



State of Idaho

## DEPARTMENT OF WATER RESOURCES

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April 12, 2002

DIRK KEMPTHORNE  
Governor

KARL J. DREHER  
Director

Roger D. Ling  
Ling & Robinson  
PO Box 396  
Rupert, ID 83350-0396

**Re: *Settlement Agreement between Aberdeen-Springfield Canal Company and  
Idaho Department of Water Resources on Basin 35 "Recovered Water"  
Subcases***

Dear Roger:

This letter is written in response to your letter to me dated December 31, 2001. This response incorporates the information on acreage counts that we requested of you, and that you hand-delivered to Dave Tuthill at the Water District 01 meeting last month.

I believe the best method to respond to your question concerning the "appropriate factor (less than 1)" contained in paragraph E of the proposed Settlement Agreement is to apply the formula using actual numbers provided by your client. Accordingly, please find enclosed a computation of this factor as applied to the Aberdeen Springfield Canal Company. Note that the numbers used in the computation are based on the estimates of acres irrigated from surface water, ground water, and a combination of the two that you supplied. We recognize that this number will change, but the numbers provided do allow for a sample computation.

If you have any further questions please contact either Dave Tuthill or me at (208) 327-7900.

Sincerely,

Susan Hamlin Nygard  
Deputy Attorney General, IDWR

Enclosures

cc: Clive Strong  
Karl Dreher  
Jo Beeman  
John Simpson

# MEMORANDUM

TO: Susan Hamlin-Nygard  
FROM: Dave Tuthill   
DATE: April 12, 2002  
RE: Computations for Aberdeen-Springfield Canal Company

The purpose of this memorandum is to provide a sample computation for Item 2.E of the "Settlement Agreement Regarding Aberdeen-Springfield Canal Company's Basin 01 Surface Water Rights and Consolidated SRBA Subcase No. 35-2315." This item specifies the technique of computing the amount credited for mitigation.

The Adjudication Bureau conducted an investigation of crop types in Bingham County as a mechanism for computing the anticipated consumptive irrigation requirement for irrigated lands within the Aberdeen-Springfield Canal Company (ASCC). This investigation, combined with other information assembled in Attachments 1 through 8, results in the assessment that the average annual consumptive irrigation requirement in the ASCC, based on the crop mix found in Bingham County, is estimated to be 1.86 acre-feet per acre.

Item 2.E computations are demonstrated in the Excel spreadsheet identified as Attachment 10, based on the estimated irrigated acres provided by ASCC (Attachment 9). Note that for the estimated values provided, the ASCC diversions provide sufficient mitigation water for the estimated number of acres eligible for mitigation credit under the Agreement.

### Attachments

- Attachment 1: Crop type information as described in the attached memo dated February 14, 2002
- Attachment 2: Estimated Consumptive Use and Consumptive Irrigation Requirement, Aberdeen Experimental Station (Allen and Brockway, 1983)
- Attachment 3: Crop weighted ET and CIR calculations for the Aberdeen-Springfield Canal prepared by Mr. Bill Ondrechen of this office
- Attachment 4: Graph of Monthly Crop Weighted ET and IR prepared by Mr. Bill Ondrechen of this office
- Attachment 5: Crop ER and Crop IR compared to average monthly ASCC diversions prepared by Mr. Bill Ondrechen of this office
- Attachment 6: Diversions During 1998 Irrigation Year from Snake River between Idaho Falls and Blackfoot
- Attachment 7: Historic diversions from Aberdeen Canal, 1980-2000
- Attachment 8: Evapotranspiration Totals and Averages, Aberdeen Idaho
- Attachment 9: Aberdeen-Springfield Canal Company report of Irrigated Acres for 2001
- Attachment 10: Sample Calculation Spreadsheet

## MEMORANDUM

TO: Legal File for Aberdeen Springfield Water Right Recommendations

FROM: Dave Tuthill 

DATE: February 14, 2002

RE: USDA Ag Statistics Information for Bingham County

Pursuant to a telephone call on this date, I was advised by Mr. Bob Tratz of the USDA Ag Statistics Center in Boise that the following tabulations have been computed for crops planted in Bingham County for the year 2000. He stated that his information does not refine the statistics to a unit smaller than by county.

