         | 88,126                   | 126,637       | 55,300              | 34,955                                             | 1,143              | 21,610                 | 13,913                         | 126,921        | -284         | -0.22                | 48,945,563    | 48,948,969     | -3,406                  | -0.01                           |
| Apr. 1967                                                  | 19,574                      | 13,818                                                        | 11,897                            | 62,003                        | 88,095                   | 195,386       | 98,029              | 53,408                                             | 2,485              | 31,595                 | 8,508                          | 194,025        | 1,361        | 0.70                 | 49,140,950    | 49,142,995     | -2,045                  | 0.00                            |
| May 1967                                                   | 77,332                      | 14,395                                                        | 11,967                            | 94,690                        | 96,278                   | 294,663       | 145,453             | 73,780                                             | 3,671              | 42,248                 | 26,005                         | 291,158        | 3,505        | 1.20                 | 49,435,612    | 49,434,152     | 1,460                   | 0.00                            |
| Jun. 1967                                                  | 166,431                     | 99,007                                                        | 12,534                            | 93,112                        | 89,641                   | 460,726       | 218,235             | 135,734                                            | 5,116              | 43,403                 | 53,763                         | 456,251        | 4,475        | 0.98                 | 49,896,338    | 49,890,403     | 5,935                   | 0.01                            |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1967                                                  | 125,432                     | 91,372                                                        | 14,592                            | 68,918                        | 104,765                  | 405,079       | 228,813             | 92,336                                             | 4,645              | 38,414                 | 42,192                         | 406,400        | -1,321       | -0.33                | 50,301,417    | 50,296,803     | 4,614                   | 0.01                            |
| Aug. 1967                                                  | 77,258                      | 25,288                                                        | 43,714                            | 25,464                        | 130,531                  | 302,255       | 231,174             | 35,372                                             | 1,934              | 24,064                 | 11,009                         | 303,553        | -1,298       | -0.43                | 50,603,672    | 50,600,357     | 3,316                   | 0.01                            |
| Sep. 1967                                                  | 46,046                      | 19,010                                                        | 21,974                            | 15,550                        | 120,772                  | 223,352       | 159,704             | 37,257                                             | 1,260              | 21,381                 | 4,424                          | 224,027        | -675         | -0.30                | 50,827,024    | 50,824,384     | 2,640                   | 0.01                            |
| Oct. 1967                                                  | 24,684                      | 20,033                                                        | 12,296                            | 16,923                        | 121,217                  | 195,154       | 131,562             | 44,032                                             | 1,536              | 19,957                 | 1,719                          | 198,806        | -3,652       | -1.85                | 51,022,178    | 51,023,190     | -1,012                  | 0.00                            |
| Nov. 1967                                                  | 21,960                      | 21,662                                                        | 5,785                             | 9,934                         | 104,027                  | 163,369       | 85,051              | 48,552                                             | 1,646              | 19,994                 | 8,915                          | 164,158        | -789         | -0.48                | 51,185,547    | 51,187,348     | -1,801                  | 0.00                            |
| Dec. 1967                                                  | 17,438                      | 19,145                                                        | 5,925                             | 10,626                        | 97,913                   | 151,047       | 55,129              | 45,789                                             | 1,544              | 22,669                 | 26,970                         | 152,099        | -1,052       | -0.69                | 51,336,593    | 51,339,447     | -2,854                  | -0.01                           |
| Jan. 1968                                                  | 20,976                      | 19,469                                                        | 6,495                             | 3,574                         | 94,756                   | 145,270       | 49,857              | 42,717                                             | 1,550              | 21,472                 | 30,378                         | 145,974        | -704         | -0.48                | 51,481,863    | 51,485,421     | -3,558                  | -0.01                           |
| Feb. 1968                                                  | 23,753                      | 20,003                                                        | 6,975                             | 8,306                         | 89,918                   | 148,954       | 62,465              | 43,987                                             | 1,826              | 19,616                 | 21,092                         | 148,986        | -32          | -0.02                | 51,630,817    | 51,634,406     | -3,590                  | -0.01                           |
| Mar. 1968                                                  | 22,283                      | 18,086                                                        | 8,676                             | 8,750                         | 90,010                   | 147,806       | 51,003              | 44,281                                             | 2,059              | 22,633                 | 28,124                         | 148,100        | -294         | -0.20                | 51,778,623    | 51,782,506     | -3,883                  | -0.01                           |
| Apr. 1968                                                  | 22,228                      | 13,066                                                        | 14,462                            | 34,856                        | 89,757                   | 174,368       | 76,950              | 48,495                                             | 3,562              | 26,594                 | 18,390                         | 173,992        | 377          | 0.22                 | 51,952,991    | 51,956,498     | -3,507                  | -0.01                           |
| May 1968                                                   | 86,574                      | 13,286                                                        | 12,811                            | 40,475                        | 106,784                  | 259,930       | 152,314             | 56,751                                             | 5,728              | 28,505                 | 13,287                         | 256,585        | 3,345        | 1.30                 | 52,212,921    | 52,213,083     | -162                    | 0.00                            |
| Jun. 1968                                                  | 188,859                     | 50,455                                                        | 18,685                            | 18,014                        | 111,882                  | 387,896       | 249,735             | 98,363                                             | 1,544              | 24,766                 | 7,160                          | 381,567        | 6,329        | 1.64                 | 52,600,817    | 52,594,650     | 6,167                   | 0.01                            |
| Jul. 1968                                                  | 111,912                     | 24,425                                                        | 32,347                            | 31,079                        | 125,055                  | 324,817       | 233,134             | 47,515                                             | 1,620              | 29,902                 | 14,278                         | 326,449        | -1,632       | -0.50                | 52,925,634    | 52,921,099     | 4,535                   | 0.01                            |
| Aug. 1968                                                  | 86,764                      | 19,277                                                        | 25,025                            | 47,073                        | 126,160                  | 304,300       | 216,166             | 41,308                                             | 1,917              | 29,473                 | 16,756                         | 305,620        | -1,320       | -0.43                | 53,229,934    | 53,226,719     | 3,215                   | 0.01                            |
| Sep. 1968                                                  | 40,950                      | 19,085                                                        | 15,762                            | 9,122                         | 122,600                  | 207,519       | 153,279             | 37,968                                             | 1,143              | 18,809                 | 730                            | 211,929        | -4,410       | -2.10                | 53,437,453    | 53,438,648     | -1,195                  | 0.00                            |
| Oct. 1968                                                  | 26,098                      | 21,665                                                        | 10,476                            | 14,425                        | 118,926                  | 191,590       | 125,264             | 44,036                                             | 1,255              | 20,983                 | 1,481                          | 193,019        | -1,430       | -0.74                | 53,629,043    | 53,631,668     | -2,625                  | 0.00                            |
| Nov. 1968                                                  | 14,616                      | 18,161                                                        | 7,378                             | 9,188                         | 103,519                  | 152,862       | 79,772              | 42,889                                             | 1,411              | 20,585                 | 9,674                          | 154,329        | -1,467       | -0.96                | 53,781,904    | 53,785,997     | -4,092                  | -0.01                           |
| Dec. 1968                                                  | 14,386                      | 15,274                                                        | 7,544                             | 4,342                         | 99,487                   | 141,033       | 57,176              | 39,506                                             | 1,289              | 21,523                 | 22,807                         | 142,302        | -1,269       | -0.90                | 53,922,938    | 53,928,299     | -5,361                  | -0.01                           |
| Jan. 1969                                                  | 16,138                      | 15,483                                                        | 6,874                             | 2,217                         | 99,403                   | 140,116       | 65,016              | 38,297                                             | 1,174              | 19,990                 | 16,251                         | 140,727        | -611         | -0.44                | 54,063,054    | 54,069,026     | -5,973                  | -0.01                           |
| Feb. 1969                                                  | 15,496                      | 12,150                                                        | 6,452                             | 3,436                         | 88,003                   | 125,537       | 58,093              | 35,291                                             | 1,131              | 18,447                 | 12,828                         | 125,789        | -252         | -0.20                | 54,188,591    | 54,194,816     | -6,225                  | -0.01                           |
| Mar. 1969                                                  | 15,597                      | 14,142                                                        | 6,677                             | 9,634                         | 89,183                   | 135,233       | 52,975              | 38,640                                             | 1,547              | 23,132                 | 19,480                         | 135,773        | -540         | -0.40                | 54,323,824    | 54,330,589     | -6,765                  | -0.01                           |
| Apr. 1969                                                  | 21,650                      | 9,709                                                         | 9,062                             | 25,986                        | 90,628                   | 157,036       | 76,151              | 41,624                                             | 2,748              | 25,276                 | 10,468                         | 156,268        | 768          | 0.49                 | 54,480,860    | 54,486,856     | -5,997                  | -0.01                           |
| May 1969                                                   | 332,177                     | 116,879                                                       | 12,935                            | 108,310                       | 77,496                   | 647,798       | 217,262             | 183,113                                            | 22,380             | 63,230                 | 152,967                        | 638,953        | 8,845        | 1.37                 | 55,128,657    | 55,125,809     | 2,848                   | 0.01                            |
| Jun. 1969                                                  | 356,968                     | 207,990                                                       | 15,289                            | 62,361                        | 84,760                   | 727,368       | 220,725             | 226,068                                            | 6,734              | 54,679                 | 216,226                        | 724,432        | 2,935        | 0.40                 | 55,856,025    | 55,850,241     | 5,784                   | 0.01                            |
| Jul. 1969                                                  | 143,110                     | 36,807                                                        | 34,409                            | 38,909                        | 150,827                  | 404,062       | 305,065             | 58,308                                             | 2,685              | 28,580                 | 11,933                         | 406,572        | -2,510       | -0.62                | 56,260,087    | 56,256,813     | 3,274                   | 0.01                            |
| Aug. 1969                                                  | 77,152                      | 18,006                                                        | 38,219                            | 29,420                        | 135,643                  | 298,440       | 229,033             | 32,944                                             | 1,849              | 26,986                 | 10,257                         | 301,069        | -2,628       | -0.88                | 56,558,528    | 56,557,882     | 646                     | 0.00                            |
| Sep. 1969                                                  | 48,058                      | 16,796                                                        | 14,452                            | 23,726                        | 125,087                  | 228,120       | 157,226             | 43,598                                             | 1,365              | 23,863                 | 2,289                          | 228,341        | -221         | -0.10                | 56,786,647    | 56,786,223     | 425                     | 0.00                            |
| Oct. 1969                                                  | 51,902                      | 40,665                                                        | 16,299                            | 91,421                        | 111,568                  | 311,855       | 170,399             | 86,571                                             | 3,841              | 37,271                 | 12,731                         | 310,813        | 1,042        | 0.33                 | 57,098,502    | 57,097,036     | 1,466                   | 0.00                            |
| Nov. 1969                                                  | 59,091                      | 43,226                                                        | 15,343                            | 7,329                         | 104,042                  | 229,031       | 109,150             | 59,833                                             | 4,570              | 22,046                 | 35,341                         | 230,940        | -1,908       | -0.83                | 57,327,533    | 57,327,975     | -442                    | 0.00                            |
| Dec. 1969                                                  | 36,085                      | 36,332                                                        | 15,384                            | 3,943                         | 99,131                   | 190,875       | 54,195              | 53,639                                             | 3,298              | 23,622                 | 57,157                         | 191,911        | -1,036       | -0.54                | 57,518,408    | 57,519,886     | -1,478                  | 0.00                            |

| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1970                                                  | 29,666                      | 31,351                                                        | 15,169                            | 944                           | 96,260                   | 173,389       | 23,833              | 49,672                                             | 2,650              | 23,397                 | 74,502                         | 174,054        | -664         | -0.38                | 57,691,798    | 57,693,940     | -2,142                  | 0.00                            |
| Feb. 1970                                                  | 22,619                      | 24,596                                                        | 11,779                            | 512                           | 86,443                   | 145,949       | 26,342              | 40,387                                             | 2,100              | 19,933                 | 57,852                         | 146,613        | -664         | -0.45                | 57,837,746    | 57,840,553     | -2,807                  | 0.00                            |
| Mar. 1970                                                  | 28,281                      | 23,719                                                        | 13,330                            | 25,970                        | 93,707                   | 185,007       | 55,392              | 55,202                                             | 3,265              | 24,552                 | 46,453                         | 184,864        | 143          | 0.08                 | 58,022,753    | 58,025,417     | -2,663                  | 0.00                            |
| Apr. 1970                                                  | 98,919                      | 52,122                                                        | 15,997                            | 23,835                        | 74,791                   | 265,665       | 23,796              | 71,356                                             | 7,022              | 37,793                 | 124,626                        | 264,592        | 1,073        | 0.40                 | 58,288,418    | 58,290,009     | -1,591                  | 0.00                            |
| May 1970                                                   | 291,605                     | 44,204                                                        | 15,651                            | 28,323                        | 88,464                   | 468,248       | 206,577             | 100,984                                            | 8,270              | 35,466                 | 111,732                        | 463,029        | 5,218        | 1.12                 | 58,756,666    | 58,753,038     | 3,627                   | 0.01                            |
| Jun. 1970                                                  | 364,277                     | 196,864                                                       | 17,206                            | 66,086                        | 88,633                   | 733,066       | 237,704             | 201,935                                            | 3,944              | 51,345                 | 232,633                        | 727,561        | 5,505        | 0.75                 | 59,489,732    | 59,480,599     | 9,132                   | 0.02                            |
| Jul. 1970                                                  | 185,639                     | 52,267                                                        | 22,660                            | 36,212                        | 153,233                  | 450,011       | 344,236             | 71,205                                             | 2,442              | 24,479                 | 9,279                          | 451,641        | -1,630       | -0.36                | 59,939,743    | 59,932,241     | 7,502                   | 0.01                            |
| Aug. 1970                                                  | 91,706                      | 26,644                                                        | 31,471                            | 17,756                        | 150,571                  | 318,147       | 262,369             | 35,151                                             | 1,665              | 23,395                 | 2,353                          | 324,933        | -6,786       | -2.11                | 60,257,890    | 60,257,174     | 716                     | 0.00                            |
| Sep. 1970                                                  | 44,376                      | 23,126                                                        | 23,194                            | 44,197                        | 126,031                  | 260,924       | 171,289             | 56,596                                             | 1,940              | 25,050                 | 5,473                          | 260,348        | 576          | 0.22                 | 60,518,814    | 60,517,522     | 1,292                   | 0.00                            |
| Oct. 1970                                                  | 36,649                      | 30,699                                                        | 15,786                            | 21,004                        | 118,853                  | 222,990       | 119,910             | 60,966                                             | 2,126              | 23,629                 | 18,392                         | 225,022        | -2,032       | -0.91                | 60,741,804    | 60,742,544     | -740                    | 0.00                            |
| Nov. 1970                                                  | 35,828                      | 39,345                                                        | 14,059                            | 10,541                        | 105,100                  | 204,873       | 85,786              | 62,327                                             | 2,253              | 21,431                 | 33,840                         | 205,638        | -765         | -0.37                | 60,946,677    | 60,948,182     | -1,504                  | 0.00                            |
| Dec. 1970                                                  | 30,730                      | 33,601                                                        | 15,998                            | 1,809                         | 105,502                  | 187,640       | 68,036              | 54,920                                             | 2,173              | 20,646                 | 42,944                         | 188,719        | -1,079       | -0.57                | 61,134,317    | 61,136,901     | -2,584                  | 0.00                            |
| Jan. 1971                                                  | 24,367                      | 27,906                                                        | 15,246                            | 5,751                         | 99,036                   | 172,305       | 41,675              | 49,650                                             | 2,031              | 22,713                 | 57,150                         | 173,219        | -913         | -0.53                | 61,306,623    | 61,310,120     | -3,497                  | -0.01                           |
| Feb. 1971                                                  | 19,703                      | 22,933                                                        | 13,360                            | 10,513                        | 89,378                   | 155,887       | 40,835              | 42,687                                             | 1,815              | 20,775                 | 50,439                         | 156,551        | -664         | -0.42                | 61,462,510    | 61,466,671     | -4,161                  | -0.01                           |
| Mar. 1971                                                  | 27,022                      | 22,017                                                        | 13,671                            | 7,783                         | 95,543                   | 166,035       | 49,875              | 43,865                                             | 2,397              | 22,384                 | 47,924                         | 166,444        | -408         | -0.25                | 61,628,545    | 61,633,114     | -4,569                  | -0.01                           |
| Apr. 1971                                                  | 68,124                      | 58,739                                                        | 15,075                            | 66,167                        | 81,556                   | 289,662       | 58,432              | 89,150                                             | 5,617              | 38,340                 | 94,887                         | 286,427        | 3,235        | 1.12                 | 61,918,206    | 61,919,541     | -1,334                  | 0.00                            |
| May 1971                                                   | 160,470                     | 164,002                                                       | 17,013                            | 39,544                        | 83,611                   | 464,639       | 116,432             | 129,571                                            | 10,844             | 41,151                 | 163,668                        | 461,666        | 2,973        | 0.64                 | 62,382,846    | 62,381,207     | 1,638                   | 0.00                            |
| Jun. 1971                                                  | 303,281                     | 122,023                                                       | 16,122                            | 16,784                        | 123,292                  | 581,501       | 358,956             | 168,731                                            | 3,212              | 23,244                 | 21,594                         | 575,736        | 5,765        | 1.00                 | 62,964,347    | 62,956,943     | 7,404                   | 0.01                            |
| Jul. 1971                                                  | 158,831                     | 45,512                                                        | 32,742                            | 21,032                        | 146,967                  | 405,083       | 323,826             | 58,122                                             | 1,524              | 21,834                 | 4,365                          | 409,670        | -4,587       | -1.13                | 63,369,430    | 63,366,613     | 2,817                   | 0.00                            |
| Aug. 1971                                                  | 79,374                      | 26,438                                                        | 38,793                            | 17,369                        | 136,705                  | 298,679       | 236,548             | 31,724                                             | 1,238              | 25,516                 | 6,701                          | 301,728        | -3,049       | -1.02                | 63,668,109    | 63,668,342     | -232                    | 0.00                            |
| Sep. 1971                                                  | 60,892                      | 32,599                                                        | 25,111                            | 64,462                        | 112,423                  | 295,486       | 149,462             | 76,833                                             | 2,324              | 33,160                 | 32,058                         | 293,837        | 1,649        | 0.56                 | 63,963,595    | 63,962,179     | 1,417                   | 0.00                            |
| Oct. 1971                                                  | 21,313                      | 28,662                                                        | 15,687                            | 13,676                        | 118,124                  | 197,462       | 108,037             | 56,219                                             | 1,458              | 20,444                 | 14,205                         | 200,363        | -2,901       | -1.46                | 64,161,057    | 64,162,542     | -1,485                  | 0.00                            |
| Nov. 1971                                                  | 21,200                      | 32,777                                                        | 16,860                            | 2,512                         | 114,693                  | 188,042       | 104,159             | 50,377                                             | 1,452              | 17,757                 | 15,485                         | 189,230        | -1,189       | -0.63                | 64,349,099    | 64,351,772     | -2,673                  | 0.00                            |
| Dec. 1971                                                  | 19,932                      | 27,765                                                        | 16,514                            | 3,051                         | 103,654                  | 170,916       | 61,801              | 48,325                                             | 1,575              | 21,472                 | 38,844                         | 172,017        | -1,101       | -0.64                | 64,520,015    | 64,523,789     | -3,774                  | -0.01                           |
| Jan. 1972                                                  | 19,897                      | 25,750                                                        | 17,117                            | 5,984                         | 96,742                   | 165,490       | 37,239              | 47,717                                             | 1,472              | 23,226                 | 56,436                         | 166,090        | -600         | -0.36                | 64,685,505    | 64,689,879     | -4,374                  | -0.01                           |
| Feb. 1972                                                  | 18,324                      | 24,814                                                        | 12,503                            | 4,350                         | 94,364                   | 154,355       | 53,138              | 42,819                                             | 1,211              | 19,440                 | 38,317                         | 154,925        | -570         | -0.37                | 64,839,859    | 64,844,804     | -4,945                  | -0.01                           |
| Mar. 1972                                                  | 15,572                      | 17,945                                                        | 9,459                             | 6,504                         | 98,788                   | 148,267       | 59,340              | 39,963                                             | 1,593              | 20,889                 | 27,264                         | 149,049        | -782         | -0.53                | 64,988,126    | 64,993,853     | -5,727                  | -0.01                           |
| Apr. 1972                                                  | 21,229                      | 17,371                                                        | 14,254                            | 41,153                        | 98,115                   | 192,122       | 99,177              | 46,061                                             | 1,923              | 26,977                 | 17,321                         | 191,459        | 663          | 0.35                 | 65,180,248    | 65,185,312     | -5,064                  | -0.01                           |
| May 1972                                                   | 85,193                      | 14,091                                                        | 16,807                            | 21,841                        | 116,325                  | 254,257       | 169,989             | 47,298                                             | 2,134              | 25,203                 | 6,027                          | 250,652        | 3,606        | 1.43                 | 65,434,505    | 65,435,964     | -1,458                  | 0.00                            |
| Jun. 1972                                                  | 190,664                     | 67,021                                                        | 15,567                            | 53,199                        | 109,016                  | 435,466       | 276,640             | 105,940                                            | 2,430              | 33,183                 | 11,845                         | 430,037        | 5,429        | 1.25                 | 65,869,972    | 65,866,001     | 3,971                   | 0.01                            |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1972                                                  | 80,397                      | 17,557                                                        | 37,008                            | 24,521                        | 133,033                  | 292,516       | 226,659             | 34,635                                             | 1,334              | 25,545                 | 7,654                          | 295,826        | -3,310       | -1.13                | 66,162,488    | 66,161,827     | 661                     | 0.00                            |
| Aug. 1972                                                  | 53,388                      | 21,295                                                        | 32,737                            | 57,667                        | 122,455                  | 287,542       | 194,185             | 41,866                                             | 1,785              | 33,279                 | 17,101                         | 288,215        | -673         | -0.23                | 66,450,030    | 66,450,042     | -12                     | 0.00                            |
| Sep. 1972                                                  | 32,127                      | 20,438                                                        | 16,719                            | 31,100                        | 114,078                  | 214,461       | 136,011             | 50,079                                             | 1,206              | 26,392                 | 2,381                          | 216,069        | -1,608       | -0.75                | 66,664,491    | 66,666,111     | -1,620                  | 0.00                            |
| Oct. 1972                                                  | 33,893                      | 17,631                                                        | 16,192                            | 15,156                        | 110,797                  | 193,669       | 120,556             | 44,871                                             | 1,127              | 21,679                 | 6,840                          | 195,072        | -1,403       | -0.72                | 66,858,160    | 66,861,183     | -3,023                  | 0.00                            |
| Nov. 1972                                                  | 23,987                      | 23,935                                                        | 10,024                            | 25,254                        | 104,898                  | 188,097       | 101,504             | 55,025                                             | 1,774              | 22,605                 | 7,776                          | 188,684        | -587         | -0.31                | 67,046,257    | 67,049,867     | -3,610                  | -0.01                           |
