

**ORDER OF BOARD OF
NATURAL RESOURCES
ESTABLISHING WATER
RESERVATIONS**

TABLE OF CONTENTS

Order of Board of Natural Resources Establishing Water Reservations	1
-Municipal Reservations	1
-Irrigation Reservations	8
-Multipurpose Reservations	26
-Instream Reservations	39
Findings Of Fact and Conclusions of Law	74
-City of Livingston	80
-City of Big Timber	86
-City of Columbus	93
-City of Laurel	99
-City of Billings	106
-City of Miles City	112
-City of Glendive	118
-Town of Broadus	124
-Park Conservation District	131
-Sweet Grass Conservation District	138
-Stillwater Conservation District	145
-Carbon Conservation District	152
-Yellowstone Conservation District	159
-Big Horn Conservation District	166
-Treasure Conservation District	173
-Rosebud Conservation District	180
-North Custer Conservation District	189
-Powder River Conservation District	194
-Prarie Conservation District	201
-Dawson Conservation District	208
-Richland Conservation District	215
-Little Beaver Conservation District	221
-Buffalo Rapids Project	229
-Department of State Lands (9931-r)	237
-Department of State Lands (9933-r)	243
-Department of State Lands (9934-r)	247
-U.S. Bureau of Land Management (12334-01-r)	251
-U.S. Bureau of Land Management (12334-02-r)	255
-Department of Natural Resources	272
-U.S. Bureau of Reclamation (12330-r42KJ)	278
-U.S. Bureau of Reclamation (12332-r42K)	285
-U.S. Bureau of Reclamation (12331-r430)	292
-Department of Fish and Game	335
-Department of Health and Enviromental Sciences	346
-North Custer Conservation District (Instream)	351
-U.S. Bureau of Land Management (12334-03-r)	356
-Huntley Project	361
-U.S. Bureau of Reclamation (12333-r43P)	366
Denials	366

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 1781-r,
6294-r42M, 8476-r43BJ, 9942-r43Q,
9646-r43Q, 9931-r, 9933-r, 9934-r,
9935-r43QJ, 9937-r43Q, 9938-r42M,
9939-r43QJ, 9940-r43B, 9942-r42C,
9943-r42J, 9944-r43D, 9945-r42M,
9946-r42M, 9947-r42M, 9948-r42M,
9949-r42M, 9951-r42M, 9952-r43P,
9954-r42K, 10003-r42KJ, 10004-r43B,
10005-r42KJ, 10006-r, 11349-r42L&M,
12330-r42KJ, 12331-r43Q, 12332-r42K,
12333-r43P, AND 12334-01-r through
12334-03-r.

ORDER OF BOARD OF
NATURAL RESOURCES
ESTABLISHING WATER
RESERVATIONS

Pursuant to Section 89-890, R.C.M. 1947, and further pursuant to those certain documents entitled Findings of Fact and Conclusions of Law made by the Montana Board of Natural Resources and Conservation (hereinafter Board) in this matter, said documents attached hereto and by this reference fully and completely adopted and incorporated herein, the Board hereby grants or denies the above-described applications for reservation of water as set forth below:

MUNICIPAL RESERVATIONS

1. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, City of Livingston, pursuant to Application No. 9940-r43B, is granted a reservation of water allowing the appropriation of not more than 4,510 acre-feet of water per year with an average diversionary flow rate of 6.23 cubic feet of water per second, from the Yellowstone River, to be used for municipal water supply.

2. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, City of Big Timber, pursuant to Application No. 8476-r43BJ, is granted a reservation of water allowing the appropriation of not more than 365 acre-feet of water per year with an average diversionary flow rate of 0.50 cubic feet of water per second, from the Boulder River, to be used for municipal water supply.

3. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, City of Columbus, pursuant to Application No. 9937-r43Q, is granted a reservation of water allowing the appropriation of not more than 883 acre-feet of water per year with an average diversionary flow rate of 1.22 cubic feet of water per second, from the Yellowstone River, to be used for municipal water supply.

4. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, City of Laurel, pursuant to Application No. 9939-r43QJ, is granted a reservation of water allowing the appropriation of not more than 7,151 acre-feet of water per year with an average diversionary flow rate of 9.88 cubic feet of water per second, from the Yellowstone River, to be used for municipal water supply.

5. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, City of Billings, pursuant to Application No. 9646-r, is granted a reservation of water allowing the appropriation of not more than 41,229 acre-feet of water per year with an average diversionary flow rate of 56.9 cubic feet of water per second, from the Yellowstone River, to be used for municipal water supply.

6. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, City of Miles City, pursuant to Application No. 9954-r42K, is granted a reservation of water allowing the appropriation of not more than 2,889 acre-feet of water per year with an average diversionary flow rate of 4.0 cubic feet of water per second, from the Yellowstone River, to be used for municipal water supply.

7. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, City of Glendive, pursuant to Application No. 9938-r42M, is granted a reservation of water allowing the appropriation of not more than 3,281 acre-feet of water per year with an average diversionary flow rate of 4.53 cubic feet of water per second, from the Yellowstone River, to be used for municipal water supply.

8. Subject to the conditions stated below in paragraphs No. 9 through 24, the Applicant, Town of Broadus, pursuant to Application No. 9953-r, is granted a reservation

of water allowing the appropriation of not more than 605 acre-feet of water per year with an average diversionary flow rate of 0.84 cubic feet of water per second, from the groundwater, to be used for municipal water supply.

9. The reservations are ordered adopted subject to any final determination of prior existing water rights in the source of supply as provided for by Montana law.

10. The reservations are ordered adopted subject to any final determination of senior water rights in the source of supply, including but not limited to any decreed rights of federal or Indian reserved rights, but not subject to any right to appropriate water which may arise from the permit applications suspended by the Yellowstone Moratorium (Section 89-8-103 et seq., R.C.M. 1947). Pursuant to Section 89-8-105(2), R.C.M. 1947, the reservation is a preferred use over any right to appropriate water which may arise from the permit applications suspended during the Yellowstone Moratorium.

11. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any senior water right in the source of supply as set forth in the preceding paragraph.

12. The reservation of the above named municipalities are to have priority and be considered a preferred use over any other water reservation granted by the Board.

13. The reservation is intended to run concurrently with and overlap, rather than run consecutively with, any other right to the use of water claimed by the reservant but not perfected to the effective date of the adoption of the reservation.

14. Within three years of the effective date of the adoption of the reservation, each reservant shall submit to the Board a water conservation plan including, but not limited to, the following:

a) A listing of those measures encouraging continued water conservation which will be implemented by the reservant, including some plans or designs for measuring devices of the municipality's water system; and

b) A drought contingency plan setting forth, by category of user those reductions to be implemented by the reservant during an emergency situation; and

c) Proper documentation including data relating to withdrawal of water, depletion and return flow; and

d) Within six (6) months of the submission to the Board by the reservant of its water conservation plan, the Board shall review the plan and either approve it or require the reservant to appear at a public hearing before the Board for further consideration of the reservation; and

e) Proper legal notice shall be given of any public hearing reviewing the reservant's water conservation plan; and pursuant to the Montana Administrative Procedure Act.

f) After a public hearing the Board may extend, modify or revoke the reservant's reservation.

15(a) At least six (6) months in advance of any change in or expansion of its physical plant, the reservant shall submit a plan to the Board showing such changed or expanded points of diversion, pumping facilities, conveyance facilities, and storage facilities.

(b) Upon review of the plan submitted by the reservant pursuant to subparagraph (a) above, the Board may, at its discretion, grant, modify or deny the proposed plan or portion thereof where:

- (1) Water is not available at the intended point of diversion, or
- (2) The plan adversely affects prior water rights, or
- (3) The proposed diversion, impoundment or conveyance, facilities are inadequate, or
- (4) The plan is incompatible with local and regional planning efforts, or
- (5) The plan fails to meet the basic interests of the people of Montana, or
- (6) The plan fails to meet the objectives of the reservation, or

(7) The plan would not be in compliance with pertinent state or federal laws or environmental standards, or

(8) The plan does not demonstrate adequate and reasonable water conservation measures.

(c) The Board may grant, modify or deny the proposed plan or a portion thereof within six (6) months after the date of submission by the reservant.

(d) All decisions of the Board are appealable under the provisions of the Montana Administrative Procedure Act.

16. Adequate measuring devices approved by the Montana Department of Natural Resources and Conservation (hereinafter DNRC) shall be installed during construction on all reservation diversion, impoundment, conveyance facilities and measurement of return flows. The water diverted, impounded, and/or conveyed shall be measured and recorded daily throughout the life of the project. Such records shall be submitted to the Board and DNRC periodically as requested.

17. Any change in point of diversion, place of use, return flow, or place of storage from the plan submitted to and approved by the Board shall be in accordance with procedures established, Sections 89-892 and 89-893, R.C.M. 1947. No change shall be approved which does not meet all of the pertinent criteria of Section 89-890, R.C.M. 1947, for issuance of an order adopting a reservation.

18. The DNRC may, with approval of the Board, issue temporary permits for the use of reserved water, provided such temporary permits are subject to the terms and conditions it considers necessary for the protection of the objectives of the reservation:

(a) Before any temporary permits are granted, proper legal notice must be given to the public stating the request for the temporary permit for the use of reserved water, the applicant, the amount of water requested, the need for the

temporary permit, the purpose for the temporary permit and the length of time for the temporary permit, and that the public interest is being served by an issuance of the temporary permit.

19. The reservant shall participate in and adhere to water management operations that may be implemented in the future by the State of Montana.

20. Pursuant to Section 89-890(6), R.C.M. 1947, the Board shall within five years of the date of the reservation, and thereafter at least once every ten years, review the reservation, including, but not limited to, any required interim reports and plans, to insure that the objectives of the reservation are being met. Where the objectives of the reservation are not being met, the Board may at its discretion extend, modify, or revoke the reservation. Circumstances which may evidence the above include, but are not limited to, the following:

(a) Anticipated demand for water for the purpose of the reservation has not materialized;

(b) Inadequacy of reservation facilities;

(c) Noncompliance with Montana or federal statutes or environmental standards;

(d) Incompatibility with local or regional planning efforts;

(e) Use of the reserved water for other than beneficial use as defined by Montana law;

(f) Noncompliance with any of the conditions of this Order.

21. Any and all liability arising from the reservation is the sole responsibility of the reservant. In ordering a reservation adopted, the Board assumes no liability.

22. Conditions of this order may be modified or withdrawn by the Board at its discretion should future circumstances warrant. In such event notice will be given, and, if objections are received, a hearing will be held.

23. If part of this order is invalid, all valid parts remain in effect. If part of this order is invalid in one or more of its applications, the part remains in effect for all valid application.

24. Paragraphs 1 through 24, granting and conditioning the eight listed municipal reservations, are ordered granted effective at 12:30 o'clock P.M. on the 15th day of December, 1978, so as to provide the eight municipal reservations with first priority of use among the Yellowstone River Basin water reservation.

Neil C. Cline
Chairman, Montana Board of Natural
Resources and Conservation

Wm H. Bertsche

Charles L. Kuch

Wilson L. Clark

Ray E. Huff

IRRIGATION RESERVATIONS
OF CONSERVATION DISTRICTS
AND STATE AGENCIES

25. Subject to the conditions stated below in paragraphs No. 43 through 58, the Applicant, Park Conservation District, pursuant to Application No. 10,004-r43B, is granted a reservation of water allowing the total appropriation of not more than 64,125 acre-feet of water per year with a maximum diversionary flow rate of 445.9 cubic feet of water per second, from the Yellowstone River, to be used for the irrigation of approximately 21,664 acres.

26. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Sweet Grass Conservation District, pursuant to Application No. 9948-r42M, is granted a reservation of water allowing the total appropriation of not more than 46,245 acre-feet of water per year with a maximum diversionary flow rate of 363.4 cubic feet of water per second, from the Yellowstone River and ^{SO} (souther) tributaries of the Yellowstone River as set forth in the application, to be used for the irrigation of approximately 15,313 acres.

27. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Stillwater Conservation District, pursuant to Application No. 9935-r43QJ, is granted a reservation of water allowing the total appropriation of not more than 16,755 acre-feet of water per year with a maximum diversionary flow rate of 122.1 cubic feet of water per second, from the Yellowstone and Stillwater Rivers and other tributaries of the Yellowstone River as set forth in the Application, to be used for the irrigation of approximately 5,290 acres.

28. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Carbon Conservation District, pursuant to Application No. 9944-43D, is granted a reservation of water allowing the total appropriation of not more than 22,676 acre-feet of water per year with a maximum diversionary flow rate of 130.7 cubic feet of water per second, from the Yellowstone and Clarks Fork Rivers and other tributaries of the Yellowstone River as set forth in the Application, to be used for the irrigation of approximately 10,034 acres.

29. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Yellowstone Conservation District, pursuant to Application No. 9949-r42M, is granted a reservation of water allowing the total appropriation of not more than 57,963 acre-feet of water per year with a maximum diversionary flow rate of 373.2 cubic feet of water per second, from the Yellowstone River, to be used for the irrigation of approximately 24,835 acres.

30. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Big Horn Conservation District, pursuant to Application No. 9952-r43P, is granted a reservation of water allowing the total appropriation of not more than 20,185 acre-feet of water per year with a maximum diversionary flow rate of 143.8 cubic feet of water per second, from the Big Horn River, to be used for the irrigation of approximately 9,175 acres.

31. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Treasure Conservation District, pursuant to Application No. 10,003-r42KJ, is granted a reservation of water allowing the total appropriation of not more than 18,361 acre-feet of water per year with a maximum diversionary flow rate of 118.6 cubic feet of water per second, from the Yellowstone and Big Horn Rivers, to be used for the irrigation of approximately 7,035 acres.

32. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Rosebud Conservation District, pursuant to Application No. 10,005-r42KJ, is granted a reservation of water allowing the total appropriation of not more than 87,003 acre-feet of water per year with a maximum diversionary flow rate of 540.7 cubic feet of water per second, from the Yellowstone River and other tributaries as set forth in the Application, to be used for the irrigation of approximately 34,525 acres.

33. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, North Custer Conservation District, pursuant to Application No. 9947-r42m, is granted a reservation of water allowing the total appropriation of not more than 28,478 acre-feet of water per year. From the total of this reservation, 18,301 acre-feet per year is from the Yellowstone River and 10,177 acre-feet per year is from the Powder River and the tributaries of the Powder River to be used for waterspreading.

34. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Powder River Conservation District, pursuant to Application No. 9943-r42J, is granted a reservation of water allowing the total appropriation of not more than 13,680 acre-feet of water per year from the Powder River mainstem and tributaries as set forth in the Application to be used for waterspreading on approximately 9,120 acres. The Powder River Conservation District request of 75,560 acre-feet per year from the Powder River is denied.

35. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Prairie County Conservation District, pursuant to Application No. 9946-r42M, is granted a reservation allowing the total appropriation of not more than 68,467 acre-feet of water per year. Of the total reservation, the amount of water reserved from the Yellowstone River is 68,024 acre-feet per year to be used to irrigate 22,241 acres with a maximum diversionary flow rate of 552.7 cfs. Of the total reservation, the amount of water reserved from the Powder River is 443 acre-feet of water per year to be used for waterspreading of 295 acres.

36. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Dawson County Conservation District, pursuant to Application No. 9951-r42M, is granted a reservation of water allowing the total appropriation of not more than 45,855 acre-feet of water per year with a maximum diversionary

flow rate of 339.3 cubic feet of water per second, from the Yellowstone River, to be used for the irrigation of approximately 18,127 acres.

37. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Richland County Conservation District, pursuant to Application No. 9945-r42M, is granted a reservation of water allowing the total appropriation of not more than 45,620 acre-feet of water per year with a maximum diversionary flow rate of 354.2 cubic feet of water per second, from the Yellowstone River, to be used for the irrigation of approximately 21,710 acres.

38. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Little Beaver Conservation District, pursuant to Application No. 11349-r42L&M, is granted a reservation of water allowing for the total appropriation of not more than 12,773 acre-feet of water per year from O'Fallon, Pennel and Cabin Creeks. Of the reservation, 4,273 acre-feet of water per year is to be used for the purpose of irrigation, 6,000 acre-feet of water per year is to be used for the purpose of waterspreading, 1,800 acre-feet of water per year is to be used for stockwatering ponds, and 700 acre-feet per year is to be used for recreational ponds.

39. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Buffalo Rapids Project, pursuant to Application No. 6294-r42M, is granted a reservation of water allowing the total appropriation of not more than 11,997 acre-feet of water per year with a maximum diversionary flow rate of 16.55 cubic feet of water per second, from the Yellowstone River, to be used for the irrigation of approximately 3,100 acres located within the Terry Unit Additions, Fallon Unit Additions, and Buffalo Rapids Project Additions, as set forth in the Findings of Fact and Conclusions of Law as adopted by the Board.

40. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Montana Department of State Lands, pursuant to Application No. 9931-r, is granted a reservation of water allowing the total appropriation of not

more than 12,858 acre-feet of water per year with a maximum diversionary flow rate of 86.11 cubic feet of water per second, from the Yellowstone River, Big Horn River, Rock Creek, Daisy Dean Creek, Alkali Creek, Big Timber Creek and Red Lodge Creek, for the irrigation of approximately 4,286 acres.

41. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Montana Department of State Lands, pursuant to Application No. 9933-r, is granted a reservation of water allowing the total appropriation of not more than 25,889.78 acre-feet of water per year with a maximum diversionary flow rate of 185.2 cubic feet of water per second, from sources specified in Application No. 9933-r, excluding the Tongue and Powder Rivers, for the irrigation of approximately 9,236.82 acres.

42. Subject to the conditions stated below in paragraphs No. 43 through 58, the reservant, Montana Department of State Lands, pursuant to Application No. 9934-r, is granted a reservation of water allowing the total appropriation of not more than 15,078 acre-feet of water per year from the Yellowstone River, to be used for waterspreading of approximately 10,270 acres of land located in Rosebud, Treasure, Sweet Grass, Big Horn, Yellowstone, Richland, Prairie, Dawson, Powder River, and Custer counties.

(43.) The reservations are ordered adopted subject to any final determination of prior existing water rights in the source of supply as provided for by Montana law.

(44.) The reservations are ordered adopted subject to any final determination of senior water rights in the source of supply, including but not limited to any decreed rights or federal or Indian reserved rights, but not subject to any right to appropriate water which may arise from the permit applications suspended by the Yellowstone Moratorium (Section 89-8-103 et seq., R.C.M. 1947). Pursuant to

Section 89-8-105(2), R.C.M. 1947, the reservation is a preferred use over any right to appropriate water which may arise from the permit applications suspended during the Yellowstone Moratorium.

45. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any senior water right in the source of supply as set forth in the preceeding paragraph.

46. The reservant shall within three years of the effective date of the adoption of the reservation submit a detailed plan identifying projects to be developed to the DNRC for approval by the Board.

(a) The plan shall include a list of accomplishments to date, a construction schedule, and a schedule toward putting the reserved water to beneficial use. The plan shall specify the scheduling of economic, engineering, soils, marketing and other studies which may be necessary. The plan shall specify in detail and show on maps (using 7½ minute U.S.G.S. Quadratic maps, if available) the specific projects to be developed. Except upon approval of the Board such projects shall be limited to those proposed in the Application and not rejected in the Findings. The plan shall specify the proposed points of diversion and associated places of use; the rate of diversion and volume of water to be diverted from each point of diversion; the periods of diversion and use; the intended location of diversion; impoundment; conveyance, and delivery facilities; and preliminary engineering plans of diversion, impoundment, conveyance, and delivery facilities. The preliminary engineering plans shall be of sufficient detail to show the capacity size, and location of the diversion, impoundment, conveyance, and delivery facilities. The plan submitted shall be consistent with the Application as limited or modified by the Findings and with the reservation as herein ordered adopted.

(b) The reservant may not commence construction of diversion, impoundment, conveyance, or delivery works of any portion of the plan, except upon approval of the Board. The reservant must submit a detailed engineering

plan of the proposed facility to be built at least six months in advance of the proposed construction starting date.

(c) Upon review of the plan submitted by the reservant pursuant to subparagraphs (a) and (b) above the Board, within six (6) months of submission of plans by the reservant, may at its discretion approve, modify or deny the proposed plan or a portion thereof. Conditions for denying a plan may result from one or more of the following:

- (1) Water is not available at the intended point of diversion, or
- (2) The plan adversely affects prior water rights, or
- (3) The proposed diversion, impoundment, conveyance, or delivery facility is inadequate, or
- (4) The plan is incompatible with local and regional planning efforts, or
- (5) The plan fails to meet the basic interests of the people of Montana, or
- (6) The plan fails to meet the objectives of the reservation, or
- (7) The plan would not be in compliance with pertinent state or federal laws or environmental standards, or
- (8) The plan proposes use of water which is not beneficial use, or
- (9) The plan does not demonstrate adequate and reasonable water conservation measures, or
- (10) The plan is not reasonable and is speculative.

(d) Upon a showing of good cause for an extension of time to submit a plan, the Board may extend the time that the reservant has to submit a plan, but the Board may not extend the time past five years of the effective date of the adoption of the reservation.

(e) The Board shall allow the public to comment on the proposed plan prior to the Board's decision.

47. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any prior water reservation as adopted by the Board.

48. The reservant shall submit to the Board an annual progress report on each anniversary date of the effective date of the adoption of the reservation. This requirement shall continue in effect until the complete development of the reservation. The annual progress report shall set forth accomplishments toward the complete development of the reservation, a schedule of anticipated progress, and other information as may be prescribed by the Board. Feasibility studies; detailed economics, engineering, environmental, and marketing studies; construction and operating plans; water contracts; and any other studies and plans prepared in conjunction with the reservation projects shall accompany the annual progress report submitted next following their completion, except that environmental statements and other reports having time limits for review or comment shall be submitted immediately upon their completion.

49. Adequate measuring devices approved by the DNRC shall be installed during construction on all reservation diversion, impoundment, conveyance, and delivery facilities. The water diverted, impounded, conveyed and returned shall be measured and recorded on a regular basis throughout the life of the project. Such records shall be submitted by the reservant to the Board or the DNRC upon request.

50. Any change in point of diversion, place of use, use, or place of storage from the plan approved by the Board shall be made in accordance with the procedures established by Sections 89-892 and 89-893, R.C.M. 1947. The Department shall approve or deny the proposed change, giving due consideration to the requirements of the public interest. No change shall be approved which does not meet all of the pertinent criteria of Section 89-890,

R.C.M. 1947, for the issuance of an order adopting a reservation.

(a) The Department may provide for a public hearing on any change in point of diversion, place of use, use or place of storage from the plan submitted to and approved by the Board.

51. The DNRC, may with the approval of the Board, issue temporary permits for the use of reserved water, provided such temporary permits are subject to the terms and conditions it considers necessary for the protection of the objectives of the reservation.

52. The reservant shall participate in and adhere to water management operations that may be implemented in the future by the State of Montana.

53. Pursuant to 89-890(6), R.C.M. 1947, the Board shall periodically, but at least once every ten years, review the feasibility studies, detailed plans, environmental statements, and annual reservation, including reports, to ensure that the objectives of the reservation are being met. Where the objectives of the reservation are not being met, the Board may at its discretion extend, modify, or revoke the reservation.

(1) Circumstances which may evidence the above include, but are not limited to, the following:

- (a) Failure of the anticipated demand for water for the purpose of the reservation to materialize;
- (b) Inadequacy of the reservation facilities;
- (c) Noncompliance with Montana or federal statutes for environmental standards;
- (d) Incompatibility with local or regional planning efforts;
- (e) Use of the reserved waters for other than beneficial use as defined by Montana law;
- (f) Noncompliance with any of the conditions of this Order.

57. If part of this Order is invalid, all valid parts remain in effect. If part of this Order is invalid in one or more of its applications, the part remains in effect for all valid applications.

(2) The Board may give notice and provide for a public hearing on whether to extend, modify or revoke a reservation. The public hearing will be held pursuant to the procedures of the Montana Administrative Procedure Act.

54. The reservations shall be perfected by the respective reservants as set forth in the following table:

<u>Conservation Districts</u>	<u>Year</u>
Stillwater	2000
Powder River	2000
Carbon	2007
Richland	2000
Prairie	2000
North Custer	2007
Sweet Grass	2007
Yellowstone	2007
Dawson	1990
Big Horn	2007
Treasure	2000
Park	2007
Rosebud	2000
Little Beaver	2000
Buffalo Rapids Irrigation District	2000
State Lands - 9931-r	2000
State Lands - 9933-r	2000
State Lands - 9934-r	2000

55. Any and all liability arising from the reservation is the sole responsibility of the reservant. In ordering a reservation adopted, the Board assumes no liability.

56. Unless otherwise stated, conditions of this Order may be modified or withdrawn by the Board at its discretion should future circumstances warrant. In such event notice will be given, and, if objections are received, a hearing will be held.

IRRIGATION RESERVATION OF
FEDERAL AGENCIES

59. Subject to the conditions stated below in paragraphs No. 59 through 75, the reservant, Bureau of Land Management, pursuant to Application No. 12334-01-r, is granted a reservation of water allowing the total diversion and appropriation of not more than 2,924 acre-feet of water per year with a maximum diversionary flow rate of 12.287 cubic feet of water per second from O'Fallon Creek, a tributary of the Yellowstone River, to be used for the irrigation of approximately 1,992 acres from May 15 through September 15.

60. Subject to the conditions stated below in paragraphs No. 59 through 75, the reservant, Bureau of Land Management, pursuant to Application No. 12334-02-r, is granted a reservation of water allowing the total diversion and appropriation of not more than 17,476 acre-feet of water per year with a maximum diversionary flow rate of 75.76 cfs from the Yellowstone River, to be used for the irrigation of approximately 8,738 acres from May 15 through September 15.

61. The reservations are ordered adopted subject to any final determination of prior existing water rights in the source of supply as provided for by Montana law.

62. The reservations are ordered adopted subject to any final determination senior water rights in the source of supply, including but not limited to any decreed rights or federal or Indian reserved rights, but not subject to any right to appropriate water which may arise from the permit applications suspended by the Yellowstone Moratorium (Section 89-8-103 et seq., R.C.M. 1947). Pursuant to Section 89-8-105(2), R.C.M. 1947, the reservation is a preferred use over any right to appropriate water which may arise from the permit applications suspended during the Yellowstone Moratorium.

63. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any senior water right in the source of supply as set forth in the preceeding paragraph.

64. The reservant shall within three years of the effective date of the adoption of the reservation submit a detailed plan identifying projects to be developed to the DNRC for approval by the Board.

(a) The plan shall include a list of accomplishments to date, a construction schedule, and a schedule toward putting the reserved water to beneficial use. The plan shall specify the scheduling of economic, engineering, soils, marketing and other studies which may be necessary. The plan shall specify in detail and show on maps (using 7½ minute U.S.G.S. Quadratic maps, if available, the specific projects to be developed. Except upon approval of the Board such projects shall be limited to those proposed in the Application and not rejected in the Findings. The plan shall specify the proposed points of diversion and associated places of use; the rate of diversion and volume of water to be diverted from each point of diversion; the periods of diversion and use; the intended location of diversion; impoundment; conveyance, and delivery facilities; and preliminary engineering plans of diversion, impoundment, conveyance, and delivery facilities. The preliminary engineering plans shall be of sufficient detail to show the capacity size, and location of the diversion, impoundment, conveyance, and delivery facilities. The plan submitted shall be consistent with the Application as limited or modified by the Findings and with the reservation as herein ordered adopted.