| Crop Type    | 1000's of Acres | Percent of Total |
|--------------|-----------------|------------------|
| Alfalfa      | 52.3            | 17.1             |
| Barley       | 23              | 7.5              |
| Corn         | 2               | 0.6              |
| Oats         | 1.9             | 0.6              |
| Potatoes     | 67.5            | 22.0             |
| Spring wheat | 65              | 21.2             |
| Sugar beets  | 23.5            | 7.7              |
| Winter wheat | 71              | 23.2             |
|              |                 |                  |
| Total        | 306.2           | 99.9             |

For purposes of estimating the drop mix in the Aberdeen Springfield Canal Company area, use this crop mix for a first cut. Additional refinement of crop mix computation can be requested of the canal company if needed in the future.



Crop Weighted ET and CIR calculations for Aberdeen-Springfield Canal

Aberdeen Experiment Sta AGRIMET ET data  
 Monthly distribution from Allen & Brockway  
 Crop distribution from USDA data for Bingham County  
 Effective precipitation by crop from Allen & Brockway

| Fraction of seasonal total | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT  | TOTAL |
|----------------------------|------|------|------|------|------|------|------|-------|
| Alfalfa                    | 0.07 | 0.18 | 0.22 | 0.22 | 0.17 | 0.10 | 0.04 | 1.00  |
| Spring Grains              | 0.06 | 0.15 | 0.33 | 0.36 | 0.10 | 0.00 | 0.00 | 1.00  |
| Potatos                    | 0.00 | 0.08 | 0.22 | 0.32 | 0.24 | 0.14 | 0.00 | 1.00  |
| Sugar Beets                | 0.05 | 0.07 | 0.12 | 0.28 | 0.24 | 0.16 | 0.08 | 1.00  |
| Winter Wheat               | 0.12 | 0.22 | 0.28 | 0.29 | 0.07 | 0.00 | 0.00 | 0.98  |
| Corn                       | 0.00 | 0.08 | 0.12 | 0.31 | 0.29 | 0.18 | 0.00 | 0.98  |

| Monthly ET in inches | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT  | ANNUAL |
|----------------------|------|------|------|------|------|------|------|--------|
| Alfalfa              | 2.45 | 6.30 | 7.70 | 7.70 | 5.95 | 3.50 | 1.40 | 35.0   |
| Spring Grains        | 1.31 | 3.29 | 7.23 | 7.88 | 2.19 | 0.00 | 0.00 | 21.9   |
| Potatos              | 0.00 | 1.90 | 5.21 | 7.58 | 5.69 | 3.32 | 0.00 | 23.7   |
| Sugar Beets          | 1.39 | 1.95 | 3.34 | 7.78 | 6.67 | 4.45 | 2.22 | 27.8   |
| Winter Wheat         | 2.72 | 4.99 | 6.36 | 6.58 | 1.59 | 0.00 | 0.00 | 22.7   |
| Corn                 | 0.00 | 1.88 | 2.82 | 7.29 | 6.82 | 4.23 | 0.00 | 23.5   |

| Effective Precipitation in inches | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT  | ANNUAL |
|-----------------------------------|------|------|------|------|------|------|------|--------|
| Alfalfa                           | 0.57 | 0.89 | 0.86 | 0.33 | 0.34 | 0.40 | 0.50 | 3.9    |
| Spring Grains                     | 0.46 | 0.67 | 0.77 | 0.31 | 0.26 | 0.00 | 0.00 | 2.5    |
| Potatos                           | 0.00 | 0.51 | 0.55 | 0.24 | 0.26 | 0.30 | 0.00 | 1.9    |
| Sugar Beets                       | 0.53 | 0.68 | 0.66 | 0.33 | 0.38 | 0.41 | 0.52 | 3.5    |
| Winter Wheat                      | 0.57 | 0.85 | 0.85 | 0.33 | 0.26 | 0.00 | 0.00 | 2.9    |
| Corn                              | 0.00 | 0.67 | 0.63 | 0.31 | 0.37 | 0.39 | 0.00 | 2.4    |