| Dec. 1972                                                  | 22,711                      | 23,058                                                        | 9,676                             | 8,209                         | 96,972                   | 160,626       | 53,540              | 49,482                                             | 1,626              | 23,305                 | 33,741                         | 161,695        | -1,068       | -0.66                | 67,206,883    | 67,211,562     | -4,678                  | -0.01                           |
| Jan. 1973                                                  | 24,190                      | 26,087                                                        | 13,878                            | 12,599                        | 91,485                   | 168,239       | 39,439              | 51,996                                             | 1,476              | 24,975                 | 50,734                         | 168,621        | -381         | -0.23                | 67,375,123    | 67,380,183     | -5,060                  | -0.01                           |
| Feb. 1973                                                  | 17,122                      | 21,789                                                        | 14,115                            | 1,344                         | 84,812                   | 139,181       | 44,150              | 37,661                                             | 1,455              | 19,129                 | 37,695                         | 140,090        | -909         | -0.65                | 67,514,304    | 67,520,273     | -5,969                  | -0.01                           |
| Mar. 1973                                                  | 21,955                      | 20,886                                                        | 15,536                            | 22,620                        | 92,837                   | 173,835       | 65,585              | 46,765                                             | 2,569              | 24,682                 | 34,426                         | 174,027        | -192         | -0.11                | 67,688,139    | 67,694,300     | -6,161                  | -0.01                           |
| Apr. 1973                                                  | 57,571                      | 24,720                                                        | 17,505                            | 64,450                        | 78,253                   | 242,499       | 47,211              | 68,440                                             | 9,051              | 38,083                 | 78,232                         | 241,016        | 1,483        | 0.61                 | 67,930,638    | 67,935,316     | -4,678                  | -0.01                           |
| May 1973                                                   | 530,725                     | 234,658                                                       | 22,776                            | 83,418                        | 64,032                   | 935,608       | 85,552              | 226,138                                            | 58,817             | 89,892                 | 467,244                        | 927,642        | 7,967        | 0.86                 | 68,866,246    | 68,862,957     | 3,289                   | 0.00                            |
| Jun. 1973                                                  | 383,070                     | 114,125                                                       | 20,589                            | 20,743                        | 109,066                  | 647,593       | 327,854             | 162,093                                            | 12,806             | 28,168                 | 113,572                        | 644,493        | 3,100        | 0.48                 | 69,513,840    | 69,507,450     | 6,389                   | 0.01                            |
| Jul. 1973                                                  | 191,144                     | 49,623                                                        | 21,376                            | 50,395                        | 150,460                  | 462,998       | 353,659             | 66,985                                             | 4,080              | 25,660                 | 13,771                         | 464,154        | -1,156       | -0.25                | 69,976,838    | 69,971,604     | 5,233                   | 0.01                            |
| Aug. 1973                                                  | 87,137                      | 23,742                                                        | 38,142                            | 14,484                        | 150,792                  | 314,297       | 269,445             | 29,578                                             | 2,948              | 20,635                 | 1,592                          | 324,198        | -9,901       | -3.10                | 70,291,135    | 70,295,802     | -4,667                  | -0.01                           |
| Sep. 1973                                                  | 43,693                      | 29,626                                                        | 22,899                            | 60,905                        | 112,874                  | 269,997       | 118,465             | 54,716                                             | 2,520              | 35,890                 | 58,039                         | 269,630        | 366          | 0.14                 | 70,561,132    | 70,565,433     | -4,301                  | -0.01                           |
| Oct. 1973                                                  | 25,648                      | 32,825                                                        | 19,902                            | 11,784                        | 106,197                  | 196,356       | 55,352              | 50,292                                             | 3,089              | 24,322                 | 65,499                         | 198,553        | -2,196       | -1.11                | 70,757,488    | 70,763,985     | -6,497                  | -0.01                           |
| Nov. 1973                                                  | 24,292                      | 34,535                                                        | 14,991                            | 13,093                        | 103,427                  | 190,337       | 73,364              | 52,663                                             | 2,740              | 20,519                 | 41,910                         | 191,197        | -860         | -0.45                | 70,947,825    | 70,955,182     | -7,357                  | -0.01                           |
| Dec. 1973                                                  | 20,656                      | 29,447                                                        | 17,656                            | 20,762                        | 105,989                  | 194,510       | 71,034              | 53,584                                             | 3,113              | 22,765                 | 45,039                         | 195,534        | -1,024       | -0.53                | 71,142,335    | 71,150,716     | -8,381                  | -0.01                           |
| Jan. 1974                                                  | 24,966                      | 27,813                                                        | 17,893                            | 10,799                        | 97,995                   | 179,466       | 40,088              | 51,578                                             | 2,565              | 22,860                 | 62,954                         | 180,046        | -580         | -0.32                | 71,321,801    | 71,330,762     | -8,961                  | -0.01                           |
| Feb. 1974                                                  | 24,021                      | 26,190                                                        | 16,630                            | 7,450                         | 90,080                   | 164,372       | 51,221              | 44,635                                             | 3,164              | 19,685                 | 46,056                         | 164,761        | -389         | -0.24                | 71,486,173    | 71,495,523     | -9,350                  | -0.01                           |
| Mar. 1974                                                  | 41,826                      | 27,309                                                        | 16,907                            | 15,101                        | 98,144                   | 199,287       | 77,529              | 55,820                                             | 6,706              | 23,846                 | 35,519                         | 199,420        | -133         | -0.07                | 71,685,460    | 71,694,943     | -9,483                  | -0.01                           |
| Apr. 1974                                                  | 62,226                      | 24,724                                                        | 16,435                            | 38,703                        | 86,090                   | 228,178       | 69,134              | 64,227                                             | 12,623             | 31,624                 | 49,642                         | 227,250        | 928          | 0.41                 | 71,913,638    | 71,922,193     | -8,555                  | -0.01                           |
| May 1974                                                   | 168,814                     | 32,588                                                        | 21,989                            | 2,998                         | 117,692                  | 344,080       | 236,863             | 76,226                                             | 11,308             | 18,935                 | 1,170                          | 344,501        | -421         | -0.12                | 72,257,719    | 72,266,694     | -8,976                  | -0.01                           |
| Jun. 1974                                                  | 208,466                     | 87,788                                                        | 18,505                            | 56,720                        | 117,818                  | 489,296       | 311,574             | 133,834                                            | 3,043              | 30,432                 | 1,935                          | 480,819        | 8,478        | 1.75                 | 72,747,015    | 72,747,513     | -498                    | 0.00                            |
| Jul. 1974                                                  | 120,817                     | 28,993                                                        | 35,748                            | 37,457                        | 136,948                  | 359,962       | 281,116             | 43,180                                             | 2,301              | 30,732                 | 4,919                          | 362,248        | -2,286       | -0.63                | 73,106,977    | 73,109,761     | -2,784                  | 0.00                            |
| Aug. 1974                                                  | 69,751                      | 28,568                                                        | 37,906                            | 11,951                        | 137,550                  | 285,726       | 236,441             | 27,107                                             | 1,508              | 22,675                 | 953                            | 288,683        | -2,957       | -1.03                | 73,392,704    | 73,398,444     | -5,741                  | -0.01                           |
| Sep. 1974                                                  | 34,966                      | 23,489                                                        | 30,472                            | 18,490                        | 115,476                  | 222,893       | 144,433             | 47,644                                             | 1,702              | 23,180                 | 5,766                          | 222,725        | 168          | 0.08                 | 73,615,596    | 73,621,169     | -5,573                  | -0.01                           |
| Oct. 1974                                                  | 30,542                      | 28,422                                                        | 18,111                            | 29,979                        | 117,073                  | 224,126       | 129,237             | 62,017                                             | 2,458              | 23,776                 | 7,275                          | 224,763        | -637         | -0.28                | 73,839,723    | 73,845,932     | -6,210                  | -0.01                           |
| Nov. 1974                                                  | 19,460                      | 25,730                                                        | 14,232                            | 11,042                        | 110,500                  | 180,964       | 99,725              | 51,229                                             | 2,135              | 19,982                 | 9,877                          | 182,948        | -1,983       | -1.09                | 74,020,687    | 74,028,880     | -8,193                  | -0.01                           |
| Dec. 1974                                                  | 16,650                      | 23,655                                                        | 9,795                             | 3,912                         | 107,314                  | 161,327       | 70,172              | 46,444                                             | 1,987              | 20,605                 | 23,131                         | 162,338        | -1,012       | -0.63                | 74,182,014    | 74,191,218     | -9,205                  | -0.01                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1975                                                  | 19,749                      | 23,711                                                        | 9,254                             | 2,732                         | 101,809                  | 157,255       | 59,685              | 47,234                                             | 1,758              | 21,017                 | 28,084                         | 157,778        | -523         | -0.33                | 74,339,269    | 74,348,996     | -9,728                  | -0.01                           |
| Feb. 1975                                                  | 16,192                      | 18,689                                                        | 13,326                            | 5,136                         | 90,775                   | 144,116       | 54,517              | 40,764                                             | 1,725              | 19,577                 | 28,027                         | 144,611        | -495         | -0.34                | 74,483,385    | 74,493,608     | -10,223                 | -0.01                           |
| Mar. 1975                                                  | 17,968                      | 18,096                                                        | 12,656                            | 10,923                        | 101,090                  | 160,732       | 77,767              | 44,655                                             | 2,818              | 21,257                 | 14,784                         | 161,281        | -548         | -0.34                | 74,644,117    | 74,654,888     | -10,771                 | -0.01                           |
| Apr. 1975                                                  | 22,760                      | 20,019                                                        | 15,164                            | 32,562                        | 94,624                   | 185,129       | 83,735              | 47,954                                             | 3,972              | 27,540                 | 21,585                         | 184,786        | 343          | 0.19                 | 74,829,246    | 74,839,674     | -10,428                 | -0.01                           |
| May 1975                                                   | 61,440                      | 23,737                                                        | 18,290                            | 94,986                        | 113,082                  | 311,535       | 184,670             | 50,932                                             | 7,147              | 40,066                 | 25,760                         | 308,575        | 2,960        | 0.95                 | 75,140,782    | 75,148,249     | -7,467                  | -0.01                           |
| Jun. 1975                                                  | 203,195                     | 115,049                                                       | 19,466                            | 38,502                        | 102,722                  | 478,934       | 262,908             | 117,967                                            | 7,495              | 34,110                 | 50,307                         | 472,786        | 6,147        | 1.29                 | 75,619,715    | 75,621,035     | -1,320                  | 0.00                            |
| Jul. 1975                                                  | 188,273                     | 55,881                                                        | 27,586                            | 55,039                        | 143,868                  | 470,647       | 368,308             | 59,828                                             | 2,212              | 29,375                 | 10,176                         | 469,899        | 748          | 0.16                 | 76,090,362    | 76,090,934     | -572                    | 0.00                            |
| Aug. 1975                                                  | 92,875                      | 32,656                                                        | 36,179                            | 36,868                        | 152,492                  | 351,070       | 281,970             | 37,017                                             | 2,126              | 24,120                 | 6,801                          | 352,034        | -964         | -0.27                | 76,441,432    | 76,442,968     | -1,536                  | 0.00                            |
| Sep. 1975                                                  | 49,350                      | 25,415                                                        | 32,643                            | 9,236                         | 142,614                  | 259,258       | 202,022             | 35,735                                             | 1,263              | 18,628                 | 3,110                          | 260,758        | -1,501       | -0.58                | 76,700,690    | 76,703,727     | -3,037                  | 0.00                            |
| Oct. 1975                                                  | 16,590                      | 23,278                                                        | 12,965                            | 8,008                         | 132,929                  | 193,770       | 122,047             | 51,248                                             | 1,405              | 18,731                 | 2,678                          | 196,109        | -2,339       | -1.20                | 76,894,460    | 76,899,835     | -5,376                  | -0.01                           |
| Nov. 1975                                                  | 17,566                      | 24,409                                                        | 11,590                            | 18,695                        | 115,797                  | 188,057       | 92,765              | 56,385                                             | 1,895              | 21,701                 | 16,377                         | 189,123        | -1,067       | -0.57                | 77,082,516    | 77,088,959     | -6,442                  | -0.01                           |
| Dec. 1975                                                  | 21,448                      | 21,914                                                        | 10,864                            | 5,986                         | 113,465                  | 173,677       | 76,606              | 51,442                                             | 1,803              | 21,146                 | 23,613                         | 174,611        | -934         | -0.54                | 77,256,193    | 77,263,570     | -7,377                  | -0.01                           |
| Jan. 1976                                                  | 17,165                      | 19,624                                                        | 16,417                            | 4,366                         | 108,578                  | 166,150       | 64,316              | 45,833                                             | 1,481              | 21,730                 | 34,009                         | 167,370        | -1,220       | -0.73                | 77,422,343    | 77,430,939     | -8,596                  | -0.01                           |
| Feb. 1976                                                  | 13,000                      | 17,159                                                        | 14,402                            | 4,387                         | 104,618                  | 153,566       | 76,677              | 39,241                                             | 1,491              | 19,123                 | 17,861                         | 154,394        | -828         | -0.54                | 77,575,909    | 77,585,333     | -9,424                  | -0.01                           |
| Mar. 1976                                                  | 12,571                      | 16,227                                                        | 14,894                            | 11,662                        | 105,522                  | 160,877       | 74,143              | 42,519                                             | 1,883              | 22,516                 | 20,260                         | 161,322        | -445         | -0.28                | 77,736,786    | 77,746,655     | -9,869                  | -0.01                           |
| Apr. 1976                                                  | 16,405                      | 12,312                                                        | 13,901                            | 34,548                        | 102,907                  | 180,073       | 91,686              | 45,945                                             | 2,753              | 26,359                 | 12,818                         | 179,562        | 511          | 0.28                 | 77,916,859    | 77,926,217     | -9,358                  | -0.01                           |
| May 1976                                                   | 49,958                      | 15,520                                                        | 18,351                            | 43,291                        | 120,387                  | 247,507       | 171,252             | 36,744                                             | 3,162              | 29,619                 | 5,487                          | 246,264        | 1,243        | 0.50                 | 78,164,366    | 78,172,481     | -8,114                  | -0.01                           |
| Jun. 1976                                                  | 104,270                     | 18,367                                                        | 26,034                            | 22,468                        | 125,035                  | 296,174       | 239,739             | 28,455                                             | 1,402              | 22,804                 | 1,106                          | 293,507        | 2,667        | 0.90                 | 78,460,540    | 78,465,987     | -5,447                  | -0.01                           |
| Jul. 1976                                                  | 101,917                     | 18,416                                                        | 37,623                            | 37,346                        | 131,345                  | 326,647       | 257,496             | 29,166                                             | 1,623              | 31,981                 | 5,173                          | 325,439        | 1,209        | 0.37                 | 78,787,187    | 78,791,426     | -4,239                  | -0.01                           |
| Aug. 1976                                                  | 100,792                     | 36,830                                                        | 33,288                            | 32,597                        | 131,676                  | 335,183       | 255,928             | 40,248                                             | 1,769              | 29,863                 | 6,152                          | 333,958        | 1,225        | 0.37                 | 79,122,371    | 79,125,384     | -3,014                  | 0.00                            |
| Sep. 1976                                                  | 36,151                      | 29,400                                                        | 20,809                            | 59,135                        | 120,671                  | 266,165       | 165,930             | 54,584                                             | 1,878              | 32,158                 | 11,953                         | 266,502        | -337         | -0.13                | 79,388,536    | 79,391,887     | -3,351                  | 0.00                            |
| Oct. 1976                                                  | 15,724                      | 21,238                                                        | 16,138                            | 15,372                        | 125,539                  | 194,010       | 117,474             | 51,491                                             | 1,578              | 21,812                 | 4,059                          | 196,415        | -2,405       | -1.23                | 79,582,546    | 79,588,302     | -5,756                  | -0.01                           |
| Nov. 1976                                                  | 14,000                      | 19,928                                                        | 8,498                             | 2,252                         | 114,503                  | 159,181       | 88,200              | 45,267                                             | 1,659              | 19,841                 | 5,656                          | 160,623        | -1,441       | -0.90                | 79,741,727    | 79,748,924     | -7,197                  | -0.01                           |
| Dec. 1976                                                  | 14,219                      | 21,813                                                        | 9,916                             | 2,539                         | 110,129                  | 158,616       | 85,655              | 43,933                                             | 1,492              | 21,097                 | 7,404                          | 159,583        | -967         | -0.61                | 79,900,343    | 79,908,507     | -8,164                  | -0.01                           |
| Jan. 1977                                                  | 11,590                      | 16,911                                                        | 9,501                             | 1,507                         | 105,078                  | 144,588       | 65,898              | 40,540                                             | 1,396              | 21,942                 | 15,690                         | 145,466        | -878         | -0.61                | 80,044,931    | 80,053,973     | -9,042                  | -0.01                           |
| Feb. 1977                                                  | 12,682                      | 15,535                                                        | 9,823                             | 2,885                         | 96,949                   | 137,874       | 71,389              | 38,305                                             | 1,181              | 18,503                 | 8,713                          | 138,092        | -218         | -0.16                | 80,182,805    | 80,192,065     | -9,260                  | -0.01                           |
| Mar. 1977                                                  | 16,452                      | 14,612                                                        | 13,381                            | 10,576                        | 100,816                  | 155,836       | 66,549              | 43,742                                             | 2,187              | 24,119                 | 19,690                         | 156,288        | -451         | -0.29                | 80,338,641    | 80,348,352     | -9,711                  | -0.01                           |
| Apr. 1977                                                  | 36,112                      | 12,476                                                        | 13,417                            | 55,177                        | 100,985                  | 218,166       | 109,502             | 50,586                                             | 9,406              | 31,722                 | 16,199                         | 217,415        | 751          | 0.34                 | 80,556,807    | 80,565,767     | -8,960                  | -0.01                           |
| May 1977                                                   | 49,655                      | 7,672                                                         | 18,253                            | 28,886                        | 116,096                  | 220,562       | 156,200             | 27,056                                             | 4,077              | 26,748                 | 6,028                          | 220,109        | 454          | 0.21                 | 80,777,370    | 80,785,876     | -8,506                  | -0.01                           |
| Jun. 1977                                                  | 92,709                      | 13,390                                                        | 29,584                            | 30,075                        | 113,535                  | 279,293       | 211,903             | 26,557                                             | 1,356              | 28,932                 | 8,558                          | 277,305        | 1,988        | 0.71                 | 81,056,663    | 81,063,181     | -6,519                  | -0.01                           |

| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1977                                                  | 60,448                      | 26,980                                                        | 27,105                            | 60,545                        | 111,363                  | 286,440       | 193,998             | 42,014                                             | 2,782              | 39,423                 | 7,204                          | 285,422        | 1,018        | 0.36                 | 81,343,102    | 81,348,603     | -5,500                  | -0.01                           |
| Aug. 1977                                                  | 62,611                      | 20,826                                                        | 32,764                            | 28,855                        | 117,523                  | 262,579       | 202,100             | 27,009                                             | 2,149              | 29,939                 | 2,500                          | 263,696        | -1,117       | -0.42                | 81,605,681    | 81,612,299     | -6,617                  | -0.01                           |
| Sep. 1977                                                  | 24,209                      | 9,560                                                         | 19,869                            | 3,292                         | 114,775                  | 171,705       | 125,265             | 26,513                                             | 976                | 20,632                 | 388                            | 173,775        | -2,070       | -1.20                | 81,777,386    | 81,786,074     | -8,688                  | -0.01                           |
| Oct. 1977                                                  | 11,788                      | 13,375                                                        | 14,347                            | 3,652                         | 113,925                  | 157,087       | 101,447             | 35,456                                             | 1,001              | 20,099                 | 180                            | 158,181        | -1,094       | -0.69                | 81,934,473    | 81,944,255     | -9,782                  | -0.01                           |
| Nov. 1977                                                  | 10,322                      | 14,927                                                        | 9,472                             | 7,391                         | 99,947                   | 142,058       | 75,291              | 39,333                                             | 1,372              | 22,547                 | 3,885                          | 142,428        | -370         | -0.26                | 82,076,531    | 82,086,683     | -10,152                 | -0.01                           |
| Dec. 1977                                                  | 13,227                      | 16,434                                                        | 12,219                            | 1,494                         | 104,776                  | 148,150       | 85,986              | 39,956                                             | 1,196              | 20,079                 | 2,132                          | 149,349        | -1,199       | -0.81                | 82,224,681    | 82,236,032     | -11,351                 | -0.01                           |
| Jan. 1978                                                  | 14,126                      | 16,286                                                        | 10,976                            | 4,730                         | 98,043                   | 144,161       | 72,654              | 40,637                                             | 1,207              | 22,061                 | 7,961                          | 144,521        | -359         | -0.25                | 82,368,842    | 82,380,552     | -11,710                 | -0.01                           |
| Feb. 1978                                                  | 10,789                      | 14,007                                                        | 10,980                            | 3,537                         | 90,034                   | 129,346       | 71,071              | 33,549                                             | 1,301              | 19,058                 | 5,704                          | 130,683        | -1,336       | -1.03                | 82,498,188    | 82,511,235     | -13,047                 | -0.02                           |
| Mar. 1978                                                  | 11,904                      | 14,891                                                        | 12,120                            | 8,586                         | 96,257                   | 143,759       | 79,319              | 37,928                                             | 1,323              | 21,793                 | 3,953                          | 144,316        | -558         | -0.39                | 82,641,947    | 82,655,551     | -13,604                 | -0.02                           |
| Apr. 1978                                                  | 15,609                      | 13,719                                                        | 16,739                            | 31,672                        | 90,593                   | 168,331       | 93,605              | 42,685                                             | 1,944              | 26,608                 | 2,875                          | 167,716        | 615          | 0.37                 | 82,810,278    | 82,823,267     | -12,989                 | -0.02                           |
| May 1978                                                   | 86,080                      | 53,390                                                        | 15,903                            | 103,092                       | 98,328                   | 356,793       | 195,005             | 102,959                                            | 5,366              | 40,239                 | 7,979                          | 351,550        | 5,243        | 1.48                 | 83,167,071    | 83,174,817     | -7,746                  | -0.01                           |
| Jun. 1978                                                  | 235,996                     | 113,787                                                       | 16,622                            | 36,266                        | 108,372                  | 511,044       | 325,506             | 139,476                                            | 2,450              | 31,892                 | 5,600                          | 504,923        | 6,121        | 1.20                 | 83,678,115    | 83,679,740     | -1,625                  | 0.00                            |
| Jul. 1978                                                  | 130,837                     | 33,720                                                        | 41,065                            | 18,520                        | 136,636                  | 360,778       | 303,055             | 32,637                                             | 1,360              | 24,917                 | 1,250                          | 363,218        | -2,441       | -0.67                | 84,038,893    | 84,042,958     | -4,065                  | 0.00                            |
| Aug. 1978                                                  | 82,629                      | 24,867                                                        | 38,452                            | 18,785                        | 136,368                  | 301,100       | 240,617             | 27,096                                             | 1,384              | 27,925                 | 5,033                          | 302,054        | -954         | -0.32                | 84,339,993    | 84,345,012     | -5,019                  | -0.01                           |
| Sep. 1978                                                  | 25,274                      | 16,868                                                        | 18,991                            | 2,307                         | 124,313                  | 187,753       | 142,629             | 30,567                                             | 1,056              | 18,420                 | 200                            | 192,871        | -5,118       | -2.69                | 84,527,746    | 84,537,883     | -10,137                 | -0.01                           |