(b) The reservant may not commence construction of diversion, impoundment, conveyance, or delivery works of any portion of the plan, except upon approval of the Board. The reservant must submit a detailed engineering plan of the proposed facility to be built at least six months in advance of the proposed construction starting date.

(c) Upon review of the plan submitted by the reservant pursuant to subparagraphs (a) and (b) above the Board, within six (6) months of submission of plans by the reservant, may at its discretion approve, modify or deny the proposed plan or a portion thereof. Conditions for denying a plan may result from one or more of the following:

- (1) Water is not available at the intended point of diversion, or
- (2) The plan adversely affects prior water rights, or
- (3) The proposed diversion, impoundment, conveyance, or delivery facility is inadequate, or
- (4) The plan is incompatible with local and regional planning efforts, or
- (5) The plan fails to meet the basic interests of the people of Montana, or
- (6) The plan fails to meet the objectives of the reservation, or
- (7) The plan would not be in compliance with pertinent state or federal laws or environmental standards, or
- (8) The plan proposes use of water which is not a beneficial use, or
- (9) The plan does not demonstrate adequate and reasonable water conservation measures, or
- (10) *More important for Feds than CP*
The plan is not reasonable and is speculative

(d) Upon a showing of good cause for an extension of time to submit a plan, the Board may extend the time that the reservant has to submit a plan, but the Board may not extend the time past five years of the effective date of the adoption of the reservation.

(e) The Board shall allow the public to comment on the proposed plan prior to the Board's decision.

65. The reservant may only appropriate water pursuant to the reservation at such times when to do so appropriate will not adversely affect any prior water reservation as adopted by the Board.

66. The reservant shall submit to the Board an annual progress report on each anniversary date of the effective date of the adoption of the reservation. This requirement shall continue in effect until the complete development of the reservation. The annual progress report shall set forth accomplishments toward the complete development of the reservation, a schedule of anticipated progress, and other information as may be prescribed by the Board. Feasibility studies; detailed economics, engineering, environmental, and marketing studies; construction and operating plans; water contracts; and any other studies and plans prepared in conjunction with the reservation projects shall accompany the annual progress report submitted next following their completion, except that environmental statements and other reports having time limits for review or comment shall be submitted immediately upon their completion.

67. Adequate measuring devices approved by the DNRC shall be installed during construction on all reservation diversion, impoundment, conveyance, and delivery facilities. The water diverted, impounded, conveyed and returned shall be measured and recorded on a daily basis throughout the life of the project. Such records shall be submitted by the reservant to the Board or the DNRC upon request.

68. Any change in point of diversion, place of use, use, or place of storage from the plan approved by the Board shall be made in accordance with the procedures established by Sections 89-892 and 89-893, R.C.M. 1947. The Department shall approve or deny the proposed change, giving due consideration to the requirements of the public interest. No change shall be approved which does not meet all of the pertinent criteria of Section 89-890, R.C.M. 1947, for the issuance of an order adopting a reservation.

(a) The Department may provide for a public hearing on any change in point of diversion, place of use, use or place of storage from the plan submitted to and approved by the Board.

69. The DNRC, may with the approval of the Board, issue temporary permits for the use of reserved water, provided such temporary permits are subject to the terms and conditions it considers necessary for the protection of the objectives of the reservation.

70. The reservant shall participate in and adhere to water management operations that may be implemented in the future by the State of Montana.

71. Pursuant to 89-890(6), R.C.M. 1947, the Board shall periodically, but at least once every ten years, review the feasibility studies, detailed plans, environmental statements, and annual reservation, including reports, to ensure that the objectives of the reservation are being met. Where the objectives of the reservation are not being met, the Board may at its discretion extend, modify or revoke the reservation.

(1) Circumstances which may evidence the above include, but are not limited to, the following:

- (a) Failure of the anticipated demand for water for the purpose of the reservation to materialize;
- (b) Inadequacy of the reservation facilities;
- (c) Noncompliance with Montana or federal statutes for environmental standards;
- (d) Incompatibility with local or regional planning efforts;
- (e) Use of the reserved waters for other than beneficial use as defined by Montana law;
- (f) Noncompliance with any of the conditions of this Order.

(2) The Board may give notice and provide for a public hearing on whether to extend, modify or revoke a reservation. The public hearing will be held pursuant to the procedures of the Montana Administrative Procedure Act.

72. The reservant shall perfect the reservation by the year 2000 or by such extended time period as the Board in its discretion may designate.

73. Any and all liability arising from the reservation is the sole responsibility of the reservant. In ordering a reservation adopted, the Board assumes no liability.

74. Unless otherwise stated, conditions of this Order may be modified or withdrawn by the Board at its discretion should future circumstances warrant. In such event notice will be given, and, if objections are received, a hearing will be held.

75. If part of this Order is invalid, all valid parts remain in effect. If part of this Order is invalid in one or more of its applications, the part remains in effect for all valid applications.

76. Paragraphs No. 59 through 76, granting and conditioning the two Federal Irrigation Reservations, and the three State Agencies', and the Conservation Districts', and Irrigation District Irrigation Reservations, are ordered adopted effective at 4:18 o'clock P M. on the 15 day of December, 1978.

Acil Weeding
Chairman, Montana Board of Natural
Resources and Conservation

Wm H. Bertsche

John L. Lister

Wilson F. Clark

Ray E. Lister

MULTIPURPOSE RESERVATIONS
FOR A STATE AGENCY

76. Subject to the conditions stated below in paragraphs No. 76 through 91, the Applicant, Montana Department of Natural Resources and Conservation (DNRC) pursuant to Application No. 9942-r42C, is granted a reservation of 383,000 acre-feet per year of water allowing the total appropriation of not more than 450,000 acre-feet of water per year, from the Tongue River, to be stored in an enlarged Tongue River Reservoir and to be used for all beneficial uses allowed by Montana law.

77. The reservation of the Department of Natural Resources and Conservation is subject to the following:

(a) Part of this reservation is to be used to meet the purpose of the Department of State Lands reservation for 1,431 acre-feet per year from the Tongue River (Application 9931-r) and 390 acre-feet per year from the Tongue River (Application 9933-r).

(b) Part of this reservation is to be used to meet the request of the Big Horn Conservation District's reservation request for 1,034 acre-feet per year from the Tongue River (Application 9952-r43P).

(c) Part of this reservation is to be used to meet the reservation request of the Rosebud Conservation District for 7,144 acre-feet per year from the Tongue River (Application No. 10,005-r42KJ).

(d) Part of this reservation is to be used to meet the reservation request of North Custer Conservation District for 10,897 acre-feet per year from the Tongue River (Application No. 9947-r42M).

(e) The Department of Natural Resources is to cause to release an average of 75 cfs from the reservoir for instream flow purposes below the reservoir.

78. The reservation is ordered adopted subject to any final determination of prior existing water rights in the source of supply as provided for by Montana law.

79. The reservation is ordered adopted subject to all existing and/or inchoate senior water rights in the source of supply, including but not limited to any decreed rights or federal or Indian reserved rights, but not subject to any rights to appropriate water which may arise from the permit applications suspended by the Yellowstone Moratorium (Section 89-8-103 et seq., R.C.M. 1947). Pursuant to Section 89-8-105(2), R.C.M. 1947, the reservation is a preferred use over any right to appropriate water which may arise from the permit applications suspended during the Yellowstone moratorium.

80. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any senior right in the source of supply as set forth in the preceding paragraph.

81. The reservant shall as soon as practicable, but not more than five (5) years, submit detailed plans to the Board for the Board's approval.

(a) The plan shall include a list of accomplishments to date, construction plans (if available), a construction schedule, and a detailed assessment of specific uses and benefits. The plan shall where applicable specify in detail and show on maps (using 7½ minute quadratic USGS maps, if available) the proposed sources and points of diversion; sites and sizes of facilities; the rate of diversion and volume of water to be diverted from each source and point of diversion; the volume of storage at each facility; the period of diversion for each diversion; the period of use for each use; the frequency and magnitude of drawdown; the intended location of diversion, impoundment, and conveyance facilities; and preliminary engineering plans of diversion, impoundment, and conveyance facilities.

(b) The reservant shall not commence construction of diversion, impoundment, or conveyance facilities or any other portion of the plan except upon approval of the Board. The reservant shall submit a detailed engineering plan of the proposed project prior to the construction starting date.

(c) The reservant shall include in its plan provision for maintenance of instream flow releases from the enlarged reservoir in such amounts as shall be set forth in the plan and approved by the Board.

(d) Upon review of the plan submitted pursuant to subparagraph (a), ^{approve} (b), or (c) above, the Board may at its discretion/modify or deny the proposed plan or a portion thereof. Conditions for denying a plan may result from one or more of the following:

- (1) Water is not available at the intended diversions for this appropriation, or
 - (2) The plan or any portion thereof adversely affects prior water rights, or
 - (3) The plan or any portion thereof is inadequate, or
 - (4) The plan or any portion thereof is incompatible with local or regional planning efforts, or
 - (5) The plan or any portion thereof fails to meet the best interests of the people of Montana, or
 - (6) The plan or any portion thereof fails to meet the objectives of the reservation, or
 - (7) The plan or any portion thereof would not be in compliance with pertinent state or federal laws or environmental standards, or
 - (8) The plan or any portion thereof proposes a use of water which is not a beneficial use, or
 - (9) The plan or any portion thereof does not demonstrate
 - (10) adequate and reasonable water conservation measures.
The plan is not reasonable or is speculative.
- (e) Public notice shall be given of any plans of the reservant.
- (f) The Board shall provide for the public comment on the proposed plan prior to the Board's decision, and, may hold public hearings.

32. The reservant shall submit to the Board an annual progress report on each anniversary date of the effective date of the adoption of the reservation. This condition shall continue in effect until completion of the project. The annual progress report shall set forth accomplishments toward completion of the project, a schedule of anticipated progress, and other information as may be prescribed by the Board. Feasibility studies; detailed economic, engineering, environmental, and marketing studies; construction and operating plans; water contracts; and any other studies and plans prepared in conjunction with the reservation shall accompany the annual progress report submitted next following their completion, except that environmental statements and other reports having time limits for review or comment shall be submitted immediately upon their completion.

33. Adequate measuring devices approved by the DNRC shall be installed during construction on all reservation facilities. The water diverted, distributed, and/or stored shall be measured and recorded daily throughout the life of the project. Such records shall be submitted to the Board or DNRC upon request.

34. Any change in point of diversion, place of use, use, quantities of water allocated to various uses, place of storage, distribution facilities, or time and rate of distribution shall be made in accordance with sections 89-892 and 89-893, R.C.M. 1947. The Board shall approve or deny the proposed change, giving due consideration to the requirements of the public interest. No change shall be approved which does not meet all of the pertinent criteria of Section 89-890, R.C.M. 1947, for the issuance of an order adopting a reservation.

(a) Public notices shall be given of any request for a change in point of diversion, place of use, use, quantities of water allocated to various uses, place of storage, distribution facilities or time or rate of distribution.

(b) The Board shall provide for the public to comment on the requests, and, may hold public hearings.

85. The reservant may, with approval of the Board, issue temporary permits for the use of reserved water, provided such temporary permits are subject to the terms and conditions it considers necessary for the protection of the objectives of the reservation.

86. The reservant shall participate in and adhere to water management operations that may be implemented in the future by the State of Montana.

87. Pursuant to Section 39-390(6), R.C.M. 1947, the Board shall periodically, but at least once every ten years, review this reservation, including feasibility studies, detailed plans, environmental statements, and annual reports, to ensure that the objectives of the reservation are being met. Where the objectives of the reservation are not being met, the Board may at its discretion extend, modify, or revoke the reservation.

(1) Circumstances which may evidence the above include, but are not limited to, the following:

(b) Failure of anticipated demand for water for the purpose of the reservation to materialize;

(c) Inadequacy of reservation facilities;

(d) Noncompliance with Montana or federal statutes or environmental standards;

(e) Incompatibility with local or regional planning efforts;

(f) Use of the reserved water for other than beneficial use as defined by Montana law;

(g) Noncompliance with any of the conditions of this Order.

(2) (a) Public notice shall be given of any review of the reservation;

(b) The Board shall provide for the public to comment on the review of the reservation, and, may hold public hearings.

88. Any and all liability arising from the reservation is the sole responsibility of the reservant. In ordering a reservation adopted, the Board assumes no liability.

89. Conditions of this Order may be modified or withdrawn by the Board at its discretion should future circumstances warrant. In such event notice will be given, and, if objections are received, a hearing will be held.

90. If part of this Order is invalid, all valid parts remain in effect. If part of this Order is invalid in one or more of its applications, the part remains in effect for all valid applications.

MULTIPURPOSE RESERVATIONS
FOR FEDERAL AGENCIES

92. Subject to the conditions stated below in paragraphs No. 92 through 108, the Applicant, U.S. Bureau of Reclamation, pursuant to Application No. 12330-r42KJ, is granted a reservation of water allowing the total appropriation of not more than 121,800 acre-feet of water per year from the Yellowstone River, to be stored in the proposed Cedar Ridge Project and to be used for municipal, industrial, recreational, and fish and wildlife purposes.

93. Subject to the conditions stated below in paragraphs No. 92 through 108, the Applicant, U.S. Bureau of Reclamation, pursuant to Application No. 12332-r42K, is granted a reservation of water allowing the total appropriation of not more than 539,000 acre-feet of water per year from the Yellowstone River, to be stored in the proposed Sunday Creek Reservoir and to be used for municipal, industrial, recreational, and fish and wildlife purposes.

94. Subject to the conditions stated below in paragraphs No. 92 through 108, the Applicant, U.S. Bureau of Reclamation, pursuant to Application No. 12331-r43Q, is granted a reservation of water allowing the total appropriation of not more than 68,700 acre-feet of water per year from the Yellowstone River, to be stored in the proposed Buffalo Creek Reservoir and to be used for municipal, industrial, recreational, and fish and wildlife purposes.

95. The reservant, U.S. Bureau of Reclamation, shall seek Congressional authorization for a feasibility study of the proposed Cedar Ridge Project within five years of the effective date of the adoption of the reservation.

96. The reservation is ordered adopted subject to any final determination of prior existing water rights in the source of supply as provided for by Montana law.

97. The reservation is ordered adopted subject to all existing and/or inchoate senior water rights in the source of supply, including but not limited to any decreed rights or federal or Indian reserved rights, but not subject to any rights to appropriate water which may arise from the permit applications suspended by the Yellowstone Moratorium (Section 89-8-103 et seq., R.C.M. 1947). Pursuant to Section 89-8-105(2), R.C.M. 1947, the reservation is a preferred use over any right to appropriate water which may arise from the permit applications suspended during the Yellowstone moratorium.

98. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any senior right in the source of supply as set forth in the preceding paragraph.

99. The reservant shall as soon as practicable, but not more than seven (7) years, submit preliminary plans to the Board for the Board's approval.

(a) The plan shall include a list of accomplishments to date, construction plans (if available), a construction schedule, and a detailed assessment of specific uses and benefits. The plan shall where applicable specify in detail and show on maps (using 7½ minute quadratic USGS maps, if available) the proposed sources and points of diversion; sites and sizes of facilities; the rate of diversion and volume of water to be diverted from each source and point of diversion; the volume of storage at each facility; the period of diversion for each diversion; the period of use for each use; the frequency and magnitude of drawdown; the intended location of diversion, impoundment, and conveyance facilities; and preliminary engineering plans of diversion, impoundment, and conveyance facilities.

(b) The reservant shall not commence construction of diversion, impoundment, or conveyance facilities or any other portion of the plan except upon approval of the Board. The reservant shall submit a detailed engineering plan of the proposed project prior to the construction starting date.

100. The reservant shall submit to the Board an annual progress report on each anniversary date of the effective date of the adoption of the reservation.

This condition shall continue in effect until completion of the project. The annual progress report shall set forth accomplishments toward completion of the project, a schedule of anticipated progress, and other information as may be prescribed by the Board. Feasibility studies; detailed economic, engineering, environmental, and marketing studies; construction and operating plans; water contracts; and any other studies and plans prepared in conjunction with the reservation shall accompany the annual progress report submitted next following their completion, except that environmental statements and other reports having time limits for review or comment shall be submitted immediately upon their completion.

101. Adequate measuring devices approved by the DNRC shall be installed during construction on all reservation facilities. The water diverted, distributed, and/or stored shall be measured and recorded daily throughout the life of the project. Such records shall be submitted to the Board or DNRC upon request.

102. Any change in point of diversion, place of use, use, quantities of water allocated to various uses, place of storage, distribution facilities, or time and rate of distribution shall be made in accordance with sections 89-892 and 89-893, R.C.M. 1947. The Board shall approve or deny the proposed change, giving due consideration to the requirements of the public interest. No change shall be approved which does not meet all of the pertinent criteria of Section 89-890, R.C.M. 1947, for the issuance of an order adopting a reservation.

(a) Public notices shall be given of any request for a change in point of diversion, place of use, use, quantities of water allocated to various uses, place of storage, distribution facilities or time or rate of distribution.

(b) The Board shall provide for the public to comment on the requests, and, may hold public hearings.

(c) The reservant shall include in its plan provision for maintenance of instream flow releases from the enlarged reservoir in such amounts as shall be set forth in the plan and approved by the Board.

(d) Upon review of the plan submitted pursuant to subparagraph (a), ^{approve} (b), or (c) above, the Board may at its discretion/modify or deny the proposed plan or a portion thereof conditions denying a plan may result from one or more of the following:

- (1) Water is not available at the intended diverions for this appropriation, or
 - (2) The plan or any portion thereof adversely affects prior water rights, or
 - (3) The plan or any portion there of is inadequate, or
 - (4) The plan or any portion thereof is incompatible with local or regional planning efforts, or
 - (5) The plan or any portion thereof fails to meet the best interests of the people of Montana, or
 - (6) The plan or any portion thereof fails to meet the objectives of the reservation, or
 - (7) The plan or any portion thereof would not be in compliance with pertinent state or federal laws or environmental standards, or
 - (8) The plan or any portion thereof proposes a use of water which is not a beneficial use, or
 - (9) The plan or any portion thereof does not demonstrate
 - (10) The plan is not reasonable or is speculative.
- adequate and reasonable water conservation measures.

(e) Public notice shall be given of any plans of the reservant.

(f) The Board shall provide for the public comment on the proposed plan prior to the Board's decision, and, may hold public hearings.

103. The reservant may, with approval of the Board, issue temporary permits for the use of reserved water, provided such temporary permits are subject to the terms and conditions it considers necessary for the protection of the objectives of the reservation.

104. The reservant shall participate in and adhere to water management operations that may be implemented in the future by the State of Montana.

105. Pursuant to Section 89-890(6), R.C.M. 1947, the Board shall periodically, but at least once every ten years, review this reservation, including feasibility studies, detailed plans, environmental statements, and annual reports, to ensure that the objectives of the reservation are being met. Where the objectives of the reservation are not being met, the Board may at its discretion extend, modify, or revoke the reservation.

(1) Circumstances which may evidence the above include, but are not limited to, the following:

(b) Failure of anticipated demand for water for the purpose of the reservation to materialize;

(c) Inadequacy of reservation facilities;

(d) Noncompliance with Montana or federal statutes or environmental standards;

(e) Incompatibility with local or regional planning efforts;

(f) Use of the reserved water for other than beneficial use as defined by Montana law;

(g) Noncompliance with any of the conditions of this Order.

(2) (a) Public notice shall be given of any review of the reservation;

(b) The Board shall provide for the public to comment on the review of the reservation, and, may hold public hearings.

106. Any and all liability arising from the reservation is the sole responsibility of the reservant. In ordering a reservation adopted, the Board assumes no liability.

107. Conditions of this Order may be modified or withdrawn by the Board at its discretion should future circumstances warrant. In such event notice will be given, and, if objections are received, a hearing will be held.

108. If part of this Order is invalid, all valid parts remain in effect. If part of this Order is invalid in one or more of its applications, the part remains in effect for all valid applications.

109. Paragraphs No. 76 through 109, granting and conditioning the Bureau of Reclamation's Multipurpose reservations, and the Department of Natural Resources and Conservation District's reservation are ordered adopted effective at 4:23 o'clock P.M. on the 15 day of December, 1978.

David C. Johnston
Chairman, Montana Board of Natural
Resources and Conservation

Wm H. Bertsche

Karl L. Loefer

Wilson F. Clark

Roy E. Huff

MINIMUM-FLOW INSTREAM RESERVATIONS
FOR STATE AGENCIES

110. Subject to the conditions stated below in paragraphs No. 112 through 144, the Applicant, Montana Fish and Game Commission, pursuant to Application No. 1781-r, is granted minimum-flow instream reservations as identified in subparagraphs (a) through (m) below.

(a) For the lower Yellowstone River, defined as that portion of the river at Sidney, Montana, the Montana Fish and Game Commission is granted an instream reservation at this part of the stream equal to the eightieth percentile flow less depletions. An approximation of the reservation, based on existing streamflow records as measured at the U.S. Geological Survey (herein USGS) gauging stations at Sidney, is shown in Table 0-1.

(b) For the Powder River, at its mouth, the Montana Fish and Game Commission is granted a ninetieth percentile flow instream reservation. An approximation of the reservation, based on existing streamflow records as measured at the USGS gauging stations at Locate, is shown in Table 0-2.

(c) For Rosebud Creek, the Montana Fish and Game Commission is granted the eightieth percentile flow instream reservation from Cottonwood Creek to the Yellowstone River.

(d) For the Tongue River at the inlet to the present Reservoir, the Montana Fish and Game Commission is granted an instream reservation of 244,799 af/y (Table 0-3a).

(e) For the Tongue River at its mouth, the Montana Fish and Game Commission is granted an instream reservation of a minimum flow of 75 cfs. (Table 0-3b).

(f) For Hanging Woman, Otter, and Pumpkin Creeks, the Montana Fish and Game Commission is granted a minimum-flow instream reservation equal to the historic minimum monthly flows for these streams; Hanging Woman Creek from the mouth of the East Fork to the Tongue River; Otter Creek, from the mouth of Bear Creek to the Tongue River; and Pumpkin Creek, from the mouth of Deer Creek to the Tongue River.

(g) For the Big Horn River at its mouth, the Montana Fish and Game Commission is granted an instream reservation equal to 2,477,987 acre-feet per year. An approximation of the reservation is shown in Table 0-4.

(h) For the lower middle Yellowstone River, defined as that part of the river at the City of Miles City, Montana, the Montana Fish and Game Commission is granted an instream reservation at this point of the stream reach equal to the eightieth percentile monthly low flows less depletions to that point. An approximation of the reservation, based on existing streamflow records as measured at the USGS gauging station at Miles City is shown in Table 0-5.

(i) For the middle Yellowstone River defined as that part of the Yellowstone River at the City of Billings, Montana, the Montana Fish and Game Commission is granted an instream reservation at this part of the stream equal to 3,914,455 acre-feet per year. An approximation of the reservation based on USGS gauging data at Billings is shown in Table 0-6.

Inter Supplementation
(j) For the Clarks Fork Yellowstone River, the Montana Fish and Game Commission is granted an instream reservation equal to the ninetieth percentile monthly flows for the months of January, February, March, April, May, October, November and December, and an instream reservation equal to the seventieth percentile for the months of June, July, August, and September.

(k) For the following tributaries of the Clarks Fork River of the Yellowstone, the Montana Fish and Game Commission is granted an instream reservation for the eighty-fifth percentile of the flows of the various streams:

- (1) Butcher Creek - Headwaters to West Butcher Creek to mouth
- (2) Willow Creek - Forest boundary to the Cooney Reservoir
- (3) Red Lodge Creek - Custer National Forest to the Cooney River
- (4) Clear Creek - Headwaters to mouth
- (5) Dry Creek - Headwaters to mouth
- (6) Rock Creek - Custer National Forest boundary to mouth

(7) Sage Creek - Headwaters to Crow Reservation

(8) Bluewater Creek - Headwaters to mouth

(1) For the Stillwater River at its mouth, the Montana Fish and Game Commission is granted an instream reservation for the ninetieth percentile flow of the river. This amounts to 379,795 acre-feet per year. (Table 0-7).

(m) For the following tributaries of the Stillwater River, the Montana Fish and Game Commission is granted an instream reservation for the eighty-fifth percentile of the flows of the various streams:

(1) Castle Creek - Mouth to 1,500 feet above Picket Pin Creek

(2) Picket Pin Creek - Mouth to mouth of Swamp Creek

(3) West Fork of Stillwater - Mouth to Castle Creek to Sweet Grass-
Stillwater County line to Tumble Creek

(4) Little Rocky Creek - Mouth to Forest Service road #1414 crossing

(5) West Fishtail Creek - East Fishtail Creek to Richmond-Kennedy Ditch

(6) East Fishtail Creek - West Fishtail Creek to its East Fork

(7) Fishtail Creek - From the confluence of east and west Fishtail Creeks
to mouth

(8) West Rosebud Creek - Custer National Forest boundary to Fiddler
Creek to mouth

(9) East Rosebud Creek - Custer National Forest boundary to West
Rosebud Creek

(n) For Bridger Creek from the headwaters to the Krone Ditch headgate, and for Lower Deer Creek from the headwaters to the Interstate Highway 90, and for Upper Deer Creek from the headwaters to a point upstream from the Interstate 90 bridge, and for Sweet Grass Creek from the Forest Service boundary to the mouth, the Montana Fish and Game Commission is granted an instream reservation equal to the ninetieth percentile flow of the various streams.

(o) For the Boulder River at Big Timber, the Montana Fish and Game Commission is granted an instream reservation equal to 194,163 acre-feet of water per year. This reservation is shown in Table 0-3. For the Boulder River at Contact, the Montana Fish and Game Commission is granted an instream reservation equal to 137,120 acre-feet of water per year. The reservation is shown in Table 0-9.

(p) For the East Boulder River at its mouth, the Montana Fish and Game Commission is granted an instream reservation equal to 23,146 acre-feet of water per year with an approximate monthly flow rate as shown in Table 0-10.

(q) For the West Boulder River at its mouth, the Montana Fish and Game Commission is granted an instream reservation equal to 74,353 acre-feet of water per year with an approximate monthly flow rate as shown in Table 0-11.

(r) For Big Timber Creek at its mouth, the Montana Fish and Game Commission is granted an instream reservation of 28,267 acre-feet per year with approximate monthly flows as shown in Table 0-12.

(s) For the tributaries of the Yellowstone River between the Shields and Boulder River listed below, the Montana Fish and Game Commission is granted an instream reservation for the fiftieth percentile of the stream flow for the months of January, February, March, April, October, November and December, and the ninetieth percentile flow for the months of May, June, July, August, and September.

(1) Mission Creek - Mouth to Little Bear Draw

(2) Little Mission Creek - Mouth to Little Mission Forks

(t) For the Shields River near Wilsall, the Montana Fish and Game Commission is granted an instream reservation of approximately the ninetieth percentile flow, which amounts to 21,764 acre-feet per year. The approximate monthly flows are shown in Table 0-13. For the Shields River near Clyde Park, the Montana Fish and Game Commission is granted an instream reservation of approximately the ninetieth percentile flow, which amounts to 35,434 acre-feet per year. The approximate monthly flows are shown in Table 0-14. For the Shields River at its mouth, the Board grants a ninetieth percentile flow.