Crop Distribution

|               |      |
|---------------|------|
| Alfalfa       | 0.17 |
| Spring Grains | 0.29 |
| Potatos       | 0.22 |
| Sugar Beets   | 0.08 |
| Winter Wheat  | 0.23 |
| Corn          | 0.01 |

| Crop weighted ET | in inches | ( ET times crop Dist ) |      |      |      |      |      |        |
|------------------|-----------|------------------------|------|------|------|------|------|--------|
|                  | APR       | MAY                    | JUN  | JUL  | AUG  | SEP  | OCT  | ANNUAL |
|                  | 0.42      | 1.07                   | 1.31 | 1.31 | 1.01 | 0.60 | 0.24 | 5.95   |
| Alfalfa          | 0.38      | 0.95                   | 2.10 | 2.29 | 0.64 | 0.00 | 0.00 | 6.35   |
| Spring Grains    | 0.00      | 0.42                   | 1.15 | 1.67 | 1.25 | 0.73 | 0.00 | 5.21   |
| Potatos          | 0.11      | 0.16                   | 0.27 | 0.62 | 0.53 | 0.36 | 0.18 | 2.22   |
| Sugar Beets      | 0.63      | 1.15                   | 1.46 | 1.51 | 0.37 | 0.00 | 0.00 | 5.12   |
| Winter Wheat     | 0.00      | 0.02                   | 0.03 | 0.07 | 0.07 | 0.04 | 0.00 | 0.23   |
| Corn             |           |                        |      |      |      |      |      |        |
| TOTAL            | 1.54      | 3.76                   | 6.31 | 7.47 | 3.87 | 1.72 | 0.42 | 25.1   |