| Oct. 1978                                                  | 13,850                      | 22,408                                                        | 16,545                            | 31,319                        | 117,306                  | 201,427       | 118,405             | 54,711                                             | 1,560              | 25,071                 | 178                            | 199,926        | 1,501        | 0.75                 | 84,729,174    | 84,737,809     | -8,635                  | -0.01                           |
| Nov. 1978                                                  | 15,106                      | 24,043                                                        | 12,892                            | 4,178                         | 106,726                  | 162,945       | 90,099              | 50,204                                             | 932                | 20,852                 | 2,200                          | 164,287        | -1,342       | -0.82                | 84,892,118    | 84,902,096     | -9,978                  | -0.01                           |
| Dec. 1978                                                  | 16,021                      | 22,314                                                        | 13,591                            | 9,634                         | 105,113                  | 166,673       | 85,349              | 52,920                                             | 1,149              | 22,266                 | 5,647                          | 167,331        | -659         | -0.39                | 85,058,791    | 85,069,428     | -10,637                 | -0.01                           |
| Jan. 1979                                                  | 15,705                      | 21,014                                                        | 13,895                            | 4,645                         | 100,257                  | 155,516       | 68,090              | 49,825                                             | 1,075              | 22,207                 | 15,101                         | 156,298        | -782         | -0.50                | 85,214,307    | 85,225,726     | -11,419                 | -0.01                           |
| Feb. 1979                                                  | 13,606                      | 21,284                                                        | 12,111                            | 3,838                         | 88,360                   | 139,199       | 56,680              | 42,980                                             | 1,214              | 20,289                 | 18,529                         | 139,692        | -493         | -0.35                | 85,353,506    | 85,365,418     | -11,912                 | -0.01                           |
| Mar. 1979                                                  | 16,683                      | 23,504                                                        | 14,041                            | 22,172                        | 101,223                  | 177,623       | 92,935              | 50,000                                             | 3,031              | 24,228                 | 7,588                          | 177,782        | -158         | -0.09                | 85,531,129    | 85,543,199     | -12,071                 | -0.01                           |
| Apr. 1979                                                  | 49,044                      | 27,450                                                        | 16,498                            | 33,561                        | 96,041                   | 222,594       | 112,371             | 59,403                                             | 13,027             | 28,235                 | 7,939                          | 220,974        | 1,619        | 0.73                 | 85,753,723    | 85,764,174     | -10,451                 | -0.01                           |
| May 1979                                                   | 150,334                     | 125,012                                                       | 20,477                            | 83,227                        | 87,392                   | 466,442       | 166,890             | 161,541                                            | 14,276             | 45,885                 | 71,957                         | 460,548        | 5,894        | 1.27                 | 86,220,165    | 86,224,722     | -4,557                  | -0.01                           |
| Jun. 1979                                                  | 320,527                     | 277,684                                                       | 22,052                            | 67,196                        | 83,196                   | 770,654       | 208,915             | 251,410                                            | 5,934              | 60,816                 | 238,688                        | 765,764        | 4,891        | 0.64                 | 86,990,819    | 86,990,486     | 333                     | 0.00                            |
| Jul. 1979                                                  | 152,425                     | 41,669                                                        | 29,123                            | 23,403                        | 161,142                  | 407,762       | 343,395             | 39,802                                             | 1,527              | 22,223                 | 4,736                          | 411,683        | -3,921       | -0.96                | 87,398,582    | 87,402,169     | -3,588                  | 0.00                            |
| Aug. 1979                                                  | 88,082                      | 56,959                                                        | 28,035                            | 87,354                        | 128,958                  | 389,387       | 237,440             | 72,139                                             | 2,134              | 37,210                 | 39,857                         | 388,780        | 607          | 0.16                 | 87,787,969    | 87,790,949     | -2,981                  | 0.00                            |
| Sep. 1979                                                  | 35,620                      | 24,618                                                        | 26,707                            | 13,861                        | 131,945                  | 232,752       | 173,518             | 40,604                                             | 1,198              | 20,033                 | 1,922                          | 237,276        | -4,525       | -1.93                | 88,020,720    | 88,028,226     | -7,506                  | -0.01                           |
| Oct. 1979                                                  | 18,590                      | 30,886                                                        | 20,499                            | 22,077                        | 128,475                  | 220,528       | 138,297             | 54,434                                             | 1,178              | 22,409                 | 5,618                          | 221,936        | -1,409       | -0.64                | 88,241,248    | 88,250,162     | -8,914                  | -0.01                           |
| Nov. 1979                                                  | 21,226                      | 33,249                                                        | 15,390                            | 20,364                        | 106,456                  | 196,685       | 78,646              | 59,141                                             | 1,690              | 25,009                 | 32,663                         | 197,149        | -464         | -0.24                | 88,437,933    | 88,447,311     | -9,378                  | -0.01                           |
| Dec. 1979                                                  | 25,979                      | 35,193                                                        | 16,804                            | 13,964                        | 102,656                  | 194,597       | 45,200              | 61,570                                             | 1,459              | 25,704                 | 61,283                         | 195,215        | -618         | -0.32                | 88,632,530    | 88,642,525     | -9,996                  | -0.01                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1980                                                  | 31,972                      | 39,355                                                        | 18,016                            | 9,848                         | 98,822                   | 198,013       | 34,210              | 67,164                                             | 1,416              | 25,207                 | 70,043                         | 198,040        | -28          | -0.01                | 88,830,542    | 88,840,566     | -10,023                 | -0.01                           |
| Feb. 1980                                                  | 33,131                      | 50,051                                                        | 16,499                            | 6,717                         | 89,969                   | 196,366       | 37,871              | 64,018                                             | 3,025              | 23,360                 | 68,373                         | 196,647        | -281         | -0.14                | 89,026,908    | 89,037,213     | -10,304                 | -0.01                           |
| Mar. 1980                                                  | 39,121                      | 63,827                                                        | 18,373                            | 16,874                        | 96,297                   | 234,491       | 64,681              | 75,312                                             | 2,704              | 26,057                 | 65,623                         | 234,377        | 114          | 0.05                 | 89,261,400    | 89,271,590     | -10,190                 | -0.01                           |
| Apr. 1980                                                  | 118,689                     | 129,387                                                       | 19,010                            | 40,806                        | 78,903                   | 386,794       | 52,143              | 138,015                                            | 8,599              | 40,793                 | 143,672                        | 383,222        | 3,572        | 0.93                 | 89,648,194    | 89,654,812     | -6,618                  | -0.01                           |
| May 1980                                                   | 639,559                     | 594,683                                                       | 23,759                            | 71,959                        | 69,672                   | 1,399,632     | 134,080             | 528,946                                            | 32,173             | 88,847                 | 605,873                        | 1,389,919      | 9,712        | 0.70                 | 91,047,826    | 91,044,732     | 3,094                   | 0.00                            |
| Jun. 1980                                                  | 427,974                     | 211,936                                                       | 22,017                            | 11,043                        | 118,305                  | 791,274       | 375,522             | 210,607                                            | 4,353              | 27,898                 | 173,740                        | 792,119        | -845         | -0.11                | 91,839,099    | 91,836,851     | 2,249                   | 0.00                            |
| Jul. 1980                                                  | 161,274                     | 49,669                                                        | 27,486                            | 42,802                        | 171,060                  | 452,291       | 364,599             | 50,991                                             | 3,159              | 25,392                 | 12,725                         | 456,866        | -4,575       | -1.01                | 92,291,390    | 92,293,717     | -2,327                  | 0.00                            |
| Aug. 1980                                                  | 87,762                      | 32,827                                                        | 36,207                            | 24,500                        | 158,440                  | 339,737       | 274,639             | 35,142                                             | 1,308              | 23,132                 | 6,818                          | 341,039        | -1,302       | -0.38                | 92,631,127    | 92,634,756     | -3,629                  | 0.00                            |
| Sep. 1980                                                  | 37,354                      | 27,480                                                        | 27,703                            | 15,598                        | 139,781                  | 247,917       | 190,753             | 36,460                                             | 1,172              | 21,733                 | 1,228                          | 251,346        | -3,430       | -1.37                | 92,879,044    | 92,886,102     | -7,058                  | -0.01                           |
| Oct. 1980                                                  | 17,108                      | 24,159                                                        | 18,081                            | 5,791                         | 134,996                  | 200,135       | 139,331             | 42,839                                             | 1,383              | 18,349                 | 1,327                          | 203,229        | -3,093       | -1.53                | 93,079,179    | 93,089,330     | -10,151                 | -0.01                           |
| Nov. 1980                                                  | 20,179                      | 27,693                                                        | 13,181                            | 8,094                         | 113,231                  | 182,379       | 89,958              | 51,556                                             | 2,529              | 20,755                 | 18,115                         | 182,914        | -535         | -0.29                | 93,261,558    | 93,272,244     | -10,687                 | -0.01                           |
| Dec. 1980                                                  | 18,358                      | 25,359                                                        | 13,887                            | 1,554                         | 112,616                  | 171,774       | 73,390              | 49,252                                             | 1,590              | 20,160                 | 28,442                         | 172,833        | -1,059       | -0.61                | 93,433,332    | 93,445,078     | -11,746                 | -0.01                           |
| Jan. 1981                                                  | 15,847                      | 22,433                                                        | 13,781                            | 3,108                         | 109,142                  | 164,310       | 56,187              | 47,711                                             | 1,234              | 21,162                 | 38,664                         | 164,957        | -647         | -0.39                | 93,597,642    | 93,610,035     | -12,393                 | -0.01                           |
| Feb. 1981                                                  | 12,388                      | 19,446                                                        | 12,089                            | 3,396                         | 102,151                  | 149,470       | 74,006              | 38,724                                             | 1,435              | 17,777                 | 18,197                         | 150,138        | -668         | -0.45                | 93,747,112    | 93,760,173     | -13,062                 | -0.01                           |
| Mar. 1981                                                  | 14,173                      | 21,350                                                        | 16,457                            | 28,287                        | 106,007                  | 186,274       | 84,302              | 49,813                                             | 2,933              | 25,440                 | 23,875                         | 186,363        | -90          | -0.05                | 93,933,385    | 93,946,537     | -13,151                 | -0.01                           |
| Apr. 1981                                                  | 20,416                      | 14,735                                                        | 17,037                            | 24,277                        | 103,665                  | 180,131       | 93,762              | 40,565                                             | 5,181              | 25,364                 | 15,623                         | 180,496        | -365         | -0.20                | 94,113,516    | 94,127,032     | -13,516                 | -0.01                           |
| May 1981                                                   | 39,987                      | 22,247                                                        | 19,089                            | 89,447                        | 111,391                  | 282,161       | 149,399             | 59,594                                             | 6,564              | 37,625                 | 26,422                         | 279,604        | 2,557        | 0.91                 | 94,395,677    | 94,406,636     | -10,959                 | -0.01                           |
| Jun. 1981                                                  | 89,413                      | 35,452                                                        | 26,839                            | 24,153                        | 112,774                  | 288,630       | 196,157             | 40,283                                             | 3,384              | 27,202                 | 20,430                         | 287,455        | 1,175        | 0.41                 | 94,684,307    | 94,694,091     | -9,784                  | -0.01                           |
| Jul. 1981                                                  | 83,855                      | 20,182                                                        | 35,126                            | 47,048                        | 131,251                  | 317,462       | 245,224             | 29,906                                             | 1,655              | 30,374                 | 9,412                          | 316,572        | 890          | 0.28                 | 95,001,769    | 95,010,663     | -8,894                  | -0.01                           |
| Aug. 1981                                                  | 70,134                      | 23,775                                                        | 35,198                            | 27,024                        | 133,298                  | 289,429       | 229,516             | 32,226                                             | 1,504              | 26,027                 | 1,166                          | 290,438        | -1,009       | -0.35                | 95,291,198    | 95,301,101     | -9,903                  | -0.01                           |
| Sep. 1981                                                  | 30,647                      | 14,400                                                        | 20,907                            | 11,046                        | 126,205                  | 203,205       | 154,207             | 31,355                                             | 1,200              | 20,022                 | 542                            | 207,326        | -4,121       | -2.01                | 95,494,404    | 95,508,428     | -14,024                 | -0.01                           |
| Oct. 1981                                                  | 20,492                      | 20,839                                                        | 18,546                            | 15,148                        | 122,788                  | 197,813       | 128,656             | 42,082                                             | 1,220              | 23,232                 | 2,824                          | 198,014        | -201         | -0.10                | 95,692,217    | 95,706,442     | -14,225                 | -0.01                           |
| Nov. 1981                                                  | 10,793                      | 17,589                                                        | 13,811                            | 3,148                         | 109,613                  | 154,955       | 84,130              | 41,688                                             | 1,272              | 19,790                 | 9,305                          | 156,187        | -1,232       | -0.79                | 95,847,172    | 95,862,628     | -15,457                 | -0.02                           |
| Dec. 1981                                                  | 13,262                      | 17,254                                                        | 13,418                            | 8,304                         | 105,177                  | 157,414       | 81,003              | 37,433                                             | 1,539              | 21,607                 | 16,236                         | 157,817        | -403         | -0.26                | 96,004,585    | 96,020,445     | -15,860                 | -0.02                           |
| Jan. 1982                                                  | 14,688                      | 20,931                                                        | 13,199                            | 3,524                         | 101,216                  | 153,558       | 69,887              | 36,694                                             | 1,323              | 21,237                 | 24,832                         | 153,973        | -416         | -0.27                | 96,158,143    | 96,174,419     | -16,276                 | -0.02                           |
| Feb. 1982                                                  | 15,378                      | 16,076                                                        | 11,819                            | 1,635                         | 93,495                   | 138,403       | 70,075              | 32,197                                             | 1,255              | 18,277                 | 16,769                         | 138,573        | -170         | -0.12                | 96,296,545    | 96,312,991     | -16,446                 | -0.02                           |
| Mar. 1982                                                  | 13,288                      | 15,783                                                        | 15,354                            | 8,489                         | 101,954                  | 154,868       | 77,798              | 42,168                                             | 1,941              | 20,273                 | 13,152                         | 155,332        | -464         | -0.30                | 96,451,414    | 96,468,323     | -16,910                 | -0.02                           |
| Apr. 1982                                                  | 14,209                      | 7,969                                                         | 17,183                            | 6,655                         | 103,889                  | 149,905       | 90,306              | 30,781                                             | 1,693              | 19,540                 | 7,931                          | 150,251        | -346         | -0.23                | 96,601,318    | 96,618,574     | -17,256                 | -0.02                           |
| May 1982                                                   | 46,253                      | 20,158                                                        | 18,697                            | 78,954                        | 106,275                  | 270,338       | 162,544             | 53,296                                             | 4,087              | 35,549                 | 11,976                         | 267,453        | 2,885        | 1.07                 | 96,871,656    | 96,886,027     | -14,371                 | -0.01                           |
| Jun. 1982                                                  | 145,156                     | 61,498                                                        | 17,892                            | 65,708                        | 110,740                  | 400,995       | 242,931             | 96,507                                             | 3,022              | 32,888                 | 20,206                         | 395,554        | 5,441        | 1.37                 | 97,272,651    | 97,281,581     | -8,930                  | -0.01                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1982                                                  | 164,065                     | 82,961                                                        | 23,248                            | 53,142                        | 127,985                  | 451,400       | 319,569             | 80,058                                             | 2,761              | 30,422                 | 15,963                         | 448,773        | 2,628        | 0.58                 | 97,724,051    | 97,730,354     | -6,302                  | -0.01                           |
| Aug. 1982                                                  | 119,434                     | 32,821                                                        | 33,821                            | 34,916                        | 148,546                  | 369,538       | 304,339             | 42,755                                             | 2,139              | 24,868                 | 1,106                          | 375,207        | -5,668       | -1.52                | 98,093,590    | 98,105,560     | -11,971                 | -0.01                           |
| Sep. 1982                                                  | 70,472                      | 43,537                                                        | 27,931                            | 46,743                        | 128,262                  | 316,944       | 210,130             | 72,680                                             | 3,967              | 26,876                 | 2,566                          | 316,219        | 725          | 0.23                 | 98,410,534    | 98,421,779     | -11,245                 | -0.01                           |
| Oct. 1982                                                  | 38,701                      | 36,436                                                        | 18,842                            | 23,063                        | 130,777                  | 247,818       | 155,139             | 68,025                                             | 1,893              | 21,978                 | 3,172                          | 250,207        | -2,388       | -0.96                | 98,658,352    | 98,671,986     | -13,634                 | -0.01                           |
| Nov. 1982                                                  | 20,158                      | 32,702                                                        | 13,998                            | 6,395                         | 115,071                  | 188,324       | 103,277             | 58,512                                             | 1,726              | 19,847                 | 6,396                          | 189,758        | -1,434       | -0.76                | 98,846,677    | 98,861,745     | -15,068                 | -0.02                           |
| Dec. 1982                                                  | 17,898                      | 36,326                                                        | 17,614                            | 11,133                        | 103,202                  | 186,173       | 35,867              | 57,581                                             | 1,571              | 26,865                 | 65,125                         | 187,008        | -835         | -0.45                | 99,032,850    | 99,048,753     | -15,903                 | -0.02                           |
| Jan. 1983                                                  | 18,393                      | 32,196                                                        | 20,263                            | 1,090                         | 101,450                  | 173,393       | 20,748              | 51,172                                             | 1,296              | 23,700                 | 77,430                         | 174,345        | -952         | -0.55                | 99,206,242    | 99,223,098     | -16,856                 | -0.02                           |
| Feb. 1983                                                  | 18,024                      | 27,147                                                        | 16,104                            | 1,697                         | 92,175                   | 155,147       | 25,207              | 47,396                                             | 2,213              | 19,974                 | 60,746                         | 155,535        | -388         | -0.25                | 99,361,389    | 99,378,633     | -17,244                 | -0.02                           |
| Mar. 1983                                                  | 45,417                      | 58,727                                                        | 19,371                            | 46,878                        | 93,440                   | 263,833       | 64,627              | 84,861                                             | 5,087              | 30,760                 | 77,522                         | 262,857        | 976          | 0.37                 | 99,625,222    | 99,641,490     | -16,268                 | -0.02                           |
| Apr. 1983                                                  | 159,584                     | 132,492                                                       | 20,390                            | 53,979                        | 78,200                   | 444,644       | 39,995              | 147,374                                            | 18,012             | 47,471                 | 188,218                        | 441,070        | 3,574        | 0.81                 | 100,069,867   | 100,082,561    | -12,694                 | -0.01                           |
| May 1983                                                   | 415,853                     | 325,814                                                       | 23,503                            | 83,463                        | 76,399                   | 925,032       | 82,270              | 315,762                                            | 36,251             | 69,664                 | 415,520                        | 919,466        | 5,566        | 0.60                 | 100,994,898   | 101,002,026    | -7,128                  | -0.01                           |
| Jun. 1983                                                  | 737,986                     | 649,969                                                       | 23,013                            | 74,905                        | 81,526                   | 1,567,399     | 141,544             | 616,197                                            | 19,405             | 80,726                 | 701,911                        | 1,559,783      | 7,616        | 0.49                 | 102,562,297   | 102,561,809    | 488                     | 0.00                            |
| Jul. 1983                                                  | 406,561                     | 253,969                                                       | 23,432                            | 48,100                        | 138,077                  | 870,139       | 384,937             | 240,215                                            | 9,767              | 31,901                 | 204,731                        | 871,552        | -1,412       | -0.16                | 103,432,436   | 103,433,361    | -924                    | 0.00                            |
| Aug. 1983                                                  | 180,179                     | 87,126                                                        | 26,710                            | 36,031                        | 166,025                  | 496,071       | 333,139             | 78,729                                             | 6,261              | 26,174                 | 56,065                         | 500,369        | -4,297       | -0.86                | 103,928,508   | 103,933,729    | -5,221                  | -0.01                           |
| Sep. 1983                                                  | 60,044                      | 34,246                                                        | 33,775                            | 6,418                         | 149,120                  | 283,602       | 175,718             | 49,219                                             | 2,268              | 17,895                 | 41,720                         | 286,819        | -3,217       | -1.13                | 104,212,110   | 104,220,549    | -8,438                  | -0.01                           |
| Oct. 1983                                                  | 28,479                      | 30,709                                                        | 22,214                            | 6,097                         | 137,225                  | 224,725       | 102,842             | 55,313                                             | 2,158              | 19,216                 | 47,357                         | 226,886        | -2,162       | -0.96                | 104,436,835   | 104,447,435    | -10,600                 | -0.01                           |
| Nov. 1983                                                  | 26,430                      | 35,509                                                        | 14,057                            | 28,689                        | 118,332                  | 223,017       | 63,920              | 71,434                                             | 3,112              | 22,581                 | 62,542                         | 223,589        | -572         | -0.26                | 104,659,851   | 104,671,023    | -11,172                 | -0.01                           |
| Dec. 1983                                                  | 33,655                      | 36,903                                                        | 17,821                            | 7,108                         | 111,912                  | 207,398       | 32,688              | 65,393                                             | 2,322              | 22,219                 | 85,824                         | 208,447        | -1,048       | -0.50                | 104,867,250   | 104,879,470    | -12,220                 | -0.01                           |
| Jan. 1984                                                  | 34,105                      | 38,170                                                        | 19,563                            | 3,565                         | 105,548                  | 200,952       | 18,273              | 66,931                                             | 2,350              | 22,266                 | 91,463                         | 201,284        | -332         | -0.17                | 105,068,202   | 105,080,754    | -12,553                 | -0.01                           |
| Feb. 1984                                                  | 32,434                      | 45,543                                                        | 16,635                            | 10,991                        | 96,061                   | 201,663       | 31,485              | 63,210                                             | 3,482              | 21,881                 | 82,125                         | 202,183        | -520         | -0.26                | 105,269,865   | 105,282,937    | -13,073                 | -0.01                           |
| Mar. 1984                                                  | 37,614                      | 46,033                                                        | 18,682                            | 18,881                        | 109,441                  | 230,651       | 83,604              | 68,189                                             | 4,131              | 22,709                 | 52,565                         | 231,198        | -547         | -0.24                | 105,500,515   | 105,514,135    | -13,620                 | -0.01                           |
| Apr. 1984                                                  | 131,095                     | 80,135                                                        | 32,969                            | 53,250                        | 85,606                   | 383,055       | 67,632              | 111,782                                            | 20,859             | 41,098                 | 139,473                        | 380,844        | 2,211        | 0.58                 | 105,883,570   | 105,894,979    | -11,409                 | -0.01                           |
| May 1984                                                   | 394,201                     | 215,830                                                       | 21,827                            | 26,552                        | 84,899                   | 743,310       | 162,750             | 224,028                                            | 48,788             | 47,154                 | 254,799                        | 737,520        | 5,790        | 0.78                 | 106,626,880   | 106,632,499    | -5,619                  | -0.01                           |
| Jun. 1984                                                  | 278,285                     | 183,573                                                       | 21,714                            | 44,700                        | 114,458                  | 642,730       | 292,357             | 185,469                                            | 9,657              | 30,507                 | 122,766                        | 640,756        | 1,974        | 0.31                 | 107,269,610   | 107,273,256    | -3,646                  | 0.00                            |