(u) For the following streams in the Shields River Drainage, the Montana Fish and Game Commission is granted an instream reservation for the fiftieth percentile:

- (1) Smith Creek - From mouth to Bitter Creek
- (2) Flathead Creek - From mouth to Muddy Creek and from Muddy Creek to Cache Creek and from Cache Creek to South Fork of Flathead Creek
- (3) Cottonwood Creek - From mouth to Little Cottonwood Creek and from Little Cottonwood Creek to Trespass Creek
- (4) Rock Creek - From mouth to Forest Service West Boundary in Section 8 and from Forest Service West Boundary in Section 8 to Smaller Creek
- (5) Brackett Creek - From mouth to Sheep Creek and Sheep Creek to Skunk Creek and Skunk Creek to one mile up north, middle and south forks

(v) For the following tributaries of the Yellowstone River, the Montana Fish and Game Commission is granted an instream reservation of the twentieth percentile of the flow for the months of January, February, March, April, October, November, and December, and for the fiftieth percentile of the flow for May, June, July, August and September:

- a) Bear Creek - From mouth to the mouth of North Fork of Bear Creek and North Fork of Bear Creek to Fish Creek
- b) Cinnabar Creek - From mouth to Cottonwood Creek and Cottonwood Creek to Forest Service Boundary at Township 8 South, Range 7 West, Section 32
- c) Mol Heron Creek - From mouth to Cinnabar Creek and Cinnabar Creek to Yellowstone Park boundary

- d) Cedar Creek - From mouth to Second Fork of Cedar Creek and from Second Fork to North Fork
- e) Tom Miner Creek - From mouth to Canyon Creek and Canyon Creek to Trail Creek
- f) Rock Creek - From mouth to Steele Creek
- g) Big Creek - From mouth to Millfork Creek and Millfork Creek to Bark Cabin Creek
- h) Six Mile Creek - From mouth to the north fork of Six mile Creek
- i) Fridley Creek - From mouth to Miller Creek and from Miller Creek to Needle Creek
- j) Eight Mile Creek - From mouth to Big Draw and Big Draw to North Fork of Eight Mile Creek
- k) Mill Creek - From mouth to the East Fork
- l) Trail Creek - From mouth to West Pine Creek and West Pine Creek to the south boundary of Section 35
- m) Suce Creek - From mouth to Lost Creek
- n) Coke Creek - From mouth to Minor Creek
- o) Billman Creek - From mouth to the mouth of Coke Creek and Coke Creek to Fork South of NE corner, Section 20
- p) Flesman Creek - From mouth to Perkins Creek

(w) For the following Spring Creeks of the upper Yellowstone River, the Montana Fish and Game Commission is granted an instream reservation for the tenth percentile flow of the streams for January, February, March, April, October, November and December, and for the fiftieth percentile flow for May, June, July, August and September:

- a) Armstrong Spring Creek - From mouth or origin
- b) Nelson Spring Creek - From mouth to origin
- c) McDonald Spring Creek - From mouth to northern boundary of Section 32

d) Emigrant Spring Creek - From mouth to origin

(x) For the Yellowstone River from Gardiner through Livingston, the Montana Fish and Game Commission is granted an instream reservation at Livingston for approximately the twentieth percentile flow for January, February, March, April, October, November and December, and for approximately the ninety-fifth percentile flows for May, June, July, August and September, plus the dominant discharge. An approximate monthly flow of this reservation is shown in Table 0-15.

Insert
III. Subject to the conditions stated below in paragraphs 112 through 144, the Applicant, Montana Department of Health and Environmental Sciences is granted the following instream reservations for the Yellowstone River:

(a) An instream reservation at Sidney, Montana, which is equal to the eightieth percentile of the flow of the Yellowstone River less depletions in the Basin above Sidney. The approximate monthly flows of this reservation are shown in Table 0-1.

(b) An instream reservation at Miles City, Montana, which is equal to the eightieth percentile flow less depletions in the Basin above and including Miles City. The approximate monthly flows of this reservation are shown in Table 0-5.

(c) An instream reservation at Billings, Montana, which is equal to 3,914,455 acre-feet of water per year of the Yellowstone River. The approximate monthly flows of this reservation are shown in Table 0-6.

Insert
(d) An instream reservation on the Yellowstone River at Livingston, Montana, which is equal to approximately the twentieth percentile flow of the Yellowstone River for the months of January, February, March, April, October, November and December, and equal to approximately the ninety-fifth percentile flows of the Yellowstone River for the months of May, June, July, August and September. In addition, the dominant discharge is granted. The approximate monthly flow is shown in Table 0-15.

Insert

(continued)

112. For those certain streams or reaches where minimum-flow instream reservations or portions thereof overlap, ^{F&G and OHES} the reservants shall possess such reservations or portions thereof jointly.

113. The reservation is ordered adopted subject to any final determination of prior existing water rights in the source of supply as provided for by Montana law.

114. The reservation is ordered adopted subject to all existing and/or inchoate senior water rights in the source of supply, including but not limited to any decreed rights, or federal or Indian reserved rights, but not subject to any right appropriate water which may arise from the permit applications suspended by the Yellowstone Moratorium (Section 39-8-103 et seq., R.C.M. 1947). Pursuant to Section 89-8-105(2), R.C.M. 1947, the reservation is a preferred use over any right to appropriate water which may arise from the permit application suspended during the Yellowstone Moratorium

115. The reservation is intended to run concurrently with and overlap, rather than run consecutively with, any other right to the instream use of water already possessed by the reservant prior to the effective date of the adoption of the reservation.

116(a). For those subject streams and reaches where at least ten consecutive years of standard U.S. Geological Survey (hereinafter USGS) gauging records exist, the Montana Department of Natural Resources and Conservation (hereinafter DNRC) shall within one year of the effective date of the adoption of these minimum-flow instream reservation convert the minimum-flow instream reservation quantities into cubic feet of water per second and acre-feet of water per month such conversions to be performed upon as many streams, reaches, or portions thereof as practicable, and to be based upon the entire period of record. Upon completion, DNRC shall submit such conversions to the Board for confirmation by the Board.

(b) For those subject streams and sites lacking ten consecutive years of acceptable streamflow records, the reservants shall mutually and cooperatively and with the DNRC develop and submit to the Board within five years of the effective date

of the adoption of the minimum-flow instream reservation a plan to convert the minimum-flow instream reservation quantities into cubic feet of water per second and acre-feet of water per month. Each reservant need cooperate only in that portion of the plan which pertains to that reservant's instream reservation location. The Board shall approve, modify, or deny the plan. The plan shall include the following:

- (1) A listing of any new stream-gauging stations in the Yellowstone Basin which are essential in obtaining streamflow data in cubic feet of water per second and acre-feet of water per month. In determining mutually beneficial sites, the reservants shall seek technical advice or assistance from the DNRC and the USGS. The plan shall identify sites for new gauges which are needed, the reach of the stream to which each gauging station applies, the types of gauges to be installed, installation schedules, cost estimates, the agency responsible for operating and maintaining the gauges, and the agencies which will benefit from the additional gauging records.

- (2) A listing of the proposed future periods of record to be used for each new gauge in the conversion plan. At least ten consecutive years of gauging records obtained using standard USGS methods and analysis of records using standard USGS methods will be acceptable. Upon prior approval of the Board, differing periods of record and/or different gauging methods may be used. All gauging data shall be adjusted to the 1978 level of development.
- (3) A listing of streams or portions of streams where the alternative conversion method, hydrologic modeling techniques, will be used in converting minimum-flow instream reservation quantities into cubic feet of water per second and acre-feet of water per month. Upon approval of the Board, hydrologic modeling techniques may be used for ungauged streams or sites, or for streams with less than ten consecutive years of record. In developing this portion of the plan, the reservants shall seek technical assistance and advice from the DNRC and from the USGS to determine appropriate streams and methods. The plan shall specify modeling techniques, the reach of stream to which modeling will be applied, schedules, cost estimates, agency undertaking the modeling, and the agencies which will benefit from the modeling results. All modeling results shall be adjusted to the 1978 level of development.
- (4) A listing of proposed allocations of cost and methods of funding all scheduled gauging and modeling efforts, including but not limited to USGS cost sharing agreement.

(c) The reservants shall comply in the intent of the Board that the gauging and modeling efforts serve both as a means of implementing the minimum-flow instream reservations and as a means of improving water measurement capabilities for various data users and purposes throughout the Yellowstone Basin.

(d) Upon approval of the Board, initiation of any portion of the minimum-flow instream reservation quantity conversion effort, including installation of any desired gauging stations, may be accomplished prior to submission of the complete plan.

117. The reservant shall submit to the Board an annual progress report on each anniversary date of the effective date of the adoption of the minimum-flow instream reservation. This requirement shall continue in effect until the completion of all work required to be performed in accordance with paragraph 116, subparagraphs (b) and (d), of this Order. The annual progress report shall set forth accomplishment toward completion of such work, a schedule of anticipated progress, and other information as may be prescribed by the Board. Feasibility studies; detailed economic, engineering, and environmental studies; construction and operating plans; contracts; and any other studies and plans prepared in conjunction with the minimum-flow instream reservation projects shall accompany the annual progress report submitted next following their completion, except that environmental statements and other reports having time limits for review or comment shall be submitted immediately upon their completion.

118. Any change in use or in place of use shall be made in accordance with Sections 39-892, and 39-893, R.C.M. 1947. The Board shall approve or deny the proposed change, giving due consideration to the requirements of the public interest. No change shall be approved which does not meet all of the pertinent criteria of Section 39-390, R.C.M. 1947, for the issuance of an order adopting a reservation.

- (a) Public notice shall be given of any change in use or place of use of the reservation
- (b) The Board shall allow for the public to comment on any requests, and may hold a public hearing.

119. The reservant shall not divert or consume any water reserved for in-stream purposes, except in compliance with all pertinent statutes and rules and upon prior approval of the Board.

120. The reservant shall participate in and adhere to water management operations that may be implemented in the future by the State of Montana.

121. Pursuant to Section 89-890(6), R.C.M. 1947, the Board shall periodically, but at least once every ten years, review the reservation, including reports and plans to ensure that the objectives of the reservation are being met. Where the objectives of the reservation are not being met, the Board may at its discretion extend, modify, or revoke the reservation. Circumstances which may evidence the above include, but are not limited to , the following:

- (a) Inadequacy of reservation facilities;
- (b) Noncompliance with Montana or federal statutes or environmental standards;
- (c) Incompatibility with local or regional planning efforts;
- (d) Use of the reserved water for other than beneficial use as defined by Montana law;
- (e) Noncompliance with any of the conditions of this Order.

122. Any and all liability arising from the reservation is the sole responsibility of the reservant. In ordering a reservation adopted, the Board assumes no liability.

123. Conditions of this Order may be modified or withdrawn by the Board at its discretion should future circumstances warrant. In such event notice will be given, and, if objections are received, a hearing will be held.

124. If part of this Order is invalid, all valid parts remain in effect. If part of this Order is invalid in one or more of its applications, the part remains in effect for all valid applications.

125. Minimum-flow instream reservations are considered to be put to beneficial use at the time of the effective date of the adoption of this Order.

INSTREAM RESERVATION

Yellowstone River at Sidney
(80%ile Less Depletions through Sidney)

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	3,738	229,831
February	4,327	240,281
March	6,778	416,711
April	6,808	405,031
May	11,964	735,528
June	25,140	1,495,644
July	10,526	647,090
August	2,670	164,166
September	3,276	194,917
October	6,008	369,377
November	5,848	347,920
December	<u>3,998</u>	<u>245,814</u>
Total Reservation	(Av. 7,586 cfs)	5,492,310

TABLE 0-1

INSTREAM RESERVATION

Powder River at its Mouth
(90%ile Flow Based on USGS Data at Locate)

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	31.9	1961
February	71.8	3986
March	291	17,888
April	347	20,643
May	424	26,064
June	184	10,946
July	70	4303
August	14.5	891
September	8.87	527
October	9.43	579
November	61.6	3664
December	<u>61</u>	<u>3749</u>
Total	(Av. 131 cfs)	95,201 af/y

TABLE O-2

INSTREAM RESERVATION
Tongue River
At Inlet to Present and/or Future Reservoir

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	160	9,836
February	160	8,883
March	200	12,294
April	200	11,898
May (1-20)	700	27,762
May (21-31)	1,200	26,175
June	1,350	80,312
July	360	22,130
August	100	6,147
September	100	5,949
October	200	12,294
November	200	11,898
December	<u>150</u>	<u>9,221</u>
Total	(Av. 338 cfs)	244,799 af/y

TABLE 0-3a

INSTREAM RESERVATION

Tongue River at the Yellowstone
(Minimum 75 cfs at its Mouth)

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	75	4,611
February	75	4,164
March	75	4,611
April	75	4,462
May	75	4,611
June	75	4,462
July	75	4,611
August	75	4,611
September	75	4,462
October	75	4,611
November	75	4,462
December	<u>75</u>	<u>4,611</u>
Total Reservation	(Av. 75 cfs)	54,289 af/y

TABLE 0-3b

INSTREAM RESERVATION
Bighorn River at its Mouth

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	3,300	202,863
February	3,200	177,679
March	4,000	245,895
April	3,600	214,167
May	3,800	233,600
June	5,200	309,352
July (1-20)	3,800	150,710
July (21-31)	3,200	69,802
August	2,800	172,127
September	2,600	154,676
October	2,700	165,979
November	3,100	184,421
December	<u>3,200</u>	<u>196,716</u>
Total Reservation	3,422	2,477,987

TABLE 0-4

INSTREAM RESERVATION

Yellowstone River at Miles City (80%ile Flowa Less Depletions through Miles City)

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	3,829	235,400
February	3,998	221,995
March	6,359	390,929
April	5,848	347,957
May	12,280	754,904
June	26,188	1,557,980
July	10,278	631,856
August	3,862	237,415
September	4,338	266,682
October	5,849	359,578
November	5,508	327,730
December	<u>4,009</u>	<u>246,466</u>
Total Reservation	(Av. 7,705 cfs)	5,578,892 af/y

TABLE 0-5

INSTREAM RESERVATION

Yellowstone River at Billings (DFC Request Less Depletions through Billings)

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>	<u>APPROX. % ile</u>
January	2,489	153,058	50
February	2,488	138,186	55
March	2,889	177,648	50
April	3,589	213,541	55
May (1-20)	5,143	204,006	} 85 for May
May (21-31)	12,224	266,658	
June (1-7)	17,268	239,708	} 85 for June
June (8-30)	19,068	869,707	
July (1-20)	10,310	408,904	} 85 for July
July (21-31)	5,510	120,194	
August	4,090	251,457	65 —
September	3,415	203,185	65 —
October	3,589	220,680	50 —
November	3,489	207,591	50
December	2,789	171,501	50
Total of Months	(Av. 5,312 cfs)	3,846,025	
Plus Dominant Discharge of	34,507 cfs	+ 68,430 af/y for one 24-hour period	
Total Reservation	(Av. 5,406 cfs)	3,914,455 af	

TABLE 0-6

INSTREAM RESERVATION
Stillwater River at Mouth
90%ile Flow

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	200	12,294
February	205	11,382
March	210	12,909
April	225	13,385
May	560	34,425
June	2,075	123,447
July	1,030	63,318
August	480	29,507
September	480	28,555
October	380	23,360
November	225	13,385
December	<u>225</u>	<u>13,831</u>
Total Reservation	(Av. 524 cfs)	379,795 af/y

TABLE 0-7

INSTREAM RESERVATION
Boulder River at Big Timber

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	80	4,920
February	80	4,441
March	80	4,920
April	80	4,760
May	300	18,445
June	1,690	100,540
July	490	30,122
August	60	3,690
September	95	5,650
October	130	7,995
November	80	4,760
December	80	4,920
Total Reservation	(Av. 269 cfs)	195,163 af/y

TABLE 0-8

INSTREAM RESERVATION
Boulder River at Contact

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	50	3,075
February	50	2,875
March	50	3,075
April	50	2,975
May	150	9,220
June	1,080	64,265
July	380	23,365
August	170	10,450
September	110	6,545
October	85	5,225
November	50	2,975
December	50	3,075
Total Reservation	(Av. 189 cfs)	137,120 af/y

TABLE 0-9

INSTREAM RESERVATION
East Boulder River at Mouth

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	15	922
February	15	832
March	15	922
April	15	892
May	20	1,229
June	165	9,815
July	50	3,073
August	22	1,352
September	20	1,189
October	18	1,106
November	15	892
December	<u>15</u>	<u>922</u>
Total Reservation	(Av. 32 cfs	23,146 af/y

TABLE 0-10

INSTREAM RESERVATION
West Boulder River at Mouth

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	50	3,073
February	50	2,776
March	50	3,073
April	50	2,974
May (1-20)	50	1,983
May (21-31)	300	6,543
June	300	17,847
July (1-20)	300	11,898
July (21-31)	200	4,362
August	75	4,601
September	75	4,462
October	75	4,610
November	60	3,569
December	50	3,073
Total Reservation	(Av. 103 cfs)	74,853 af/y

TABLE 0-11

INSTREAM RESERVATION
Big Timber Creek at Mouth

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	10	615
February	10	555
March	10	615
April	20	1,190
May	85	5,225
June	180	10,710
July (1-20_)	100	3,967
July (21-31)	30	655
August	25	1,535
September	20	1,190
October	13	800
November	10	595
December	10	615
Total Reservation	(Av. 39 cfs)	28,267 af/y

TABLE 0-12

INSTREAM RESERVATION

Shields River near Wilsall
(Approximately 90% Flows, as per USGS Gauging Station at Wilsall)

Month	CFS	AF/Y
January	7	430
February	7	389
March	9	553
April	24	1,430
May	111	6,824
June	119	7,079
July	27	1,660
August	12	737
September	11	655
October	12	737
November	11	655
December	10	615
Total Reservation	(Av. 30 cfs)	21,764 af/y

TABLE C-13

INSTREAM RESERVATION

Shields River near Clyde Park
(Approximately 90%ile Flows as per USGS Gauging Station at Clyde Park)

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>
January	26	1,598
February	29	1,610
March	44	2,704
April (1-15)	93	2,766
April (16-30)	39	1,160
May (1-10)	83	1,645
May (11-20)	137	2,716
May (21-31)	184	4,012
June (1-10)	189	3,747
June (11-20)	157	3,113
June (21-30)	105	2,082
July	22	1,352
August	13	800
September	13	773
October	30	1,845
November	27	1,606
December	31	1,905
Total Reservation	(Av. 49 cfs)	35,434 af/y

TABLE 0-14

INSTREAM RESERVATION
Yellowstone River at Livingston

<u>Month</u>	<u>CFS</u>	<u>AF/Y</u>	<u>APPROX. %</u>
January	1,330	81,760	20
February	1,320	73,292	20
March	1,350	82,989	20
April	2,490	148,132	20
May (1-10)	2,500	49,575	} 95 for } May
May (11-20)	1,900	37,677	
May (21-31)	4,700	93,202	
June (1-10)	7,700	152,693	} 95 for } June
June (11-20)	9,000	178,472	
June (21-30)	8,000	158,642	
July (1-10)	5,400	107,083	} 95 for } July
July (11-20)	3,800	75,355	
July (21-31)	2,500	49,575	
August (1-10)	1,600	31,728	} 95 for } August
August (11-31)	2,125	88,492	
September	1,555	92,508	95
October	2,350	144,463	20
November	1,790	106,488	20
December	1,490	91,596	20
Total of Months Plus Dominant Discharge of	(Av. 2,553 cfs) 18,200 cfs	1,843,722 af/y 36,091 af	for one 24-hour period
Total Reservation	(Av. 2,596 cfs)	1,879,813 af/y	

TABLE 0-15

INSTREAM RESERVATIONS
FOR FEDERAL AGENCIES
AND CONSERVATION DISTRICTS

127. Subject to the conditions stated below in paragraphs No. 127 through 144, the Applicant, the North Custer County Conservation District, pursuant to Application No. 9947-r42M, is granted an instream reservation on the Yellowstone River of 4,000 cfs at the Kinsey Pumping Station near Miles City.

128. Subject to the conditions stated below in paragraphs No. 127 through 144, the Applicant, the United States Bureau of Land Management, pursuant to their Applications, is granted minimum flow instream reservations as identified in paragraphs (a) through (d) below:

(a) For the tributaries of the Little Powder River which include Hay Creek, Allison Creek, Dry Creek, Horse Creek, the North Fork of Bowers Creek, Bell Creek, Wright Creek, the South Fork of Wright Creek, Ranch Creek, Williams Creek, Prairie Creek, an instream reservation is granted of 1 cfs for each named stream.

(b) For the tributaries of the Powder River which include Mizpah Creek, Sheep Creek, the North Fork of Sheep Creek, the South Fork of Sheep Creek, Horse Creek, Meyers Creek, Locate Creek, Archdale Creek, Snow Creek, Cole Creek, Bolocate Creek, Dislocate Creek, and Ten Mile Creek, an instream reservation is granted of 1 cfs for each named stream.

(c) For the Little Powder River, an instream reservation of 3 cfs is granted.

(d) No instream reservation is granted for the following: the Powder River, the Tongue River, the Big Horn River, the Clarks Fork of the Yellowstone River, the Boulder River, Bridger Creek, the Stillwater River, Upper Deer Creek, Lower Deer Creek, the Yellowstone River, Bluewater Creek Bear Creek, Cottonwood Creek, Five Mile Creek, Sage Creek and Cricket Creek.

129. The reservation is ordered adopted subject to any final determination of prior existing water rights in the source of supply as provided for by Montana Law.

130. The reservation is ordered adopted subject to all existing and/or inchoate senior water rights in the source of supply, including but not limited to any decreed rights or federal or Indian reserved rights, but not subject to any right to appropriate water which may arise from the permit applications suspended by the Yellowstone Moratorium (Section 89-8-103 et seq., R.C.M. 1947). Pursuant to Section 89-8-105(2), R.C.M. 1947, the reservation is a preferred use over any right to appropriate water which may arise from the permit applications suspended during the Yellowstone Moratorium.

131. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any senior water right in the source of supply as set forth in the proceeding paragraph.

133. The reservant may only appropriate water pursuant to the reservation at such times when to so appropriate will not adversely affect any prior water reservation as adopted by the Board.

134. The reservant shall submit to the Board an annual progress report on each anniversary date of the effective date of the adoption of the reservation. This requirement shall continue in effect until the complete development of the reservation. The annual progress report shall set forth accomplishments toward the complete development of the reservation, a schedule of anticipated progress, and other information as may be prescribed by the Board. Feasibility studies; detailed economics, environmental, and marketing studies; ; water contracts; and any other studies and plans prepared in conjunction with the reservation projects shall accompany the annual progress report submitted next following their completion, except that environmental statements and other reports having time limits for review or comment shall be submitted immediately upon their completion.

136. Any change in place of use, use, submitted to and approved by the Board shall be made in accordance with the procedures established by Sections 89-892 and 89-893, R.C.M. 1947. The Department shall approve or deny the proposed change, giving due consideration to the requirements of the public interest. No change shall be approved which does not meet all of the pertinent criteria of Section 89-890, R.C.M. 1947, for the issuance of an order adopting a reservation.

(a) The Department may provide for a public hearing on any change in place of use.

137. The DNRC, may with the approval of the Board, issue temporary permits for the use of reserved water, provided such temporary permits are subject to the terms and conditions it considers necessary for the protection of the objectives of the reservation.

138. The reservant shall participate in and adhere to water management operations that may be implemented in the future by the State of Montana.

139. Pursuant to 89-890(6), R.C.M. 1947, the Board shall periodically, but at least once every ten years, review the feasibility studies, environmental statements, and annual reservation, including reports, to ensure that the objectives of the reservation are being met. Where the objectives of the reservation are not being met, the Board may at its discretion extend, modify, or revoke the reservation.

(1) Circumstances which may evidence the above include, but are not limited to, the following:

- (a) Failure of the anticipated demand for water for the purpose of the reservation to materialize;
- (b) Inadequacy of the reservation facilities;
- (c) Noncompliance with Montana or federal statutes for environmental standards;
- (d) Incompatibility with local or regional planning efforts;
- (e) Use of the reserved waters for other than beneficial use as defined by Montana law;
- (f) Noncompliance with any of the conditions of this Order.

(2) the Board may give notice and provide for a public hearing on whether to extend, modify or revoke a reservation. The public hearing will be held pursuant to the procedures of the Montana Administrative Procedure Act.

140. The reservant shall perfect the reservation by the year 2000 or by such extended period of time as the Board in its discretion may designate.

141. Any and all liability arising from the reservation is the sole responsibility of the reservant. In ordering a reservation adopted, the Board assumes no liability.

142. Unless otherwise stated, conditions of this Order may be modified or withdrawn by the Board at its discretion should future circumstances warrant. In such event notice will be given, and, if objections are received, a hearing will be held.

143. If part of this Order is invalid, all valid parts remain in effect. If part of this Order is invalid in one or more of its applications, the part remains in effect for all valid applications.

144 a.) Paragraphs No. 110 through 144, granting and conditioning all instream reservations for streams in the Yellowstone River Basin above the mouth of the Bighorn at the Yellowstone River, but excluding the watershed of the Bighorn River, are ordered and adopted effective at 4:13 o'clock P M. on the 15 day of December, 1978.

Osceola C. C. C. C. C.
Chairman, Board of Natural Resources
and Conservation

Wm. H. B. B. B.
Robert L. M. M.
Wilson L. C. C.
Ray E. H. H.

144b. Paragraphs No. 110 through 144, granting and conditioning all instream reservations, for streams in the Yellowstone River Basin below the mouth of the Bighorn River at the Yellowstone River, and including the watershed of the Bighorn River, are ordered and adopted effective at 4:21 o'clock P. M. on the 15 day of December, 1978.

Oecil Weeding
Chairman, Montana Board of Natural
Resources and Conservation

Wm. H. T. Bertsche

Robert L. Mason

Wilson F. Clark

Ray E. Huff

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR	)	FINDINGS OF FACT AND CON-
RESERVATION OF WATER NO. 9940-r43B	)	CLUSIONS OF LAW OF APPLI-
BY THE CITY OF LIVINGSTON	)	CATION NO. 9940-r43B

The above-entitled matter came on regularly for hearing starting on or about August 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Robert Jovick. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The U.S. Department of the Interior appeared by and through its counsel of record, Thomas Gai. The City of Billings appeared by and through its counsel of record, Calvin Calton. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. The Intake Water Company appeared by and through its counsel of record, Henry Loble. Utah International Inc., appeared by and through its counsel of record, Urban Roth. The Montana Wildlife Federation appeared by and through its counsel of

record, William L. Madden. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the City of Livingston, Application No. 9940-r43B:

FINDINGS OF FACT

1. The City of Livingston has applied for a reservation of 15,060 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 20.8 cubic feet per second (cfs) from the Yellowstone River to be used for municipal water supply purposes for the year 2007 (Application No. 9940-r43B).