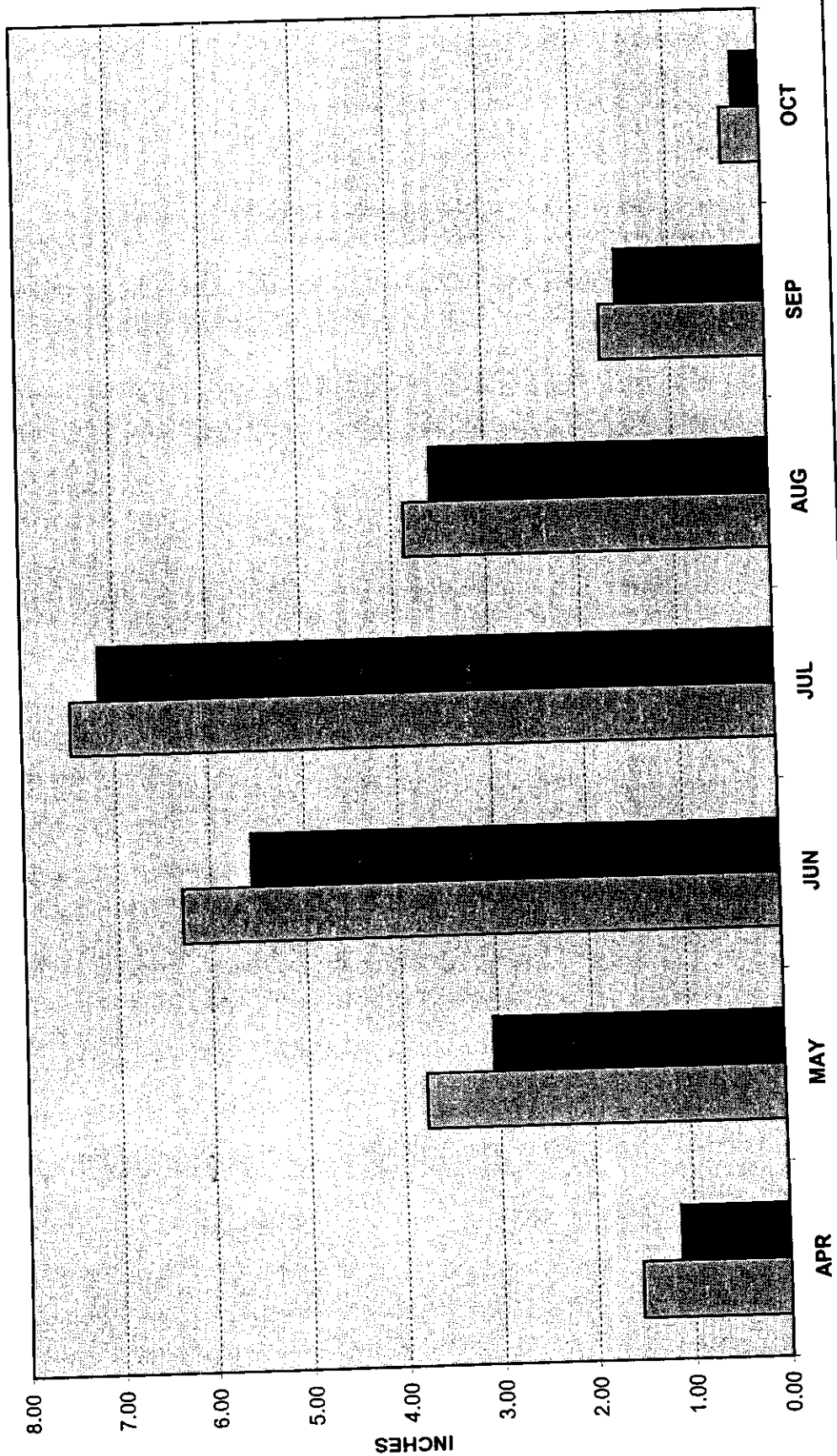
| Crop Weighted CIR | in inches | ( ET minus Eff Precip times Crop Dist) |      |      |      |      |      |        |
|-------------------|-----------|----------------------------------------|------|------|------|------|------|--------|
|                   | APR       | MAY                                    | JUN  | JUL  | AUG  | SEP  | OCT  | ANNUAL |
|                   | 0.32      | 0.92                                   | 1.16 | 1.25 | 0.95 | 0.53 | 0.15 | 5.29   |
| Alfalfa           | 0.25      | 0.76                                   | 1.87 | 2.20 | 0.56 | 0.00 | 0.00 | 5.63   |
| Spring Grains     | 0.00      | 0.30                                   | 1.03 | 1.62 | 1.19 | 0.66 | 0.00 | 4.80   |
| Potatos           | 0.07      | 0.10                                   | 0.21 | 0.60 | 0.50 | 0.32 | 0.14 | 1.94   |
| Sugar Beets       | 0.50      | 0.95                                   | 1.27 | 1.44 | 0.31 | 0.00 | 0.00 | 4.46   |
| Winter Wheat      | 0.00      | 0.01                                   | 0.02 | 0.07 | 0.06 | 0.04 | 0.00 | 0.21   |
| Corn              |           |                                        |      |      |      |      |      |        |
| TOTAL             | 1.13      | 3.05                                   | 5.56 | 7.17 | 3.58 | 1.55 | 0.29 | 22.34  |

Diversion data are averages for 1980-2000  
Service area 35,420 acres from WD-1 annual report

expressed in acft/ac

| Div, ET and CIR in acft/ac | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT  | ANNUAL |
|----------------------------|------|------|------|------|------|------|------|--------|
|                            |      |      |      |      |      |      |      |        |
| Diversion                  | 0.47 | 1.43 | 1.78 | 1.94 | 1.52 | 1.21 | 0.58 | 8.93   |
| Crop ET                    | 0.13 | 0.31 | 0.53 | 0.62 | 0.32 | 0.14 | 0.03 | 2.09   |
| Crop IR                    | 0.09 | 0.25 | 0.46 | 0.60 | 0.30 | 0.13 | 0.02 | 1.86   |

**MONTHLY CROP WEIGHTED ET AND IR**  
**ABERDEEN EXPERIMENT STATION AGRIMET ET**  
**EFFECTIVE PRECIPITATION FROM ALLEN & BROCKWAY**  
**CROP DISTRIBUTION FROM USDA COUNTY DATA**