| Jul. 1984                                                  | 228,715                     | 102,695                                                       | 27,430                            | 36,202                        | 166,716                  | 561,758       | 417,593             | 110,697                                            | 4,695              | 22,744                 | 5,339                          | 561,069        | 689          | 0.12                 | 107,831,368   | 107,834,325    | -2,957                  | 0.00                            |
| Aug. 1984                                                  | 201,062                     | 61,942                                                        | 39,302                            | 48,753                        | 138,522                  | 489,581       | 317,266             | 66,633                                             | 5,489              | 36,208                 | 66,487                         | 492,083        | -2,503       | -0.51                | 108,320,949   | 108,326,408    | -5,459                  | -0.01                           |
| Sep. 1984                                                  | 88,802                      | 40,035                                                        | 37,979                            | 12,670                        | 132,519                  | 312,005       | 161,726             | 60,144                                             | 3,246              | 22,823                 | 65,544                         | 313,483        | -1,478       | -0.47                | 108,632,954   | 108,639,892    | -6,937                  | -0.01                           |
| Oct. 1984                                                  | 88,609                      | 72,785                                                        | 22,694                            | 70,371                        | 115,771                  | 370,228       | 84,812              | 110,701                                            | 6,381              | 37,855                 | 130,861                        | 370,609        | -381         | -0.10                | 109,003,183   | 109,010,501    | -7,318                  | -0.01                           |
| Nov. 1984                                                  | 70,264                      | 56,175                                                        | 19,749                            | 1,523                         | 116,345                  | 264,055       | 60,242              | 78,627                                             | 5,512              | 21,003                 | 100,315                        | 265,699        | -1,645       | -0.62                | 109,267,237   | 109,276,200    | -8,963                  | -0.01                           |
| Dec. 1984                                                  | 39,168                      | 44,651                                                        | 15,497                            | 4,877                         | 123,954                  | 228,147       | 71,462              | 68,679                                             | 3,782              | 19,527                 | 66,509                         | 229,959        | -1,812       | -0.79                | 109,495,384   | 109,506,160    | -10,775                 | -0.01                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1985                                                  | 33,603                      | 38,589                                                        | 15,952                            | 8,292                         | 113,648                  | 210,085       | 42,315              | 67,096                                             | 2,939              | 21,568                 | 76,976                         | 210,893        | -808         | -0.38                | 109,705,469   | 109,717,053    | -11,584                 | -0.01                           |
| Feb. 1985                                                  | 27,862                      | 35,721                                                        | 15,898                            | 7,016                         | 98,170                   | 184,667       | 34,370              | 58,750                                             | 2,394              | 19,733                 | 70,052                         | 185,300        | -632         | -0.34                | 109,890,137   | 109,902,353    | -12,216                 | -0.01                           |
| Mar. 1985                                                  | 31,024                      | 32,680                                                        | 18,321                            | 8,713                         | 122,342                  | 213,081       | 110,175             | 57,685                                             | 4,010              | 19,384                 | 22,884                         | 214,137        | -1,056       | -0.49                | 110,103,218   | 110,116,490    | -13,272                 | -0.01                           |
| Apr. 1985                                                  | 70,448                      | 34,733                                                        | 18,622                            | 46,331                        | 107,145                  | 277,279       | 139,524             | 70,957                                             | 8,772              | 27,937                 | 28,856                         | 276,047        | 1,232        | 0.45                 | 110,380,497   | 110,392,537    | -12,040                 | -0.01                           |
| May 1985                                                   | 180,426                     | 38,411                                                        | 21,295                            | 35,267                        | 100,790                  | 376,189       | 178,398             | 56,437                                             | 14,049             | 36,680                 | 89,898                         | 375,462        | 726          | 0.19                 | 110,756,685   | 110,767,999    | -11,314                 | -0.01                           |
| Jun. 1985                                                  | 212,480                     | 88,448                                                        | 25,687                            | 40,770                        | 126,276                  | 493,660       | 321,171             | 94,536                                             | 5,239              | 27,299                 | 39,238                         | 487,482        | 6,178        | 1.26                 | 111,250,345   | 111,255,482    | -5,136                  | 0.00                            |
| Jul. 1985                                                  | 110,731                     | 43,974                                                        | 27,031                            | 70,832                        | 154,655                  | 407,224       | 307,292             | 57,181                                             | 3,812              | 32,438                 | 7,869                          | 408,592        | -1,368       | -0.34                | 111,657,569   | 111,664,074    | -6,505                  | -0.01                           |
| Aug. 1985                                                  | 76,000                      | 26,757                                                        | 36,512                            | 8,320                         | 161,208                  | 308,797       | 265,376             | 28,675                                             | 2,992              | 19,533                 | 1,002                          | 317,579        | -8,782       | -2.80                | 111,966,366   | 111,981,652    | -15,287                 | -0.01                           |
| Sep. 1985                                                  | 34,651                      | 26,370                                                        | 24,687                            | 41,164                        | 130,477                  | 257,349       | 154,188             | 56,691                                             | 2,605              | 28,432                 | 14,785                         | 256,701        | 648          | 0.25                 | 112,223,715   | 112,238,353    | -14,639                 | -0.01                           |
| Oct. 1985                                                  | 26,185                      | 29,752                                                        | 20,293                            | 15,425                        | 124,481                  | 216,137       | 96,321              | 57,344                                             | 2,846              | 23,755                 | 37,778                         | 218,044        | -1,907       | -0.88                | 112,439,851   | 112,456,398    | -16,546                 | -0.01                           |
| Nov. 1985                                                  | 28,770                      | 32,728                                                        | 17,968                            | 20,217                        | 113,273                  | 212,956       | 76,816              | 61,769                                             | 2,875              | 23,053                 | 49,062                         | 213,575        | -620         | -0.29                | 112,652,807   | 112,669,973    | -17,166                 | -0.02                           |
| Dec. 1985                                                  | 24,743                      | 34,439                                                        | 18,961                            | 9,658                         | 107,585                  | 195,387       | 33,670              | 60,367                                             | 2,669              | 24,138                 | 75,169                         | 196,012        | -624         | -0.32                | 112,848,195   | 112,865,985    | -17,790                 | -0.02                           |
| Jan. 1986                                                  | 23,874                      | 31,448                                                        | 19,840                            | 2,341                         | 106,785                  | 184,288       | 34,076              | 55,299                                             | 2,708              | 22,015                 | 70,981                         | 185,079        | -791         | -0.43                | 113,032,483   | 113,051,064    | -18,581                 | -0.02                           |
| Feb. 1986                                                  | 19,572                      | 28,406                                                        | 17,669                            | 5,898                         | 100,859                  | 172,405       | 66,800              | 48,550                                             | 1,892              | 18,586                 | 36,998                         | 172,826        | -422         | -0.24                | 113,204,887   | 113,223,890    | -19,003                 | -0.02                           |
| Mar. 1986                                                  | 26,379                      | 31,057                                                        | 18,550                            | 6,528                         | 116,773                  | 199,287       | 100,249             | 52,020                                             | 2,349              | 20,078                 | 24,568                         | 199,264        | 24           | 0.01                 | 113,404,175   | 113,423,154    | -18,979                 | -0.02                           |
| Apr. 1986                                                  | 67,483                      | 67,346                                                        | 20,611                            | 54,020                        | 89,958                   | 299,417       | 65,140              | 94,177                                             | 4,662              | 36,818                 | 96,388                         | 297,185        | 2,232        | 0.75                 | 113,703,592   | 113,720,339    | -16,747                 | -0.01                           |
| May 1986                                                   | 106,258                     | 52,900                                                        | 22,062                            | 40,209                        | 134,197                  | 355,625       | 244,399             | 73,532                                             | 3,531              | 24,944                 | 7,379                          | 353,784        | 1,841        | 0.52                 | 114,059,218   | 114,074,124    | -14,906                 | -0.01                           |
| Jun. 1986                                                  | 283,515                     | 212,893                                                       | 22,044                            | 36,770                        | 104,098                  | 659,320       | 273,999             | 212,335                                            | 3,288              | 40,843                 | 121,464                        | 651,929        | 7,391        | 1.13                 | 114,718,537   | 114,726,052    | -7,515                  | -0.01                           |
| Jul. 1986                                                  | 151,256                     | 76,621                                                        | 25,612                            | 32,803                        | 166,199                  | 452,491       | 361,706             | 78,115                                             | 1,992              | 23,332                 | 1,712                          | 466,857        | -14,367      | -3.13                | 115,171,028   | 115,192,910    | -21,882                 | -0.02                           |
| Aug. 1986                                                  | 74,154                      | 34,177                                                        | 32,091                            | 19,396                        | 156,098                  | 315,915       | 255,581             | 38,523                                             | 1,678              | 23,081                 | 1,031                          | 319,895        | -3,980       | -1.25                | 115,486,943   | 115,512,805    | -25,862                 | -0.02                           |
| Sep. 1986                                                  | 40,606                      | 26,611                                                        | 30,356                            | 15,292                        | 131,349                  | 244,215       | 147,153             | 42,823                                             | 1,420              | 25,004                 | 28,850                         | 245,250        | -1,036       | -0.42                | 115,731,158   | 115,758,056    | -26,897                 | -0.02                           |
| Oct. 1986                                                  | 22,946                      | 35,978                                                        | 21,467                            | 35,869                        | 124,360                  | 240,619       | 108,242             | 63,630                                             | 2,589              | 27,803                 | 39,339                         | 241,603        | -984         | -0.41                | 115,971,777   | 115,999,659    | -27,881                 | -0.02                           |
| Nov. 1986                                                  | 30,804                      | 37,454                                                        | 18,554                            | 19,914                        | 115,918                  | 222,645       | 104,444             | 68,025                                             | 2,096              | 21,389                 | 27,384                         | 223,338        | -693         | -0.31                | 116,194,422   | 116,222,996    | -28,574                 | -0.02                           |
| Dec. 1986                                                  | 21,237                      | 36,530                                                        | 19,958                            | 6,118                         | 113,436                  | 197,279       | 62,344              | 59,653                                             | 1,874              | 22,654                 | 52,245                         | 198,770        | -1,492       | -0.75                | 116,391,701   | 116,421,767    | -30,066                 | -0.03                           |
| Jan. 1987                                                  | 19,178                      | 28,961                                                        | 19,859                            | 8,282                         | 109,828                  | 186,108       | 51,051              | 57,214                                             | 1,633              | 22,432                 | 54,432                         | 186,763        | -655         | -0.35                | 116,577,808   | 116,608,529    | -30,721                 | -0.03                           |
| Feb. 1987                                                  | 16,304                      | 28,562                                                        | 18,211                            | 15,123                        | 99,059                   | 177,258       | 60,129              | 52,445                                             | 2,271              | 21,442                 | 41,375                         | 177,662        | -404         | -0.23                | 116,755,066   | 116,786,191    | -31,125                 | -0.03                           |
| Mar. 1987                                                  | 31,252                      | 43,800                                                        | 19,929                            | 16,423                        | 101,443                  | 212,846       | 36,251              | 63,719                                             | 3,872              | 27,301                 | 81,812                         | 212,955        | -108         | -0.05                | 116,967,912   | 116,999,146    | -31,233                 | -0.03                           |
| Apr. 1987                                                  | 83,434                      | 50,963                                                        | 20,296                            | 19,211                        | 101,005                  | 274,908       | 104,060             | 69,399                                             | 8,382              | 26,207                 | 66,293                         | 274,341        | 568          | 0.21                 | 117,242,821   | 117,273,487    | -30,666                 | -0.03                           |
| May 1987                                                   | 283,157                     | 98,577                                                        | 22,537                            | 98,915                        | 94,524                   | 597,710       | 171,240             | 125,173                                            | 28,876             | 57,005                 | 210,772                        | 593,065        | 4,646        | 0.78                 | 117,840,531   | 117,866,551    | -26,020                 | -0.02                           |
| Jun. 1987                                                  | 179,822                     | 77,880                                                        | 22,935                            | 65,227                        | 120,442                  | 466,307       | 254,373             | 81,175                                             | 6,365              | 31,833                 | 92,042                         | 465,789        | 518          | 0.11                 | 118,306,838   | 118,332,340    | -25,502                 | -0.02                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1987                                                  | 88,994                      | 26,734                                                        | 32,123                            | 26,331                        | 156,779                  | 330,962       | 279,900             | 30,349                                             | 2,550              | 23,296                 | 2,888                          | 338,983        | -8,021       | -2.39                | 118,637,800   | 118,671,323    | -33,523                 | -0.03                           |
| Aug. 1987                                                  | 65,447                      | 29,269                                                        | 35,140                            | 44,160                        | 139,853                  | 313,869       | 233,354             | 37,892                                             | 2,264              | 28,666                 | 11,576                         | 313,752        | 117          | 0.04                 | 118,951,669   | 118,985,075    | -33,406                 | -0.03                           |
| Sep. 1987                                                  | 31,347                      | 20,685                                                        | 25,325                            | 15,532                        | 130,673                  | 223,563       | 148,049             | 37,383                                             | 1,736              | 22,219                 | 15,224                         | 224,611        | -1,048       | -0.47                | 119,175,232   | 119,209,686    | -34,454                 | -0.03                           |
| Oct. 1987                                                  | 24,815                      | 21,688                                                        | 21,049                            | 21,781                        | 131,256                  | 220,589       | 142,111             | 53,111                                             | 2,014              | 21,553                 | 3,880                          | 222,668        | -2,080       | -0.94                | 119,395,821   | 119,432,355    | -36,534                 | -0.03                           |
| Nov. 1987                                                  | 19,066                      | 27,612                                                        | 16,142                            | 20,793                        | 118,986                  | 202,599       | 106,737             | 57,817                                             | 2,648              | 21,843                 | 14,147                         | 203,192        | -593         | -0.29                | 119,598,420   | 119,635,547    | -37,127                 | -0.03                           |
| Dec. 1987                                                  | 15,731                      | 26,549                                                        | 18,803                            | 15,997                        | 108,175                  | 185,255       | 62,130              | 56,168                                             | 2,097              | 24,368                 | 41,281                         | 186,044        | -789         | -0.43                | 119,783,675   | 119,821,591    | -37,916                 | -0.03                           |
| Jan. 1988                                                  | 14,660                      | 21,435                                                        | 21,170                            | 5,509                         | 99,705                   | 162,479       | 12,765              | 48,088                                             | 1,943              | 25,349                 | 75,144                         | 163,289        | -810         | -0.50                | 119,946,155   | 119,984,881    | -38,726                 | -0.03                           |
| Feb. 1988                                                  | 19,490                      | 27,136                                                        | 19,732                            | 6,915                         | 91,986                   | 165,260       | 20,188              | 45,305                                             | 3,246              | 23,122                 | 73,732                         | 165,594        | -334         | -0.20                | 120,111,415   | 120,150,475    | -39,060                 | -0.03                           |
| Mar. 1988                                                  | 28,928                      | 30,143                                                        | 19,793                            | 18,013                        | 108,291                  | 205,167       | 83,959              | 52,161                                             | 5,030              | 23,218                 | 40,962                         | 205,329        | -162         | -0.08                | 120,316,582   | 120,355,804    | -39,222                 | -0.03                           |
| Apr. 1988                                                  | 40,792                      | 24,769                                                        | 19,697                            | 17,683                        | 108,558                  | 211,499       | 117,525             | 44,932                                             | 7,295              | 22,082                 | 19,785                         | 211,619        | -120         | -0.06                | 120,528,081   | 120,567,423    | -39,342                 | -0.03                           |
| May 1988                                                   | 101,646                     | 34,369                                                        | 22,698                            | 87,399                        | 111,432                  | 357,545       | 194,191             | 62,465                                             | 11,193             | 38,006                 | 48,637                         | 354,492        | 3,052        | 0.86                 | 120,885,626   | 120,921,916    | -36,290                 | -0.03                           |
| Jun. 1988                                                  | 164,516                     | 63,938                                                        | 24,123                            | 32,023                        | 124,827                  | 409,428       | 299,147             | 65,594                                             | 5,929              | 24,904                 | 10,440                         | 406,013        | 3,415        | 0.84                 | 121,295,053   | 121,327,928    | -32,875                 | -0.03                           |
| Jul. 1988                                                  | 97,448                      | 30,033                                                        | 32,577                            | 31,119                        | 140,216                  | 331,394       | 272,553             | 33,195                                             | 2,754              | 25,263                 | 2,290                          | 336,055        | -4,661       | -1.40                | 121,626,447   | 121,663,983    | -37,536                 | -0.03                           |
| Aug. 1988                                                  | 77,363                      | 30,789                                                        | 37,237                            | 39,098                        | 138,927                  | 323,414       | 251,719             | 42,490                                             | 2,047              | 25,116                 | 1,247                          | 322,619        | 795          | 0.25                 | 121,949,862   | 121,986,603    | -36,741                 | -0.03                           |
| Sep. 1988                                                  | 26,580                      | 19,044                                                        | 24,198                            | 28,330                        | 135,321                  | 233,473       | 170,252             | 41,534                                             | 1,771              | 23,568                 | 970                            | 238,094        | -4,621       | -1.96                | 122,183,335   | 122,224,697    | -41,362                 | -0.03                           |
| Oct. 1988                                                  | 17,668                      | 19,938                                                        | 16,641                            | 1,739                         | 129,586                  | 185,571       | 126,058             | 41,181                                             | 1,439              | 19,073                 | 1,403                          | 189,155        | -3,584       | -1.91                | 122,368,905   | 122,413,851    | -44,946                 | -0.04                           |
| Nov. 1988                                                  | 19,279                      | 23,674                                                        | 12,139                            | 4,604                         | 110,508                  | 170,204       | 92,283              | 48,891                                             | 1,305              | 20,912                 | 6,767                          | 170,157        | 46           | 0.03                 | 122,539,109   | 122,584,009    | -44,900                 | -0.04                           |
| Dec. 1988                                                  | 17,328                      | 26,625                                                        | 21,114                            | 12,210                        | 103,905                  | 181,182       | 58,606              | 54,210                                             | 1,506              | 25,689                 | 41,523                         | 181,535        | -353         | -0.19                | 122,720,291   | 122,765,543    | -45,252                 | -0.04                           |
| Jan. 1989                                                  | 15,738                      | 23,713                                                        | 14,456                            | 11,756                        | 102,670                  | 168,332       | 45,851              | 48,529                                             | 1,509              | 24,583                 | 48,692                         | 169,164        | -831         | -0.49                | 122,888,623   | 122,934,707    | -46,084                 | -0.04                           |
| Feb. 1989                                                  | 14,392                      | 26,496                                                        | 13,535                            | 7,245                         | 92,619                   | 154,287       | 52,026              | 39,733                                             | 1,306              | 20,926                 | 40,775                         | 154,767        | -479         | -0.31                | 123,042,910   | 123,089,473    | -46,563                 | -0.04                           |
| Mar. 1989                                                  | 21,263                      | 25,873                                                        | 14,505                            | 6,405                         | 108,570                  | 176,615       | 93,694              | 40,874                                             | 1,949              | 20,552                 | 20,147                         | 177,216        | -600         | -0.34                | 123,219,526   | 123,266,689    | -47,163                 | -0.04                           |
| Apr. 1989                                                  | 21,768                      | 16,432                                                        | 13,463                            | 21,342                        | 108,087                  | 181,092       | 107,921             | 37,814                                             | 2,379              | 22,234                 | 10,704                         | 181,052        | 41           | 0.02                 | 123,400,618   | 123,447,741    | -47,123                 | -0.04                           |
| May 1989                                                   | 68,777                      | 18,893                                                        | 18,646                            | 47,372                        | 118,755                  | 272,444       | 193,520             | 42,214                                             | 1,995              | 27,406                 | 1,858                          | 266,993        | 5,451        | 2.02                 | 123,673,062   | 123,714,734    | -41,672                 | -0.03                           |
| Jun. 1989                                                  | 101,958                     | 46,508                                                        | 16,108                            | 62,386                        | 121,548                  | 348,507       | 246,563             | 67,473                                             | 1,910              | 29,971                 | 1,186                          | 347,104        | 1,403        | 0.40                 | 124,021,569   | 124,061,838    | -40,269                 | -0.03                           |
| Jul. 1989                                                  | 103,807                     | 25,123                                                        | 41,360                            | 44,446                        | 131,423                  | 346,160       | 262,500             | 35,576                                             | 1,387              | 32,828                 | 13,055                         | 345,345        | 815          | 0.24                 | 124,367,730   | 124,407,183    | -39,453                 | -0.03                           |
| Aug. 1989                                                  | 72,906                      | 29,080                                                        | 19,212                            | 37,858                        | 141,995                  | 301,051       | 237,865             | 37,771                                             | 1,380              | 26,217                 | 1,412                          | 304,646        | -3,595       | -1.19                | 124,668,780   | 124,711,829    | -43,048                 | -0.03                           |
| Sep. 1989                                                  | 28,513                      | 26,517                                                        | 13,159                            | 44,941                        | 128,309                  | 241,440       | 163,659             | 50,823                                             | 1,518              | 25,970                 | 1,161                          | 243,130        | -1,690       | -0.70                | 124,910,221   | 124,954,959    | -44,739                 | -0.04                           |
| Oct. 1989                                                  | 22,910                      | 24,617                                                        | 10,232                            | 12,617                        | 121,342                  | 191,718       | 112,334             | 48,660                                             | 1,145              | 23,087                 | 8,027                          | 193,253        | -1,534       | -0.80                | 125,101,939   | 125,148,212    | -46,273                 | -0.04                           |
| Nov. 1989                                                  | 18,671                      | 23,045                                                        | 9,061                             | 2,371                         | 115,389                  | 168,537       | 99,384              | 46,224                                             | 1,133              | 18,632                 | 4,259                          | 169,632        | -1,095       | -0.65                | 125,270,476   | 125,317,844    | -47,369                 | -0.04                           |
| Dec. 1989                                                  | 18,803                      | 21,933                                                        | 9,915                             | 7,827                         | 107,537                  | 166,016       | 73,412              | 47,166                                             | 1,347              | 22,379                 | 22,265                         | 166,569        | -554         | -0.33                | 125,436,492   | 125,484,414    | -47,922                 | -0.04                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1990                                                  | 14,587                      | 23,308                                                        | 18,564                            | 9,199                         | 104,978                  | 170,636       | 62,640              | 48,950                                             | 1,228              | 23,585                 | 34,678                         | 171,081        | -446         | -0.26                | 125,607,127   | 125,655,495    | -48,368                 | -0.04                           |
| Feb. 1990                                                  | 11,361                      | 22,161                                                        | 15,380                            | 5,288                         | 91,369                   | 145,559       | 45,962              | 41,512                                             | 1,047              | 20,857                 | 36,656                         | 146,034        | -474         | -0.33                | 125,752,687   | 125,801,529    | -48,842                 | -0.04                           |
| Mar. 1990                                                  | 27,712                      | 42,526                                                        | 19,945                            | 41,778                        | 98,074                   | 230,035       | 70,634              | 67,325                                             | 3,157              | 30,197                 | 57,820                         | 229,132        | 904          | 0.39                 | 125,982,722   | 126,030,661    | -47,939                 | -0.04                           |