Findings Related to the Purpose of the Reservation (89-890(3) (a)

2. The purpose of the reservation is to ensure water availability and an adequate streamflow for the future needs of the City of Livingston and adjacent areas (City of Livingston, narrative attachment submitted with Application 9940-r43B, pp. 2 and 3, Tr. Vol. 1, Cross of A. T. Kersich, p. 73).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3) (b)

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. 1, p. 1).

5. Because of the increased demands for water from agriculture and industry, a reservation of water is needed to insure growth of the City of Livingston (City of Livingston, Tr. Vol. I, Cross of Kersich, p. 73).

6. A reservation of water is needed. The validity of the City of Livingston's existing filed appropriations has not been proven (Tr Vol. 1, Cross of Kersich, p. 54).

7. A reservation of water is needed. The Yellowstone River water is the only practical source of municipal water available to the City of Livingston (Tr. Vol. 1, Cross of Kersich, p. 75).

8. A reservation of water is needed. A reservation would be an assurance that the City of Livingston would have an adequate quantity of water available from the Yellowstone River for its municipal water supply (City of Livingston, narrative attachment submitted with Application No. 9940-r43B, p. 3).

9. The City of Livingston will need an increased water supply in the future.

10. The City of Livingston can expect an increased population with associated increased water needs (City of Livingston, narrative attachment submitted with Application No. 9940-r43B, p. 2).

11. The City of Livingston may adopt a metropolitan water system serving areas adjacent to the area presently served (Tr. Vol. 1, Cross of Kersich, p. 73).

12. Industrial development which would rely upon the City of Livingston for water supply is possible (Tr. Vol. 1, Cross of Kersich, p. 72).

13. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 through 8).

Findings Related to Amount of Water Necessary for the Purpose of the Reservation 89-390(3)(c))

14. The urban population in Park County in 1970 was 6,383 (Draft EIS, Vol. 1, p. 101).

15. The estimated water use for the year 1970 was 1,930 af/y (Draft EIS, Vol. I, p. 101).

16. The amount of the City of Livingston's reservation request is based on a design population projection of 35,000 to 40,000 in the year 2007 (Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 11; City of Livingston, narrative attachment submitted with Application No. 9940-r43B, p. 2).

17. The population projection is speculative (Tr. Vol. 1, Cross of Kersich, pp. 58 and 59).

18. The total amount of water applied for is liberal and may include some excessive or speculative portion (Tr. Vol. 1, Cross of Kersich, p. 65).

19. The Department of Natural Resources has estimated that the population of Livingston in the year 2007 will be 11,600 (Finding of Fact 19, Department of Natural Resources).

20. The Department of Natural Resources population estimate is conservative and not supported by evidence.

21. A reasonable population estimate of the City of Livingston for the year 2007 is 23,000 people.

22. The average per capita water use rate in Montana is well over 200 gpcd, the Montana average projected by Continental Resources is 267 gpcd, and the EPA inventory form for the City of Livingston indicates 237 gpcd (Tr. Vol. 1, Cross of Kersich, pp. 60, 61 and 62, respectively).

23. The gallons per capita per day water use rate of 500 gallons per annual water use request is a liberal estimate of projected needs (Tr. Vol. 1, Cross of Kersich, p. 61).

24. Based on the average use rates listed in Findings 22 and 23, 250 gpcd is a reasonable average use rate for the City of Livingston for the year 2007.

25. With a population of 23,000 and an average use rate of 250 gallons per capita per day, the City of Livingston will need 6,440 acre-feet per year of water for the year 2007.

26. A reservation that would provide sufficient water to meet the City of Livingston's projected requirements to the year 2007 is the difference between the projected requirements in 2007 (6,440 af/y) and the existing water usage (1,930 af/y).

27. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the reservation to the year 2007 is 4,510 acre-feet per year.

Findings Related to the Public Interest (89-890(3)(d))

28. Municipal water use is recognized beneficial use of water under Montana law (City of Livingston, narrative submitted with Application No. 9940-r43B, p. 3).

29. Adoption of a reservation for the City of Livingston would have a negligible environmental impact (Draft EIS, Vol. I, pp. 173 and 174).

30. Adoption of a reservation for the City of Livingston would result in return flows to the Yellowstone River of approximately 80 percent of the flow diverted by the City of Livingston (Tr. Vol. 1, Redirect of Kersich, p. 81).

31. Adoption of a reservation for the City of Livingston would not reduce the flow of the Yellowstone River significantly (Finding 30).

32. Adoption of a reservation for the City of Livingston would provide economic benefits and contribute to community planning and orderly growth and development (City of Livingston, narrative submitted with Application No. 9940-r43B, p. 3).

33. It is established to the satisfaction of the Board that the reservation of 4,510 af/y from the Yellowstone River for the City of Livingston for municipal water supply use is in the public interest, and that there will be progress toward accomplishment of the purpose of the reservation with reasonable diligence in accordance with an established plan (Findings 1 and 28 through 32; City of Livingston, Application No. 9940-r43B).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, City of Livingston, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 8476-r43BJ
BY THE CITY OF BIG TIMBER

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 8476-r43BJ

The above-entitled matter came on regularly for hearing starting on or about August 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, James Tulley. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The City of Billings appeared by and through its counsel of record, Calvin Calton. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the City of Big Timber, Application No. 8476-r43BJ:

FINDINGS OF FACT

Background Finding

1. The City of Big Timber has applied for a reservation of 4,483 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 6.19 cubic feet per second (cfs) from the Boulder River, a tributary of the Yellowstone River, to be used for municipal water supply purposes for the year 2000. (Application No. 8476-r43BJ).

Findings Related to the Purpose of the Reservation (89-890(3)(a))

2. The purpose of the reservation is to ensure an adequate municipal water supply for the foreseeable future for the City of Big Timber (City of Big Timber, addendum to Application No. 8476-r43BJ, p. 1).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b))

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. I, p. 1).

5. A reservation of water is needed because competition for Yellowstone Basin water exists (City of Big Timber, addendum to Application No. 8476-r43BJ, p. 1; Tr. Vol. 1, following p. 92, Testimony of William Wenzel, p. 2).

6. A reservation of water is needed because it would be an assurance that the City of Big Timber would have an adequate quantity of water available from the Boulder River for the City of Big Timber's municipal water supply (Tr. Vol. 1, following p. 92, Testimony of Wenzel, p. 2).

7. A reservation of water is needed because a water right by permit would not meet all of the needs of the City of Big Timber in that the water being applied for by reservation is not presently needed (City of Big Timber, addendum to Application No. 8476-r43BJ, p. 1).

8. A reservation of water is needed because local voters will not approve a bond issue for construction of additional water supply facilities until the expected need materializes (City of Big Timber, addendum to Application No. 8476-r43BJ, pp. 1 and 2).

9. The City of Big Timber has experienced growth since 1970 as evidenced by the increase of trailer courts, individual housing starts and apartment units, as well as by the increase of community businesses. (Tr. Vol. 1, Testimony of Oscar Stephens).

10. The development of oil, gas, and metallic minerals in the Big Timber area, which would lead to further growth of the City of Big Timber, is possible (City of Big Timber, addendum to Application No. 8476-r43BJ, pp. 3 and 4; Tr. Vol. I, Cross of Stephens, p. 91).

11. The City of Big Timber can expect an increased population with associated water needs (Tr. Vol. 1, following p. 86, Testimony of Stephens, p. 1).

12. The City of Big Timber will need an increased water supply in the future to meet its expected growth (City of Big Timber, addendum to Application No. 8476-r43BJ, p. 1).

13. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 through 12).
Findings Related to Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c))

14. The 1970 population of the City of Big Timber was 1,592

(Draft EIS, Vol. I, p. 174; Tr. Vol. I, following p. 86, Testimony of Stephens, p. 1).

15. The 1977 population of the City of Big Timber is estimated to be 1,700 (Tr. Vol. I, following p. 86, Testimony of Stephens, p. 1).

16. The amount of the City of Big Timber's reservation request is based on a design population projection of 3,000 for the year 2000 (City of Big Timber, following Table 3 of Exhibit A submitted with Application No. 8476-r43BJ, Tr. Vol. I, Cross of Wenzel, p. 95).

17. The average municipal per capita water use rate in the City of Great Falls in 1964 was 200 gallons per capita per day (gpcd) (City of Big Timber, Table 4 of Exhibit A submitted with Application No. 8476-r43BJ).

18. The City of Big Timber has utilized a per capita water use rate of 1,000 (gpcd), plus an additional one million gallons per day for industrial use, in calculating its request, (City of Big Timber, addendum to Application No. 8476-r43BJ, p. 2), but there is insufficient evidence to support this figure.

19. A 250 gallon per capita per day is a reasonable average water use rate for the City of Big Timber.

20. With a population of 1,700 and an average use rate of 250 gpcd, the City of Big Timber's estimated water use in the year 1977 is 477 af/y (Findings 15 and 19).

21. With a population of 3,000 and an average use rate of 250 gpcd, the City of Big Timber would need 842 af/y in the year 2000 (Findings 16 and 19).

22. A reservation that would provide sufficient water to meet the City of Big Timber's projected increased requirements to the

year 2000 is the difference between the projected requirements in 2000 (842 af/y) and the existing water usage (477 af/y) (Findings 20 and 21), and this difference is 365 af/y.

23. It is established to the satisfaction of the Board that 365 af/y is the amount of water necessary for the purpose of the reservation to the year 2000 (Findings 14 through 22).

Findings Related to the Public Interest (89-890(3)(d))

24. Adoption of a reservation for the City of Big Timber would have a negligible environmental impact (Draft EIS, Vol. I, pp. 173 and 174).

25. Adoption of a reservation for the City of Big Timber would not reduce the flow of the Yellowstone River significantly (Draft EIS, Vol. I, p. 174).

26. Adoption of a reservation for the City of Big Timber would contribute to the public health and safety (City of Big Timber, addendum to Application No. 8476-r43BJ, p. 2).

27. Adoption of a reservation for the City of Big Timber would provide economic benefits and contribute to community planning and orderly growth and development (City of Big Timber, addendum to Application No. 8476-r43BJ, p. 2; Tr. Vol. I, following p. 86, Testimony of Stephens, p. 3; Tr. Vol I, following p. 92, Testimony of Wenzel, p. 2).

28. It is established to the satisfaction of the Board that the reservation of 365 af/y from the Boulder River, a tributary of the Yellowstone River, for the City of Big Timber for municipal water supply use is in the public interest, and that there will be progress toward accomplishment of the purpose of the reservation with reasonable diligence in accordance with an established plan (Findings 24 through 27; City of Big Timber, Application No. 8476 r43BJ).

CONCLUSIONS OF LAW

1. Chapter 8, Title 39, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 39, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, City of Big Timber, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

-----)	
IN THE MATTER OF APPLICATION FOR	)	FINDINGS OF FACT AND CON-
RESERVATION OF WATER NO. 9937-r43Q	)	CLUSIONS OF LAW OF APPLI-
BY THE CITY OF COLUMBUS	)	CATION NO. 9937-r43Q

The above-entitled matter came on regularly for hearing starting on or about August 3, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Dick Heard. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The City of Billings appeared by and through its counsel of record, Calvin Calton. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the City of Columbus, Application No. 9937-r43Q:

FINDINGS OF FACT

Background Finding

1. The City of Columbus has applied for a reservation of 2606 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 3.6 cubic feet per second (cfs) from the Yellowstone River to be used for municipal water supply purposes for the year 2007. (Application No. 9937-r43Q).

Findings Related to the Purpose of the Reservation (89-890(3)(a))

2. The purpose of the reservation is to ensure water availability and an adequate streamflow for the future needs of the City of Columbus (City of Columbus, narrative attachment submitted with Application No. 9937-r43Q, p. 3).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b))

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. I, p. 1).

5. A reservation for water is needed. Competition for Yellowstone River water, especially from irrigated agriculture and industry, exists and is increasing (City of Columbus, narrative attachment submitted with Application No. 9937-r43Q, p. 3; Tr. Vol 1, Cross of A. T. Kersich, p. 116).

6. A reservation of water is needed. The validity of the City of Columbus's existing filed appropriations for its municipal water supply has not been proven (Tr. Vol 1, following p. 38, Testimony of Kersich, p. 8).

7. A reservation of water is needed. The Yellowstone River water is the only practical, economic source of municipal water available to the City of Columbus (City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 3).

8. A reservation of water is needed. It would be an assurance that the City of Columbus would have an adequate quantity of water available from the Yellowstone River for its municipal water supply (City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 3).

9. The City of Columbus is becoming a "bedroom community" to the City of Billings. A number of people are living in Columbus and working in Billings. The newly completed interstate highway makes it only a 35 to 40 minute drive from Columbus to Billings (Tr. Vol. 1, Cross of Kersich, p. 116).

10. The City of Columbus can expect an increased population with associated increased water needs (City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 2; Tr. Vol. 1, Following p. 38, Testimony of Kersich, p. 9; Tr. Vol. 1, Cross of Kersich, p. 115).

11. Currently, industry is a user of the City of Columbus' municipal water supply. Expansion of such industry is proposed. Expansion would increase such industrial water use. An example of such proposed industrial expansion is the Timberweld Plant (Tr. Vol. 1, Following p. 38, Testimony of Kersich, p. 9; City of Columbus narrative attachment submitted with Application No. 9937-r430, p. 3).

12. New industrial development which would use the municipal water supply is possible (Tr. Vol. 1, Cross of Kersich, pp. 114 and 115).

13. The City of Columbus will need an increased water supply in the future (City of Columbus, narrative attachment submitted with

Application No. 9937-r430, p. 3).

14. It is established to the satisfaction of the Board that the need for reservation of water has been shown (Findings 4 through 13).

Findings Related to Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c))

15. The 1975 population of the City of Columbus is estimated at 1350 (City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 2).

16. The amount of the City of Columbus' reservation request is based on a design population projection of 4,500 in approximately the year 2007 (Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 9; City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 2).

17. The average municipal per capita water use rate in the Yellowstone Basin in 1970 was 212 gallons per capita per day (gpcd) (Draft EIS, Vol II, p. 405).

18. The Environmental Protection Agency's figure for the City of Columbus' water use rate is approximately 200 gpcd (Tr. Vol 1, Cross of Kersich, pp. 113-114).

19. The City of Columbus has utilized a per capita water use rate of 500 gpcd in calculating its request. (Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 8; City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 1).

20. The 500 gpcd figure is questionable (Tr. Vol. 1, Cross of Kersich, p. 119).

21. Based on the current average use rate listed in Findings 17 and 18, 250 gpcd is a reasonable average use rate for the City of Columbus for the year 2007 (Findings 17 through 20).

22. With a population of 1,350 and an average use rate of 250 gpcd, the City of Columbus' estimated water use in the year 1975 was 379 af/y (Findings 15 through 21).

23. With a population of 4,500 and an average use rate of 250 gpcd, the City of Columbus would need 1,262 af/y in the year 2007 (Findings 16 and 21).

24. A reservation that would provide sufficient water to meet the city's projected increased requirements to the year 2007 is the difference between the projected requirements in 2007 (1,262 af/y) and the existing water usage (379 af/y) (Findings 22 and 23).

25. It is established to the satisfaction of the Board that 883 af/y is the amount of water necessary for the purpose of the reservation to the year 2007 (Findings 15 through 24).

Findings Related to the Public Interest (89-890(3)(d))

26. Municipal water use is a recognized beneficial use of water under Montana law (City of Columbus, narrative attachment submitted with Application No. 9937-r430, pp. 3 and 4).

27. Adoption of a reservation for the City of Columbus would have a negligible environmental impact (Draft EIS, Vol. I, pp. 173 and 174).

28. Adoption of a reservation for the City of Columbus would not reduce the flow of the Yellowstone River significantly (Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 10).

29. Adoption of a reservation for the City of Columbus is necessary for the public health of present and future residents (Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 10; City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 4).

30. Adoption of a reservation for the City of Columbus would provide economic benefits and contribute to community planning and orderly growth and development (City of Columbus, narrative attachment submitted with Application No. 9937-r430, p. 3; Tr. Vol. 1, Cross of Kersich, p. 116).

31. It is established to the satisfaction of the Board that the reservation of 883 af/y from the Yellowstone River for the City of Columbus for municipal water supply use is in the public interest, and that there will be progress toward accomplishment of the purpose of the reservation with reasonable diligence in accordance with the established plan (Findings 1 and 26 through 30; City of Columbus, Application No. 9937-r430).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.
2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.
3. The Applicant, City of Columbus, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.
4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.
5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

5. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 9939-r43QJ)
BY THE CITY OF LAUREL)

) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 9939-r43QJ

The above-entitled matter came on regularly for hearing starting on or about August 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Larry Herman. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The City of Billings appeared by and through its counsel of record, Calvin Calton. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the City of Laurel, Application No. 9939-r43QJ:

FINDINGS OF FACT

1. The City of Laurel has applied for a reservation of 16,830 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 23.25 cubic feet per second (cfs) from the Yellowstone River to be used for municipal water supply purposes for the year 2007 Application No. 9939-r43QJ).

Findings Related to the Purpose of the Reservation (89-890(3)(a))

2. The purpose of the reservation is to ensure water availability and an adequate streamflow for the future needs of the City of Laurel and adjacent areas (City of Laurel, narrative attachment submitted with Application 9939-r43J, pp. 2 and 3, Tr. Vol. 1, Cross of A. T. Kersich, p. 73).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. 1, p. 1).

5. Because of the increased demands for water from agriculture and industry, a reservation of water is needed to insure growth of the City of Laurel (City of Laurel, Tr. Vol. 1, Cross of Kersich, p. 73).

6. A reservation of water is needed. The the validity of the City of Livingston's existing filed appropriations has not been proven (Tr. Vol. 1, Cross of Kersich, p. 54).

7. A reservation of water is needed. The Yellowstone River water is the only practical source of municipal water available to the City of Laurel (Tr. Vol. 1, Cross of Kersich, p. 75).

8. A reservation of water is needed. A reservation would be an assurance that the City of Laurel would have an adequate quantity of water available

from the Yellowstone River for its municipal water supply (City of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 3).

9. The City of Laurel will need an increased water supply in the future.

10. The City of Laurel's population is growing rapidly (City of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 2; Tr. Vol. 1, Redirect of Kersich, p. 128).

11. The City of Laurel is experiencing growth as evidenced by additional subdivisions, trailer courts and increased industrial activity (Tr. Vol. I, Testimony of Kersich; narrative attachment submitted with Application No. 9939-r43QJ, p. 2).

12. New industrial development is expected in the City of Laurel in the near future, and such development is likely to need water supplied by the City of Laurel (City of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 3).

13. The City of Laurel will need an increased water supply in the future (city of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 3).

14. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 through 8).

Findings Related to Amount of Water Necessary for the Purpose of the Reservation
(89-890(3)(c))

15. The population in the City of Laurel in 1970 was 4,454 (Draft EIS, Vol. I, p. 174).

16. The City of Laurel's reservation request is based on a projected population of 35,000 persons in the year 2007 (City of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 2; Tr. Vol. I, following p. 38, Testimony of Kersich, p. 7).

17. The 35,000 projected population is based on a sewer system service population rather than a water supply system service population and may not be the same as the number of persons served by a water system (Tr. Vol. I, Cross of Kersich, p. 125;

Tr. Vol. I, Redirect of Kersich, p. 127; Department of Natural Resources Finding of Fact 24).

13. The Department of Natural Resources has estimated the population of the City of Laurel in the year 2000 to be 23,000 people.

19. The Department of Natural Resources' population estimate for the year 2000 for the City of Laurel is conservative and not supported by evidence.

20. The average municipal per capita water use rate in Yellowstone Basin in 1970 was 212 gpcd (Draft EIS, Vol. II, p. 405).

21. The average municipal per capita water use rate in Yellowstone County in 1970 was 193 gpcd (Draft EIS, Vol. II, p. 405).

22. The City of Laurel has utilized a per capita water use rate of about 500 gallons per capita per day (gpcd) in calculating its request (Tr. Vol. 1, Cross of Kersich, p. 126).

23. Based on the Average use rates listed in Findings 20 and 21, 250 gpcd is a reasonable average use rate for the City of Laurel for the year 2007.

24. From the data presented at these proceedings, a reasonable population of the City of Laurel for the year 2007 is 30,000 people.

25. With a population of 30,000 and an average use rate of 250 gallons per capita per day, the City of Laurel would need 8,400 acre-feet per year of water.

26. With a population of 4,404 and an average use rate of 250 gpcd, the City of Laurel's estimated water use in the year 1970 was 1,249 af/y (Findings 15 and 23).

27. A reservation that would provide sufficient water to meet the City's projected increased requirements to the year 2007 is the difference between the projected requirements in 2007 (8,400 af/y) and the existing water usage (1,249 af/y).

28. It is established to the satisfaction of the Board that 7,151 af/y is the amount of water necessary for the purpose of the reservation to the year 2007.

Findings Related to the Public Interest (89-890(3)(d))

29. Municipal water use is a recognized beneficial use of water under Montana law (City of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 3).

30. Adoption of a reservation of water for the City of Laurel would have a negligible environmental impact (Draft EIS, Vol. I, pp. 173 and 174).

31. Adoption of a reservation for water for the City of Laurel would not reduce the flow of the Yellowstone River significantly (Draft EIS, Vol. 1, p. 173).

32. Adoption of a reservation of water for the City of Laurel would provide public health benefits (City of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 3).

33. Adoption of a reservation of water for the City of Laurel would provide economic benefits and contribute to community planning and orderly growth and development (Tr. Vol. 1, Cross of Kersich, p. 124; Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 6; City of Laurel, narrative attachment submitted with Application No. 9939-r43QJ, p. 3).

34. It is established to the satisfaction of the Board that the reservation of 7,151 af/y from the Yellowstone River for the City of Laurel for municipal water supply use is in the public interest, and that there will be progress toward accomplishment of the purpose of the reservation with reasonable diligence in accordance with an established plan (Findings 1 and 29 through 33; City of Laurel, Application No. 9939-r43QJ).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, City of Laurel, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9646-r43Q
BY THE CITY OF BILLINGS

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 9646-r43Q
)

The above-entitled matter came on regularly for hearing starting on or about August 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Calvin Calton. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The U.S. Department of the Interior appeared by and through its counsel of record, Robert Woodahl. The Montana Wildlife Federation appeared by and through its counsel of record, William Madden. The Environmental Information Center appeared by and through its counsel of record, William Leaphart, Jr. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the City of Billings, Application No. 9646-r43Q:

FINDINGS OF FACT

1. The City of Billings applied for a reservation of 317,456 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 1,190 cubic feet per second (cfs) from the Yellowstone River to be used for municipal water supply purposes for the year 2070 (Application No. 9646-r43Q), and beneficial uses listed in R.C.M. 89-867(2).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of the reservation is to ensure water availability and an adequate streamflow for future needs of the City of Billings (City of Billings, Application No. 9646-r43Q).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. 1, p. 1).

5. A reservation of water is needed. The competition for Yellowstone River water exists between municipalities and the other potential users (Tr. Vol. 1, following p. 134, Testimony of Gerald D. Underwood, p. 6).

6. A reservation of water is needed. The validity of the City of Billings' filed appropriations for its municipal water supply has not been proven (Tr. 2 Underwood, p. 8).

7. A reservation of water is needed. The Yellowstone River water is the only practical, economic source of municipal water available to the City of Billings (City of Billings, Application No. 9646-r43Q; narrative attachment submitted with Application No. 9646-r43Q; Tr. 2 Underwood, pp. 18-21).

8. A reservation of water is needed. It would be an assurance that the City of Billings would have an adequate quantity of water available for its municipal water supply (City of Billings, Application 9646-r43Q; narrative attachment submitted with Application No. 9646-r43Q; Tr. 2, Underwood, pp. 18-21).

9. Increased industrial development with associated increased water needs can be expected, based on inquiries from potential industries (Tr. 2 Underwood, pp. 64 and 65).

10. The City of Billings can expect an increased population with associated increased water needs (Tr. 2 Underwood, p. 29).

11. The City of Billings will need an increased water supply in the future (Tr. 2 Underwood, p. 19).

12. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 through 8).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

13. The 1970 population of the City of Billings was 61,581 (City of Billings, data submitted with Exhibit 4 of Application No. 9646-r43Q, p. 1).

14. The 1970 population of the Billings water service area was 72,000 (City of Billings, data submitted with Exhibit 4 of Application No. 9646-r43Q, p. 1).

15. The 1975 population of the City of Billings was approximately 70,000 (City of Billings, Exhibit 5 of Application No. 9646-r43Q).

16. The 1975 population of the Billings water service area was approximately 81,000 (City of Billings, Exhibit 5 of Application No. 9646-r43Q).

17. The projected population of the City of Billings in the year 2000 is 131,000 (City of Billings, data submitted with Exhibit 4 of Application No. 9646-r43Q, p. 1).

18. The projected population of the Billings water service area for the year 2000 is 164,700 (City of Billings, data submitted with Exhibit 4 of Application No. 9646-r43Q, p. 1; Tr. 2 Underwood, p. 28).

19. A reasonable population figure for the Billings water service area is 164,700 in the year 2000 (Findings 9-11 and 13-18).

20. The amount of the City of Billings reservation request is based on a design population projection for the year 2070 (City of Billings, Exhibit 4 of Application No. 9646-r43Q, pp. 1 through 3).

21. The projected population of the City of Billings in the year 2070 is 600,000 (city of Billings, data submitted with Exhibit 4 of Application No. 9646-r43Q, p. 1).

22. The projected population of the Billings water service area for the year 2070 is 600,000 (City of Billings, data submitted with Exhibit 4 of Application No. 9646-r43Q, p. 1; Tr. 2 Underwood, pp. 25-48, 58-59, 62-64, 71-75).

23. The City of Billings based its application partially on a thirty percent (30%) contingency reservation for industrial development potential (Tr. Vol. 2, p. 48; Cross of Underwood).

24. The thirty percent (30%) contingency for industrial development potential is speculative and is supported by insufficient evidence (Tr. Vol. 2; Cross of Underwood).

25. A reasonable population figure for the Billings water service area for the year 2000 is 164,700 (Department of Natural Resources Finding 19; City of Billings Finding 18).

26. The population projection of the City of Billings is speculative and is not supported by sufficient evidence (Tr. Vol. 2, pp. 36-37; Cross of Underwood).

27. Using the population data for the year 2000, it is able to be projected for the year 2010 for Billings water service area. (Application No. 9646-r43Q).

28. Any projection beyond 2010 is speculative and not supported by sufficient evidence (Exhibit 2 of Application No. 9646-r43Q, p. 3).

29. The population for the year 2010 is projected to be 206,000 people for water service area.

30. The average daily per capita water consumption rate for the City of Billings in 1975 was 210 gallons per capita per day (gpcd) (Tr. Vol. 2, Cross of Underwood, p. 57).

31. The average municipal per capita water consumption rate in Yellowstone County in 1970 was 198 gpcd (Draft EIS, Vol. II, p. 405).

32. The average municipal per capita water use rate in the Yellowstone Basin in 1970 was 212 gpcd (Draft EIS, Vol. II, p. 405).

33. The City of Billings has calculated a water use rate of 250 gpcd for the year 2000 (City of Billings, Exhibit 6 of Application No. 9646-r43Q).

34. Based on the average use rates listed in Findings 30 through 33, 250 gpcd is a reasonable average use rate for the City of Billings for the year 2010 (Findings 30 through 33).