# ABERDEEN-SPRINGFIELD DIVERSION, CROP ET AND CROP IR

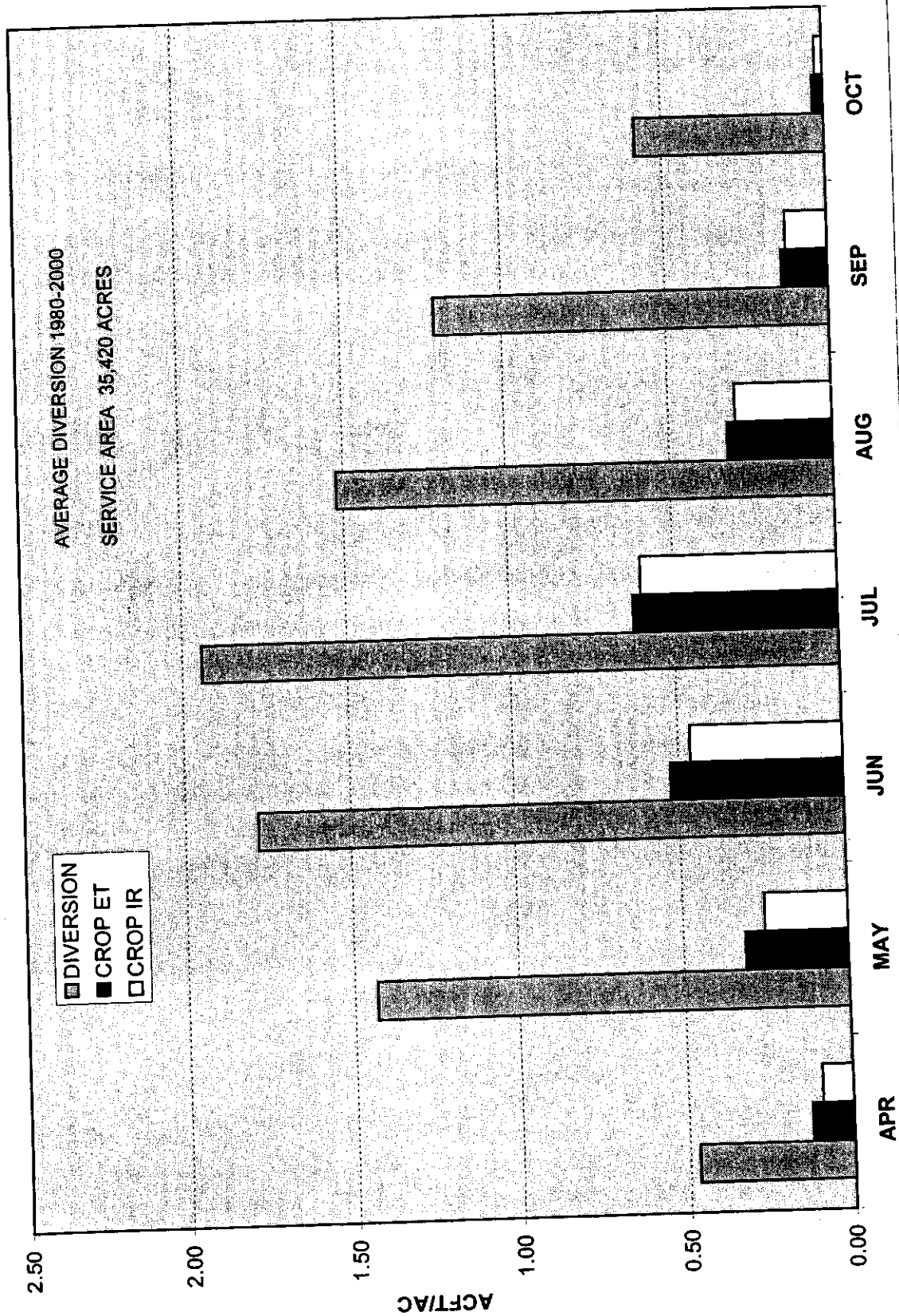


TABLE 10. Diversions During 1998 Irrigation Year from Snake River between Idaho Falls and Blackfoot.