| Apr. 1990                                                  | 46,740                      | 48,401                                                        | 19,103                            | 25,742                        | 97,338                   | 237,324       | 94,058              | 68,678                                             | 2,844              | 25,828                 | 45,160                         | 236,568        | 756          | 0.32                 | 126,220,046   | 126,267,229    | -47,183                 | -0.04                           |
| May 1990                                                   | 68,467                      | 25,064                                                        | 21,006                            | 43,422                        | 122,060                  | 280,020       | 191,589             | 47,054                                             | 4,937              | 26,434                 | 9,402                          | 279,418        | 602          | 0.22                 | 126,500,066   | 126,546,646    | -46,581                 | -0.04                           |
| Jun. 1990                                                  | 155,324                     | 63,935                                                        | 25,166                            | 10,187                        | 123,850                  | 378,462       | 287,760             | 66,562                                             | 1,395              | 20,845                 | 976                            | 377,537        | 925          | 0.24                 | 126,878,528   | 126,924,183    | -45,656                 | -0.04                           |
| Jul. 1990                                                  | 91,481                      | 35,796                                                        | 29,647                            | 68,115                        | 131,261                  | 356,300       | 264,891             | 48,418                                             | 2,380              | 33,223                 | 7,052                          | 355,964        | 336          | 0.09                 | 127,234,827   | 127,280,147    | -45,320                 | -0.04                           |
| Aug. 1990                                                  | 64,225                      | 29,649                                                        | 32,838                            | 41,827                        | 141,949                  | 310,488       | 242,524             | 35,433                                             | 2,420              | 28,443                 | 1,913                          | 310,732        | -244         | -0.08                | 127,545,315   | 127,590,879    | -45,564                 | -0.04                           |
| Sep. 1990                                                  | 36,203                      | 29,696                                                        | 25,129                            | 31,427                        | 132,495                  | 254,949       | 186,028             | 44,904                                             | 1,279              | 24,231                 | 687                            | 257,129        | -2,180       | -0.85                | 127,800,265   | 127,848,009    | -47,744                 | -0.04                           |
| Oct. 1990                                                  | 20,752                      | 24,062                                                        | 19,854                            | 18,516                        | 126,808                  | 209,991       | 131,673             | 48,121                                             | 1,268              | 23,112                 | 6,844                          | 211,018        | -1,027       | -0.49                | 128,010,256   | 128,059,027    | -48,771                 | -0.04                           |
| Nov. 1990                                                  | 22,789                      | 23,552                                                        | 13,326                            | 14,037                        | 114,850                  | 188,553       | 104,631             | 48,640                                             | 1,531              | 21,163                 | 13,303                         | 189,268        | -714         | -0.38                | 128,198,809   | 128,248,294    | -49,485                 | -0.04                           |
| Dec. 1990                                                  | 15,757                      | 19,387                                                        | 14,090                            | 2,866                         | 108,918                  | 161,017       | 64,471              | 42,952                                             | 1,234              | 21,238                 | 32,205                         | 162,100        | -1,083       | -0.67                | 128,359,826   | 128,410,395    | -50,569                 | -0.04                           |
| Jan. 1991                                                  | 13,263                      | 21,005                                                        | 18,743                            | 6,987                         | 100,978                  | 160,976       | 48,150              | 42,415                                             | 1,150              | 22,791                 | 47,006                         | 161,511        | -535         | -0.33                | 128,520,802   | 128,571,906    | -51,104                 | -0.04                           |
| Feb. 1991                                                  | 10,946                      | 19,829                                                        | 16,172                            | 626                           | 97,484                   | 145,056       | 59,850              | 35,020                                             | 1,030              | 18,123                 | 31,558                         | 145,581        | -525         | -0.36                | 128,665,859   | 128,717,487    | -51,629                 | -0.04                           |
| Mar. 1991                                                  | 13,718                      | 16,680                                                        | 15,165                            | 8,329                         | 108,695                  | 162,587       | 72,313              | 39,338                                             | 1,908              | 21,163                 | 28,241                         | 162,962        | -375         | -0.23                | 128,828,446   | 128,880,449    | -52,004                 | -0.04                           |
| Apr. 1991                                                  | 19,260                      | 10,247                                                        | 17,795                            | 30,327                        | 105,150                  | 182,780       | 101,744             | 42,072                                             | 2,615              | 23,312                 | 12,970                         | 182,713        | 67           | 0.04                 | 129,011,226   | 129,063,163    | -51,937                 | -0.04                           |
| May 1991                                                   | 77,737                      | 17,049                                                        | 21,593                            | 54,632                        | 114,985                  | 285,997       | 197,668             | 46,510                                             | 4,541              | 28,351                 | 6,729                          | 283,798        | 2,198        | 0.77                 | 129,297,223   | 129,346,961    | -49,739                 | -0.04                           |
| Jun. 1991                                                  | 208,949                     | 109,910                                                       | 21,966                            | 58,730                        | 106,947                  | 506,501       | 292,243             | 134,804                                            | 4,846              | 34,688                 | 33,130                         | 499,712        | 6,790        | 1.35                 | 129,803,724   | 129,846,673    | -42,949                 | -0.03                           |
| Jul. 1991                                                  | 96,328                      | 42,106                                                        | 38,965                            | 60,521                        | 140,267                  | 378,187       | 287,467             | 53,555                                             | 1,794              | 34,058                 | 3,290                          | 380,164        | -1,977       | -0.52                | 130,181,911   | 130,226,837    | -44,926                 | -0.03                           |
| Aug. 1991                                                  | 81,594                      | 35,755                                                        | 30,014                            | 51,395                        | 144,411                  | 343,169       | 269,434             | 44,392                                             | 2,219              | 27,160                 | 724                            | 343,929        | -760         | -0.22                | 130,525,080   | 130,570,765    | -45,686                 | -0.03                           |
| Sep. 1991                                                  | 41,276                      | 22,842                                                        | 22,403                            | 21,120                        | 131,450                  | 239,092       | 163,683             | 44,021                                             | 1,177              | 23,047                 | 8,338                          | 240,265        | -1,174       | -0.49                | 130,764,171   | 130,811,031    | -46,859                 | -0.04                           |
| Oct. 1991                                                  | 16,338                      | 22,087                                                        | 19,639                            | 15,238                        | 125,050                  | 198,352       | 113,172             | 53,200                                             | 1,132              | 21,584                 | 10,985                         | 200,074        | -1,722       | -0.86                | 130,962,524   | 131,011,105    | -48,581                 | -0.04                           |
| Nov. 1991                                                  | 20,475                      | 31,754                                                        | 15,490                            | 28,569                        | 117,600                  | 213,887       | 122,034             | 64,358                                             | 1,773              | 21,694                 | 4,388                          | 214,247        | -360         | -0.17                | 131,176,411   | 131,225,352    | -48,941                 | -0.04                           |
| Dec. 1991                                                  | 16,926                      | 26,197                                                        | 18,906                            | 1,297                         | 115,963                  | 179,289       | 96,092              | 50,207                                             | 1,578              | 19,553                 | 13,407                         | 180,837        | -1,548       | -0.86                | 131,355,699   | 131,406,188    | -50,489                 | -0.04                           |
| Jan. 1992                                                  | 16,832                      | 24,536                                                        | 19,845                            | 11,326                        | 101,693                  | 174,232       | 45,941              | 50,442                                             | 1,497              | 25,142                 | 51,780                         | 174,802        | -570         | -0.33                | 131,529,932   | 131,580,991    | -51,059                 | -0.04                           |
| Feb. 1992                                                  | 15,848                      | 23,180                                                        | 19,230                            | 789                           | 96,221                   | 155,268       | 42,702              | 41,466                                             | 2,288              | 20,544                 | 48,949                         | 155,949        | -680         | -0.44                | 131,685,200   | 131,736,939    | -51,739                 | -0.04                           |
| Mar. 1992                                                  | 35,501                      | 52,879                                                        | 21,361                            | 46,666                        | 97,154                   | 253,561       | 67,741              | 76,915                                             | 4,534              | 30,930                 | 72,153                         | 252,274        | 1,288        | 0.51                 | 131,938,761   | 131,989,213    | -50,452                 | -0.04                           |
| Apr. 1992                                                  | 47,105                      | 36,625                                                        | 20,833                            | 14,829                        | 107,012                  | 226,405       | 117,319             | 56,034                                             | 6,617              | 21,661                 | 25,265                         | 226,896        | -491         | -0.22                | 132,165,166   | 132,216,109    | -50,943                 | -0.04                           |
| May 1992                                                   | 106,472                     | 26,575                                                        | 25,553                            | 23,730                        | 126,437                  | 308,767       | 228,129             | 50,122                                             | 2,705              | 21,199                 | 3,535                          | 305,690        | 3,078        | 1.00                 | 132,473,934   | 132,521,799    | -47,865                 | -0.04                           |
| Jun. 1992                                                  | 120,508                     | 54,779                                                        | 21,879                            | 67,344                        | 125,904                  | 390,415       | 260,650             | 85,886                                             | 4,372              | 28,888                 | 7,732                          | 387,528        | 2,886        | 0.74                 | 132,864,348   | 132,909,327    | -44,979                 | -0.03                           |

| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1992                                                  | 85,548                      | 39,769                                                        | 28,111                            | 44,813                        | 140,434                  | 338,675       | 258,492             | 50,437                                             | 2,292              | 27,859                 | 1,948                          | 341,028        | -2,353       | -0.69                | 133,203,023   | 133,250,355    | -47,332                 | -0.04                           |
| Aug. 1992                                                  | 66,236                      | 43,326                                                        | 31,132                            | 66,865                        | 133,811                  | 341,371       | 227,487             | 66,056                                             | 2,549              | 32,616                 | 10,867                         | 339,575        | 1,796        | 0.53                 | 133,544,394   | 133,589,929    | -45,536                 | -0.03                           |
| Sep. 1992                                                  | 26,853                      | 23,796                                                        | 22,469                            | 3,550                         | 132,991                  | 209,659       | 147,553             | 40,732                                             | 1,164              | 18,083                 | 5,960                          | 213,492        | -3,833       | -1.81                | 133,754,053   | 133,803,422    | -49,369                 | -0.04                           |
| Oct. 1992                                                  | 17,091                      | 27,257                                                        | 20,373                            | 9,553                         | 128,545                  | 202,819       | 122,036             | 49,199                                             | 1,335              | 20,856                 | 10,112                         | 203,539        | -720         | -0.35                | 133,956,872   | 134,006,960    | -50,089                 | -0.04                           |
| Nov. 1992                                                  | 19,421                      | 25,948                                                        | 15,307                            | 20,976                        | 115,140                  | 196,792       | 105,076             | 58,794                                             | 2,263              | 20,718                 | 10,333                         | 197,184        | -392         | -0.20                | 134,153,664   | 134,204,144    | -50,481                 | -0.04                           |
| Dec. 1992                                                  | 15,521                      | 25,433                                                        | 18,608                            | 7,256                         | 104,282                  | 171,099       | 50,014              | 50,171                                             | 1,797              | 23,250                 | 47,141                         | 172,373        | -1,274       | -0.74                | 134,324,763   | 134,376,518    | -51,755                 | -0.04                           |
| Jan. 1993                                                  | 17,810                      | 23,947                                                        | 17,936                            | 2,941                         | 100,627                  | 163,260       | 40,878              | 46,396                                             | 1,930              | 22,066                 | 52,635                         | 163,904        | -644         | -0.39                | 134,488,023   | 134,540,422    | -52,398                 | -0.04                           |
| Feb. 1993                                                  | 16,469                      | 22,911                                                        | 16,438                            | 11,351                        | 92,078                   | 159,248       | 55,576              | 45,396                                             | 1,695              | 19,990                 | 36,733                         | 159,389        | -141         | -0.09                | 134,647,271   | 134,699,811    | -52,540                 | -0.04                           |
| Mar. 1993                                                  | 17,971                      | 29,314                                                        | 19,096                            | 13,858                        | 100,753                  | 180,993       | 62,116              | 51,193                                             | 1,926              | 22,036                 | 43,976                         | 181,247        | -254         | -0.14                | 134,828,264   | 134,881,057    | -52,794                 | -0.04                           |
| Apr. 1993                                                  | 25,168                      | 30,776                                                        | 19,852                            | 40,952                        | 101,585                  | 218,333       | 89,819              | 58,252                                             | 4,032              | 28,806                 | 36,783                         | 217,692        | 641          | 0.29                 | 135,046,597   | 135,098,750    | -52,152                 | -0.04                           |
| May 1993                                                   | 86,440                      | 30,867                                                        | 21,439                            | 32,899                        | 122,159                  | 293,804       | 211,100             | 45,828                                             | 3,189              | 23,896                 | 7,249                          | 291,261        | 2,542        | 0.87                 | 135,340,401   | 135,390,011    | -49,610                 | -0.04                           |
| Jun. 1993                                                  | 175,950                     | 89,984                                                        | 22,222                            | 49,844                        | 121,339                  | 459,339       | 294,292             | 123,897                                            | 2,201              | 29,206                 | 2,319                          | 451,914        | 7,425        | 1.63                 | 135,799,740   | 135,841,925    | -42,185                 | -0.03                           |
| Jul. 1993                                                  | 130,841                     | 54,866                                                        | 31,768                            | 28,765                        | 143,542                  | 389,782       | 300,039             | 62,617                                             | 1,514              | 26,633                 | 772                            | 391,576        | -1,794       | -0.46                | 136,189,522   | 136,233,501    | -43,979                 | -0.03                           |
| Aug. 1993                                                  | 73,246                      | 36,274                                                        | 31,839                            | 27,879                        | 146,097                  | 315,335       | 242,161             | 45,938                                             | 1,455              | 24,975                 | 1,449                          | 315,978        | -642         | -0.20                | 136,504,857   | 136,549,478    | -44,621                 | -0.03                           |
| Sep. 1993                                                  | 39,620                      | 36,201                                                        | 22,496                            | 41,353                        | 123,903                  | 263,573       | 141,373             | 70,157                                             | 1,657              | 28,669                 | 22,344                         | 264,199        | -627         | -0.24                | 136,768,430   | 136,813,678    | -45,248                 | -0.03                           |
| Oct. 1993                                                  | 19,290                      | 32,917                                                        | 20,211                            | 40,724                        | 121,511                  | 234,652       | 99,782              | 73,800                                             | 1,670              | 28,517                 | 32,641                         | 236,410        | -1,758       | -0.75                | 137,003,082   | 137,050,088    | -47,006                 | -0.03                           |
| Nov. 1993                                                  | 23,191                      | 35,550                                                        | 14,512                            | 15,787                        | 115,602                  | 204,643       | 102,749             | 64,505                                             | 1,569              | 20,859                 | 16,254                         | 205,935        | -1,292       | -0.63                | 137,207,725   | 137,256,023    | -48,298                 | -0.04                           |
| Dec. 1993                                                  | 17,225                      | 33,412                                                        | 14,316                            | 4,151                         | 115,768                  | 184,871       | 84,798              | 53,418                                             | 1,468              | 20,022                 | 26,661                         | 186,366        | -1,495       | -0.81                | 137,392,596   | 137,442,388    | -49,793                 | -0.04                           |
| Jan. 1994                                                  | 15,336                      | 27,620                                                        | 18,491                            | 7,453                         | 108,066                  | 176,966       | 62,686              | 52,649                                             | 1,615              | 22,153                 | 38,412                         | 177,516        | -550         | -0.31                | 137,569,562   | 137,619,904    | -50,342                 | -0.04                           |
| Feb. 1994                                                  | 14,856                      | 24,119                                                        | 14,958                            | 7,088                         | 93,951                   | 154,971       | 47,115              | 46,354                                             | 1,539              | 20,303                 | 40,088                         | 155,399        | -427         | -0.28                | 137,724,533   | 137,775,303    | -50,770                 | -0.04                           |
| Mar. 1994                                                  | 19,681                      | 30,367                                                        | 18,273                            | 11,936                        | 108,642                  | 188,899       | 84,221              | 54,297                                             | 2,046              | 20,986                 | 27,449                         | 188,998        | -99          | -0.05                | 137,913,432   | 137,964,301    | -50,869                 | -0.04                           |
| Apr. 1994                                                  | 37,088                      | 31,379                                                        | 17,125                            | 40,037                        | 105,410                  | 231,039       | 115,690             | 63,283                                             | 4,887              | 27,267                 | 19,124                         | 230,251        | 788          | 0.34                 | 138,144,471   | 138,194,552    | -50,081                 | -0.04                           |
| May 1994                                                   | 118,342                     | 45,752                                                        | 25,971                            | 23,670                        | 121,721                  | 335,456       | 240,357             | 61,249                                             | 4,549              | 23,783                 | 2,436                          | 332,374        | 3,082        | 0.92                 | 138,479,927   | 138,526,925    | -46,998                 | -0.03                           |
| Jun. 1994                                                  | 125,726                     | 56,470                                                        | 41,893                            | 32,647                        | 121,835                  | 378,571       | 280,706             | 63,980                                             | 3,480              | 24,797                 | 3,420                          | 376,383        | 2,188        | 0.58                 | 138,858,498   | 138,903,308    | -44,810                 | -0.03                           |
| Jul. 1994                                                  | 71,697                      | 24,114                                                        | 28,886                            | 27,744                        | 139,101                  | 291,541       | 231,722             | 38,335                                             | 1,456              | 23,851                 | 1,109                          | 296,474        | -4,933       | -1.68                | 139,150,039   | 139,199,782    | -49,744                 | -0.04                           |
| Aug. 1994                                                  | 58,114                      | 28,490                                                        | 26,350                            | 33,411                        | 128,877                  | 275,242       | 199,347             | 46,863                                             | 1,452              | 27,256                 | 575                            | 275,494        | -252         | -0.09                | 139,425,280   | 139,475,277    | -49,996                 | -0.04                           |
| Sep. 1994                                                  | 27,930                      | 19,701                                                        | 23,646                            | 11,749                        | 120,840                  | 203,865       | 139,676             | 43,795                                             | 995                | 21,413                 | 411                            | 206,290        | -2,425       | -1.18                | 139,629,146   | 139,681,567    | -52,421                 | -0.04                           |
| Oct. 1994                                                  | 15,137                      | 24,656                                                        | 19,620                            | 40,258                        | 115,079                  | 214,750       | 105,348             | 56,308                                             | 1,233              | 33,532                 | 18,959                         | 215,379        | -629         | -0.29                | 139,843,896   | 139,896,946    | -53,050                 | -0.04                           |
| Nov. 1994                                                  | 20,008                      | 25,316                                                        | 17,898                            | 11,060                        | 110,627                  | 184,909       | 101,249             | 57,247                                             | 1,038              | 20,121                 | 5,883                          | 185,537        | -628         | -0.34                | 140,028,805   | 140,082,483    | -53,678                 | -0.04                           |
| Dec. 1994                                                  | 14,309                      | 23,369                                                        | 13,164                            | 3,719                         | 112,173                  | 166,735       | 85,767              | 50,662                                             | 1,243              | 20,055                 | 10,135                         | 167,863        | -1,128       | -0.67                | 140,195,540   | 140,250,346    | -54,806                 | -0.04                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 1995                                                  | 13,675                      | 21,859                                                        | 13,852                            | 3,182                         | 106,089                  | 158,658       | 80,691              | 46,301                                             | 1,287              | 20,434                 | 10,681                         | 159,395        | -737         | -0.46                | 140,354,198   | 140,409,741    | -55,543                 | -0.04                           |
| Feb. 1995                                                  | 11,895                      | 18,053                                                        | 12,640                            | 10,252                        | 92,817                   | 145,657       | 68,813              | 44,067                                             | 1,190              | 19,705                 | 12,081                         | 145,856        | -199         | -0.14                | 140,499,855   | 140,555,597    | -55,742                 | -0.04                           |
| Mar. 1995                                                  | 13,117                      | 19,855                                                        | 14,251                            | 6,686                         | 101,040                  | 154,949       | 81,287              | 43,696                                             | 1,209              | 20,833                 | 8,497                          | 155,523        | -574         | -0.37                | 140,654,804   | 140,711,120    | -56,316                 | -0.04                           |
| Apr. 1995                                                  | 20,923                      | 24,322                                                        | 17,339                            | 55,180                        | 100,171                  | 217,935       | 99,599              | 59,706                                             | 3,208              | 31,467                 | 22,435                         | 216,414        | 1,521        | 0.70                 | 140,872,738   | 140,927,534    | -54,796                 | -0.04                           |
| May 1995                                                   | 229,214                     | 179,002                                                       | 23,687                            | 110,137                       | 86,507                   | 628,547       | 181,995             | 215,679                                            | 15,217             | 58,674                 | 149,141                        | 620,707        | 7,840        | 1.26                 | 141,501,285   | 141,548,241    | -46,956                 | -0.03                           |
| Jun. 1995                                                  | 583,758                     | 539,865                                                       | 24,860                            | 93,631                        | 76,457                   | 1,318,570     | 118,863             | 504,319                                            | 7,851              | 93,759                 | 585,012                        | 1,309,803      | 8,767        | 0.67                 | 142,819,855   | 142,858,044    | -38,189                 | -0.03                           |
| Jul. 1995                                                  | 395,304                     | 201,455                                                       | 25,478                            | 27,174                        | 121,493                  | 770,904       | 350,002             | 195,248                                            | 5,167              | 34,557                 | 189,068                        | 774,043        | -3,138       | -0.41                | 143,590,760   | 143,632,087    | -41,327                 | -0.03                           |
| Aug. 1995                                                  | 113,444                     | 41,234                                                        | 30,788                            | 14,481                        | 180,623                  | 380,570       | 319,115             | 44,770                                             | 1,289              | 19,330                 | 4,768                          | 389,272        | -8,703       | -2.26                | 143,971,330   | 144,021,359    | -50,029                 | -0.03                           |
| Sep. 1995                                                  | 57,069                      | 39,659                                                        | 24,871                            | 49,194                        | 141,885                  | 312,678       | 194,889             | 64,652                                             | 1,837              | 27,995                 | 22,934                         | 312,308        | 370          | 0.12                 | 144,284,007   | 144,333,667    | -49,660                 | -0.03                           |
| Oct. 1995                                                  | 21,098                      | 30,532                                                        | 23,188                            | 9,162                         | 131,186                  | 215,165       | 110,509             | 58,518                                             | 1,391              | 21,159                 | 26,624                         | 218,201        | -3,036       | -1.40                | 144,499,173   | 144,551,868    | -52,695                 | -0.04                           |
| Nov. 1995                                                  | 22,493                      | 29,887                                                        | 15,215                            | 7,174                         | 124,580                  | 199,349       | 102,894             | 54,174                                             | 1,602              | 19,036                 | 22,853                         | 200,559        | -1,210       | -0.61                | 144,698,522   | 144,752,427    | -53,905                 | -0.04                           |
| Dec. 1995                                                  | 19,477                      | 30,617                                                        | 15,389                            | 1,072                         | 117,024                  | 183,579       | 82,087              | 50,707                                             | 1,068              | 19,889                 | 30,813                         | 184,564        | -985         | -0.54                | 144,882,101   | 144,936,991    | -54,890                 | -0.04                           |