35. With a population of 72,000 and an average use rate of 204 gpcd, the City of Billings' estimated water use in the year 1970 was 16,450 acre-feet.

36. With a water service population of 206,000 in 2010 and an average use rate of 250 gallons per capita per day, the City of Billings will need 57,679 acre-feet per year of water.

37. A reservation that would provide sufficient water to meet the city's projected increased requirements to the year 2010 is the difference between the projected requirement (57,679 af/y) and the existing water usage (16,450 af/y).

38. It is established to the satisfaction of the Board that 41,229 af/y is the amount of water necessary for the purpose of the reservation to the year 2010.

Findings Related to the Public Interest (89-890(3)(d)).

39. Municipal water use is a recognized beneficial use of water under Montana law (City of Billings, narrative attachment submitted with Application No. 9646-r43Q, p. 2).

40. Adoption of the reservation would not significantly reduce the flow of the Yellowstone River

41. Adoption of the reservation would contribute to community planning and provide economic benefits to the community (City of Billings, narrative attachment submitted with Application No. 9646-r43Q, p. 2).

42. Adoption of a reservation for the City of Billings would contribute to the public health (City of Billings, narrative attachment submitted with Application No. 9646-r43Q, p. 2).

43. It is established to the satisfaction of the Board that the reservation of 41,229 af/y from the Yellowstone River for the City of Billings for municipal water supply use is in the public interest, and that there will be accomplishment of the purpose with reasonable diligence in accordance with an established plan (Findings

CONCLUSIONS OF LAW

1. Chapter 3, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 3, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, City of Billings, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of

Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9954-r42K
BY THE CITY OF MILES CITY

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FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
CATION NO. 9954-r42K

The above-entitled matter came on regularly for hearing starting on or about August 10, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared without aid of counsel. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, Clayton Herron and F. Woodside Wright. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The City of Billings appeared by and through its counsel of record, Calvin Calton. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. The Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the City of Miles City, Application 9954-r42K:

FINDINGS OF FACT

1. The City of Miles City has applied for a reservation of 21,720 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 30 cubic feet per second (cfs) from the Yellowstone River, to be used for municipal water supply purposes for the year 2000. (Application No. 9954-r42K).

2. The annual amount of the City of Miles City's water reservation request is based on a projected maximum daily water diversion rather than an average daily water diversion (Tr. Vol. 3, Direct of Bill Enright, p. 9).

Findings Related to the Purpose of the Reservation (89-890(3)(a))

3. The purpose of the reservation is to ensure water availability for domestic use, lawn watering, and fire protection needs of the City of Miles City (City of Miles City, letter submitted with Application No. 9954-r42K, p. 1).

4. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 3).

Findings Related to the Need for the Reservation (89-890(3)(b))

5. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. I, p. 1).

6. A reservation of water is needed. There is competition for water in the Yellowstone Basin which may affect the ability of the applicant to obtain a water right by permit in the future (Draft EIS, Vol. I, p. 1).

7. A reservation of water is needed. The Yellowstone River water is the only source of municipal water available to the City of Miles City (Tr. Vol. 3, Cross of Enright, pp. 13 and 14).

8. A reservation of water is needed. The City of Miles City has long-range plans for construction of additional storage reservoirs and expansion of the

water plan as the need for such construction and expansion arises (Tr. Vol. 3, Cross of Enright, p. 18).

9. The City of Miles City is experiencing growth as evidenced by construction of two major subdivisions and coal and energy developments (Tr. Vol. 3, Cross of Enright, p. 10).

10. The City of Miles City can expect an increased population with associated increased water needs (City of Miles City, letter submitted with Application No. 9954-r42K, p. 1; Tr. Vol. 3, Direct of Enright, pp. 8 & 9).

11. The City of Miles City provides water to residents outside the city limits including the recently formed Custer County Water and Sewer District which will offer Miles City water service to 2,000 persons presently residing within one mile of the city limits of Miles City.

12. The City of Miles City needs an increased water supply for the future (City of Miles City, letter submitted with Application No. 9954-r42K, p. 2).

13. A reservation of water is needed because it would provide water to satisfy demands of present and future residents and development (City of Miles City, letter submitted with Application No. 9954-r42K, p. 1; Tr. Vol. 3, Direct of Enright, p. 9).

14. It is established to the satisfaction of the Board that the need for a reservation of water has been shown.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c))

15. The 1976 population of the City of Miles City was 9,700 (Tr. Vol. 3, Direct of Enright, p. 8).

16. The City of Miles City's reservation request, to approximately the year 2000, is based on the maximum daily use of a population of 31,000 (Tr. Vol. 3, Direct of Enright, pp. 9, 12, and 13; City of Miles City, letter submitted with Application No. 9954-r42K, p. 1).

17. Both urban and rural populations in Custer County decreased in the decade from 1960 to 1970. The countywide population also decreased between 1970 and 1974 (Draft EIS, Vol. I, p. 101).

18. A population projection of 31,000 for the City of Miles City to the year 2000 is excessive.

19. The Department of Natural Resources has estimated a design population for the City of Miles City for the year 2000 to be 20,000 people (Tr. Vol. 3, p. 3).

20. The Department of Natural Resources' population projection for the City of Miles City for the year 2000 is based on a study by an engineering firm which was planning a sewage treatment plant.

21. In planning the sewage treatment plant, the engineering firm consulted with the City-County Planning Organization, the City Council and the Yellowstone-Tongue Areawide Planning Organization (Department of Natural Resources Finding of Fact 23).

22. A reasonable population estimate for the City of Miles City in the year 2000 is 20,000 people.

23. The average municipal per capita water use rate in the Yellowstone Basin in 1970 was 212 gpcd (Draft EIS, Vol. II, p. 405).

24. The average municipal per capita water use rate in Custer County in 1970 was 215 gpcd (Draft EIS, Vol. II, p. 405).

25. The average per capita water use rate for the City of Miles City is 230 gpcd (Tr. Vol. 3, Cross of Enright, p. 14).

26. For the year 2000, an average per capita water use rate of approximately 250 gpcd is projected for the City of Miles City (Tr. Vol. 3, Cross of Enright, p. 15).

27. The 630 gallons per capita per day utilized by the City of Miles City in

computing its reservation is excessive and not supported by evidence.

28. Based on the current average and projected water use rates listed in Findings 23 through 26, 250 gpcd is a reasonable average use rate for the City of Miles City for the year 2000.

29. With a population of 9,700 and an average use rate of 250 gpcd, the City of Miles City's estimated water use in the year 1976 was 2,721 af/y.

30. With a population of about 20,000 and an average use rate of 250 gpcd, the City of Miles City would need 5,610 af/y in the year 2000.

31. A reservation that would provide sufficient water to meet the city's projected increased requirements to the year 2000 is the difference between the projected requirements in 2000 (5,610 af/y) and the existing water usage (2,721 af/y).

32. It is established to the satisfaction of the Board that 2,889 af/y is the amount of water necessary for the purpose of the reservation to the year 2000.

Findings Related to the Public Interest (39-890(3)(d))

33. Adoption of a reservation for the City of Miles City would have a negligible environmental impact (Draft EIS, Vol. I, p. 174).

34. At this time, about 87 percent of the flow diverted for the City of Miles City is returned to the Yellowstone River (Tr. Vol. 3, Cross of Enright, p. 14).

35. Adoption of a reservation for the City of Miles City would not reduce the flow of the Yellowstone River significantly (Draft EIS, Vol. I, pp. 173 and 174; Finding 34).

36. Adoption of a reservation for the City of Miles City would contribute to the City's facility planning (City of Miles City, letter submitted with Application No. 9954-r42K, p. 1).

37. It is established to the satisfaction of the Board that the reservation of 2,889 af/y from Yellowstone River for the City of Miles City for municipal water supply use is in the public interest, and that there will be progress toward accomplishment of the purpose of the reservation with reasonable diligence in accordance with an established plan (Finding 1, 8, and 33 through 36; City of Miles City, Application No. 9954-r42K).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, City of Miles City, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9938-r42M
BY THE CITY OF GLENDIVE

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 9938-r42M

The above-entitled matter came on regularly for hearing starting on or about August 10, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The applicant appeared without aid of counsel. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, Clayton Herron and F. Woodside Wright. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the City of Glendive, Application 9938-r42M:

FINDINGS OF FACT

1. The City of Glendive has applied for a reservation of 12,756.9 acre-feet of water per year (af/y), with a maximum diversionary flow rate of 17.62 cubic feet per second (cfs) from the Yellowstone River to be used for municipal water supply purposes for the year 2007 (Application No. 9938-r42M).

Findings Related to the Purpose of the Reservation (89-890(3)(a))

2. The purpose of the reservation is to ensure water availability and an adequate streamflow for the future needs of the City of Glendive (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 3).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b))

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before the construction or use began (Draft EIS, Vol. I, p. 1).

5. A reservation of water is needed because competition for Yellowstone River water, especially from irrigated agriculture and coal-related industry, exists (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 3).

6. A reservation of water is needed. The validity of the City of Glendive's existing filed appropriations for its municipal water supply has not been proven (Tr. Vol. 1, following p. 38, Testimony of A. T. Kersich, p. 5; City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 1; Tr. Vol. 3, Cross of Kersich, p. 25).

7. A reservation of water is needed. The Yellowstone River water is the only practical, economic source of municipal water available to the City of Glendive

(City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 3; Tr. Vol. 3, Cross of Kersich, p. 27; Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 6).

8. A reservation of water is needed. It would be an assurance that the City of Glendive would have an adequate quantity of water available from the Yellowstone River for its municipal water supply (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 3; Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 6).

9. In the future, coal production activity will increase the City of Glendive's water needs (Tr. Vol. 1, following p. 38, Testimony of Kersich).

10. Other business activity, including the construction of a slaughtering plant, will cause an increase demand for water by the City of Glendive (Tr. Vol. 3, Testimony of Kersich, pp. 30-31).

11. The City of Glendive can expect an increased population with associated increased water needs (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 2; Tr. Vol. 3, Cross of Kersich, p. 30; Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 6).

12. The City of Glendive will need an increased water supply in the future (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 3).

13. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 through 8).

Findings Related to Amount of Water Necessary for the Purpose of the Reservation
(89-890(3)(c))

14. The population of the City of Glendive in the year 1970 was 6,305 (Draft EIS, Vol. I, p. 174).

15. The amount of the City of Glendive's reservation request is based on a design population projection of 23,000 in the year 2007 (Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 6).

16. A 701 Comprehensive Plan completed by an outside consultant in 1970 forecasts a low population of 13,400 and a high population of 14,100 for the City of Glendive for the year 1990 (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 2).

17. The expansion plans of the City of Glendive are dependent on such currently unknown growth factors as the extent of energy development in the region (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 4).

18. The design population projection of the City of Glendive is excessive and speculative and is not supported by the evidence.

19. Using the rate of growth indicated in the 701 Comprehensive Plan, the population for the City of Glendive for the year 2007 can be projected to be 18,000 people.

20. The average municipal per capita water use rate in the Yellowstone Basin in 1970 was 212 gpcd (Draft EIS, Vol. II, p. 405).

21. The average municipal per capita water use rate in Dawson County in 1970 was 179 gpcd (Draft EIS, Vol. II, p. 405).

22. The 500 gallons per capita per day utilized by the City of Glendive to compute their reservation request is excessive and not supported by evidence.

23. A reasonable average water use rate for the City of Glendive for the year 2007 is 250 gallons per capita per day.

24. With a population of about 18,000 and an average use rate of 250 gpcd, the City of Glendive would need 5,049 af/y in the year 2007.

25. With a population of 6,305 and an average use rate of 250 gpcd, the City of Glendive's estimated water use in the year 1970 was 1,768 af/y.

26. A reservation that would provide sufficient water to meet the city's projected increased requirements to the year 2007 is the difference between the projected requirements in 2007 (5,049 af/y) and the existing water usage (1,768 af/y).

27. It is established to the satisfaction of the Board that 3,281 af/y is the amount of water necessary for the purpose of the reservation to the year 2007.

Findings Related to the Public Interest (89-890(3)(d))

28. Municipal water use is a recognized beneficial use of water under Montana law (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 4).

29. Adoption of a reservation for the City of Glendive would have a negligible environmental impact (Draft EIS, Vol. I, p. 174).

30. At this time, about 40 percent of the flow diverted for the City of Glendive is returned to the Yellowstone River (Tr. Vol. 3, Cross of Kersich, p. 32).

31. Adoption of a reservation for the City of Glendive would not reduce the flow of the Yellowstone River significantly (Draft EIS, Vol. I, pp. 173 and 174; Tr. Vol. k, following p. 38, Testimony of Kersich, p. 6).

32. Adoption of a reservation for the City of Glendive would contribute to the public health (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, p. 4).

33. Adoption of a reservation for the City of Glendive would provide economic benefits and contribute to community planning, and orderly growth and development (City of Glendive, narrative attachment submitted with Application No. 9938-r42M, pp. 3 and 4; Tr. Vol. 3, Cross of Kersich, p. 31; Tr. Vol. 1, following p. 38, Testimony of Kersich, p. 6).

34. It is established to the satisfaction of the Board that the reservation of 3,231 af/y from the Yellowstone River for the City of Glendive for municipal water supply purposes is in the public interest, and that there will be progress toward accomplishment of the purpose of the reservation with reasonable diligence in accordance with an established plan (Findings 1 and 28 through 33; City of Glendive, Application No. 9938-r42M).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.
2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.
3. The Applicant, City of Glendive, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.
4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.
5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.
6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 9953-r42J)
BY THE TOWN OF BROADUS)

FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
CATION NO. 9953-r42J

The above-entitled matter came on regularly for hearing starting on or about August 10, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll; the Applicant did not appear at the hearing nor was any direct testimony offered.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Town of Broadus, Application No. 9953-r42J:

FINDINGS OF FACT

Background Finding

1. The Town of Broadus has applied for a reservation of 605 acre-feet of water per year (af/y) with a maximum diversionary rate of 0.84 cubic feet per second (cfs) from ground water to be used for municipal water supply purposes for the year 1995. (Narrative attachment submitted with Application No. 9953-r42J).

Findings Related to the Purpose of the Reservation (89-890(3)(a))

2. The purpose of the reservation is to ensure for the Town of Broadus a municipal water supply for domestic, fire protection, commercial, industrial, lawn watering, city park and related uses (Town

of Broadus, Application No. 9953-r42J; Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b))

4. A reservation of ground water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Drafts EIS, Vol. 1, p. 1).

5. A reservation of ground water is needed because coal development in the vicinity of the Town of Broadus may increase the town's growth and thus increase the town's need for water (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

6. A reservation of ground water is needed because total dissolved solid (TDS) concentrations in surface water in the Tongue and Powder subbasins frequently exceed the upper limit (500 milligrams per liter) for drinking water and would therefore require expensive treatment (Draft EIS, Vol. 11, p. 259).

7. A reservation of ground water is needed because municipal and domestic water users may be forced to find water sources other than surface water (Draft EIS, Vol. 11, p. 259).

8. A reservation of ground water is needed because no municipalities in the Tongue and Powder subbasins use surface water (Draft EIS, Vol. 11, p. 259).

9. A reservation of ground water is needed because the town of Broadus currently uses ground water and anticipates that its future water supply will be obtained from ground water (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

10. It is established to the satisfaction of the Board that the need for a reservation of ground water has been shown.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890 (3)(c))

11. The 1977 population of the Town of Broadus is estimated at 800 (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J; Draft EIS, Vol. 1, p. 174).

12. Coal development in the vicinity of the Town of Broadus would include growth of the town and a concurrent growth in the town's water needs (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

13. The Town of Broadus projects its population to be 4,000 persons in the year 1995 (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

14. A Yellowstone Basin population simulation for the year 2000 prepared by the Montana Department of Community Affairs for the Yellowstone Impact Study projects a population of 4,138 persons for Broadus under a low level of development, 6,096 under an intermediate level of development, and 10,692 under a high level of development (Draft EIS, Vol. II, p. 406).

15. An estimate of 4,000 persons for the Town of Broadus for the year 1995 is reasonable and possibly low (Findings 11 through 14).

16. The Town of Broadus has a per capita water use rate of 122 gallons per capita per day (gpcd) (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

17. Several years ago, 148 gpcd was estimated to be the average residential commercial, and industrial water use rate in small towns (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J, citing Volume I of Design by E. E. Seelye).

18. The average municipal per capita water use rate in the Yellowstone Basin in 1970 was 212 gpcd (Draft EIS, Vol. II, p. 405).

19. A water use rate of 135 gpcd,
was used by the Town of Broadus in calculating its water reservation request (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

20. A reasonable average water use rate for the Town of Broadus for the year 1995 assuming some industrial development will occur in the future and use water from the municipal water supply system, is 250 gpcd (Findings 12 and 16 through 19).

21. With a population of 300 and an average use rate of 250 gpcd, the Town of Broadus' estimated water use in the year 1977 was 224 af/y (Findings 11 and 20).

22. With a population of 4,000 and an average use rate of 250 gpcd, the Town of Broadus would need 1,122 af/y in the year 1995 (Findings 15 and 20).

23. A reservation that would provide sufficient water to meet the Town of Broadus' projected increased requirements to the year 1995 is the difference between the projected requirements in the year 1995 (1,122 af/y) and the existing water usage (224 af/y) (Findings 21 and 22).

24. It is established to the satisfaction of the Board that 898 af/y is the amount of water necessary for the purpose of the reservation

to the year 1995 (Findings 11 through 23).

25. The Town of Broadus has applied for the reservation of only 605 af/y (Town of Broadus, Application No. 9953-r42J).

26. It is established to the satisfaction of the Board that 605 af/y is a conservative amount of water necessary for the purpose of the reservation to the year 1995 (Findings 11 through 25).

27. Adoption of a reservation of ground water for the Town of Broadus would have a negligible environmental impact (Draft EIS, Vol. I, pp. 173 and 174).

28. Adoption of a reservation of ground water for the Town of Broadus would not affect the flow of the Yellowstone River (Draft EIS, Vol. I, p. 174).

29. Adoption of a reservation of ground water for the Town of Broadus would help provide for anticipated domestic, fire protection, commercial, industrial, lawn watering, city parks, and related uses (Town of Broadus, narrative attachment submitted with Application No. 9953-r42J).

30. Adoption of a reservation for the Town of Broadus would provide a future supply of ground water in an area where the development of surface water for municipal purposes is not practical (Findings 6 through 9).

31. Adoption of a reservation of 605 af/y ground water for the Town of Broadus does not reserve an excessive amount of water (Findings 24 through 26).

32. It is established to the satisfaction of the Board that the reservation 605 af/y of ground water for the Town of Broadus for municipal water supply use is in the public interest and that there will be progress toward accomplishment of the purpose of the reservation with reasonable diligence in accordance with an established plan

(Findings 28 through 31; Town of Broadus, Application No. 9953-r42J).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.
2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.
3. The Applicant, Town of Broadus, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.
4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.
5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.
6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 10,004-r43B
BY THE PARK CONSERVATION DISTRICT

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 10,004-r43B
)

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Park Conservation District Application No. 10,004-r43B:

FINDINGS OF FACT

1. The Park Conservation District has applied for a reservation of 108,143 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 752.6 cfs for the year 2007 to be used to irrigate 36,570 acres. On the average this request is for a diversion of 2.96 acre-feet per acre with a maximum flow rate of 1 cfs per 48.59 acres. Water is requested from the Yellowstone River and the Shields River for the year 2007. (Application 10,004-r43B).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Park Conservation District (The Park Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Park Conservation District, Application No. 10,004-r43B, p. 5).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability (The Park Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning (The Park Conservation District Application at page 4).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-390(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Park Conservation District by the year 2007 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Park Conservation District, Application 10,004-r43B, p. 20).

10. The cropping pattern by percent is 20% for grain and 80% for hay with a maximum payment capacity not stated (The Park Conservation District Application at page 22).

11. A 75% on-farm efficiency was assumed for sprinkler irrigation and 55% for flood irrigation (The Park Conservation District Application at page 12).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs (The Park Conservation District Application at page 12).

13. Peak Diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency (The Park Conservation District Application at page 12).

14. The calculated values for alfalfa equals 705 gpm per acre-foot for flood irrigation and 6 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 6 gpm per acre to more closely match the infiltration rate of heavy soils to the

application rate of system (The Park Conservation District Application at page 12).

15. The system will not meet peak consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Park Conservation District Application at page 15).

16. Although the Park Conservation District has requested 108,143 acre-feet per year to irrigate 36,570 acres, no additional irrigation can be developed with water from the Shields River or southern Park County tributaries to the Yellowstone River unless reservoirs are built to provide storage on these streams (Park Conservation District, Application No. 10,004-r43B, p. 16).

17. The Park Conservation District has no established plan for providing the storage necessary to irrigate the acres that would use water from the Shields River and Yellowstone tributaries (Park Conservation District, Application No. 10,004-r43B, p. 11).

18. Of the 36,570 acres for which a reservation has been requested by the Park Conservation District, only 21,664 can be considered to have plans sufficient to merit a reservation.

19. A reasonable projection on the expansion of irrigation in Park County by the Park Conservation District by the year 2007 would be 21,664 acres. Using irrigation factors of 2.96 acre-feet of water per acre, and 48.59 acres per cfs, a reservation of water sufficient to irrigate 21,664 acres would be 64,125 acre-feet.

20. It is established to the satisfaction of the Board that 64,125 acre-feet per year (af/y) is the amount of water necessary for the purpose of the reservation to the year 2007.

Findings Related to the Public Interest (89-890(3)(d)).

21. The reservation will contribute economically to the public interest. (The Park Conservation District Application at page 7).

22. The development of future irrigation projects in Park County and beneficial use of water will create jobs and increase the tax revenues (The Park Conservation District Application at page 8).

23. From 1960 to 1970, the rural population in Park County declined 7 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. I, p. 12).

24. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County (The Park Conservation District Application at page 8).

25. New irrigation would increase income in Park County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs (Draft EIS, Vol. I, p. 156).

26. The Park Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Park Conservation District, Application No. 10,004-r43B).

27. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems (Park Conservation District Application at page 5).

28. The plan of the Park Conservation District is not speculative and is documented to the highest degree of detail possible (Park Conservation District).

29. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

30. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Park County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used (The Park Conservation District Application at page 3).

31. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

32. A reservation sufficient to irrigate 21,664 acres is in the public interest because it is reasonable to expect that the Park Conservation District will irrigate an additional 21,664 acres by the year 2007.

33. It is established to the satisfaction of the Board that the reservation of 64,125 acre feet per year (af/y) which is

to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 3, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 3, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the Park Conservation District is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 9948-r42M) FINDINGS OF FACT AND CON-
BY THE SWEET GRASS CONSERVATION DISTRICT) CLUSIONS OF LAW OF APPLI-
CATION NO. 9948-r42M

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Sweet Grass Conservation District, Application No. 9948-r42M:

FINDINGS OF FACT

1. The Sweet Grass Conservation District has applied for a reservation of 55,822 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 438.7 cubic feet per second (cfs) to be used to irrigate 16,510 acres. On the average this request is for a diversion of 3.02 acre-feet per acre with a maximum flow rate of 1 cfs per 42.19 acres. Water is requested from the Yellowstone River, Sweet Grass Creek, Big Timber Creek, and other tributaries to the Yellowstone River for the year 2007. (Application No. 9948-r42M).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Sweet Grass Conservation District (The Sweet Grass Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Sweet Grass Conservation District, Application No. 9948-r42M, p. 5).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability (The Sweet Grass Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the

Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning (The Sweet Grass Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).
Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Sweet Grass Conservation District by the year 2007 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Sweet Grass Conservation District, Application No. 9948-r42M, p. 23).

10. The cropping pattern by percent is 20% for grain and 80% for hay with a maximum capacity not stated (The Sweet Grass Conservation District Application at page 26).

11. A 90% on-farm irrigation efficiency was assumed for sprinkler irrigation and 60% for flood irrigation (The Sweet Grass Conservation District Application at page 13).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs (The Sweet Grass Conservation District Application at page 12).

13. Peak Diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency (The Sweet Grass Conservation District Application at page 12).

14. The calculated values for alfalfa equals 9 gpm per acre-foot for flood irrigation and 7 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 5.6 to 6 gpm per acre to more closely match the infiltration rate of heavy soils to the application rate of system (The Sweet Grass Conservation District Application at page 12).

15. The system will not meet peak consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses (The Sweet Grass Conservation District Application at page 12).

16. Although the Sweet Grass Conservation District has requested 55,322 acre-feet per year to irrigate 18,510 acres, no additional irrigation can be developed with water from the requested water sources unless reservoirs are built to provide storage on these streams (Sweet Grass Conservation District, Application No. 9948-r42M, pp. 17-18).

17. The Sweet Grass Conservation District has not submitted and has no established plan for providing the storage necessary to irrigate the acres that would use water from the Sweet Grass drainage.

18. Of the 18,510 acres for which a reservation has been requested by the Sweet Grass Conservation District, only 15,313 can be considered to have plans sufficient to merit a reservation.

19. A reasonable projection on the expansion of irrigation in Sweet Grass County by the Sweet Grass Conservation District by the year 2007 would be 15,313 acres. Using irrigation factors of 3.02 acre-feet of water per acre, and 42.19 acres per cfs, a reservation of water sufficient to irrigate 15,313 acres would be 46,245 acre-feet with a maximum diversionary flow rate of 362.4 cfs.

20. It is established to the satisfaction of the Board that 46,245 af/y with a maximum diversionary flow rate of 363.4 cfs is the amount of water necessary for the purpose of the reservation to the year 2007.

Findings Related to the Public Interest (89-890(3)(d)).

21. The reservation will contribute economically to the public interest (The Sweet Grass Conservation District Application at page 8).

22. The development of future irrigation projects in Sweet Grass County and beneficial use of water will create jobs and increase the tax revenues (The Sweet Grass Conservation District Application at page 8).

23. From 1960 to 1970, the rural population in Sweet Grass County declined 9.4 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. I, p. 101).

24. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County (The Sweet Grass Conservation District Application at page 8).

25. New irrigation would increase income in Sweet Grass County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs (Draft EIS, Vol. I, p. 156).

26. The Sweet Grass Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2007 (Sweet Grass Conservation District, Application No. 9943-r42M).

27. Be reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems (Sweet Grass Conservation District Application at page 24).

28. The plan of the Sweet Grass Conservation District is not speculative and is documented to the highest of detail possible (Sweet Grass Conservation District).

29. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

30. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Sweet Grass County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used (The Sweet Grass Conservation District Application at page 3).

31. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

32. A reservation sufficient to irrigate 15,313 acres is in the public interest because it is reasonable to expect the the Sweet Grass Conservation District will irrigate an additional 15,313 acres by the year 2000.