| Diversion Number | Name                     | Total Diverted (acre-feet) | Service Area (acres) | Ac-ft/ac Diverted |
|------------------|--------------------------|----------------------------|----------------------|-------------------|
| 13059486         | Monroc-IF Pump           | 18                         | (a)                  | -                 |
| 13059490         | Monroc-Lyons Pump        | 63                         | 120                  | 0.5               |
| 13059505         | Woodville Canal          | 15,700                     | 2,650                | 5.9               |
| 13059525         | SNAKE RIVER VALLEY CANAL | 157,100                    | 20,860               | 7.5               |
| 13060055         | P Hill Pump              | 4                          | 2                    | 2.0               |
| 13060500         | Reservation Canal        | 70,800 (b)                 | 54,770               | 1.3               |
| 13061430         | Blackfoot Canal          | 87,500                     | 11,050               | 7.9               |
| 13061520         | New Lavaside Canal       | 29,500                     | 4,830                | 6.1               |
| 13061521         | C Adams Pumps (c)        | 180                        | 50                   |                   |
| 13061525         | Peoples Canal            | 84,400                     | 15,480               | 5.5               |
| 13061610         | Aberdeen Canal           | 339,300                    | 35,420               | 9.6               |
| 13061650         | Corbett Canal            | 58,400                     | 4,460                | 13.1              |
| 13061670         | Nielson-Hansen Canal     | 1,910                      | 270                  | 7.1               |
| 13061677         | R Lambert Pump           | 33                         | 25                   | 1.3               |
| 13061685         | K Christensen Pump       | 8                          | (d)                  | -                 |
| 13061705         | Riverside Canal          | 33,300                     | 2,940                | 11.3              |
| 13061995         | Danskin Canal            | 54,600                     | 5,220                | 10.5              |
| 13062050         | Trego Canal              | 22,800                     | 1,300                | 17.5              |
| 13062502         | Monroc-Blackfoot Pump    | 15                         | (a)                  | -                 |
| 13062503         | Wearyrick Canal          | 14,000                     | 1,540                | 9.1               |
| 13062506         | Watson Canal             | 23,000                     | 2,640                | 8.7               |
| 13062507         | Parsons Canal            | 13,800                     | 940                  | 14.7              |
| TOTAL            |                          | 1,006,431                  | 164,567              | 6.1 (e)           |

(a) Non-irrigation pump.

(b) Received additional water from Blackfoot River, not included.

(c) Includes diversion 13061522.

(d) Acreage not determined.

(e) Does not include non-irrigation pumps or diversions with unknown acreage.

1983 - 2000 AVG 316,400 ACFT  
8.93 ACFT/AC

13061610 HISTORIC DIVERSION ABERDEEN CANAL (1000 AC-FT)

| W-YR      | OCT  | NOV | DEC | JAN | FEB | MAR | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | ANN   |
|-----------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-------|
| 1980      | 26.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 39.9 | 61.5 | 80.5 | 57.4 | 42.8 | 312.0 |
| 1981      | 21.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.8  | 37.6 | 65.2 | 77.8 | 62.2 | 52.1 | 322.3 |
| 1982      | 18.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6  | 44.9 | 57.4 | 65.9 | 54.0 | 38.9 | 284.4 |
| 1983      | 17.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.3 | 38.5 | 58.7 | 65.3 | 52.1 | 45.6 | 287.9 |
| 1984      | 19.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.9  | 37.4 | 54.5 | 62.2 | 44.8 | 41.7 | 263.8 |
| 1985      | 22.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.9  | 48.7 | 65.1 | 68.8 | 54.6 | 37.0 | 302.2 |
| 1986      | 16.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12.9 | 43.0 | 61.1 | 59.9 | 49.3 | 37.2 | 280.2 |
| 1987      | 19.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 22.7 | 59.7 | 68.3 | 61.9 | 54.4 | 42.6 | 329.3 |
| 1988      | 19.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 20.7 | 61.3 | 71.5 | 64.0 | 51.0 | 29.0 | 317.2 |
| 1989      | 20.5 | 0.0 | 1.2 | 0.0 | 0.0 | 0.0 | 13.6 | 59.4 | 67.2 | 71.0 | 53.6 | 41.8 | 328.3 |
| 1990      | 19.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23.8 | 55.0 | 64.9 | 72.8 | 55.8 | 46.2 | 337.6 |
| 1991      | 20.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.4 | 37.0 | 66.3 | 72.5 | 57.2 | 44.5 | 312.1 |
| 1992      | 21.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25.1 | 69.6 | 64.9 | 55.7 | 34.9 | 30.3 | 301.6 |
| 1993      | 4.5  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6  | 37.3 | 53.4 | 68.3 | 49.1 | 39.7 | 254.9 |
| 1994      | 20.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.9 | 61.9 | 75.4 | 74.5 | 56.7 | 46.0 | 354.8 |
| 1995      | 13.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23.9 | 48.7 | 49.3 | 67.6 | 55.6 | 48.2 | 307.0 |
| 1996      | 26.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23.6 | 55.3 | 66.5 | 66.7 | 57.2 | 46.2 | 341.5 |
| 1997      | 29.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18.8 | 57.1 | 62.0 | 63.6 | 50.1 | 45.5 | 326.6 |
| 1998      | 22.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 28.1 | 57.1 | 59.4 | 73.2 | 58.4 | 45.6 | 343.9 |
| 1999      | 17.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 22.3 | 49.7 | 58.3 | 74.5 | 61.1 | 52.9 | 336.3 |
| 2000      | 38.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 39.6 | 63.5 | 74.0 | 73.9 | 62.9 | 47.9 | 400.4 |
| AVERAGE:  |      |     |     |     |     |     |      |      |      |      |      |      |       |
| 1980-2000 | 20.7 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 16.5 | 50.6 | 63.1 | 68.6 | 53.9 | 42.9 | 316.4 |