| Jan. 1996                                                  | 17,000                      | 28,675                                                        | 19,058                            | 9,920                         | 105,311                  | 179,964       | 51,660              | 54,086                                             | 1,364              | 23,035                 | 50,022                         | 180,167        | -203         | -0.11                | 145,062,065   | 145,117,159    | -55,094                 | -0.04                           |
| Feb. 1996                                                  | 18,334                      | 29,710                                                        | 17,757                            | 2,095                         | 97,052                   | 164,949       | 46,819              | 49,338                                             | 1,122              | 20,369                 | 47,668                         | 165,317        | -368         | -0.22                | 145,227,014   | 145,282,475    | -55,462                 | -0.04                           |
| Mar. 1996                                                  | 21,133                      | 30,814                                                        | 18,929                            | 16,460                        | 107,957                  | 195,293       | 72,577              | 56,990                                             | 1,744              | 23,469                 | 40,596                         | 195,377        | -85          | -0.04                | 145,422,306   | 145,477,853    | -55,546                 | -0.04                           |
| Apr. 1996                                                  | 37,939                      | 30,646                                                        | 17,659                            | 15,953                        | 114,220                  | 216,417       | 127,700             | 51,743                                             | 2,054              | 21,367                 | 13,136                         | 216,000        | 417          | 0.19                 | 145,638,723   | 145,693,852    | -55,129                 | -0.04                           |
| May 1996                                                   | 150,858                     | 70,701                                                        | 22,199                            | 70,488                        | 122,844                  | 437,091       | 268,468             | 106,947                                            | 2,912              | 32,359                 | 19,209                         | 429,894        | 7,197        | 1.66                 | 146,075,814   | 146,123,746    | -47,932                 | -0.03                           |
| Jun. 1996                                                  | 236,103                     | 169,756                                                       | 20,344                            | 42,098                        | 122,683                  | 590,983       | 346,097             | 192,437                                            | 2,178              | 29,547                 | 16,132                         | 586,392        | 4,591        | 0.78                 | 146,666,797   | 146,710,138    | -43,341                 | -0.03                           |
| Jul. 1996                                                  | 133,918                     | 65,495                                                        | 29,294                            | 42,535                        | 155,533                  | 426,775       | 317,990             | 82,621                                             | 1,675              | 30,156                 | 1,202                          | 433,645        | -6,870       | -1.60                | 147,093,572   | 147,143,783    | -50,211                 | -0.03                           |
| Aug. 1996                                                  | 69,370                      | 32,124                                                        | 37,300                            | 27,785                        | 154,736                  | 321,315       | 254,677             | 42,805                                             | 1,295              | 24,533                 | 1,915                          | 325,224        | -3,909       | -1.21                | 147,414,888   | 147,469,008    | -54,120                 | -0.04                           |
| Sep. 1996                                                  | 41,854                      | 42,535                                                        | 33,600                            | 56,505                        | 124,414                  | 298,908       | 127,923             | 72,984                                             | 1,465              | 36,139                 | 60,560                         | 299,070        | -163         | -0.05                | 147,713,795   | 147,768,078    | -54,283                 | -0.04                           |
| Oct. 1996                                                  | 29,774                      | 33,398                                                        | 22,349                            | 7,738                         | 129,951                  | 223,209       | 108,880             | 66,358                                             | 1,086              | 21,527                 | 27,703                         | 225,554        | -2,345       | -1.05                | 147,937,004   | 147,993,632    | -56,628                 | -0.04                           |
| Nov. 1996                                                  | 23,030                      | 33,847                                                        | 16,349                            | 6,895                         | 126,158                  | 206,278       | 118,747             | 58,584                                             | 1,238              | 18,357                 | 10,586                         | 207,512        | -1,234       | -0.60                | 148,143,282   | 148,201,144    | -57,862                 | -0.04                           |
| Dec. 1996                                                  | 17,439                      | 29,829                                                        | 17,678                            | 2,256                         | 112,719                  | 179,920       | 66,543              | 53,820                                             | 1,144              | 21,726                 | 38,029                         | 181,262        | -1,342       | -0.74                | 148,323,202   | 148,382,406    | -59,204                 | -0.04                           |
| Jan. 1997                                                  | 16,110                      | 28,569                                                        | 18,787                            | 6,299                         | 106,089                  | 175,854       | 48,739              | 52,584                                             | 1,273              | 23,174                 | 50,775                         | 176,545        | -691         | -0.39                | 148,499,056   | 148,558,951    | -59,895                 | -0.04                           |
| Feb. 1997                                                  | 16,254                      | 25,143                                                        | 17,404                            | 9,402                         | 97,261                   | 165,465       | 60,647              | 48,851                                             | 1,185              | 19,842                 | 35,230                         | 165,755        | -290         | -0.18                | 148,664,521   | 148,724,706    | -60,185                 | -0.04                           |
| Mar. 1997                                                  | 19,671                      | 26,383                                                        | 17,658                            | 5,230                         | 109,706                  | 178,649       | 70,453              | 49,908                                             | 1,808              | 21,814                 | 35,230                         | 179,213        | -564         | -0.32                | 148,843,169   | 148,903,919    | -60,750                 | -0.04                           |
| Apr. 1997                                                  | 37,124                      | 43,500                                                        | 19,903                            | 48,150                        | 109,650                  | 258,327       | 125,470             | 80,226                                             | 3,134              | 25,927                 | 21,582                         | 256,339        | 1,988        | 0.77                 | 149,101,496   | 149,160,257    | -58,762                 | -0.04                           |
| May 1997                                                   | 158,015                     | 80,588                                                        | 22,480                            | 36,666                        | 130,335                  | 428,084       | 290,101             | 98,620                                             | 4,059              | 26,521                 | 3,687                          | 422,988        | 5,096        | 1.20                 | 149,529,580   | 149,583,245    | -53,666                 | -0.04                           |
| Jun. 1997                                                  | 433,135                     | 375,302                                                       | 23,194                            | 64,179                        | 92,015                   | 987,825       | 208,060             | 419,803                                            | 3,837              | 65,067                 | 281,016                        | 977,783        | 10,042       | 1.02                 | 150,517,405   | 150,561,028    | -43,624                 | -0.03                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 1997                                                  | 133,541                     | 53,350                                                        | 32,605                            | 76,466                        | 165,053                  | 461,015       | 321,533             | 87,052                                             | 2,611              | 30,744                 | 23,056                         | 464,997        | -3,982       | -0.86                | 150,978,420   | 151,026,025    | -47,605                 | -0.03                           |
| Aug. 1997                                                  | 114,907                     | 75,145                                                        | 25,456                            | 81,865                        | 140,654                  | 438,027       | 248,648             | 106,006                                            | 3,584              | 37,087                 | 43,201                         | 438,526        | -499         | -0.11                | 151,416,447   | 151,464,551    | -48,104                 | -0.03                           |
| Sep. 1997                                                  | 68,374                      | 45,443                                                        | 24,343                            | 28,936                        | 138,087                  | 305,182       | 187,775             | 72,902                                             | 1,827              | 23,029                 | 21,828                         | 307,361        | -2,179       | -0.71                | 151,721,629   | 151,771,912    | -50,283                 | -0.03                           |
| Oct. 1997                                                  | 44,523                      | 54,269                                                        | 22,185                            | 42,671                        | 128,204                  | 291,851       | 118,308             | 89,564                                             | 2,650              | 30,544                 | 51,970                         | 293,036        | -1,186       | -0.41                | 152,013,480   | 152,064,948    | -51,468                 | -0.03                           |
| Nov. 1997                                                  | 41,925                      | 56,280                                                        | 20,985                            | 10,205                        | 115,410                  | 244,805       | 77,662              | 80,511                                             | 2,725              | 22,818                 | 62,568                         | 246,284        | -1,480       | -0.60                | 152,258,284   | 152,311,232    | -52,948                 | -0.03                           |
| Dec. 1997                                                  | 33,437                      | 44,462                                                        | 21,048                            | 8,525                         | 114,833                  | 222,306       | 59,421              | 69,609                                             | 3,098              | 23,184                 | 68,606                         | 223,919        | -1,613       | -0.72                | 152,480,590   | 152,535,151    | -54,561                 | -0.04                           |
| Jan. 1998                                                  | 31,398                      | 38,002                                                        | 20,748                            | 2,298                         | 105,751                  | 198,196       | 19,020              | 62,171                                             | 2,755              | 23,781                 | 91,333                         | 199,060        | -864         | -0.43                | 152,678,786   | 152,734,211    | -55,425                 | -0.04                           |
| Feb. 1998                                                  | 28,568                      | 33,420                                                        | 18,250                            | 4,091                         | 100,747                  | 185,076       | 53,030              | 54,473                                             | 2,416              | 19,532                 | 56,184                         | 185,634        | -558         | -0.30                | 152,863,862   | 152,919,846    | -55,984                 | -0.04                           |
| Mar. 1998                                                  | 41,205                      | 45,331                                                        | 20,635                            | 20,726                        | 106,862                  | 234,759       | 64,981              | 73,450                                             | 3,505              | 24,536                 | 67,960                         | 234,432        | 327          | 0.14                 | 153,098,621   | 153,154,278    | -55,657                 | -0.04                           |
| Apr. 1998                                                  | 119,926                     | 93,645                                                        | 22,946                            | 44,847                        | 99,838                   | 381,201       | 129,858             | 121,200                                            | 12,071             | 31,369                 | 84,347                         | 378,846        | 2,356        | 0.62                 | 153,479,822   | 153,533,123    | -53,301                 | -0.03                           |
| May 1998                                                   | 226,265                     | 85,223                                                        | 25,039                            | 41,163                        | 121,227                  | 498,917       | 291,200             | 102,766                                            | 21,245             | 28,615                 | 52,925                         | 496,751        | 2,166        | 0.44                 | 153,978,739   | 154,029,874    | -51,135                 | -0.03                           |
| Jun. 1998                                                  | 166,277                     | 67,913                                                        | 25,404                            | 29,052                        | 138,977                  | 427,623       | 282,650             | 85,915                                             | 4,250              | 23,915                 | 28,684                         | 425,414        | 2,210        | 0.52                 | 154,406,362   | 154,455,287    | -48,925                 | -0.03                           |
| Jul. 1998                                                  | 153,575                     | 56,578                                                        | 29,940                            | 95,318                        | 152,629                  | 488,040       | 332,925             | 83,980                                             | 3,838              | 34,784                 | 31,006                         | 486,533        | 1,506        | 0.31                 | 154,894,402   | 154,941,821    | -47,419                 | -0.03                           |
| Aug. 1998                                                  | 101,212                     | 38,940                                                        | 34,600                            | 25,814                        | 163,229                  | 363,795       | 287,205             | 50,667                                             | 4,895              | 21,495                 | 2,386                          | 366,648        | -2,853       | -0.78                | 155,258,197   | 155,308,469    | -50,272                 | -0.03                           |
| Sep. 1998                                                  | 41,596                      | 26,356                                                        | 32,385                            | 18,668                        | 143,020                  | 262,025       | 191,119             | 46,106                                             | 1,342              | 22,041                 | 2,677                          | 263,285        | -1,260       | -0.48                | 155,520,222   | 155,571,754    | -51,532                 | -0.03                           |
| Oct. 1998                                                  | 33,535                      | 29,597                                                        | 22,403                            | 38,019                        | 128,090                  | 251,644       | 93,736              | 69,181                                             | 1,989              | 30,982                 | 56,575                         | 252,463        | -819         | -0.33                | 155,771,866   | 155,824,217    | -52,351                 | -0.03                           |
| Nov. 1998                                                  | 23,158                      | 39,115                                                        | 19,714                            | 11,498                        | 126,627                  | 220,112       | 110,301             | 63,396                                             | 1,903              | 19,680                 | 26,131                         | 221,410        | -1,298       | -0.59                | 155,991,978   | 156,045,627    | -53,649                 | -0.03                           |
| Dec. 1998                                                  | 20,917                      | 33,107                                                        | 20,042                            | 7,574                         | 117,308                  | 198,947       | 73,457              | 59,330                                             | 1,644              | 21,644                 | 43,865                         | 199,941        | -994         | -0.50                | 156,190,925   | 156,245,568    | -54,643                 | -0.03                           |
| Jan. 1999                                                  | 21,532                      | 32,059                                                        | 19,237                            | 5,478                         | 112,144                  | 190,450       | 64,597              | 56,074                                             | 1,685              | 21,543                 | 47,265                         | 191,164        | -714         | -0.37                | 156,381,375   | 156,436,732    | -55,357                 | -0.04                           |
| Feb. 1999                                                  | 17,734                      | 23,794                                                        | 16,789                            | 2,461                         | 98,838                   | 159,616       | 55,083              | 45,783                                             | 1,589              | 18,794                 | 39,204                         | 160,452        | -836         | -0.52                | 156,540,991   | 156,597,185    | -56,194                 | -0.04                           |
| Mar. 1999                                                  | 20,406                      | 23,854                                                        | 19,530                            | 4,936                         | 119,835                  | 188,562       | 88,257              | 49,747                                             | 1,780              | 19,986                 | 29,119                         | 188,889        | -327         | -0.17                | 156,729,552   | 156,786,073    | -56,521                 | -0.04                           |
| Apr. 1999                                                  | 72,552                      | 58,308                                                        | 22,395                            | 127,911                       | 104,677                  | 385,843       | 132,427             | 131,379                                            | 12,373             | 41,499                 | 62,739                         | 380,417        | 5,425        | 1.42                 | 157,115,395   | 157,166,491    | -51,096                 | -0.03                           |
| May 1999                                                   | 299,220                     | 252,226                                                       | 26,107                            | 53,188                        | 90,532                   | 721,272       | 167,703             | 240,252                                            | 26,391             | 54,136                 | 228,270                        | 716,753        | 4,519        | 0.63                 | 157,836,667   | 157,883,243    | -46,577                 | -0.03                           |
| Jun. 1999                                                  | 357,999                     | 225,948                                                       | 25,244                            | 39,327                        | 102,850                  | 751,368       | 279,924             | 230,232                                            | 8,689              | 39,987                 | 190,283                        | 749,116        | 2,253        | 0.30                 | 158,588,035   | 158,632,359    | -44,324                 | -0.03                           |
| Jul. 1999                                                  | 164,636                     | 53,692                                                        | 27,323                            | 45,397                        | 170,253                  | 461,301       | 350,062             | 75,487                                             | 3,596              | 24,196                 | 10,952                         | 464,292        | -2,992       | -0.65                | 159,049,336   | 159,096,652    | -47,316                 | -0.03                           |
| Aug. 1999                                                  | 144,185                     | 85,842                                                        | 27,319                            | 68,258                        | 139,066                  | 464,671       | 237,649             | 112,564                                            | 4,740              | 34,693                 | 74,006                         | 463,652        | 1,019        | 0.22                 | 159,514,007   | 159,560,303    | -46,296                 | -0.03                           |
| Sep. 1999                                                  | 50,200                      | 43,694                                                        | 28,985                            | 44,987                        | 133,566                  | 301,432       | 131,599             | 79,054                                             | 2,247              | 27,773                 | 62,636                         | 303,308        | -1,877       | -0.62                | 159,815,439   | 159,863,611    | -48,173                 | -0.03                           |
| Oct. 1999                                                  | 34,286                      | 39,755                                                        | 27,148                            | 9,903                         | 134,262                  | 245,354       | 112,580             | 73,297                                             | 1,885              | 20,300                 | 39,445                         | 247,506        | -2,152       | -0.87                | 160,060,792   | 160,111,117    | -50,325                 | -0.03                           |
| Nov. 1999                                                  | 29,626                      | 38,299                                                        | 21,206                            | 6,006                         | 121,458                  | 216,596       | 87,352              | 67,248                                             | 2,006              | 19,429                 | 42,079                         | 218,114        | -1,518       | -0.70                | 160,277,389   | 160,329,232    | -51,843                 | -0.03                           |
| Dec. 1999                                                  | 28,640                      | 36,726                                                        | 19,058                            | 5,308                         | 113,443                  | 203,175       | 38,310              | 64,479                                             | 2,050              | 22,217                 | 77,210                         | 204,266        | -1,090       | -0.54                | 160,480,564   | 160,533,497    | -52,933                 | -0.03                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 2000                                                  | 28,609                      | 37,573                                                        | 21,531                            | 5,473                         | 111,481                  | 204,667       | 45,307              | 60,557                                             | 2,138              | 21,726                 | 75,666                         | 205,394        | -727         | -0.35                | 160,685,231   | 160,738,891    | -53,660                 | -0.03                           |
| Feb. 2000                                                  | 25,509                      | 34,664                                                        | 19,281                            | 3,863                         | 102,146                  | 185,463       | 40,937              | 54,519                                             | 1,907              | 20,069                 | 68,479                         | 185,911        | -447         | -0.24                | 160,870,695   | 160,924,802    | -54,107                 | -0.03                           |
| Mar. 2000                                                  | 24,256                      | 29,529                                                        | 21,132                            | 20,142                        | 113,282                  | 208,341       | 66,114              | 57,703                                             | 2,701              | 23,841                 | 58,611                         | 208,970        | -628         | -0.30                | 161,079,036   | 161,133,772    | -54,736                 | -0.03                           |
| Apr. 2000                                                  | 43,842                      | 22,620                                                        | 21,852                            | 22,067                        | 119,232                  | 229,613       | 126,252             | 49,035                                             | 4,786              | 23,344                 | 26,388                         | 229,806        | -193         | -0.08                | 161,308,649   | 161,363,578    | -54,929                 | -0.03                           |
| May 2000                                                   | 117,486                     | 43,953                                                        | 23,948                            | 36,808                        | 127,521                  | 349,716       | 243,117             | 68,369                                             | 4,785              | 26,773                 | 3,389                          | 346,434        | 3,283        | 0.94                 | 161,658,365   | 161,710,011    | -51,646                 | -0.03                           |
| Jun. 2000                                                  | 118,150                     | 43,754                                                        | 31,334                            | 21,481                        | 129,651                  | 344,370       | 255,963             | 64,648                                             | 1,818              | 22,659                 | 881                            | 345,970        | -1,600       | -0.46                | 162,002,735   | 162,055,981    | -53,246                 | -0.03                           |
| Jul. 2000                                                  | 74,627                      | 29,585                                                        | 39,327                            | 30,406                        | 131,075                  | 305,020       | 228,912             | 48,182                                             | 1,239              | 28,169                 | 593                            | 307,094        | -2,074       | -0.68                | 162,307,755   | 162,363,076    | -55,320                 | -0.03                           |
| Aug. 2000                                                  | 69,664                      | 23,457                                                        | 43,634                            | 46,064                        | 125,782                  | 308,601       | 221,683             | 50,766                                             | 1,592              | 33,084                 | 838                            | 307,963        | 638          | 0.21                 | 162,616,356   | 162,671,038    | -54,682                 | -0.03                           |
| Sep. 2000                                                  | 42,233                      | 23,066                                                        | 26,917                            | 37,393                        | 120,551                  | 250,161       | 162,511             | 57,691                                             | 2,252              | 26,537                 | 1,063                          | 250,054        | 106          | 0.04                 | 162,866,517   | 162,921,093    | -54,576                 | -0.03                           |
| Oct. 2000                                                  | 29,745                      | 26,789                                                        | 20,131                            | 16,236                        | 120,235                  | 213,136       | 128,746             | 57,693                                             | 1,571              | 24,088                 | 2,613                          | 214,710        | -1,575       | -0.74                | 163,079,653   | 163,135,803    | -56,150                 | -0.03                           |
| Nov. 2000                                                  | 20,953                      | 27,271                                                        | 15,959                            | 6,424                         | 108,390                  | 178,997       | 95,362              | 54,643                                             | 1,753              | 20,930                 | 7,686                          | 180,373        | -1,375       | -0.77                | 163,258,650   | 163,316,176    | -57,526                 | -0.04                           |
| Dec. 2000                                                  | 18,053                      | 24,606                                                        | 17,271                            | 4,424                         | 106,763                  | 171,117       | 84,132              | 51,079                                             | 1,492              | 21,044                 | 14,247                         | 171,995        | -878         | -0.51                | 163,429,767   | 163,488,171    | -58,404                 | -0.04                           |
| Jan. 2001                                                  | 17,732                      | 22,677                                                        | 21,488                            | 8,832                         | 101,411                  | 172,140       | 68,489              | 50,989                                             | 1,438              | 23,228                 | 28,435                         | 172,578        | -438         | -0.25                | 163,601,907   | 163,660,749    | -58,842                 | -0.04                           |
| Feb. 2001                                                  | 16,202                      | 21,645                                                        | 19,377                            | 8,388                         | 89,500                   | 155,112       | 55,715              | 44,532                                             | 1,337              | 21,440                 | 32,485                         | 155,510        | -398         | -0.26                | 163,757,019   | 163,816,259    | -59,240                 | -0.04                           |
| Mar. 2001                                                  | 18,396                      | 24,552                                                        | 21,401                            | 12,901                        | 108,178                  | 185,428       | 97,774              | 50,171                                             | 1,952              | 22,459                 | 13,331                         | 185,687        | -260         | -0.14                | 163,942,446   | 164,001,946    | -59,500                 | -0.04                           |
| Apr. 2001                                                  | 24,303                      | 27,130                                                        | 22,074                            | 46,255                        | 106,539                  | 226,301       | 91,345              | 60,363                                             | 3,560              | 31,159                 | 38,864                         | 225,290        | 1,011        | 0.45                 | 164,168,747   | 164,227,236    | -58,489                 | -0.04                           |
| May 2001                                                   | 94,146                      | 51,886                                                        | 25,831                            | 79,890                        | 108,567                  | 360,320       | 199,753             | 83,871                                             | 6,534              | 38,468                 | 28,631                         | 357,258        | 3,063        | 0.85                 | 164,529,068   | 164,584,494    | -55,426                 | -0.03                           |
| Jun. 2001                                                  | 110,476                     | 42,229                                                        | 28,558                            | 20,318                        | 122,686                  | 324,267       | 244,178             | 55,867                                             | 2,401              | 23,897                 | 1,743                          | 328,086        | -3,819       | -1.17                | 164,853,335   | 164,912,580    | -59,245                 | -0.04                           |
| Jul. 2001                                                  | 82,303                      | 45,082                                                        | 39,597                            | 69,701                        | 123,905                  | 360,589       | 251,613             | 64,829                                             | 1,437              | 36,488                 | 3,748                          | 358,115        | 2,474        | 0.69                 | 165,213,924   | 165,270,695    | -56,771                 | -0.03                           |
| Aug. 2001                                                  | 67,600                      | 25,645                                                        | 46,925                            | 28,759                        | 131,931                  | 300,860       | 230,265             | 48,923                                             | 1,164              | 24,877                 | 847                            | 306,076        | -5,216       | -1.72                | 165,514,784   | 165,576,771    | -61,987                 | -0.04                           |
| Sep. 2001                                                  | 37,327                      | 20,607                                                        | 25,443                            | 26,282                        | 121,548                  | 231,206       | 156,274             | 47,781                                             | 1,059              | 25,145                 | 1,191                          | 231,451        | -245         | -0.11                | 165,745,990   | 165,808,222    | -62,232                 | -0.04                           |
| Oct. 2001                                                  | 17,958                      | 17,160                                                        | 23,327                            | 6,350                         | 125,985                  | 190,780       | 123,338             | 46,416                                             | 987                | 20,439                 | 1,105                          | 192,284        | -1,504       | -0.79                | 165,936,771   | 166,000,506    | -63,736                 | -0.04                           |