33. It is established to the satisfaction of the Board that the reservation of 46,245 af/y with a maximum diversionary flow rate of 363.4 cfs to be used for irrigation is in the public interest and that there

will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 39, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 39, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the Sweet Grass Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 9935-r43QJ BY) FINDINGS OF FACT AND CON-
THE STILLWATER CONSERVATION DISTRICT) CLUSIONS OF LAW OF APPLI-
CATION NO. 9935-r43QJ

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Stillwater Conservation District, Application No. 9935-r43QJ:

FINDINGS OF FACT

1. The Stillwater Conservation District has applied for a reservation of 16,755 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 122.1 cubic feet per second (cfs) to be used to irrigate 5,290 acres. On the average this request is for a diversion of 3.17 acre-feet per acre with a maximum flow rate of 1 cfs per 43.33 acres. Water is requested from the Yellowstone River and from the Stillwater River and other tributaries to the Yellowstone River for the year 2000 (Application No. 9935-r43QJ).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Stillwater Conservation District. (The Stillwater Conservation District Application at page 5).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Stillwater Conservation District, Application No. 9935-r43QJ, p. 6).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Stillwater Conservation District Application at page 6).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Stillwater Conservation District Application at page 6).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Stillwater Conservation District by the year 2000 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Stillwater Conservation District, Application No. 9935-r43QJ, p. 21).

10. The cropping pattern by percent is 20% for grain and 80% for hay with a maximum payment capacity of \$125.00 per acre. (The Stillwater Conservation District Application at page 12).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Stillwater Conservation District Application at page 12).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Stillwater Conservation District Application at page 12).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Stillwater Conservation District Application at page 12).

14. The calculated values for alfalfa equals 8 to 9 gpm per acre-foot for flood irrigation and 6.5 to 7 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 6 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Stillwater Conservation District Application at page 12).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Stillwater Conservation District Application at page 12).

16. The diversion requirement ranges from .59 cfs per 40 acres to 1.06 cfs per 40 acres with an annual requirement ranging from 2 acre-feet per acre to 3.60 acre-feet per acre for an average of 3.17 acre-feet per acre with a maximum flow rate of 43.33 acres per 1 cfs. (The Stillwater Conservation District Application at page 12).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (The Stillwater Conservation District Application at page 12).

18. Using irrigation factors of 3.17 acre-feet per year of water per acre, and 43.33 acres per cfs, a reservation of water sufficient to irrigate 5,290 acres would be 16,755 acre-feet with a maximum diversionary flow of 122.1 cfs.

19. It is established to the satisfaction of the Board that 16,755 acre-feet per year with a maximum diversionary flow rate of 122.1 cfs is the amount of water necessary for the purpose of the reservation to the year 2000.

Findings Related to the Public Interest (39-390(3)(d)).

20. The reservation will contribute economically to the public interest. (The Stillwater Conservation District Application at page 3).

21. The development of future irrigation projects in Stillwater County and beneficial use of water will create jobs and increase the tax revenues. (The Stillwater Conservation District Application at page 3).

22. From 1960 to 1970, the rural population in Stillwater County declined 16.2 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. I, p. 101).

23. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Stillwater Conservation District Application at page 8).

24. New irrigation would increase income in Stillwater County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

25. The Stillwater Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Stillwater Conservation District, Application No. 9935-r43QJ).

26. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Stillwater Conservation District Application at pages 5 and 6).

27. The plan of the Stillwater Conservation District is not speculative and is documented to the highest degree of detail possible. (Stillwater Conservation District).

28. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

29. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Stillwater County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Stillwater Conservation District Application at page 3).

30. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

31. A reservation sufficient to irrigate 5,290 acres is in the public interest because it is reasonable to expect that the Stillwater Conservation District will irrigate an additional 5,290 acres by the year 2000.

32. It is established to the satisfaction of the Board that the reservation of 16,755 af/y with a maximum diversionary flow rate of 122.1 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Stillwater Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

-----)	
IN THE MATTER OF APPLICATION FOR	)	FINDINGS OF FACT AND CON-
RESERVATION OF WATER NO. 9944-r43D	)	CLUSIONS OF LAW OF APPLI-
BY THE CARBON CONSERVATION DISTRICT	)	CATION NO. 9944-r43D
-----)	

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Carbon Conservation District Application No. 9944-r43D:

FINDINGS OF FACT

1. The Carbon Conservation District has applied for a reservation of 47,557 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 274.2 cubic feet per second (cfs) to be used to irrigate 21,015 acres. On the average this request is for a diversion of 2.26 acre-feet per acre with a maximum flow rate of 1 cfs per 76.64 acres. Water is requested from the Yellowstone River, Clark Fork River, Rock Creek, Red Lodge Creek, and other tributaries of the Yellowstone River for the year 2007 (Application No. 9944-r42D).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Carbon Conservation District (The Carbon Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose for the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Carbon Conservation District, Application No. 9944-r43D).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability (The Carbon Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning (The Carbon Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Carbon Conservation District by the year 2007 (ELS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Carbon Conservation District, Application No. 9944-r43D, p. 22).

10. The cropping pattern by percent is 29% for grain and 40% for hay, 8% for silage and 23% for cash crop in lower reaches with a maximum payment capacity of \$185.00 per acre, and 20% for grain and 80% for hay in both the intermediate and higher reaches in the county for a maximum payment capacity of \$125.00 per acre. (The Carbon Conservation District Application at page 24).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Carbon Conservation District Application at page 11).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Carbon Conservation District Application at page 11).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Carbon Conservation District Application at page 11).

14. The calculated values for alfalfa equals 7.5 to 3.9 gpm per acre-foot for flood irrigation and 6 to 7 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 6 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Carbon Conservation District Application at page 11).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Carbon Conservation District Application at page 11).

16. Although the Carbon Conservation District has requested 47,557 acre-feet per year to irrigate 21,015 acres, no additional irrigation can be developed from Rock Creek and Red Lodge Creek unless reservoirs are built to provide storage on these streams (Carbon Conservation District, Application No. 9944-r43D).

17. Carbon Conservation District has no established plan for providing the storage necessary to irrigate the acres that would use water from the Rock Creek and Red Lodge Creek drainages (Carbon Conservation District, Application No. 9944-r43D, p. 245).

18. Sufficient water is available from the Yellowstone River and Clarks Fork River to irrigate all acres described in the Application that do not propose to take water from the Rock Creek and Red Lodge Creek drainages (Carbon Conservation District, Application No. 9944-r43D, pp. 15 through 17).

19. Of the 21,015 acres for which a reservation has been requested by the Carbon Conservation District, only 16,380 can be considered to have plans sufficient to merit a reservation because 4,635 acres can be developed only if storage is provided and the Application contains no plans for storage for these acres.

20. Of the 16,380 acres that can be considered to have plans only 10,034 acres are considered by the Board to have sufficient plans to warrant a reservation.

21. A reasonable projection on the expansion of irrigation in Carbon County by the Carbon Conservation District by the year 2007 would be 10,034 acres. Using irrigation factors of 2.26 acre-feet of water per acre, and 76.64 acres per cfs, a

reservation of water sufficient to irrigate 10,034 acres would be 22,676 acre-feet per year.

22. It is established to the satisfaction of the Board that 22,676 af/y is the amount of water necessary for the purpose of the reservation to the year 2007.

23. The reservation will contribute economically to the public interest (The Carbon Conservation District Application at page 7).

24. The development of future irrigation projects in Carbon County and beneficial use of water will create jobs and increase the tax revenues (The Carbon Conservation District Application at page 7).

25. From 1960 to 1970, the rural population in Carbon County declined 14.9 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. I, p. 101).

26. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Carbon Conservation District Application at page 8).

27. New irrigation would increase income in Carbon County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

28. The Carbon Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2007 (Carbon Conservation District, Application No. 9944-r43D).

29. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Carbon Conservation District Application at page 5).

30. The plan of the Carbon Conservation District is not speculative and is documented to the highest degree of detail possible. (Carbon Conservation District).

31. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

32. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Carbon County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used (The Carbon Conservation District Application at page 3).

33. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

34. A reservation sufficient to irrigate 10,034 acres is in the public interest because it is reasonable to expect that the Carbon Conservation District will irrigate an additional 10,034 acres by the year 2007.

35. It is established to the satisfaction of the Board that the reservation of 22,676 acre-feet per year to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the Carbon Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9949-r42M BY
THE YELLOWSTONE CONSERVATION DISTRICT

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 9949 r42M
)

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Yellowstone Conservation District, Application No. 9949-r42M:

FINDINGS OF FACT

1. The Yellowstone Conservation District has applied for a reservation of 57,963 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 378.2 cubic feet per second (cfs) to be used to irrigate 24,835 acres. On the average this request is for a diversion of 2.33 acre-feet per acre with a maximum flow rate of 1 cfs per 65.67 acres. Water is requested from the Yellowstone River for the year 2007 .(Application No. 9949-r42M).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Yellowstone Conservation District. (The Yellowstone Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Yellowstone Conservation District, Application No. 9949-r42M, p. 6).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Yellowstone Conservation District Application at page 6).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Yellowstone Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Yellowstone Conservation District by the year 2007 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Yellowstone Conservation District, Application No. 9949-r42M, p. 23).

10. The cropping pattern by percent is 29% for grain and 40% for hay, 87% for silage and 23% in cash crops with a maximum payment capacity of \$240.00 per acre. (The Yellowstone Conservation District Application at page 12).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Yellowstone Conservation District Application at page 12).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Yellowstone Conservation District Application at page 12).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Yellowstone Conservation District Application at page 12).

14. The calculated values for alfalfa equals 11 gpm per acre-foot for flood irrigation and 7 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 6 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Yellowstone Conservation District Application at page 12).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Yellowstone Conservation District Application at page 12).

16. The diversion requirement ranges from .53 cfs per 40 acres to 1.00 cfs per 40 acres with an annual requirement ranging from 2.23 acre-feet per acre to 3.03 acre-feet per acre for an average of 2.33 acre-feet per acre with a maximum flow rate of 65.67 acres per 1 cfs. (The Yellowstone Conservation District Application at page 13).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (The Yellowstone Conservation District Application at page 12).

18. Using irrigation factors of 2.33 acre-feet per year of water per acre, and 65.67 acres per cfs, a reservation of water sufficient to irrigate 24,835 acres would be 57,963 acre-feet with a maximum diversionary flow of 373.2 cfs.

19. It is established to the satisfaction of the Board that 57,963 acre-feet per year with a maximum diversionary flow rate of 373.2 cfs is the amount of water necessary for the purpose of the reservation to the year 2007.

Findings Related to the Public Interest (89-890(J)(d)).

20. The reservation will contribute economically to the public interest. (The Yellowstone Conservation District Application at page 8).

21. The development of future irrigation projects in Yellowstone County and beneficial use of water will create jobs and increase the tax revenues. (The Yellowstone Conservation District Application at page 8).

22. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Yellowstone Conservation District Application at page 8).

23. New irrigation would increase income in Yellowstone County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

24. The Yellowstone Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2007 (Yellowstone Conservation District, Application No. 9949-r42M).

25. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Yellowstone Conservation District Application at page 5).

26. The plan of the Yellowstone Conservation District is not speculative and is documented to the highest degree of detail possible. (Yellowstone Conservation District).

27. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

28. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Yellowstone County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Yellowstone Conservation District Application at page 3).

29. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

30. A reservation sufficient to irrigate 24,835 acres is in the public interest because it is reasonable to expect that the Yellowstone Conservation District will irrigate an additional 24,335 acres by the year 2007.

31. It is established to the satisfaction of the Board that the reservation of 57,963 af/y with a maximum diversionary flow rate of 378.2 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Yellowstone Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-390, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

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IN THE MATTER OF APPLICATION FOR)	FINDINGS OF FACT AND CON-
RESERVATION OF WATER NO. 9952-r43P)	CLUSIONS OF LAW OF APPLI-
BY THE BIG HORN CONSERVATION DISTRICT	)	CATION NO. 9952-r43P
)	

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Big Horn Conservation District Application No. 9952-r43P:

FINDINGS OF FACT

1. The Big Horn Conservation District has applied for a reservation of 21,200 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 151 cubic feet per second (cfs) to be used to irrigate 9,645 acres. On the average this request is for a diversion of 2.20 acre-feet per acre with a maximum flow rate of 1 cfs per 63.87 acres. Water is requested from the Big Horn River and the Tongue River for the year 2007. (Application No. 9952-r43P).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Big Horn Conservation District. (The Big Horn Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Big Horn Conservation District, Application No. 9952-r43P, p. 5).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Big Horn Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Big Horn Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Big Horn Conservation District by the year 2007 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Big Horn Conservation District, Application No. 9952-r43P, p. 21).

10. The cropping pattern by percent is 26% for grain and 56% for hay, 37% for silage and 15% for cash crops in the Big Horn River Basin with a maximum payment capacity of \$200.00 per acre. (The Big Horn Conservation District Application at page 23).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Big Horn Conservation District Application at page 10).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Big Horn Conservation District Application at page 10).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Big Horn Conservation District Application at page 10).

14. The calculated values for alfalfa equals 11 gpm per acre-foot for flood irrigation and 7 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 6 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Big Horn Conservation District Application at page 10).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Big Horn Conservation District Application at page 10).

16. The diversion requirement ranges from .54 cfs per 40 acres to 1.00 cfs per 40 acres with an annual requirement ranging from 2.09 acre-feet per acre to 2.85 acre-feet per acre for an average of 2.20 acre-feet per acre with a maximum flow rate of 63.87 acres per 1 cfs. (The Big Horn Conservation District Application at page 11).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (The Big Horn Conservation District Application at page 10).

18. Using irrigation factors of 2.20 acre-feet per year of water per acre, and 63.87 acres per cfs, a reservation of water sufficient to irrigate 9,175 acres would be 20,185 acre-feet with a maximum diversionary flow of 143.8 cfs.

19. It is established to the satisfaction of the Board that 20,185 acre-feet per year with a maximum diversionary flow rate of 143.8 cfs is the amount of water necessary for the purpose of the reservation to the year 2007.

19(a) A reservation of water has been granted to the Department of Natural Resources with the condition that the Department provide the Big Horn Conservation District's reservation request from the Tongue River to the Big Horn Conservation District for 1,034 acre feet per year.

19(b) Because of the Department of Natural Resources' Reservation in the Tongue River and its conditions, there is no need for a reservation of any amount of water in the Tongue River for the Big Horn Conservation District.

Findings Related to the Public Interest (89-890(3)(d)).

20. The reservation will contribute economically to the public interest. (The Big Horn Conservation District Application at page 7).
21. The development of future irrigation projects in Big Horn County and beneficial use of water will create jobs and increase the tax revenues. (The Big Horn Conservation District, Testimony of Yugo Nayematsu, Tr. Vol. 29).
22. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County.
23. New irrigation would increase income in Big Horn County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).
24. The Big Horn Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2007 (Big Horn Conservation District, Application 9952-r43P).
25. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Big Horn Conservation District Application at page 5).
26. The plan of the Big Horn Conservation District is not speculative and is documented to the highest degree of detail possible. (Big Horn Conservation District).
27. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

28. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Big Horn County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Big Horn Conservation District Application at page 3).

29. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

30. A reservation sufficient to irrigate 9,175 acres with water from the Big Horn River is in the public interest because it is reasonable to expect that the Big Horn Conservation District will irrigate an additional 9,175 acres by the year 2007.

31. It is established to the satisfaction of the Board that the reservation of 20,135af/y from the Big Horn River with a maximum diversionary flow rate of 143.3 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

32. It is further established by the Board that a condition of the Department of Natural Resources' reservation of water in the Tongue River is to supply the Big Horn Conservation District with 1,034 acre-feet and a peak flow rate of 7.36cfs to irrigate 470 acres.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Big Horn Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 10,003-r42KJ) FINDINGS OF FACT AND CON-
BY THE TREASURE CONSERVATION DISTRICT) CLUSIONS OF LAW OF APPLI-
TION NO. 10,003-r42KJ)

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Treasure Conservation District, Application No. 10,003-r42KJ:

FINDINGS OF FACT

1. The Treasure Conservation District has applied for a reservation of 19,978 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 129 cubic feet per second (cfs) to be used to irrigate 7,645 acres. On the average this request is for a diversion of 2.61 acre-feet per acre with a maximum flow rate of 1 cfs per 59.26 acres. Water is requested from the Yellowstone River, Big Horn River, Sarpy Creek and Tullock Creek for the year 2000. (Application No. 10,003-r42KJ).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Treasure Conservation District. (The Treasure Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Treasure Conservation District, Application No. 10,003-r42KJ,, p. 5).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Treasure Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Treasure Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Treasure Conservation District by the year 2000 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Treasure Conservation District, Application No. 10,003-r42KJ, p. 19).

10. The cropping pattern by percent is 24% for grain and 59% for hay, 37% for storage and 14% for cash crops with a maximum payment capacity of per acre. (The Treasure Conservation District Application at page 22).

11. A 90% on-farm irrigation efficiency was assumed for sprinkler irrigation and 60% for flood irrigation. (The Treasure Conservation District Application at page 11).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Treasure Conservation District Application at page 12).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Treasure Conservation District Application at page 13).

14. The calculated values for alfalfa equals 11 gpm per acre-foot for flood irrigation and 7 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 5.6 to 6 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Treasure Conservation District Application at page 11).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Treasure Conservation District Application at page 11).

16. The diversion requirement ranges from .54 cfs per 40 acres to 1.00 cfs per 40 acres with an annual requirement ranging from 2.39 acre-feet per acre to 3.26 acre-feet per acre for an average of 2.61 acre-feet per acre with a maximum flow rate of 59.26 acres per 1 cfs. (The Treasure Conservation District Application at page 12).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (The Treasure Conservation District Application at page 11).

18. Using irrigation factors of 2.61 acre-feet per year of water per acre, and 59.26 acres per cfs, a reservation of water sufficient to irrigate 7,035 acres would be 18,361 acre-feet with a maximum diversionary flow of 118.6 cfs.

19. It is established to the satisfaction of the Board that 18,361 acre-feet per year with a maximum diversionary flow rate of 118.6 cfs is the amount of water necessary for the purpose of the reservation to the year 2000.

Findings Related to the Public Interest (39-890(3)(d)).

20. The reservation will contribute economically to the public interest. (The Treasure Conservation District Application at page 8).

21. The development of future irrigation projects in Treasure County and beneficial use of water will create jobs and increase the tax revenues. (The Treasure Conservation District Application at page 8).

22. From 1960 to 1970, the rural population in Treasure County declined 20.5 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. 1, p. 101).

23. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Treasure Conservation District Application at page 8).

24. New irrigation would increase income in Treasure County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

25. The Treasure Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Treasure Conservation District, Application No. 10,003-r42KJ).

26. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Treasure Conservation District Application at page 5).

27. The plan of the Treasure Conservation District is not speculative and is documented to the highest degree of detail possible. (Treasure Conservation District).

28. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

29. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Treasure County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Treasure Conservation District Application at page 3).

30. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

31. A reservation sufficient to irrigate 7,035 acres is in the public interest because it is reasonable to expect that the Treasure Conservation District will irrigate an additional 7,035 acres by the year 2000.

32. It is established to the satisfaction of the Board that the reservation of 18,361 af/y with a maximum diversionary flow rate of 118.6 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

33. Because of the necessity of storage and because of the lack of any plans for storage, it is not established to the satisfaction of the Board that there is a need for a reservation of water in Sarpy Creek or Tullock Creek, or that a reservation on these creeks is in the public interest.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Treasure Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

-----)	
IN THE MATTER OF APPLICATION FOR	)	FINDINGS OF FACT AND CON-
RESERVATION OF WATER NO. 10,005-r42KJ	)	CLUSIONS OF LAW OF APPLI-
BY THE ROSEBUD CONSERVATION DISTRICT	)	CATION NO. 10,005-r42KJ
-----)	

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Rosebud Conservation District, Application No. 10,005-r42KJ:

FINDINGS OF FACT

1. The Rosebud Conservation District has applied for a reservation of 94,129 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 585 cubic feet per second (cfs) to be used to irrigate 37,360 acres. On the average this request is for a diversion of 2.52 acre-feet per acre with a maximum flow rate of 1 cfs per 63.86 acres. Water is requested from the Yellowstone River, Tongue River, Rosebud Creek and Armells Creek for the year 2000. (Application No. 10,005-r42KJ).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Rosebud Conservation District. (The Rosebud Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown. (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Rosebud Conservation District, Application No. 10,005-r42KJ, p. 5).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Rosebud Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Rosebud Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Rosebud Conservation District by the year 2000 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Rosebud Conservation District, Application No. 10,005-r42KJ, p. 22).

10. The cropping pattern by percent is 19% for grain and 65% for hay, 5% for silage and 11% for cash crops in the Yellowstone Basin for a maximum capacity of \$170.00 per acre, and 24% for grain, 59% for hay, 3% for silage, and 14% for cash crops in the Tongue River Basin with a maximum payment capacity of \$186.00 per acre. (The Rosebud Conservation District Application at page 24).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Rosebud Conservation District Application at page 11).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Rosebud Conservation District Application at page 11).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Rosebud Conservation District Application at page 11).

14. The calculated values for alfalfa equals 11 gpm per acre-foot for flood irrigation and 7 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 5.5 to 6 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Rosebud Conservation District Application at page 11).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Rosebud Conservation District Application at page 11).

16. The diversion requirement ranges from .49 cfs per 40 acres to 1.00 cfs per 40 acres with an annual requirement ranging from 2.15 acre-feet per acre to 3.26 acre-feet per acre for an average of 2.52 acre-feet per acre with a maximum flow rate of 63.86 acres per 1 cfs. (The Rosebud Conservation District Application at page 12).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (The Rosebud Conservation District Application at page 11).

18. Using irrigation factors of 2.52 acre-feet per year of water per acre, and 63.86 acres per cfs, a reservation of water sufficient to irrigate 34,525 acres would be 87,003 acre-feet with a maximum diversionary flow of 540.7 cfs.

19. It is established to the satisfaction of the Board that 87,003 acre-feet per year with a maximum diversionary flow rate of 540.7 cfs is the amount of water necessary for the purpose of the reservation to the year 2000.

19(a) There is no water available for the proposed irrigation that would take water from Rosebud and Armells Creeks, and Rosebud Conservation District has no plans to develop storage on these creeks. (Rosebud Conservation District, Application No. 10,005-r42Kj, pp. 15 and 16).

19(b) It has not been established to the satisfaction of the Board that there is a need for reservation of water of any amount on Armells Creek and Rosebud Creek.

19(c) A reservation of water has been granted to the Department of Natural Resources with the condition that they provide the Rosebud Conservation District's reservation request from the Tongue River to the Rosebud Conservation District of 7,144 af/y for 2,835 acres.

19(d) Because of the Department of Natural Resources' reservation and its conditions, there is no need for a reservation of any amount of water in the Tongue River for the Rosebud Conservation District.

Findings Related to the Public Interest (89-890(3)(d)).

20. The reservation will contribute economically to the public interest. (The Rosebud Conservation District Application at page 7).

21. The development of future irrigation projects in Rosebud County and beneficial use of water will create jobs and increase the tax revenues. (The Rosebud Conservation District Application at page 7).

22. From 1960 to 1970, the rural population in Rosebud County declined 2.5 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. 1, p. 101).

23. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Rosebud Conservation District Application at page 8).

24. New irrigation would increase income in Rosebud County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

25. The Rosebud Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Rosebud Conservation District, Application No. 10,005-r42KJ).

26. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Rosebud Conservation District Application at page 5).

27. The plan of the Rosebud Conservation District is not speculative and is documented to the highest degree of detail possible. (Rosebud Conservation District).

28. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

29. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Rosebud County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Rosebud Conservation District Application at page 3).

30. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

31. A reservation sufficient to irrigate 34,525 acres is in the public interest because it is reasonable to expect that the Rosebud Conservation District will irrigate an additional 34,525 acres by the year 2000.

32. It is established to the satisfaction of the Board that the reservation of 87,003 af/y with a maximum diversionary flow rate of 540.7 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

33. It is further established by the Board that a condition of the Department of Natural Resources' reservation of water in the Tongue River is to supply the Rosebud Conservation District with 7,144 acre-feet and a peak flow rate of 44.4 cfs to irrigate 2,835 acres.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Rosebud Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9947-r42M
BY THE NORTH CUSTER CONSERVATION
DISTRICT

The above-entitled matter came on regularly for hearing starting on or about September 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, R. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

- 180 -

FINDINGS OF FACT

1. Table NCCD-1 summarizes the request for reserved water made by the North Custer Conservation District for the year 2007 (Application No. 9947-r42M, Table 1, on p. 13 and amended Table 1).

TABLE NCCD-1

NORTH CUSTER CONSERVATION DISTRICT RESERVATION REQUEST

Source	Type of Irrigation		Totals		
	Full-Service Irrigation	Water-spreading	Acres	af/y	cfs
Yellowstone River					
Number of acres to be Irrigated	7,440	0	7,440		
Water Request in Acre-Feet per year	18,301	0		18,301	
Maximum Diversionary Flow rate in cfs	123.4	0			123.4
Tongue River					
Number of Acres to be Irrigated	4,605	0	4,605		
Water Request in Acre-feet per year	10,897	0		10,897	
Maximum Diversionary Flow rate in cfs	66.8	0			66.8
Powder Mainstem					
Number of Acres to be Irrigated	26,150	2,585	28,735		
Water Request in Acre-feet per year	78,480	3,878		82,358	
Maximum Diversionary Flow rate in cfs	566.9	129.3			696.2
Powder Tributaries					
Number of Acres to be Irrigated	0	4,200	4,200		
Water Request in Acre-feet per year	0	6,300		6,300	
Maximum Diversionary Flow rate in cfs	0	420			420
TOTALS			44,980	117,856	1,306.4

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the North Custer Conservation District. (The North Custer Conservation District Application at page 5).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (North Custer Conservation District, Application No. 9947-r42M, p. 7).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability (The North Custer Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning (The North Custer Conservation District Application at page 7).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the North Custer Conservation District by the year 2007 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water

while maintaining a profitable operation (North Custer Conservation District, Application No. 9947-r42M, p. 20).

10. The cropping pattern by percent is 13% for grain and 61% for hay, 8% for silage and 13% for cash crop in the Kinsey area, 19% for grain, 55% for hay, 5% for silage, and 11% for cash crops in the Tongue River Basin, and 12% for grain, 72% for hay, 6% for silage, and 10% for cash crop in the Powder River Basin (North Custer Conservation District Application at p. 12).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation (The North Custer Conservation District Application at p. 12).

12. Conveyance losses were estimated by formula and included in the diversionary requirements needs (The North Custer Conservation District Application at page 12).

13. Peak Diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency (The North Custer Conservation District Application at page 12).

14. The North Custer Conservation District has requested 10,897 acre-feet per year (af/y) and a peak flow rate of 66.8 cubic feet per second (cfs) of its total applied for amount to irrigate 4,605 acres with water from the Tongue River (North Custer Conservation District, Application 9947-r42M, p. 13; Finding 1).

15. Without additional storage, sufficient unappropriated water is not available to provide the requested water for the expansion of irrigation in the Tongue River Subbasin (Draft EIS, Vol. II, p. 265; North Custer Conservation District, Application No. 9947-r42M, p. 14).

16. The North Custer Conservation District has no plans for the provision of such needed storage in the Tongue River Subbasin (North Custer Conservation District, Application 9947-r42M).

17. Neither individual irrigators nor groups of irrigators alone could afford to pay for the storage needed in the Tongue River Subbasin (Draft EIS, Vol. II, p. 247).

18. The Montana Department of Natural Resources and Conservation has applied for a reservation of all the unappropriated water in the Tongue River in order to provide such needed storage to all existing and potential water users in the Tongue River Subbasin by enlarging the Department's existing and presently fully committed Tongue River Reservoir storage facility (Draft Addendum EIS, p. 15).