AgriMet - Evapotranspiration Totals  
The Pacific Northwest Cooperative  
Agricultural Weather Network

Evapotranspiration Totals and Averages

| ABEI -- Aberdeen, Idaho | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | Average |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Alfalfa (Mean)          | --   | --   | --   | 33.8 | 38.7 | 30.8 | 37.8 | 33.6 | 34.9 | 32.3 | 32.3 | 36.6 | 38.9 | 35.0    |
| Pasture                 | --   | --   | --   | 26.7 | 30.5 | 24.3 | 30.6 | 27.1 | 28.2 | 26.0 | 26.0 | 29.0 | 31.1 | 28.0    |
| Lawn                    | --   | --   | --   | --   | --   | 29.7 | 37.0 | 32.9 | 34.2 | 31.6 | 31.5 | 33.1 | 37.7 | 33.5    |
| Winter Grain            | --   | --   | --   | 22.3 | 25.1 | 21.8 | 22.6 | 20.2 | 24.1 | 23.4 | 20.8 | 23.0 | 23.9 | 22.7    |
| Spring Grain            | --   | --   | --   | 21.5 | 24.4 | 19.7 | 22.1 | 21.0 | 23.3 | 20.8 | 20.5 | 21.3 | 24.0 | 21.9    |
| Sugar Beets             | --   | --   | --   | 27.1 | 29.6 | 24.1 | 29.9 | 27.6 | 26.8 | 24.9 | 26.8 | 30.1 | 31.5 | 27.8    |
| Shepody Potatoes        | --   | --   | --   | --   | --   | --   | 25.6 | 23.3 | 23.6 | 21.4 | 21.8 | 23.8 | 24.8 | 23.5    |
| Potatoes                | --   | --   | --   | 22.7 | 24.8 | 20.2 | 25.9 | 24.5 | 23.7 | 21.7 | 22.7 | 25.8 | 24.9 | 23.7    |
| Field Corn              | --   | --   | --   | 21.7 | 25.3 | 18.8 | 25.5 | 24.4 | 23.1 | 21.3 | 24.3 | 25.4 | 25.6 | 23.5    |
| Peas                    | --   | --   | --   | 14.5 | 14.4 | 13.5 | 16.3 | 12.7 | 15.3 | 14.4 | --   | --   | --   | 14.4    |
| Rapeseed                | --   | --   | --   | --   | --   | --   | --   | --   | --   | 20.9 | 19.2 | 17.9 | 20.2 | 19.6    |