| Nov. 2001                                                  | 14,747                      | 17,103                                                        | 16,555                            | 11,315                        | 110,340                  | 170,060       | 88,834              | 51,100                                             | 1,661              | 21,509                 | 7,781                          | 170,885        | -825         | -0.48                | 166,106,830   | 166,171,391    | -64,561                 | -0.04                           |
| Dec. 2001                                                  | 15,492                      | 21,142                                                        | 16,013                            | 2,808                         | 109,329                  | 164,784       | 81,779              | 48,607                                             | 1,370              | 20,066                 | 13,754                         | 165,576        | -791         | -0.48                | 166,271,615   | 166,336,967    | -65,352                 | -0.04                           |
| Jan. 2002                                                  | 13,945                      | 20,361                                                        | 15,784                            | 9,050                         | 107,776                  | 166,915       | 84,715              | 49,066                                             | 1,524              | 20,123                 | 11,852                         | 167,280        | -365         | -0.22                | 166,438,530   | 166,504,247    | -65,717                 | -0.04                           |
| Feb. 2002                                                  | 12,971                      | 16,405                                                        | 17,137                            | 3,811                         | 93,897                   | 144,221       | 69,079              | 39,869                                             | 1,444              | 18,794                 | 15,531                         | 144,718        | -497         | -0.34                | 166,582,751   | 166,648,964    | -66,214                 | -0.04                           |
| Mar. 2002                                                  | 16,376                      | 20,346                                                        | 19,326                            | 11,530                        | 101,088                  | 168,666       | 84,218              | 47,394                                             | 1,773              | 21,889                 | 13,554                         | 168,828        | -162         | -0.10                | 166,751,417   | 166,817,792    | -66,375                 | -0.04                           |
| Apr. 2002                                                  | 14,409                      | 9,945                                                         | 21,333                            | 3,563                         | 106,642                  | 155,893       | 98,721              | 30,070                                             | 1,190              | 19,179                 | 7,336                          | 156,496        | -604         | -0.39                | 166,907,310   | 166,974,288    | -66,979                 | -0.04                           |
| May 2002                                                   | 36,870                      | 14,005                                                        | 35,161                            | 33,055                        | 109,845                  | 228,936       | 156,099             | 42,025                                             | 1,704              | 25,208                 | 1,574                          | 226,610        | 2,326        | 1.02                 | 167,136,245   | 167,200,898    | -64,653                 | -0.04                           |
| Jun. 2002                                                  | 54,619                      | 11,562                                                        | 29,818                            | 31,231                        | 104,077                  | 231,307       | 163,162             | 36,115                                             | 1,215              | 29,712                 | 1,157                          | 231,361        | -54          | -0.02                | 167,367,553   | 167,432,260    | -64,707                 | -0.04                           |

| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 2002                                                  | 38,892                      | 7,743                                                         | 40,195                            | 13,751                        | 100,523                  | 201,105       | 145,425             | 26,790                                             | 846                | 27,459                 | 1,898                          | 202,418        | -1,313       | -0.65                | 167,568,657   | 167,634,678    | -66,020                 | -0.04                           |
| Aug. 2002                                                  | 26,052                      | 6,679                                                         | 27,697                            | 26,534                        | 92,945                   | 179,908       | 108,718             | 31,014                                             | 859                | 33,588                 | 5,869                          | 180,048        | -141         | -0.08                | 167,748,565   | 167,814,726    | -66,161                 | -0.04                           |
| Sep. 2002                                                  | 16,076                      | 9,314                                                         | 23,986                            | 26,372                        | 89,198                   | 164,947       | 98,202              | 38,560                                             | 1,012              | 26,639                 | 984                            | 165,396        | -450         | -0.27                | 167,913,512   | 167,980,123    | -66,611                 | -0.04                           |
| Oct. 2002                                                  | 14,352                      | 15,295                                                        | 21,633                            | 24,561                        | 92,998                   | 168,838       | 94,156              | 43,480                                             | 964                | 26,948                 | 2,210                          | 167,758        | 1,081        | 0.64                 | 168,082,350   | 168,147,880    | -65,530                 | -0.04                           |
| Nov. 2002                                                  | 8,788                       | 14,564                                                        | 15,954                            | 7,794                         | 89,122                   | 136,222       | 72,496              | 40,917                                             | 912                | 20,442                 | 2,356                          | 137,123        | -901         | -0.66                | 168,218,572   | 168,285,003    | -66,432                 | -0.04                           |
| Dec. 2002                                                  | 9,231                       | 13,562                                                        | 13,922                            | 159                           | 94,411                   | 131,284       | 70,228              | 36,574                                             | 965                | 19,136                 | 5,117                          | 132,020        | -736         | -0.56                | 168,349,856   | 168,417,023    | -67,167                 | -0.04                           |
| Jan. 2003                                                  | 8,680                       | 13,412                                                        | 18,052                            | 610                           | 91,676                   | 132,430       | 66,719              | 36,055                                             | 904                | 19,724                 | 9,426                          | 132,827        | -397         | -0.30                | 168,482,285   | 168,549,850    | -67,565                 | -0.04                           |
| Feb. 2003                                                  | 6,946                       | 12,802                                                        | 18,411                            | 9,295                         | 80,404                   | 127,858       | 59,869              | 35,122                                             | 1,036              | 19,528                 | 12,394                         | 127,949        | -91          | -0.07                | 168,610,144   | 168,677,799    | -67,656                 | -0.04                           |
| Mar. 2003                                                  | 17,544                      | 29,862                                                        | 21,048                            | 51,824                        | 86,580                   | 206,859       | 98,296              | 63,493                                             | 3,210              | 26,583                 | 14,027                         | 205,609        | 1,249        | 0.61                 | 168,817,002   | 168,883,409    | -66,406                 | -0.04                           |
| Apr. 2003                                                  | 54,517                      | 38,242                                                        | 21,458                            | 54,094                        | 88,087                   | 256,398       | 138,999             | 62,449                                             | 10,078             | 29,094                 | 14,731                         | 255,352        | 1,046        | 0.41                 | 169,073,400   | 169,138,760    | -65,360                 | -0.04                           |
| May 2003                                                   | 113,703                     | 69,796                                                        | 23,972                            | 46,765                        | 95,979                   | 350,215       | 214,683             | 88,602                                             | 6,061              | 31,496                 | 6,618                          | 347,461        | 2,754        | 0.79                 | 169,423,615   | 169,486,221    | -62,606                 | -0.04                           |
| Jun. 2003                                                  | 191,416                     | 117,780                                                       | 23,023                            | 40,843                        | 107,931                  | 480,994       | 323,690             | 118,482                                            | 1,994              | 29,923                 | 1,790                          | 475,879        | 5,115        | 1.07                 | 169,904,609   | 169,962,100    | -57,491                 | -0.03                           |
| Jul. 2003                                                  | 69,336                      | 32,248                                                        | 43,451                            | 16,285                        | 120,251                  | 281,571       | 225,054             | 37,598                                             | 1,152              | 23,944                 | 754                            | 288,502        | -6,931       | -2.43                | 170,186,180   | 170,250,602    | -64,422                 | -0.04                           |
| Aug. 2003                                                  | 46,847                      | 20,929                                                        | 43,781                            | 56,963                        | 114,422                  | 282,941       | 195,810             | 48,238                                             | 1,739              | 33,762                 | 615                            | 280,164        | 2,777        | 0.99                 | 170,469,121   | 170,530,766    | -61,645                 | -0.04                           |
| Sep. 2003                                                  | 31,560                      | 20,671                                                        | 25,312                            | 10,271                        | 113,633                  | 201,448       | 146,597             | 34,730                                             | 826                | 20,747                 | 1,001                          | 203,901        | -2,454       | -1.21                | 170,670,569   | 170,734,667    | -64,099                 | -0.04                           |
| Oct. 2003                                                  | 18,108                      | 16,884                                                        | 21,282                            | 4,219                         | 116,477                  | 176,971       | 116,541             | 40,212                                             | 855                | 19,249                 | 556                            | 177,413        | -443         | -0.25                | 170,847,539   | 170,912,081    | -64,542                 | -0.04                           |
| Nov. 2003                                                  | 17,309                      | 23,097                                                        | 14,228                            | 3,920                         | 100,058                  | 158,613       | 91,689              | 46,102                                             | 1,049              | 19,339                 | 760                            | 158,938        | -325         | -0.20                | 171,006,153   | 171,071,019    | -64,866                 | -0.04                           |
| Dec. 2003                                                  | 13,058                      | 14,880                                                        | 14,428                            | 5,561                         | 99,530                   | 147,457       | 80,115              | 41,546                                             | 1,274              | 20,431                 | 5,158                          | 148,525        | -1,068       | -0.72                | 171,153,609   | 171,219,544    | -65,935                 | -0.04                           |
| Jan. 2004                                                  | 13,306                      | 17,619                                                        | 15,370                            | 6,099                         | 100,847                  | 153,241       | 79,523              | 42,278                                             | 1,323              | 19,892                 | 10,597                         | 153,613        | -372         | -0.24                | 171,306,850   | 171,373,157    | -66,307                 | -0.04                           |
| Feb. 2004                                                  | 15,048                      | 17,741                                                        | 16,882                            | 10,079                        | 94,001                   | 153,752       | 83,029              | 41,251                                             | 1,572              | 18,806                 | 9,296                          | 153,954        | -202         | -0.13                | 171,460,602   | 171,527,111    | -66,509                 | -0.04                           |
| Mar. 2004                                                  | 14,031                      | 20,270                                                        | 19,743                            | 4,916                         | 91,386                   | 150,346       | 72,930              | 41,143                                             | 1,325              | 20,480                 | 14,833                         | 150,711        | -365         | -0.24                | 171,610,948   | 171,677,822    | -66,874                 | -0.04                           |
| Apr. 2004                                                  | 31,102                      | 28,413                                                        | 21,132                            | 50,856                        | 92,600                   | 224,102       | 123,363             | 59,985                                             | 2,371              | 27,202                 | 9,320                          | 222,241        | 1,861        | 0.83                 | 171,835,050   | 171,900,063    | -65,013                 | -0.04                           |
| May 2004                                                   | 70,923                      | 27,641                                                        | 25,037                            | 34,688                        | 108,833                  | 267,122       | 184,336             | 46,810                                             | 5,033              | 27,222                 | 2,327                          | 265,728        | 1,394        | 0.52                 | 172,102,172   | 172,165,791    | -63,619                 | -0.04                           |
| Jun. 2004                                                  | 85,710                      | 41,282                                                        | 23,693                            | 58,304                        | 104,868                  | 313,857       | 208,274             | 67,814                                             | 2,346              | 30,537                 | 2,087                          | 311,058        | 2,799        | 0.90                 | 172,416,028   | 172,476,848    | -60,820                 | -0.04                           |
| Jul. 2004                                                  | 95,034                      | 38,876                                                        | 31,811                            | 42,856                        | 116,453                  | 325,030       | 230,473             | 63,664                                             | 2,825              | 28,406                 | 976                            | 326,343        | -1,314       | -0.40                | 172,741,058   | 172,803,192    | -62,134                 | -0.04                           |
| Aug. 2004                                                  | 69,680                      | 33,274                                                        | 32,797                            | 61,794                        | 119,227                  | 316,772       | 223,570             | 59,538                                             | 3,229              | 28,536                 | 665                            | 315,539        | 1,233        | 0.39                 | 173,057,830   | 173,118,731    | -60,901                 | -0.04                           |
| Sep. 2004                                                  | 41,858                      | 27,339                                                        | 24,120                            | 37,078                        | 121,523                  | 251,918       | 172,884             | 54,252                                             | 1,507              | 24,532                 | 700                            | 253,875        | -1,956       | -0.77                | 173,309,748   | 173,372,606    | -62,857                 | -0.04                           |
| Oct. 2004                                                  | 55,494                      | 51,512                                                        | 26,826                            | 23,291                        | 118,005                  | 275,128       | 161,773             | 84,760                                             | 1,799              | 22,981                 | 1,008                          | 272,321        | 2,808        | 1.03                 | 173,584,876   | 173,644,926    | -60,050                 | -0.03                           |
| Nov. 2004                                                  | 20,797                      | 31,185                                                        | 14,923                            | 15,682                        | 109,171                  | 191,757       | 105,830             | 60,481                                             | 1,822              | 19,995                 | 6,551                          | 194,679        | -2,921       | -1.51                | 173,776,634   | 173,839,605    | -62,971                 | -0.04                           |
| Dec. 2004                                                  | 18,463                      | 28,378                                                        | 16,458                            | 2,366                         | 106,094                  | 171,758       | 87,613              | 51,450                                             | 1,796              | 19,463                 | 12,881                         | 173,203        | -1,445       | -0.84                | 173,948,392   | 174,012,807    | -64,416                 | -0.04                           |

| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 2005                                                  | 14,739                      | 26,488                                                        | 14,485                            | 11,678                        | 103,436                  | 170,826       | 85,038              | 50,437                                             | 2,057              | 20,268                 | 13,811                         | 171,612        | -785         | -0.46                | 174,119,218   | 174,184,419    | -65,201                 | -0.04                           |
| Feb. 2005                                                  | 12,288                      | 22,935                                                        | 15,074                            | 1,893                         | 93,356                   | 145,546       | 75,263              | 39,709                                             | 1,674              | 17,262                 | 12,278                         | 146,186        | -640         | -0.44                | 174,264,764   | 174,330,605    | -65,841                 | -0.04                           |
| Mar. 2005                                                  | 15,284                      | 25,294                                                        | 16,984                            | 12,393                        | 100,476                  | 170,431       | 91,578              | 47,150                                             | 2,168              | 20,644                 | 9,048                          | 170,588        | -158         | -0.09                | 174,435,194   | 174,501,193    | -65,999                 | -0.04                           |
| Apr. 2005                                                  | 57,830                      | 36,469                                                        | 21,471                            | 54,248                        | 98,866                   | 268,884       | 124,749             | 65,405                                             | 14,846             | 32,536                 | 29,488                         | 267,024        | 1,860        | 0.69                 | 174,704,079   | 174,768,217    | -64,138                 | -0.04                           |
| May 2005                                                   | 157,135                     | 75,028                                                        | 23,120                            | 37,008                        | 113,233                  | 405,525       | 251,980             | 101,576                                            | 12,806             | 27,207                 | 8,128                          | 401,696        | 3,829        | 0.95                 | 175,109,604   | 175,169,913    | -60,309                 | -0.03                           |
| Jun. 2005                                                  | 205,078                     | 150,509                                                       | 23,424                            | 75,681                        | 111,830                  | 566,522       | 269,033             | 165,043                                            | 7,290              | 42,962                 | 77,500                         | 561,828        | 4,694        | 0.83                 | 175,676,126   | 175,731,741    | -55,615                 | -0.03                           |
| Jul. 2005                                                  | 78,689                      | 27,157                                                        | 38,963                            | 20,011                        | 144,028                  | 308,848       | 245,675             | 40,207                                             | 1,291              | 22,360                 | 3,731                          | 313,263        | -4,416       | -1.42                | 175,984,974   | 176,045,004    | -60,031                 | -0.03                           |
| Aug. 2005                                                  | 62,937                      | 22,275                                                        | 32,350                            | 41,200                        | 135,473                  | 294,235       | 220,257             | 44,855                                             | 2,487              | 26,395                 | 1,555                          | 295,550        | -1,315       | -0.45                | 176,279,209   | 176,340,554    | -61,345                 | -0.03                           |
| Sep. 2005                                                  | 31,193                      | 13,714                                                        | 28,068                            | 8,712                         | 126,417                  | 208,104       | 154,757             | 32,864                                             | 894                | 20,007                 | 1,124                          | 209,645        | -1,541       | -0.74                | 176,487,313   | 176,550,199    | -62,886                 | -0.04                           |
| Oct. 2005                                                  | 37,435                      | 38,807                                                        | 21,980                            | 60,816                        | 124,598                  | 283,636       | 152,007             | 79,641                                             | 2,484              | 32,989                 | 14,552                         | 281,673        | 1,963        | 0.69                 | 176,770,949   | 176,831,872    | -60,923                 | -0.03                           |
| Nov. 2005                                                  | 17,680                      | 25,204                                                        | 25,556                            | 3,774                         | 116,202                  | 188,415       | 106,414             | 51,121                                             | 1,854              | 18,444                 | 13,738                         | 191,571        | -3,156       | -1.66                | 176,959,363   | 177,023,443    | -64,079                 | -0.04                           |
| Dec. 2005                                                  | 13,908                      | 24,073                                                        | 14,025                            | 4,009                         | 111,807                  | 167,822       | 78,128              | 46,853                                             | 1,606              | 19,398                 | 23,009                         | 168,995        | -1,173       | -0.70                | 177,127,185   | 177,192,437    | -65,252                 | -0.04                           |
| Jan. 2006                                                  | 13,269                      | 21,077                                                        | 14,054                            | 3,618                         | 113,376                  | 165,394       | 92,807              | 44,160                                             | 1,693              | 18,172                 | 9,298                          | 166,130        | -736         | -0.44                | 177,292,579   | 177,358,567    | -65,988                 | -0.04                           |
| Feb. 2006                                                  | 11,589                      | 18,792                                                        | 15,839                            | 4,007                         | 97,136                   | 147,362       | 81,500              | 39,117                                             | 1,508              | 17,250                 | 8,313                          | 147,688        | -326         | -0.22                | 177,439,942   | 177,506,255    | -66,314                 | -0.04                           |
| Mar. 2006                                                  | 15,161                      | 23,991                                                        | 20,724                            | 14,898                        | 100,245                  | 175,019       | 79,042              | 47,634                                             | 1,832              | 23,468                 | 23,063                         | 175,040        | -21          | -0.01                | 177,614,961   | 177,681,295    | -66,335                 | -0.04                           |
| Apr. 2006                                                  | 17,627                      | 15,030                                                        | 21,698                            | 11,723                        | 110,529                  | 176,608       | 111,399             | 35,615                                             | 1,717              | 19,912                 | 8,184                          | 176,827        | -219         | -0.12                | 177,791,569   | 177,858,122    | -66,553                 | -0.04                           |
| May 2006                                                   | 74,481                      | 18,536                                                        | 27,518                            | 18,227                        | 111,530                  | 250,293       | 183,384             | 38,367                                             | 1,418              | 23,239                 | 1,385                          | 247,793        | 2,499        | 1.00                 | 178,041,861   | 178,105,915    | -64,054                 | -0.04                           |
| Jun. 2006                                                  | 103,088                     | 34,127                                                        | 27,556                            | 12,314                        | 107,318                  | 284,403       | 212,078             | 48,675                                             | 877                | 22,643                 | 1,158                          | 285,430        | -1,027       | -0.36                | 178,326,265   | 178,391,346    | -65,081                 | -0.04                           |
| Jul. 2006                                                  | 98,345                      | 36,181                                                        | 28,055                            | 48,159                        | 108,598                  | 319,338       | 218,382             | 60,648                                             | 3,101              | 33,316                 | 1,251                          | 316,697        | 2,641        | 0.83                 | 178,645,603   | 178,708,043    | -62,440                 | -0.03                           |
| Aug. 2006                                                  | 58,691                      | 19,219                                                        | 47,762                            | 38,553                        | 111,362                  | 275,587       | 196,618             | 40,538                                             | 1,550              | 32,181                 | 5,758                          | 276,646        | -1,058       | -0.38                | 178,921,190   | 178,984,688    | -63,498                 | -0.04                           |
| Sep. 2006                                                  | 32,936                      | 16,740                                                        | 22,731                            | 20,398                        | 114,512                  | 207,317       | 145,216             | 38,559                                             | 1,240              | 23,403                 | 1,040                          | 209,458        | -2,141       | -1.03                | 179,128,507   | 179,194,146    | -65,639                 | -0.04                           |
| Oct. 2006                                                  | 30,170                      | 27,155                                                        | 21,704                            | 38,212                        | 113,097                  | 230,337       | 136,366             | 61,943                                             | 2,005              | 25,971                 | 1,279                          | 227,565        | 2,772        | 1.21                 | 179,358,844   | 179,421,711    | -62,866                 | -0.04                           |
| Nov. 2006                                                  | 16,444                      | 22,951                                                        | 17,025                            | 5,246                         | 106,730                  | 168,397       | 98,834              | 50,525                                             | 3,269              | 18,465                 | 1,139                          | 172,232        | -3,835       | -2.25                | 179,527,241   | 179,593,943    | -66,701                 | -0.04                           |
| Dec. 2006                                                  | 15,950                      | 23,550                                                        | 16,190                            | 28,341                        | 99,513                   | 183,544       | 88,346              | 59,399                                             | 2,609              | 24,631                 | 8,618                          | 183,604        | -59          | -0.03                | 179,710,786   | 179,777,546    | -66,761                 | -0.04                           |
| Jan. 2007                                                  | 17,697                      | 22,878                                                        | 16,100                            | 11,312                        | 98,079                   | 166,067       | 73,431              | 48,620                                             | 2,217              | 25,637                 | 17,179                         | 167,084        | -1,017       | -0.61                | 179,876,853   | 179,944,630    | -67,778                 | -0.04                           |
| Feb. 2007                                                  | 21,689                      | 31,796                                                        | 17,136                            | 5,047                         | 90,492                   | 166,160       | 87,847              | 45,160                                             | 2,370              | 21,913                 | 9,013                          | 166,303        | -143         | -0.09                | 180,043,013   | 180,110,934    | -67,921                 | -0.04                           |
| Mar. 2007                                                  | 57,689                      | 41,997                                                        | 18,633                            | 16,552                        | 101,038                  | 235,909       | 143,918             | 56,151                                             | 7,375              | 23,299                 | 2,096                          | 232,839        | 3,070        | 1.31                 | 180,278,922   | 180,343,772    | -64,851                 | -0.04                           |
| Apr. 2007                                                  | 79,347                      | 45,222                                                        | 21,417                            | 48,386                        | 102,715                  | 297,087       | 168,577             | 61,946                                             | 14,295             | 33,268                 | 18,340                         | 296,427        | 660          | 0.22                 | 180,576,008   | 180,640,199    | -64,191                 | -0.04                           |
| May 2007                                                   | 248,228                     | 77,462                                                        | 23,498                            | 63,235                        | 106,522                  | 518,945       | 278,511             | 91,087                                             | 17,748             | 48,945                 | 79,716                         | 516,008        | 2,938        | 0.57                 | 181,094,954   | 181,156,207    | -61,253                 | -0.03                           |
| Jun. 2007                                                  | 197,597                     | 75,652                                                        | 22,956                            | 20,357                        | 130,773                  | 447,334       | 328,296             | 73,115                                             | 4,719              | 25,488                 | 15,070                         | 446,687        | 647          | 0.14                 | 181,542,288   | 181,602,894    | -60,606                 | -0.03                           |

| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 2007                                                  | 97,725                      | 25,220                                                        | 34,681                            | 37,065                        | 135,793                  | 330,483       | 247,049             | 44,437                                             | 2,094              | 27,994                 | 9,079                          | 330,653        | -170         | -0.05                | 181,872,772   | 181,933,547    | -60,776                 | -0.03                           |