19. A condition of the water reservation given to the Department of Natural Resources is that part of the reservation is to be used to satisfy the request of the North Custer Conservation District from the Tongue River (Order of Board).

20. Unless reservoirs are built and stored water is made available to irrigators, no water is available for additional full-service irrigation in the Powder River Subbasin (North Custer Conservation District, Application No. 9947-r42M, pp. 14 and 15; North Custer Conservation District, Application No. 9947-r42M, Addendum No. 2).

21. The North Custer Conservation District has no established plan for providing the storage necessary to irrigate the acres that would use water from the Powder River.

22. It has not been established to the satisfaction of the Board that reservoirs for storage will be constructed and therefore the Board does not grant a water reservation for full-service irrigation from the Powder River.

23. Sufficient water is available from the Yellowstone River to irrigate the projects that will take water from the Yellowstone River (Draft EIS, Vol. II, pp. 276 and 284).

24. The North Custer Conservation District has applied for a reservation of 18,301 acre-feet per year from the Yellowstone River to irrigate 7,440 acres. (Application No. 9947-r42M, p. 4).

25. This diversion requirement ranges from .49 cfs per 40 acres to 1.00 cubic feet per second for 40 acres with an annual requirement ranging from 2.18 acre-feet per acre to 3.40 acre-feet per acre for an average of 2.46 acre-feet per acre and a

maximum flow rate of 1 cfs per 60.29 acres (Custer Conservation District Application at page 13, and Addendum 1 of the Amended Application).

26. Using irrigation factors of 2.46 acre-feet per acre, a reservation of water from the Yellowstone River sufficient to irrigate 7,440 acres would be 18,301 acre-feet per year and would be the amount necessary for the purpose of the reservation for the year 2007.

27. The North Custer Conservation District has applied for a water reservation from the Powder River and some of its tributaries for the purpose of irrigating 2,585 acres from water from the Powder River and 4,200 acres from water from tributaries of the Powder River by use of waterspreading (Application No. 9947-r42M).

28. It is established to the satisfaction of the Board that 1.5 acre-feet per acre is the amount of water necessary to properly irrigate acreage by use of waterspreading.

29. It is established to the satisfaction of the Board that the amount of the water to meet the purpose of the reservation of irrigating by waterspreading with water from the Powder River for 2,535 acres and water from tributaries of the Powder River for 4,200 acres is 10,177 acre-feet per year.

30. It is established to the satisfaction of the Board that the amount of water necessary to meet the purpose of the reservation is as follows:

- a) 18,301 acre-feet per year from the Yellowstone River
- b) 10,177 acre-feet per year from the Powder River and tributaries of the Powder River and to be used for waterspreading.

31. It is further established by the Board that a condition of the water reservation granted to the Department of Natural Resources for the Tongue River will be to provide the water for the request from the Tongue River of the North Custer Conservation District of 10,897 af/y for 4,605 acres.

Findings Related to the Public Interest (89-890(3)(d)).

32. The reservation will contribute economically to the public interest (The North Custer Conservation District Application at page 9).

33. The development of future irrigation projects in North Custer County and beneficial use of water will create jobs and increase the tax revenues (The North Custer Conservation District Application at page 9).

34. From 1960 to 1970, the rural population in North Custer County declined 11.5 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. I, p. 101).

35. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The North Custer Conservation District Application at page 9).

36. New irrigation would increase income in North Custer County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

37. The North Custer Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2007 (North Custer Conservation District, Application No. 9947-r42M, pp. 21 and 24).

38. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (North Custer Conservation District Application at pages 5 and 6).

39. The plan of the North Custer Conservation District is not speculative and is documented to the highest degree of detail possible. (North Custer Conservation District).

40. The reservation shall be put to use within reasonable diligence and the

plan includes a bona fide intent and ability to use the water reserved as projected.

41. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or North Custer County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The North Custer Conservation District Application at page 3).

42. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

43. It is established to the satisfaction of the Board that the reservations stated in Finding 30 are in the public interest.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 3, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the North Custer Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9943-r42J
BY THE POWDER RIVER CONSERVATION
DISTRICT

The above-entitled matter came on regularly for hearing starting on or about September 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Utah International, Inc. appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

- 189 -

FINDINGS OF FACT

1. The Powder River Conservation District has applied for a water reservation for the year 2000 as follows:

- a) 75,560 acre-feet per year with a maximum diversionary flow rate of 583.2 cfs from the Powder River to irrigate 25,245 acres with full-service irrigation
- b) 6,180 acre-feet per year with a maximum diversionary flow rate of 206 cfs from the Powder River to irrigate 4,120 acres by means of waterspreading
- c) 7,500 acre-feet per year with a maximum diversionary flow rate of 500 cfs from Powder River tributaries to irrigate 5,000 acres by means of waterspreading (Powder River Conservation District, Application No. 9942-r43J, Table 1 and amended Table 1).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expected expansion of irrigation in Powder River County by the Powder River Conservation District (Powder River Conservation District, Application No. 9943-r42J, p. 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Powder River Conservation District, Application No. 9943-r42J, p. 6).

5. A reservation of water is needed because there is competition for water in the Yellowstone Basin which may affect the ability of the Applicant to obtain a water right by permit in the future (Powder River Conservation District, Application No. 9943-r42J).

6. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

7. The Powder River Conservation District has no established plan for providing the storage necessary for its proposed full-service irrigation.

8. It is unlikely that any future storage on the Powder River will provide a substantial quantity of water for irrigation (Tr. Vol. 32, pp. 17 and 18).

9. In the Powder River Subbasin, only irrigation by waterspreading could expand significantly unless inexpensive stored water were made available for irrigation (Draft EIS, Vol. II, p. 278).

10. It has not been established to the satisfaction of the Board that any amount of water should be reserved for full-service irrigation in Powder River County because no water is available or likely to be made available to satisfy the water needs of full-service irrigation (Findings 7 through 9).

11. Sufficient water is available in the Powder River Subbasin to irrigate the waterspreading projects in the subbasin (Powder River Conservation District, Application No. 9943-r42J, p. 15).

12. Of the 34,365 acres for which a reservation has been requested by the Powder River Conservation District, only 9,120 can be considered to have plans sufficient to merit a reservation because 25,245 acres can be developed only if storage is provided, and the Application contains no plans for such storage (Findings 1 and 7 through 11).

13. A figure of 1.5 acre-feet per acre of water is reasonable for waterspreading and is more than the amount required for waterspreading under good management (Addendum I of the Amended Application of Powder River Conservation District)

14. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the reservation of supplying 1.5 acre-feet per acre of water for 9,120 acres is 13,680 acre-feet per year.

Findings Related to the Public Interest (89-890(3)(d)).

15. From 1960 to 1970 the rural population in Powder River County declined 15.2 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. I, p. 101).

16. New irrigation would increase income in Powder River County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs (Draft EIS, Vol. I, p. 156).

17. The Powder River Conservation District has an established plan for completion of the proposed facilities for which a reservation is granted that will put reserved water to use by the year 2000 (Powder River Conservation District, Application No. 9943-r42J).

18. A reservation sufficient to irrigate 9,120 acres is in the public interest because it is reasonable to expect that the Powder River Conservation District will irrigate an additional 9,120 acres by the year 2000.

19. It is established to the satisfaction of the Board that the reservation of 13,680 af/y to be used for waterspreading irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan (Findings 15 through 18).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the Powder River Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve

waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 9946-r42M) FINDINGS OF FACT AND CON-
BY THE PRAIRIE CONSERVATION DISTRICT) CLUSIONS OF LAW OF APPLI-
CATION NO. 9946-r42M

The above-entitled matter came on regularly for hearing starting on or about September 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Prairie Conservation District, Application No. 9946-r42M:

FINDINGS OF FACT

1. The Prairie Conservation District has applied for a reservation of 68,467 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 567.5 cubic feet per second (Cfs). Of this amount, 68,024 acre-feet and a peak diversionary flow of 552.7 cfs are requested for full-service irrigation of 22,241 acres; 443 acre-feet and a peak flow of 14.8 cfs are requested for 295 acres of waterspreading. All full-service irrigation would use water from the Yellowstone River. All waterspreading would use water from the Powder River. On the average, this request is for a diversion of 3.04 acre-feet per acre and a maximum diversionary flow rate of 1 cfs per 39.71 acres for the year 2000. (Application No. 9946-r42M, Table 1 as amended.).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Prairie Conservation District. (The Prairie Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Prairie Conservation District, Application No. 9946-r42M, p. 6).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Prairie Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Prairie Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Prairie Conservation District by the year 2000 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Prairie Conservation District, Application No. 9946-r42M, p. 24).

10. The cropping pattern by percent is 29% for grain and 38% for hay, 10% for silage and 23% for cash crops with a maximum payment capacity of \$240.00 per acre. (The Prairie Conservation District Application at page 25).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Prairie Conservation District Application at page 12).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Prairie Conservation District Application at page 14).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Prairie Conservation District Application at page 14).

14. The calculated values for alfalfa equals 11 gpm per acre-foot for flood irrigation and 8 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 6.5 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (Application 9946-r42M, at page 14).

15. The system will not meet peak plan consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (Application 9946-r42M, at page 14).

16. The diversion requirement ranges from .58 cfs per 40 acres to 1.00 cfs per 40 acres with an annual requirement ranging from 2.25 acre-feet per acre to 3.07 acre-feet per acre for an average of 3.04 acre-feet per acre with a maximum flow rate of 39.71 acres per 1 cfs. (Application 9946-r42M, at page 1).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (Application 9946-r42M, at page 14).

18(a) Using irrigation factors of 3.04 acre-feet per year of water per acre, and 40.24 acres per cfs, a reservation of water sufficient to irrigate 22,241 acres would be 68,024 acre-feet with a maximum diversionary flow of 552.7 cfs from the Yellowstone River.

(b) Using a waterspreading factor of 1.5 acre-feet per acre, the amount of water needed for a reservation from the Powder River for waterspreading 295 acres is 443 af/y.

19. It is established to the satisfaction of the Board that 68,024 acre-feet per year with a maximum diversionary flow rate of 552.7 cfs is the amount of water necessary for the purpose of the reservation to the year 2000.

Findings Related to the Public Interest (89-890(3)(d)).

20. The reservation will contribute economically to the public interest. (Application 9946-r42M, at page 3).

21. The development of future irrigation projects in Prairie County and beneficial use of water will create jobs and increase the tax revenues. (Application 9946-r42M, at page 3).

22. From 1960 to 1970, the rural population in Prairie County declined 24.4 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. I, p. 101).

23. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Prairie Conservation District Application at page 8).

24. New irrigation would increase income in Prairie County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

25. The Prairie Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Prairie Conservation District, Application No. 9946-r42M).

26. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Prairie Conservation District Application at pages 5 and 6).

27. The plan of the Prairie Conservation District is not speculative and is documented to the highest degree of detail possible. (Prairie Conservation District).

28. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

29. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Prairie County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Prairie Conservation District Application at page 3).

30. The Board is satisfied there will be progress toward completion of construction of the facilitation with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

31. A reservation sufficient to irrigate 22,536 acres is in the public interest because it is reasonable to expect that the Prairie Conservation District will irrigate an additional 22,536 acres by the year 2000.

32. It is established to the satisfaction of the Board that the reservation of 68,467 af/y with a maximum diversionary flow rate of 552.7 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

33. It is established to the satisfaction of the Board that the reservation of 68,467 acre-feet per year is for 68,024 acre-feet per year for full-service irrigation from the Yellowstone River, and 443 acre-feet per year from the Powder River for waterspreading.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M., 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Prairie Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION,
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 9951-r42M)
BY THE DAWSON CONSERVATION DISTRICT)

FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
CATION NO. 9951-r42M

The above-entitled matter came on regularly for hearing starting on or about September 6, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, R. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Dawson Conservation District, Application No. 9951-r42M:

FINDINGS OF FACT

1. The Dawson Conservation District has applied for a reservation of 45,855 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 330.8 cubic feet per second (cfs) to be used to irrigate 18,127 acres. On the average this request is for a diversion of 2.53 acre-feet per acre with a maximum flow rate of 1 cfs per 54.80 acres. Water is requested from the Yellowstone River for the year 1990. (Application No. 9951-r42M, Table 1 as amended).

Findings Related to the Purpose of this Reservation (39-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Dawson Conservation District. (The Dawson Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Dawson Conservation District, Application No. 9951-r42M, p. 5).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Dawson Conservation District Application at page 4).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Dawson Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Dawson Conservation District by the year 1990 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Dawson Conservation District, Application No. 9951-r42M, p. 19).

10. The cropping pattern by percent is 29% for grain and 38% for hay, 10% for silage and 23% for cash crops with a maximum payment capacity of \$240.00 per acre. (The Dawson Conservation District Application at page 21).

11. A 25% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Dawson Conservation District Application at page 10).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Dawson Conservation District Application at page 12).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Dawson Conservation District Application at page 12).

14. The calculated values for alfalfa equals 11 gpm per acre-foot for flood irrigation and 8 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 6.5 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Dawson Conservation District Application at page 12).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Dawson Conservation District Application at page 12).

16. The diversion requirement ranges from .58 cfs per 40 acres to 1.00 cfs per 40 acres with an annual requirement ranging from 2.25 acre-feet per acre to 3.07 acre-feet per acre for an average of 2.53 acre-feet per acre with a maximum flow rate of 54.80 acres per 1 cfs. (The Dawson Conservation District Application at page 12).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (The Dawson Conservation District Application at page 12).

18. Using irrigation factors of 2.53 acre-feet per year of water per acre, and 54.80 acres per cfs, a reservation of water sufficient to irrigate 18,127 acres would be 45,855 acre-feet with a maximum diversionary flow of 330.8 cfs.

19. It is established to the satisfaction of the Board that 45,855 acre-feet per year with a maximum diversionary flow rate of 330.8 cfs is the amount of water necessary for the purpose of the reservation to the year 1990.

Findings Related to the Public Interest (89-890(3)(d)).

20. The reservation will contribute economically to the public interest. (The Dawson Conservation District Application at page 8).

21. The development of future irrigation projects in Dawson County and beneficial use of water will create jobs and increase the tax revenues. (The Dawson Conservation District Application at page 7).

22. From 1960 to 1970, the rural population in Dawson County declined 5.6 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. 1, p. 101).

23. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Dawson Conservation District Application at page 7).

24. New irrigation would increase income in Dawson County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

25. The Dawson Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 1990 (Dawson Conservation District, Application No. 9951-r420).

26. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Dawson Conservation District Application at page 5).

27. The plan of the Dawson Conservation District is not speculative and is documented to the highest degree of detail possible. (Dawson Conservation District).

28. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

29. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Dawson County mill levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Dawson Conservation District Application at page 3).

30. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

31. A reservation sufficient to irrigate 18,127 acres is in the public interest because it is reasonable to expect that the Dawson Conservation District will irrigate an additional 18,127 acres by the year 1990.

32. It is established to the satisfaction of the Board that the reservation of 45,855 af/y with a maximum diversionary flow rate of 330.8 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Dawson Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9945-r42M
BY THE RICHLAND CONSERVATION DISTRICT

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FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
CATION NO. 9945-r42M

The above-entitled matter came on regularly for hearing starting on or about September 6, 1978, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Richland Conservation District, Application No. 9945-r42M:

FINDINGS OF FACT

1. The Richland Conservation District has applied for a reservation of 45,620 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 354.2 cubic feet per second (cfs) to be used to irrigate 21,710 acres. On the average this request is for a diversion of 2.10 acre-feet per acre with a maximum flow rate of 1 cfs per 61.24 acres. Water is requested from the Yellowstone River for the year 2000. (Application No. 9945-r42M, p. 11).

Findings Related to the Purpose of this Reservation (89-890(3)(a)).

2. The purpose of the reservation is to insure water availability and adequate streamflow for the future agricultural needs of the Richland Conservation District. (The Richland Conservation District Application at page 4).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Richland Conservation District, Application No. 9945-r42M, p. 5).

5. The reservation is needed because there is a proliferating world-wide demand for food, which is dependent on sufficient water availability. (The Richland Conservation District Application at page 5).

6. A reservation is needed because there is competition for water in the Yellowstone River Basin which may affect the availability of the Applicant to obtain a water right by permit in the future. This, in turn, will also help promote the necessary planning. (The Richland Conservation District Application at page 5).

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-390(3)(c)).

8. The amount of water necessary for this reservation is the amount required to irrigate the number of acres described in this application that can reasonably be expected to be completed by the Richland Conservation District by the year 2000 (EIS).

9. The payment capacity consists of total farm revenue minus all costs except irrigation water costs and is the maximum amount a water user could pay for water while maintaining a profitable operation (Richland Conservation District, Application No. 9945-r42M, p. 19).

10. The cropping pattern by percent is 29% for grain and 40% for hay, 10% for silage and 23% for cash crops with a maximum payment capacity of \$240.00 per acre. (The Richland Conservation District Application at page 21).

11. A 75% on-farm irrigation efficiency was assumed for sprinkler irrigation and 55% for flood irrigation. (The Richland Conservation District Application at page 10).

12. Conveyance losses were estimated by formula and included in the diversionary requirement needs. (The Richland Conservation District Application at page 10).

13. Peak diversion requirements were calculated using recommended peak consumption use rates for alfalfa divided by the on-farm efficiency. (The Richland Conservation District Application at page 10).

14. The calculated values for alfalfa equals 11 gpm per acre-foot for flood irrigation and 8 gpm for side-roll sprinklers. In the case of center pivots, the peak rate was reduced to 5 to 6 gpm per acre to more closely match the

infiltration rate of heavy soils to the application rate of system. (The Richland Conservation District Application at page 10).

15. The system will not meet peak plant consumptive uses, but using the soil profile as a moisture reservoir, the system is sized somewhat below that required to meet peak consumptive uses. (The Richland Conservation District Application at page 10).

16. The diversion requirement ranges from .58 cfs per 40 acres to 1.00 cfs per 40 acres with an annual requirement ranging from 2.00 acre-feet per acre to 2.72 acre-feet per acre for an average of 2.10 acre-feet per acre with a maximum flow rate of 61.24 acres per 1 cfs. (The Richland Conservation District Application at page 11).

17. All systems were designed to operate simultaneously, even on large systems in lieu of a rotation system. (The Richland Conservation District Application at page 10).

18. Using irrigation factors of 2.10 acre-feet per year of water per acre, and 61.24 acres per cfs, a reservation of water sufficient to irrigate 21,710 acres would be 45,620 acre-feet with a maximum diversionary flow of 354.2 cfs.

19. It is established to the satisfaction of the Board that 45,620 acre-feet per year with a maximum diversionary flow rate of 354.2 cfs is the amount of water necessary for the purpose of the reservation to the year 2000.

Findings Related to the Public Interest (89-890(3)(d)).

20. The reservation will contribute economically to the public interest. (The Richland Conservation District Application at page 7).

21. The development of future irrigation projects in Richland County and beneficial use of water will create jobs and increase the tax revenues. (The Richland Conservation District Application at page 7).

22. From 1960 to 1970, the rural population in Richland County declined 10.9 percent. A major reason was a lack of job opportunities (Draft EIS, Vol. 1, p. 101).

23. The development of new pumping facilities, ditches, canals, sprinkler systems, and other diversions will contribute to the economic stability of the County. (The Richland Conservation District Application at page 7).

24. New irrigation would increase income in Richland County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm and off-farm jobs. (Draft EIS, Vol. I, p. 156).

25. The Richland Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Richland Conservation District, Application No. 9945-r42M).

26. By reserving water for future beneficial use, individual ranchers and farmers have a more favorable timetable in which to accumulate the capital needed to finance, to take maximum advantage of favorable changes in the agricultural market, or to utilize the most contemporary technology available in water delivery systems. (Richland Conservation District Application at page 4).

27. The plan of the Richland Conservation District is not speculative and is documented to the highest degree of detail possible. (Richland Conservation District).

28. The reservation shall be put to use within reasonable diligence and the plan includes a bona fide intent and ability to use the water reserved as projected.

29. Detailed planning of district projects will be accomplished through funds made available by the Montana Legislature or Richland County will levy. The Department of Natural Resources and Conservation's Technical Assistance Program will also be used. (The Richland Conservation District Application at page 3).

30. The Board is satisfied there will be progress toward completion of construction of the facilities with reasonable diligence according to an established plan which includes the economic feasibility of each project, a soils and land classification analysis showing the suitability of lands to sustain irrigation, and possible sources of funding.

31. A reservation sufficient to irrigate 21,710 acres is in the public interest because it is reasonable to expect that the Richland Conservation District will irrigate an additional 21,710 acres by the year 2000.

32. It is established to the satisfaction of the Board that the reservation of 45,620 af/y with a maximum diversionary flow rate of 354.2 cfs to be used for irrigation is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Richland Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve water within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 11349-r42L&M
BY THE LITTLE BEAVER CONSERVATION
DISTRICT FOR IRRIGATION AND STOCK
WATERING

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) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 11349-r42L&M
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The above-entitled matter came on regularly for hearing on or about September 9, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth, and its legal intern of record, Bob Phillips. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to that part of Little Beaver Conservation District Application No. 11349-r42L&M dealing with irrigation and stock watering.

FINDINGS OF FACT

1. The Little Beaver Conservation District has applied for a reservation of 8,566 acre-feet of water per year (af/y) to be used to irrigate 5,300 acres of alfalfa, 12,000 acre-feet to be used for 8,000 acres of waterspreading, and 3,600 acre-feet to be used for 900 stock ponds. No maximum flow rates were requested. Water is requested from O'Fallon, Pernel, and Cabin creeks. The Little Beaver Conservation District has also applied for a reservation of 1,400 acre-feet of water per year (af/y) from O' Fallon Creek and Cabin Creek (tributaries of the Yellowstone River) and Panel Creek (a tributary of O'Fallon Creek) for recreation and wildlife ponds in Fallon County. The Applicant has not identified the locations or sizes of the stockwater ponds, or recreation ponds, nor has it specified the amounts of water requested from each of the three sources named for the year 2027. (Application No. 11349-r42LAM).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expected expansion of irrigation and stockwater ponds in Fallon County by the Little Beaver Conservation District and to secure a water supply for future recreation and wildlife ponds in Fallon County (Little Beaver Conservation District, Application No. 11349-r42LAM, pp. 2 through 6).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Little Beaver Conservation District, Application No. 11349-r42LAM, p. 3).

5. A reservation of water is needed because there is competition for water in the Yellowstone Basin which may affect the ability of the Applicant to obtain a water right by permit in the future (Little Beaver Conservation District, Application No. 11349-r42LAM, p. 3).

6. A reservation of water is needed because, at this time, only one body of water is sufficiently large to provide flatwater recreation in a multicounty area which includes Fallon County (Tr. Vol. 24, p. 65(3)).

7. It is established to the satisfaction of the Board that the need for a reservation of water in some amount has been shown (Findings 4,5, and 8).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (09-890(3)(c)).

8. Because the Draft EIS projected levels of irrigation development only through the year 2000 and because no systematic basin-wide projections have been made beyond the year 2000, any projections beyond the year 2000 are speculative (Draft EIS, Vol. II, p. 241).

9. The amount of water necessary for this reservation is the amount that can reasonably be expected to be developed and put to use by the Little Beaver Conservation District by the year 2000 (Finding 8).

10. The Little Beaver Conservation District does not plan to put all of the water applied for to use before 2027 (Little Beaver Conservation District, Application No. 11349-r42LAM).

11. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of insuring that water will be available for the expected expansion of irrigation and stockwater ponds in Fallon County by the Little Beaver Conservation District is 12,073 acre-feet per year. Of this 12,073 acre-feet per year, 4,273 acre-feet per year is for full-service irrigation, 6,000 acre-feet per year is for waterspreading and 1,800 acre-feet per year is for stockwater ponds.

12. Seven recreation ponds are planned to be constructed in Fallon County within the next 30 years (Little Beaver Conservation District, Application No. 11349-r42L&M, p. 6).

13. The average storage capacity of planned flatwater recreation facilities in Fallon County is 100 acre-feet (Little Beaver Conservation District, Application No. 11349-r42L&M).

14. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of securing a water supply for future recreation and wildlife ponds in Fallon County is 700 acre-feet per year.

Findings Related to the Public Interest (89-890(3)(d)).

15. New irrigation would increase income in Fallon County, both for the farmers who would install the systems and for the local businesses that would enjoy increased sales resulting from the increase in agricultural income. New irrigation would increase the number of both on-farm jobs and off-farm jobs (Draft EIS, Vol. I, P. 156; Draft Addendum EIS, pp. 45 and 46).

16. Urban populations and nonagricultural water users such as municipal water use have been increasing in the Yellowstone Basin and are projected to continue increasing. Some growing towns such as Sidney have not applied for a water reservation and may have to depend upon water availability through permits for the future expansion of water use (Draft EIS, Vol. I, pp. 101 and 174).

17. The Little Beaver Conservation District has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Little Beaver Conservation District, Application No. 11349-r42L&M).

18. A reservation of 12,073 af/y for irrigation and stockwater purposes is in the public interest because it is reasonable to expect that the Little Beaver Conservation District will put this amount to a beneficial use by the year 2000 (Findings 11 and 17).

19. It is established to the satisfaction of the Board that the reservation of 12,073 af/y for irrigation and stockwater purposes is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan (Findings 15 through 18).

20. The existing flatwater pond provides such public benefits as picnicking, swimming, boating, and fishing opportunities (Tr. Vol. 24, following p. 65, Testimony of Thielen, p. 3).

21. The existing flatwater pond provides such public benefits as cover for wildlife and habitat for fish (Tr. Vol. 24, following p. 65, Testimony of Thielen, p. 3).

22. The adoption of an order reserving water will make possible the construction of additional ponds to provide increased opportunity for such public benefits (Little Beaver Conservation District, Application No. 11349-r42L&M, p. 6; Findings 20 and 21).

23. Recreation ponds provide significant public benefits and will continue to be demanded and used (Tr. Vol. 24, following p. 32, Testimony of Irvine, p. 4).

24. It is established to the satisfaction of the Board that the reservation of 700 af/y of water for recreation and wildlife ponds in Fallon County is in the public interest (Findings 20 through 23).

25. The public interest requires that specific locations, sources, amounts, and plans for the proposed recreation ponds be supplied so that other water users in the basin may know the status of the reservation and the amount of water available for appropriation (Findings 20 through 24; Little Beaver Conservation District, Application No. 11349-r42L&M).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the Little Beaver Conservation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 6294-r42M
BY THE BUFFALO RAPIDS PROJECT

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 6294-r42M

The above-entitled matter came on regularly for hearing starting on or about September 9, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll.- The Applicant appeared without benefit of counsel. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Buffalo Rapids Project, Application No. 6294-r42M:

FINDINGS OF FACT

1. The Buffalo Rapids Project reservation request is summarized in Table BRP-1.

TABLE BRP-1
BUFFALO RAPIDS PROJECT RESERVATION REQUEST

Area	Acres to be Irrigated	Acre-Feet per Year	Peak Diversion (cfs)
Cracker Box	1,470	6,734	9.29
Stipek	3,840	14,861	20.51
Marsh	3,190	12,345	17.04
Haley	2,372	9,180	12.67
Colgate	760	2,941	4.06
Saugus-Calypso	450	1,742	2.40
Behind Glendive Canal	3,500	21,250	29.33
Terry Bench	17,354	43,385	59.87
Terry Unit Additions	1,300	5,031	6.94
Fallon Unit Additions	800	3,096	4.27
Buffalo Rapids Project Additions	1,000	3,870	5.34
TOTAL	41,306	124,435	171.72

The amount of water requested for these lands totals 124,435 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 171.72 cubic feet per second (cfs). It was assumed in determining water requirements that 3.87 acre-feet are needed for each acre supplied by a canal system and 2.5 acre-feet per acre are needed for sprinkler irrigation. The maximum diversionary flow rate was calculated by multiplying the volume requirements per acre by .00138. Due to an arithmetical error in this application, the total peak cfs requested in the application is 166.7 cfs rather than 171.72 cfs, which is the sum of the peak requests for each area. All water is requested to be reserved from the Yellowstone River (Buffalo Rapids Project, Application No. 6294-r42M).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expected expansion of irrigation by the Buffalo Rapids Project (Buffalo Rapids Project, Application No. 6294-r42M, p. 1).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Buffalo Rapids Project, Application No. 6294-r42M, p. 2).