Table 1.  
Aberdeen-Springfield Canal Company  
Report of Irrigated Acres  
2001

| Total<br>Number of<br>ASCC<br>Shares<br>Appurtenant<br>to Acreage | Acres with<br>ASCC<br>Shares<br>Appurtenant | <i>Consented<br/>by President<br/>of ASCC</i><br>Acres Under<br>Irrigation<br>through<br>Drain<br>Agreements | Total<br>Acreage of<br>ASCC | Acres<br>Irrigated<br>Exclusively<br>with ASCC<br>Water in<br>2001 | Acres with<br>ASCC<br>Shares<br>Appurtenant<br>Irrigated<br>Exclusively<br>with Ground<br>Water | Acres with<br>ASCC<br>Shares<br>Appurtenant<br>Irrigated<br>with both<br>Ground<br>Water and<br>ASCC<br>Water | Acres<br>Fallowed in<br>2001 | Total<br>Number of<br>ASCC<br>Shares<br>Exceeding<br>1share/acre<br>(on 2,080<br>acres) |
|-------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------|
| 58,982.95                                                         | 58,630.25                                   | 615.00                                                                                                       | 59,245.25                   | 35,540.00                                                          | 15,108.00                                                                                       | 2,678.00                                                                                                      | 5,919.25                     | 367.72                                                                                  |

Source: This report was hand-delivered by Roger Ling, Attorney for ASCC, to Dave Tuthill, IDWR Adjudication Bureau Chief, on March 4, 2002

Prepared by Mr. Steve Howser, Manager of ASCC

These are preliminary figures, subject to revision.

# Mitigation Credit for Aberdeen Springfield Canal Company

Sample -- Using Estimated Data      Prepared by D. Tuthill April 12, 2002

| Agreement Category | Explanation                                            | Value   | Units      | Multipplied by | Result  | Units     | Notes                    |
|--------------------|--------------------------------------------------------|---------|------------|----------------|---------|-----------|--------------------------|
| 1                  | Amount of surface water diverted                       | 316,400 | Acre-feet  |                | 316,400 | Acre-feet | Average annual diversion |
| 2                  | Measured returns to the Snake River                    | 8,475   | Acre-feet  |                | 8,475   | Acre-feet | Estimate                 |
| 3                  | Number of acres irrigated with surface water*          | 38,218  | Acres      | 8.474          | 323,859 | Acre-feet | **                       |
|                    | Factor representing variation in monthly diversions*** | 0.66    | Multiplier | Category 3     | 213,321 | Acre-Feet |                          |

\* Note: Consists of 35,540 acres irrigated with surface water and 2,678 acres irrigated with surface and ground water per Attachment 9  
 \*\* Note: .02 cfs/acre \* 1.98 Acre-feet/ cfs day \* 214 days/annum = 8.474 This is the factor used to compute acre-feet per acre for a season of diversion.

\*\*\* Compute as      Avg Div in 1000s of AF      (See Attachment 7)

| Month   | Avg Div in 1000s of AF |
|---------|------------------------|
| Apr     | 16.5                   |
| May     | 50.6                   |
| Jun     | 63.1                   |
| Jul     | 68.6                   |
| Aug     | 53.9                   |
| Sep     | 42.9                   |
| Oct     | 20.7                   |
| Average | 45.2                   |

Factor = avg/max = 0.66

| Computation | Category | Result  | Units     | Action   | Subtotal |
|-------------|----------|---------|-----------|----------|----------|
| 1           |          | 316,400 | Acre-feet |          | 316,400  |
| 2           |          | 8,475   | Acre-feet | Subtract | 307,925  |
| 3           |          | 213,321 | Acre-feet | Subtract | 94,604   |

Result: Amount of water available for mitigation = 94,604 Acre-feet

Restatement of computation:      316,400 minus      8,475 minus      (.02 times 1.98 times 214 times      0.66 times      38,218 )  
 Equals      94,604 Acre-feet

Acres requiring mitigation:      15,108 (per attachment 9)

1.86 (see memo to Susan Hamlin dated 4/12/2002)

Acres of Mitigation required per acre:

Mitigation required (acres times Acre-feet per acre):      28,101 Acre-feet      Assessment: Mitigation provided is sufficient for the eligible acres if this number is less than the amount available for mitigation