| Aug. 2007                                                  | 74,974                      | 23,097                                                        | 22,411                            | 59,463                        | 138,064                  | 318,009       | 239,046             | 45,651                                             | 2,500              | 32,089                 | 1,796                          | 321,081        | -3,072       | -0.96                | 182,190,780   | 182,254,628    | -63,848                 | -0.04                           |
| Sep. 2007                                                  | 36,171                      | 20,303                                                        | 30,551                            | 22,222                        | 129,917                  | 239,164       | 175,187             | 38,449                                             | 1,543              | 22,500                 | 2,496                          | 240,175        | -1,011       | -0.42                | 182,429,944   | 182,494,803    | -64,859                 | -0.04                           |
| Oct. 2007                                                  | 33,238                      | 28,415                                                        | 21,071                            | 21,466                        | 126,187                  | 230,377       | 149,485             | 53,505                                             | 1,987              | 22,767                 | 1,709                          | 229,453        | 923          | 0.40                 | 182,660,321   | 182,724,256    | -63,936                 | -0.03                           |
| Nov. 2007                                                  | 15,969                      | 24,225                                                        | 19,283                            | 3,211                         | 113,584                  | 176,271       | 104,417             | 48,109                                             | 1,756              | 19,103                 | 4,529                          | 177,914        | -1,644       | -0.93                | 182,836,591   | 182,902,171    | -65,579                 | -0.04                           |
| Dec. 2007                                                  | 15,299                      | 23,106                                                        | 14,725                            | 15,759                        | 114,463                  | 183,352       | 90,340              | 49,523                                             | 2,350              | 23,970                 | 17,908                         | 184,091        | -739         | -0.40                | 183,019,943   | 183,086,262    | -66,319                 | -0.04                           |
| Jan. 2008                                                  | 15,078                      | 20,937                                                        | 16,109                            | 3,550                         | 114,064                  | 169,738       | 88,766              | 41,786                                             | 2,206              | 22,778                 | 15,225                         | 170,761        | -1,023       | -0.60                | 183,189,681   | 183,257,022    | -67,341                 | -0.04                           |
| Feb. 2008                                                  | 18,107                      | 21,148                                                        | 18,198                            | 5,671                         | 104,647                  | 167,771       | 84,034              | 39,888                                             | 2,353              | 22,463                 | 19,357                         | 168,095        | -324         | -0.19                | 183,357,452   | 183,425,117    | -67,665                 | -0.04                           |
| Mar. 2008                                                  | 23,457                      | 22,098                                                        | 19,562                            | 7,837                         | 105,953                  | 178,907       | 94,312              | 42,001                                             | 2,791              | 22,101                 | 18,007                         | 179,212        | -305         | -0.17                | 183,536,359   | 183,604,329    | -67,970                 | -0.04                           |
| Apr. 2008                                                  | 27,665                      | 16,305                                                        | 19,813                            | 16,019                        | 112,265                  | 192,067       | 113,450             | 35,326                                             | 3,263              | 22,536                 | 17,474                         | 192,049        | 18           | 0.01                 | 183,728,427   | 183,796,378    | -67,952                 | -0.04                           |
| May 2008                                                   | 81,368                      | 21,220                                                        | 24,150                            | 36,146                        | 118,991                  | 281,875       | 196,384             | 44,117                                             | 3,817              | 24,922                 | 9,937                          | 279,177        | 2,697        | 0.96                 | 184,010,301   | 184,075,556    | -65,254                 | -0.04                           |
| Jun. 2008                                                  | 168,871                     | 55,767                                                        | 21,175                            | 28,929                        | 117,953                  | 392,694       | 275,845             | 79,416                                             | 1,836              | 25,289                 | 5,391                          | 387,778        | 4,916        | 1.26                 | 184,402,996   | 184,463,334    | -60,338                 | -0.03                           |
| Jul. 2008                                                  | 106,755                     | 28,058                                                        | 34,396                            | 24,819                        | 127,091                  | 321,119       | 233,972             | 43,385                                             | 1,141              | 26,777                 | 17,725                         | 323,001        | -1,882       | -0.58                | 184,724,114   | 184,786,335    | -62,220                 | -0.03                           |
| Aug. 2008                                                  | 60,737                      | 42,260                                                        | 24,001                            | 94,686                        | 127,737                  | 349,420       | 209,899             | 67,150                                             | 3,169              | 42,802                 | 24,356                         | 347,375        | 2,045        | 0.59                 | 185,073,534   | 185,133,710    | -60,176                 | -0.03                           |
| Sep. 2008                                                  | 37,847                      | 27,180                                                        | 24,081                            | 30,933                        | 133,455                  | 253,496       | 178,112             | 50,446                                             | 1,503              | 22,205                 | 2,893                          | 255,159        | -1,663       | -0.65                | 185,327,030   | 185,388,869    | -61,839                 | -0.03                           |
| Oct. 2008                                                  | 24,095                      | 27,193                                                        | 23,209                            | 18,385                        | 132,002                  | 224,884       | 143,543             | 51,908                                             | 1,501              | 21,710                 | 7,619                          | 226,281        | -1,397       | -0.62                | 185,551,915   | 185,615,150    | -63,236                 | -0.03                           |
| Nov. 2008                                                  | 14,790                      | 23,689                                                        | 21,006                            | 4,501                         | 115,737                  | 179,722       | 104,079             | 45,534                                             | 1,497              | 18,777                 | 11,502                         | 181,388        | -1,666       | -0.92                | 185,731,637   | 185,796,539    | -64,902                 | -0.03                           |
| Dec. 2008                                                  | 15,493                      | 24,770                                                        | 18,507                            | 8,572                         | 113,726                  | 181,068       | 89,965              | 47,674                                             | 2,057              | 22,124                 | 19,922                         | 181,740        | -672         | -0.37                | 185,912,705   | 185,978,279    | -65,574                 | -0.04                           |
| Jan. 2009                                                  | 16,722                      | 23,798                                                        | 19,074                            | 5,862                         | 112,457                  | 177,913       | 94,155              | 45,421                                             | 1,770              | 21,775                 | 15,467                         | 178,588        | -674         | -0.38                | 186,090,619   | 186,156,867    | -66,248                 | -0.04                           |
| Feb. 2009                                                  | 13,117                      | 21,693                                                        | 16,804                            | 2,040                         | 98,809                   | 152,463       | 82,158              | 37,357                                             | 1,633              | 19,121                 | 12,735                         | 153,003        | -540         | -0.35                | 186,243,082   | 186,309,870    | -66,788                 | -0.04                           |
| Mar. 2009                                                  | 12,757                      | 20,980                                                        | 18,607                            | 12,531                        | 109,275                  | 174,150       | 84,616              | 41,585                                             | 1,861              | 22,873                 | 23,461                         | 174,396        | -245         | -0.14                | 186,417,232   | 186,484,266    | -67,033                 | -0.04                           |
| Apr. 2009                                                  | 37,181                      | 43,453                                                        | 21,095                            | 73,683                        | 115,539                  | 290,950       | 125,008             | 69,663                                             | 6,415              | 37,487                 | 49,912                         | 288,485        | 2,465        | 0.85                 | 186,708,183   | 186,772,751    | -64,568                 | -0.03                           |
| May 2009                                                   | 120,731                     | 66,996                                                        | 22,229                            | 48,978                        | 128,749                  | 387,683       | 242,027             | 84,885                                             | 6,832              | 28,865                 | 22,288                         | 384,896        | 2,788        | 0.72                 | 187,095,866   | 187,157,646    | -61,781                 | -0.03                           |
| Jun. 2009                                                  | 232,688                     | 182,942                                                       | 22,725                            | 88,485                        | 117,137                  | 643,977       | 197,888             | 198,712                                            | 7,776              | 49,357                 | 184,360                        | 638,093        | 5,884        | 0.92                 | 187,739,843   | 187,795,740    | -55,896                 | -0.03                           |
| Jul. 2009                                                  | 109,893                     | 52,495                                                        | 25,377                            | 69,795                        | 155,934                  | 413,494       | 276,426             | 73,578                                             | 4,375              | 30,739                 | 30,917                         | 416,035        | -2,541       | -0.61                | 188,153,337   | 188,211,774    | -58,437                 | -0.03                           |
| Aug. 2009                                                  | 56,146                      | 24,218                                                        | 25,881                            | 28,101                        | 155,011                  | 289,357       | 216,664             | 36,884                                             | 1,744              | 23,523                 | 12,368                         | 291,183        | -1,826       | -0.63                | 188,442,694   | 188,502,957    | -60,263                 | -0.03                           |
| Sep. 2009                                                  | 39,436                      | 23,340                                                        | 23,971                            | 24,687                        | 143,551                  | 254,985       | 175,919             | 39,308                                             | 1,572              | 23,210                 | 15,246                         | 255,255        | -270         | -0.11                | 188,697,678   | 188,758,212    | -60,534                 | -0.03                           |
| Oct. 2009                                                  | 37,357                      | 32,545                                                        | 22,068                            | 45,711                        | 152,472                  | 290,154       | 144,158             | 64,557                                             | 2,445              | 27,844                 | 50,895                         | 289,899        | 254          | 0.09                 | 188,987,832   | 189,048,112    | -60,279                 | -0.03                           |
| Nov. 2009                                                  | 21,993                      | 34,019                                                        | 20,253                            | 9,756                         | 126,390                  | 212,411       | 102,309             | 54,929                                             | 3,156              | 20,224                 | 33,658                         | 214,276        | -1,865       | -0.87                | 189,200,243   | 189,262,388    | -62,144                 | -0.03                           |
| Dec. 2009                                                  | 21,996                      | 27,692                                                        | 20,422                            | 10,207                        | 118,595                  | 198,912       | 64,060              | 52,672                                             | 2,773              | 23,244                 | 57,211                         | 199,960        | -1,047       | -0.53                | 189,399,156   | 189,462,347    | -63,192                 | -0.03                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jan. 2010                                                  | 19,836                      | 29,439                                                        | 14,741                            | 2,062                         | 124,008                  | 190,087       | 89,753              | 46,104                                             | 2,224              | 20,993                 | 31,780                         | 190,854        | -767         | -0.40                | 189,589,243   | 189,653,202    | -63,959                 | -0.03                           |
| Feb. 2010                                                  | 16,538                      | 23,782                                                        | 15,932                            | 8,908                         | 112,036                  | 177,197       | 92,367              | 40,575                                             | 2,072              | 19,615                 | 23,116                         | 177,746        | -549         | -0.31                | 189,766,440   | 189,830,948    | -64,508                 | -0.03                           |
| Mar. 2010                                                  | 22,956                      | 33,579                                                        | 20,946                            | 19,176                        | 119,620                  | 216,277       | 106,277             | 48,508                                             | 3,436              | 24,023                 | 34,163                         | 216,408        | -131         | -0.06                | 189,982,717   | 190,047,355    | -64,638                 | -0.03                           |
| Apr. 2010                                                  | 78,737                      | 63,124                                                        | 22,115                            | 61,076                        | 107,928                  | 332,980       | 120,296             | 80,036                                             | 15,746             | 36,211                 | 77,938                         | 330,227        | 2,753        | 0.83                 | 190,315,697   | 190,377,582    | -61,886                 | -0.03                           |
| May 2010                                                   | 170,760                     | 132,436                                                       | 23,692                            | 40,831                        | 111,846                  | 479,566       | 175,836             | 138,841                                            | 15,386             | 33,884                 | 111,161                        | 475,108        | 4,458        | 0.93                 | 190,795,263   | 190,852,690    | -57,428                 | -0.03                           |
| Jun. 2010                                                  | 297,607                     | 252,377                                                       | 21,606                            | 61,141                        | 108,887                  | 741,618       | 246,374             | 260,982                                            | 4,755              | 41,659                 | 181,728                        | 735,499        | 6,119        | 0.83                 | 191,536,881   | 191,588,189    | -51,308                 | -0.03                           |
| Jul. 2010                                                  | 90,479                      | 39,470                                                        | 26,930                            | 36,670                        | 170,283                  | 363,832       | 281,888             | 54,439                                             | 2,663              | 24,877                 | 6,686                          | 370,552        | -6,720       | -1.83                | 191,900,713   | 191,958,742    | -58,028                 | -0.03                           |
| Aug. 2010                                                  | 91,268                      | 27,932                                                        | 24,568                            | 32,063                        | 156,177                  | 332,008       | 256,143             | 45,062                                             | 1,886              | 24,882                 | 4,289                          | 332,262        | -254         | -0.08                | 192,232,721   | 192,291,003    | -58,283                 | -0.03                           |
| Sep. 2010                                                  | 36,644                      | 17,044                                                        | 24,978                            | 2,964                         | 145,691                  | 227,321       | 181,507             | 30,857                                             | 1,001              | 16,855                 | 2,299                          | 232,519        | -5,198       | -2.26                | 192,460,041   | 192,523,523    | -63,481                 | -0.03                           |
| Oct. 2010                                                  | 35,774                      | 24,908                                                        | 22,299                            | 12,624                        | 138,351                  | 233,956       | 160,217             | 46,411                                             | 1,509              | 19,843                 | 5,377                          | 233,357        | 598          | 0.26                 | 192,693,997   | 192,756,880    | -62,883                 | -0.03                           |
| Nov. 2010                                                  | 17,130                      | 26,164                                                        | 19,961                            | 6,068                         | 128,081                  | 197,404       | 123,387             | 47,999                                             | 1,707              | 17,961                 | 8,359                          | 199,413        | -2,009       | -1.01                | 192,891,401   | 192,956,293    | -64,892                 | -0.03                           |
| Dec. 2010                                                  | 16,317                      | 23,643                                                        | 18,544                            | 3,242                         | 124,138                  | 185,883       | 106,028             | 43,978                                             | 1,758              | 19,566                 | 15,530                         | 186,860        | -976         | -0.52                | 193,077,284   | 193,143,152    | -65,868                 | -0.03                           |
| Jan. 2011                                                  | 16,338                      | 23,729                                                        | 15,964                            | 6,060                         | 111,658                  | 173,748       | 73,026              | 43,736                                             | 1,782              | 22,984                 | 32,767                         | 174,296        | -548         | -0.31                | 193,251,033   | 193,317,448    | -66,416                 | -0.03                           |
| Feb. 2011                                                  | 13,771                      | 22,245                                                        | 12,726                            | 9,391                         | 100,232                  | 158,365       | 59,374              | 40,095                                             | 1,761              | 21,488                 | 36,015                         | 158,733        | -368         | -0.23                | 193,409,397   | 193,476,181    | -66,784                 | -0.03                           |
| Mar. 2011                                                  | 14,421                      | 23,728                                                        | 17,288                            | 3,518                         | 121,658                  | 180,614       | 100,144             | 40,299                                             | 1,668              | 19,963                 | 18,955                         | 181,028        | -414         | -0.23                | 193,590,011   | 193,657,210    | -67,198                 | -0.03                           |
| Apr. 2011                                                  | 24,943                      | 17,685                                                        | 18,349                            | 31,135                        | 121,595                  | 213,707       | 128,715             | 38,205                                             | 2,101              | 25,169                 | 18,985                         | 213,175        | 532          | 0.25                 | 193,803,719   | 193,870,385    | -66,666                 | -0.03                           |
| May 2011                                                   | 80,847                      | 61,363                                                        | 21,666                            | 90,081                        | 124,244                  | 378,201       | 195,987             | 90,332                                             | 3,126              | 36,986                 | 46,542                         | 372,974        | 5,227        | 1.39                 | 194,181,920   | 194,243,359    | -61,439                 | -0.03                           |
| Jun. 2011                                                  | 284,309                     | 200,863                                                       | 20,700                            | 35,042                        | 114,162                  | 655,076       | 310,215             | 235,493                                            | 1,954              | 30,179                 | 70,192                         | 648,033        | 7,043        | 1.08                 | 194,836,996   | 194,891,392    | -54,396                 | -0.03                           |
| Jul. 2011                                                  | 292,266                     | 216,449                                                       | 23,994                            | 75,833                        | 125,538                  | 734,080       | 363,943             | 232,580                                            | 1,804              | 38,297                 | 95,623                         | 732,247        | 1,833        | 0.25                 | 195,571,076   | 195,623,639    | -52,563                 | -0.03                           |
| Aug. 2011                                                  | 101,737                     | 33,410                                                        | 28,330                            | 14,710                        | 168,400                  | 346,586       | 282,462             | 44,694                                             | 1,108              | 18,683                 | 6,165                          | 353,110        | -6,524       | -1.86                | 195,917,662   | 195,976,749    | -59,087                 | -0.03                           |
| Sep. 2011                                                  | 49,620                      | 32,723                                                        | 23,060                            | 29,834                        | 144,009                  | 279,247       | 195,927             | 53,404                                             | 1,451              | 21,549                 | 7,149                          | 279,481        | -234         | -0.08                | 196,196,909   | 196,256,230    | -59,321                 | -0.03                           |
| Oct. 2011                                                  | 35,153                      | 32,364                                                        | 21,895                            | 38,365                        | 141,391                  | 269,168       | 169,870             | 61,847                                             | 1,645              | 25,010                 | 11,692                         | 270,065        | -897         | -0.33                | 196,466,077   | 196,526,295    | -60,218                 | -0.03                           |
| Nov. 2011                                                  | 19,219                      | 33,070                                                        | 19,041                            | 6,551                         | 129,907                  | 207,788       | 123,276             | 52,478                                             | 1,458              | 18,456                 | 14,056                         | 209,723        | -1,935       | -0.93                | 196,673,865   | 196,736,018    | -62,153                 | -0.03                           |
| Dec. 2011                                                  | 19,279                      | 31,508                                                        | 16,029                            | 9,968                         | 113,801                  | 190,584       | 56,688              | 52,311                                             | 1,791              | 23,599                 | 57,061                         | 191,451        | -867         | -0.45                | 196,864,449   | 196,927,469    | -63,019                 | -0.03                           |
| Jan. 2012                                                  | 20,383                      | 30,020                                                        | 16,790                            | 3,002                         | 113,285                  | 183,480       | 46,115              | 49,118                                             | 1,799              | 23,006                 | 64,122                         | 184,160        | -680         | -0.37                | 197,047,929   | 197,111,629    | -63,700                 | -0.03                           |
| Feb. 2012                                                  | 16,659                      | 32,143                                                        | 17,002                            | 15,511                        | 103,086                  | 184,401       | 43,164              | 48,500                                             | 1,777              | 24,671                 | 66,675                         | 184,787        | -386         | -0.21                | 197,232,331   | 197,296,416    | -64,085                 | -0.03                           |
| Mar. 2012                                                  | 18,826                      | 24,120                                                        | 19,451                            | 582                           | 120,983                  | 183,961       | 90,979              | 41,240                                             | 1,684              | 20,156                 | 30,905                         | 184,965        | -1,004       | -0.54                | 197,416,292   | 197,481,381    | -65,089                 | -0.03                           |
| Apr. 2012                                                  | 27,629                      | 18,513                                                        | 18,628                            | 25,166                        | 122,191                  | 212,127       | 130,404             | 37,037                                             | 2,561              | 24,236                 | 17,428                         | 211,665        | 461          | 0.22                 | 197,628,418   | 197,693,046    | -64,628                 | -0.03                           |
| May 2012                                                   | 56,793                      | 16,895                                                        | 22,405                            | 31,967                        | 127,045                  | 255,105       | 183,564             | 36,230                                             | 2,060              | 22,605                 | 9,013                          | 253,473        | 1,632        | 0.64                 | 197,883,523   | 197,946,519    | -62,996                 | -0.03                           |
| Jun. 2012                                                  | 62,388                      | 14,531                                                        | 35,310                            | 18,412                        | 118,591                  | 249,232       | 194,938             | 28,172                                             | 1,658              | 22,360                 | 3,277                          | 250,405        | -1,173       | -0.47                | 198,132,755   | 198,196,924    | -64,169                 | -0.03                           |



| Table D-1. Simulated Monthly Surface Water Budgets (ac-ft) |                             |                                                               |                                   |                               |                          |               |                     |                                                    |                    |                        |                                |                |              |                      |               |                |                         |                                 |
|------------------------------------------------------------|-----------------------------|---------------------------------------------------------------|-----------------------------------|-------------------------------|--------------------------|---------------|---------------------|----------------------------------------------------|--------------------|------------------------|--------------------------------|----------------|--------------|----------------------|---------------|----------------|-------------------------|---------------------------------|
| Month/Year                                                 | Inflows                     |                                                               |                                   |                               |                          |               | Outflows            |                                                    |                    |                        |                                |                | Mass Balance |                      |               |                |                         |                                 |
|                                                            | Gaged Surface Water Inflows | Gaged Surface Water Inflows at Selected Tributary Mouth Gages | Return Flow and Discharge Inflows | Ungaged Surface Water Inflows | Stream Gain from Aquifer | Total Inflows | Physical Diversions | Flows Removed above Selected Tributary Mouth Gages | Ungaged Diversions | Stream Loss to Aquifer | Streamflow Out Below Julesburg | Total Outflows | In Minus Out | % Mass Balance Error | Cumulative In | Cumulative Out | Cumulative In Minus Out | Cumulative % Mass Balance Error |
| Jul. 2012                                                  | 71,291                      | 25,385                                                        | 33,030                            | 49,245                        | 117,257                  | 296,207       | 217,832             | 43,993                                             | 1,764              | 30,214                 | 1,459                          | 295,263        | 944          | 0.32                 | 198,428,962   | 198,492,186    | -63,225                 | -0.03                           |
| Aug. 2012                                                  | 60,528                      | 13,738                                                        | 28,156                            | 8,818                         | 114,922                  | 226,161       | 180,332             | 26,785                                             | 872                | 20,666                 | 1,155                          | 229,810        | -3,649       | -1.60                | 198,655,123   | 198,721,996    | -66,873                 | -0.03                           |
| Sep. 2012                                                  | 26,679                      | 15,727                                                        | 20,301                            | 40,393                        | 108,530                  | 211,631       | 137,150             | 42,807                                             | 1,553              | 27,109                 | 905                            | 209,525        | 2,106        | 1.00                 | 198,866,754   | 198,931,521    | -64,767                 | -0.03                           |
| Oct. 2012                                                  | 34,012                      | 23,481                                                        | 19,183                            | 18,581                        | 117,323                  | 212,580       | 143,068             | 46,118                                             | 1,259              | 21,364                 | 1,406                          | 213,215        | -636         | -0.30                | 199,079,334   | 199,144,737    | -65,403                 | -0.03                           |
| Nov. 2012                                                  | 10,544                      | 20,886                                                        | 17,639                            | 3,342                         | 99,240                   | 151,651       | 76,357              | 41,076                                             | 1,031              | 19,820                 | 15,419                         | 153,703        | -2,052       | -1.34                | 199,230,985   | 199,298,439    | -67,454                 | -0.03                           |
| Dec. 2012                                                  | 8,856                       | 18,452                                                        | 17,859                            | 5,440                         | 97,971                   | 148,579       | 55,550              | 39,265                                             | 1,053              | 22,550                 | 30,920                         | 149,338        | -759         | -0.51                | 199,379,564   | 199,447,777    | -68,213                 | -0.03                           |