5. A reservation of water is needed because there is competition for water in the Yellowstone Basin which may affect the ability of the Applicant to obtain a water right by permit in the future (Buffalo Rapids Project, Application 6294-r42M, p. 2).

6. It is established to the satisfaction of the Board that the need for a reservation of water has been shown (Findings 4 and 5)

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

7. Cracker Box Unit. There has been no attempt to evaluate the feasibility or desirability of this project. The Application contains only cost estimates for this project, with no discussion of economic or social benefits that would be attributable to this project (Buffalo Rapids Project, Application No. 6294-r42M, p. 58).

8. Stipek Unit. There has been no attempt to evaluate the economic feasibility or the public benefits of this project. The Application contains a discussion only of the engineering features and costs of this unit (Buffalo Rapids Project, Application No. 6294-r42M, p. 58).

9. Marsh Unit. There has been no attempt to evaluate any irrigation benefits of this unit. Although the Application indicates that repayment could be accomplished within 40 years, the fraction of costs that are to be repaid and the remainder that is to be subsidized are not discussed (Buffalo Rapids Project, Application No. 6294-r42M, p. 54).

10. Haley Unit. There has been no attempt to evaluate the economic feasibility or social desirability of this project. The Application contains discussion only of the engineering features and costs of the unit (Buffalo Rapids Project, Application No. 6294-r42M, p. 52).

11. Colgate Unit. As explained in the Application, expensive, closely-spaced subsurface drains would be necessary for this project, and per-acre costs would be higher for this project than for other units in the Yellowstone division. Operation, maintenance, and replacement costs for this unit would probably exceed the payment capacity. Because of the above, the Application contained the recommendation for further studies be deferred (Buffalo Rapids Project, Application No. 6294-r42M, pp. J70 through J72).

12. Saugus-Calypso Unit. As explained in the Application, the lands in this unit are better suited to private development than project development. Because of the above, the Application contained the recommendation that no further studies be made (Buffalo Rapids Project, Application No. 6294-r42M, pp. J64 and J65).

13. Lands Behind Glendive Canal. These lands are part of the Warbird Unit discussed in the Application. As the Application explains, Warbird Unit should be considered infeasible. Until demand for additional irrigated land in Montana becomes extremely critical, no engineering plan could achieve feasibility (Buffalo Rapids Project, Application No. 6294-r42M, pp. J68 and J69).

14. Terry Bench. As explained in the Application, the high elevations of the arable lands and the remoteness from the only available dependable water supply indicate that current standards would not permit irrigation development (Buffalo Rapids Project, Application No. 6294-r42M, p. J63).

15. Terry Unit Additions. These lands are an addition to the existing Terry Unit which was completed in 1948 (Buffalo Rapids Project, Application No. 6294-r42M, p. 1).

16. Fallon Unit Additions. These lands are an addition to the existing Fallon Unit which was completed in 1948 (Buffalo Rapids Project, Application No. 6294-r42M, p. 1).

17. Buffalo Rapids Project Additions. These lands are currently nonirrigated and lie among the lands currently served with project water (Buffalo Rapids Project, Application No. 6294-r42M, p. 1).

18. Because the Draft Environmental Impact Statement (EIS) projected levels of irrigation development through the year 2000 and because no systematic basin-wide projections have been made beyond the year 2000, any projections beyond the year 2000 are speculative (Draft EIS, Vol. II, p. 241).

19. The possibility of construction of proposed projects which have been demonstrated to be economically infeasible or for which no economic feasibility has been demonstrated is highly uncertain. A reservation of water for such projects would be speculative because it is likely that projects for which costs exceed revenues and benefits will not be built by the year 2000 (Findings 7 through 14 and 18).

20. No water should be reserved for projects which are demonstrably infeasible. Demonstrably infeasible projects include the Colgate Unit, the Terry Bench Unit, and the lands behind Glendive Canal (Findings 11, 13, 14, and 19).

21. No water should be reserved for projects for which economic feasibility has not been demonstrated. Projects in this category include the Stipek Unit, the Marsh Unit, and the Haley Unit (Findings 8 through 10 and 19).

22. No water should be reserved for projects that are better developed privately than as a part of Buffalo Rapids Project. The Saugus-Calypso Unit is in this category (Finding 12).

23. Proposed projects that lie within the boundaries of existing successful projects are demonstrably economically feasible, and reservation of water for such projects should be made (Findings 15 through 17).

24. The amount of water necessary for the purpose of the reservation is the amount necessary to irrigate only projects which are demonstrably economically feasible and which are likely to be constructed by the year 2000. Demonstrably feasible projects included in this Application and the amounts of water required for their development are shown in Table BRP-2.

TABLE BRP-2
DEMONSTRABLY FEASIBLE PROJECTS

Project	Acres to be Irrigated	Acre-Feet per Year	Peak Diversion (cfs)
Terry Unit Additions	1,300	5,031	6.94
Fallon Unit Additions	800	3,096	4.27
Buffalo Rapids Project Additions	1,000	3,870	5.34
TOTAL	3,100	11,997	16.55

(Buffalo Rapids Project, Application No. 6294-r424, p. 306; Findings 15 through 17 and 23).

25. It is established to the satisfaction of the Board that 11,997 af/y with a maximum diversionary flow rate of 16.55 cfs is the amount of water necessary for the purpose of the reservation to the year 2000 and is sufficient to irrigate the 3,100 acres which are additions to Terry Unit, Fallon Unit, and Buffalo Rapids Project (Findings 7 through 24).

Findings Related to the Public Interest (39-890(3)(d)).

26. Reservation of water for additional irrigation which is not likely to be installed by the year 2000 is not in the public interest because the permits which are junior to the reservation would have a less reliable water supply as a result (Draft EIS, Vol. II, p. 256).

27. The unused part of a reservation, which provides no benefits to the reservation holder because it is unused, imposes unnecessary costs and burdens on junior

permit holders. These junior permit holders will include future irrigators who develop with a permit rather than with reserved water and municipalities which have not applied for a reservation (Finding 26).

28. It is not in the public interest to grant a reservation for the following projects because it is likely that the reserved water would not be put to a beneficial use and would, since unused, impose costs on junior permit holders:

Cracker Box	Colgate
Stipek	Saugus-Calypso
Marsh	Behind Glendive Canal
Haley	Terry Bench

(Findings 7 through 14 and 26-27).

29. It is in the public interest that water be reserved for land which is part of the existing successful projects that have by their continued operation demonstrate economic feasibility and social desirability. Sufficient water should be reserved for the additions to the Terry Unit, the Fallon Unit, and the Buffalo Rapids Project Additions (Findings 23 through 25).

30. The Buffalo Rapids Project has an established plan for completion of the proposed facilities which will put reserved water to use by the year 2000 (Buffalo Rapids Project, Application No. 6294-r42M).

31. A reservation sufficient to irrigate 3,100 acres is in the public interest because it is reasonable to expect that the Buffalo Rapids Project will irrigate these acres by the year 2000 (Finding 30).

32. It is established to the satisfaction of the Board that the reservation of 11,997 af/y with a maximum diversionary flow rate of 16.55 cfs to be used to irrigate additions to Terry, Fallon, and Buffalo Rapids Units is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan (Findings 26 through 31).

CONCLUSIONS OF LAW

1. Chapter 3, Title 89, R.C., 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 3, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Buffalo Rapids Project, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation or modification of the full Application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9931-r
BY THE MONTANA DEPARTMENT OF STATE
LANDS

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FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
CATION NO. 9931-r

The above-entitled matter came on regularly for hearing starting on or about August 10, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, John Norht and David Woodgerd. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. Trout Unlimited and the Federation of Fly Fishermen appeared by and through their counsel of record, James Goetz. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Montana Department of State Lands, Application No. 9931-r:

FINDINGS OF FACT

1. The Montana Department of State Lands has applied for a reservation of 21,429 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 143.64 cubic feet per second (cfs) in order to provide water for full-service irrigation of 7,143 acres in Park, Sweet Grass, Carbon, Big Horn, Yellowstone, Treasure, Rosebud, Custer, Prairie, Dawson, and Richland counties. Proposed diversions are from the Yellowstone, Powder, Tongue, and Big Horn rivers and small tributaries of the Yellowstone River (Montana Department of State Lands, Application No. 9931-r, pp. 3 through 5).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expansion of irrigation on land managed by the Montana Department of State Lands (Montana Department of State Lands, Application No. 9931-r, p. 1).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A reservation of water is needed because it will secure a priority date for future development that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. I, p. 1).

5. A reservation of water is needed because there is competition for water in the Yellowstone Basin which may affect the ability of the Applicant to obtain a water right by permit in the future (Montana Department of State Lands, Application No. 9931-r, p. 1).

6. The Resource Development Bureau of the Department of State Lands fully intends to develop all the irrigable school trust land in the Yellowstone River Basin which is suitable for full service irrigation (Tr. Vol. 3, pp. 36-37).

7. Under the current budget limitations, it will take a number of years to develop the irrigable school trust land in the Yellowstone River Basin (Tr. Vol. 3, pp. 36-37).

8. Application for Reservation No. 9931-r is needed to insure the availability of water in the Yellowstone River Basin to develop school trust lands which cannot be developed in the near future due to the above budget limitations (Tr. Vol. 3, p. 48).

9. It is established to the satisfaction of the Board that the need for a reservation of water in some amount has been shown (Findings 4 and 5).
Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

10. This Application requests water for 39 separate projects which are identified by project numbers (Montana Department of State Lands, Application No. 9931-r, pp. 3 through 5).

11. Although no significant irrigation development can occur in the Tongue River Subbasin unless new storage is developed, the Department of State Lands requested a reservation for four projects that would use the Tongue River Reservoir (Draft EIS, Vol. II, p. 244; and Department of State Lands Application, p. 3).

12. However, no significant additional irrigation development can occur in the Tongue River Subbasin unless new storage is developed (Draft EIS, Vol. II, p. 244).

13. The Department of State Lands has not addressed itself to any plans for storage in the Tongue River Subbasin.

14. The Montana Department of Natural Resources and Conservation has applied for a reservation of all the unappropriated water in the Tongue River in order to provide such needed storage to all existing and potential water users in the Tongue River Subbasin by enlarging the Department's existing and presently

fully committed Tongue River Reservoir storage facility (Draft Addendum EIS, p. 15).

15. A major purpose of the Montana Department of Natural Resources and Conservation reservation is to provide the storage necessary for additional irrigation water in the Tongue River Subbasin (Draft Addendum EIS, p. 15).

16. With the expansion of the existing state-owned multipurpose reservoir on the Tongue River, there will be sufficient storage for the amount of water requested from the Tongue River by the Department of State Lands in Application 9931-r.

17. The Department of Natural Resources has been granted a reservation for storage of 450,000 acre-feet per year of water from the Tongue River subject to the condition that part of the reservation be used to meet the request of the Department of State Lands in Application 9931-r for 1,431 acre-feet per year from the Tongue River (Board Findings of Fact - Department of Natural Resources and Conservation 56).

18. Projects 6, 7, and 8 of the Department of State Lands Application were withdrawn by the Department of State Lands from the Application (Department of State Lands Finding of Fact 17).

19. Project 6, 7, and 8 were projects that needed water from the Powder River.

20. There is no need for a water reservation from the Powder River for the Department of State Lands in Application 9931-r.

21. Seven tracts (project nos. 9, 11, 12, 18, 19, 27 and 42) of the Department of State Lands Application have less than a one-to-one cost benefit ratio and are not economically feasible (Department of State Lands Application, 9931-r).

22. Of the 39 projects which were finally identified by the Department of State Lands as being projects in need of water reservations, only 27 can be considered as economically feasible and not part of the Tongue River Subbasin (Findings 16, 17 and 21).

23. The payment capacity consists of total revenue minus all costs, except irrigation water costs, and is the maximum amount an investor could pay for irrigation water while maintaining a profitable operation (Montana Department of State Lands, Application No. 9931-r, p. 8).

24. For all projects in this Application, the payment capacity for the investments required by the Montana Department of State Lands is \$46.32 per acre and the payment capacity for the investments required by the lessees of state lands is \$57.76 per acre (Montana Department of State Lands, Application No. 9931-r, p. 10).

25. Projects 10, 13 through 17, 20 through 26, and 29 through 41 are economically feasible and have an adequate water supply. It is reasonable that the Montana Department of State Lands will irrigate all the projects proposed in the Application which are economically feasible and for which water is available. Such projects total 4,286 acres and need 12,858 af/y with a maximum diversionary flow rate of 86.11 cfs (Montana Department of State Lands, Application No. 9931-r; Findings 7 through 18).

26. The Department's plan is to begin construction of the projects in the near future but it cannot complete construction for a number of years since it is funded on a yearly basis and receives enough money in a single year to construct only a few projects. The Department intends to develop all the projects by the year 2000. The target date which has been set is December, 2000 (Application No. 9931-r).

27. It is established to the satisfaction of the Board that 12,858 af/y and a maximum diversionary flow rate of 86.11 cfs is the amount of water necessary for the purpose of the reservation to the year 2000 from the Yellowstone and Big Horn Rivers.

28. It is further established by the Board that a condition of the reservation of water granted to the Department of Natural Resources is that part of the reservation is to be used to meet the request of the Department of State Lands

reservation request in Application 9931-r for 1,431 acre-feet per year from the Tongue River Reservoir.

Findings Related to the Public Interest (89-890(3)(d)).

29. A reservation of 12,858 af/y and a maximum diversionary flow rate of 86.11 cfs is in the public interest because it is reasonable to expect that the Montana Department of State Lands will put the water to beneficial use from the Yellowstone and Big Horn Rivers (Application No. 9931-r).

30. The Resource Development Bureau's budget allows only a limited number of projects to be completed each year on a state-wide basis (Tr. Vol. 3, p. 36-37).

31. It is established to the satisfaction of the Board that the reservation of 12,858 af/y and a maximum diversionary flow rate of 86.11 cfs is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan (Findings 29 and 30).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Montana Department of State Lands, is an agency of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9933-r
BY THE MONTANA DEPARTMENT OF STATE
LANDS

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FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
CATION NO. 9933-r

The above-entitled matter came on regularly for hearing starting on or about August 10, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, John North and David Woodgerd. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. Trout Unlimited and the Federation of Fly Fishermen appeared by and through their counsel of record, James Goetz. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Montana Department of State Lands, Application No. 9933-r:

FINDINGS OF FACT

1. The Montana Department of State Lands has applied for a reservation of 30,898 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 218.03 cubic feet per second (cfs) in order to irrigate 10,875.62 acres of land which adjoin and are part of irrigation projects for which conservation districts have also requested a reservation of water (Montana Department of State Lands, Application 9933-r, p. 1).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expansion of irrigation on land managed by the Montana Department of State Lands (Montana Department of State Lands, Application No. 9933-r, p. 2).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding-2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A reservation of water is needed because it will secure a priority date for future development that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (Draft EIS, Vol. I, p. 1).

5. A reservation of water is needed because there is competition for water in the Yellowstone Basin which may affect the ability of the Applicant to obtain a water right by permit in the future (Montana Department of State Lands, Application No. 9933-r, p. 1).

6. The Resource Development Bureau of the Department of State Lands fully intends to develop all the irrigable school trust land in the Yellowstone River Basin which is suitable for full service irrigation (Tr. Vol. 3, pp. 36-37).

7. Under the current budget limitations, it will take a number of years to develop the irrigable school trust land in the Yellowstone River Basin (Tr. Vol. 3, pp. 36-37).

8. Application for Reservation No. 9933-r is needed to insure the availability of water in the Yellowstone River Basin to develop school trust lands which cannot be developed in the near future due to the above budget limitations (Tr. Vol. 3, p. 48).

9. It is established to the satisfaction of the Board that the need for a reservation of water in some amount has been shown (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

10. The Department of State Lands has requested a water reservation of 4,618 acre-feet per year from the Powder River to be used to irrigate 1,508 acres (Department of State Lands, Application 9933-r).

11. No significant additional irrigation development can occur in the Powder Subbasin unless storage is developed (Draft EIS, Vol. II, p. 248).

12. The Montana Department of State Lands has submitted no plans for development of the needed storage for the Powder River Subbasin.

13. Because of the lack of storage and because of no future plans for storage a reservation for 4,618 acre-feet per year from the Powder River will not be granted to the Department of State Lands (Draft EIS, Vol. II, p. 248).

14. The Department of State Lands has requested a water reservation of 390 acre-feet per year from the Tongue River to be used to irrigate 130 acres (Department of State Lands, Application No. 9933-r).

15. No significant additional irrigation development can occur in the Tongue Subbasin unless new storage is developed (Draft EIS, Vol. II, p. 244).

16. The Montana Department of State Lands has submitted no plans for development of the needed storage for the Tongue River Subbasin (Draft EIS, Vol. II, p. 248).

17. The Montana Department of Natural Resources and Conservation has been granted a reservation which would develop storage for all of the unappropriated water in the Tongue River in order to effectively store and manage the increased reservoir capacity that would be realized by enlarging the existing Tongue River facility (Board Finding 56, Application 9942-r42C).

18. A condition of the Department of Natural Resources water reservation of 450,000 acre-feet per year of water from the Tongue River is that part of the reservation be used to meet the request of the Department of State Lands in Application 9933-r for 390 acre-feet per year for 130 acres from the Tongue River (Board Finding 56 for Application 9942-r42C).

19. Application No. 9933-r requires diversion facilities which will be constructed according to the plans of the Conservation Districts and the rules and regulations adopted by the Board of Land Commissioners (Application No. 9933-r, pp. 2 through 4).

20. The Department's plan is to begin construction of the projects in the near future but it cannot complete construction for a number of years since it is funded on a yearly basis and receives enough money in a single year to construct only a few projects. The Department intends to develop all the projects by the year 2000 (Application No. 9933-r).

21. Since the school trust lands in Application No. 9933-r will be included in projects developed by the Conservation Districts, information as to soil classification and economic feasibility is contained in the Conservation District Applications and is not repeated in this Application (Testimony of Randall Biehl).

22. It is established to the satisfaction of the Board that 25,889.73 af/y with a maximum diversionary flow rate of 185.2 cfs is the amount of water necessary for irrigating 9,236 acres from water of the Yellowstone River.

Findings Related to the Public Interest (89-890(3)(d)).

23. New irrigation will increase income in the region, both for the farmers that will install the systems and for the businesses that will enjoy increased sales resulting from the increase in agricultural income. New irrigation will increase both the number of on-farm and off-farm jobs (Draft EIS, Vol. I, p. 156).

24. Application No. 9933-r is in the public interest because it will benefit agriculture and the general economy of the state (Application No. 9933-r, p. 2).

25. Application No. 9933-r is in the public interest because it will allow the development of State of Montana school trust land in the Yellowstone River Basin which will increase revenues to schools of Montana (Application No. 9933-r, p. 2).

26. A reservation of 25,889.78 af/y and a maximum flow rate of 185.2 cfs for irrigating 9,236 acres is in the public interest because it is reasonable to expect that the Montana Department of State Lands will put this water to beneficial use (Montana Department of State Lands, Application No. 9933-r).

27. It is established to the satisfaction of the Board that the reservation of 25,889.78 af/y and a maximum flow rate of 185.2 cfs for irrigation of 9,236 acres is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose of the reservation with reasonable diligence in accordance with an established plan (Findings 8 through 20).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Montana Department of State Lands, is an agency of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9934-r
BY THE MONTANA DEPARTMENT OF STATE
LANDS

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) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 9934-r
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The above-entitled matter came on regularly for hearing starting on or about August 10, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, John North and David Woodgerd. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodsite and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. Trout Unlimited and the Federation of Fly Fishermen appeared by and through their counsel of record, James Goetz. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Montana Department of State Lands, Application No. 9934-r:

FINDINGS OF FACT

1. The Montana Department of State Lands has applied for a reservation of 15,078 acre-feet of water per year (af/y) in order to irrigate 10,270 acres by waterspreading. No maximum flow rate has been requested. Diversions are requested from numerous tributaries of the Yellowstone River and would be located in Rosebud, Treasure, Sweet Grass, Big Horn, Yellowstone, Richland, Prairie, Dawson, Powder River, and Custer counties (Montana Department of State Lands, Application No. 9934-r, pp. 2 through 17).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expansion of irrigation on land managed by the Montana Department of State Lands (Montana Department of State Lands, Application No. 9934-r, p. 1).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. The Resource Development Bureau fully intends to develop all the irrigable school trust land in the Yellowstone River Basin which is suitable for water spreading irrigation (Tr. Vol. 3, pp. 36 and 37).

5. Under the current budget limitations, it will take a number of years to develop the irrigable school trust land in the Yellowstone River Basin (Tr. Vol. 3, pp. 36 and 37).

6. Application for Reservation No. 9934-r is needed to insure the availability of water in the Yellowstone River Basin to develop school trust lands which

cannot be developed in the near future due to the above budget limitations (Tr. Vol. 3, pp. 23 and 24).

7. It is established to the satisfaction of the Board that a need for the reservation has been shown.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The reservation of water requested by the Department of State Lands will be used for waterspreading irrigation.

9. The amount of water necessary for water spreading irrigation of school trust land is 15,078 acre-feet based on 10,270 new acres of school trust land being feasible for water spreading irrigation projects and approximately 1.5 acre-feet as the amount of water needed per acre per year to adequately supply a water spreading irrigation project (Application No. 9934-r, pp. 3 through 8).

10. It has been established to the satisfaction of the Board that 15,078 acre-feet to be used to waterspread irrigate 10,270 new acres is the amount necessary for the purpose of the reservation to the year 2000.

Findings Related to the Public Interest (89-890(3)(d)).

11. There are many State Lands that can be put to more profitable use in the future by use of proper irrigation.

12. If State Lands are properly irrigated and crops are grown, it will be in the public interest in that there will be a better return of profits from these State Lands.

13. It has been established to the satisfaction of the Board that 15,078 acre-feet to be used to water spread irrigate 10,270 new acres is in the public interest.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890 R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Montana Department of State Lands, is an agency of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 12334-01-r
BY THE UNITED STATES BUREAU OF LAND
MANAGEMENT

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) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 12334-01-r
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The above-entitled matter came on regularly for hearing starting on or about September 21, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah Interantional Inc., appeared by and through its counsel of record, Urban Roth. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the U.S. Bureau of Land Management, Application No. 12334-01-r:

FINDINGS OF FACT

1. The U.S. Bureau of Land Management has applied for a reservation of 2,924.24 acre-feet of water per year (af/y) with an average diversionary flow rate of 12.287 cubic feet per second (cfs) from O'Fallon Creek, a tributary to the Yellowstone River, to be used to provide waterspreading irrigation of 1,992 acres. Water would be diverted between May 15 and September 15. In order to divert 2,924.25 acre-feet during this period, a continuous diversion of the requested 12.287 cfs would be necessary (U.S. Bureau of Land Management, Application No. 12334-01-r, p. 2).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expected expansion of irrigation on federal lands by the U.S. Bureau of Land Management (U.S. Bureau of Land Management, Application No. 12334-01-r, p. 1).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. With substantial increases in agricultural production that could be realized by use of irrigation water in the Yellowstone River Basin, there is a need for a reservation of water in O'Fallon Creek.

5. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began.

6. A reservation is needed because there is competition for water which may affect the ability of the Applicant to obtain a water right by permit in the future.

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

8. The Bureau of Land Management intends to irrigate 1,992 new acres of land with waterspreading irrigation between May 15 and September 15, with water from O'Fallon Creek (Bureau of Land Management's Proposed Findings of Fact).

9. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the reservation in O'Fallon Creek for the Bureau of Land Management is 2,924 acre-feet per year.

Findings Related to the Public Interest (89-890(3)(d)).

10. New irrigation will increase income in the Yellowstone River Basin, both for local farmers and the local businesses (Draft EIS, Vol. I, p. 6).

11. New irrigation will create much needed jobs (Draft EIS, Vol. I, p. 6).

12. A reservation sufficient to irrigate 1,992 acres is in the public interest because of the economic and agricultural consequences.

13. It is established to the satisfaction of the Board that the reservation of 2,924 acre-feet per year with an average diversionary flow rate of 12.287 is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 12334-02-r
BY THE UNITED STATES BUREAU OF LAND
MANAGEMENT

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 12334-02-r
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The above-entitled matter came on regularly for hearing starting on or about September 21, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodsite Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International Inc., appeared by and through its counsel of record, Urban Roth. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the U.S. Bureau of Land Management, Application No. 12334-02-r:

FINDINGS OF FACT

1. The U.S. Bureau of Land Management has applied for a reservation of 17,476 acre-feet of water per year (af/y) with an average diversionary flow rate of 75.76 cubic feet (cfs) from the Yellowstone River, to be used to provide full-service irrigation to 8,738 acres. Water would be diverted between May 15 and September 15. In order to divert 17,476 acre-feet during this period, a continuous diversion of the requested 75.76 cfs would be necessary (U.S. Bureau of Land Management, Application No. 12334-02-r, p. 2).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expected expansion of irrigation on federal lands by the U.S. Bureau of Land Management (U.S. Bureau of Land Management, Application No. 12334-02-r, p. 1).p.

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. With substantial increases in agricultural production that could be realized by use of irrigation water in the Yellowstone River Basin, there is a need for a reservation of water in the Yellowstone River.

5. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began.

6. A reservation is needed because there is competition for water which may affect the ability of the Applicant to obtain a water right by permit in the future.

7. It is established to the satisfaction of the Board that the need for a reservation of water has been shown.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation 89-890(3)(c)).

8. The Bureau of Land Management intends to irrigate 8,738 new acres of land with full service irrigation between May 15 and September 15, with water from the Yellowstone River (Bureau of Land Management's Proposed Findings of Fact).

9. It is established to the satisfaction of the Board that the total amount of water necessary for the purpose of the reservation in the Yellowstone River for the Bureau of Land Management is 17,476 acre-feet total diversion per year with a average diversionary flow rate of 75.76

Findings Related to the Public Interest- (89-890(3)(d)).

10. New irrigation will increase income in the Yellowstone River Basin, both for the local farmers and the local businesses (Draft EIS, Vol. I, p. 6).

11. New irrigation will create much needed jobs (Draft EIS, Vol. I, p. 6).

12. A reservation sufficient to irrigate 8,738 acres is in the public interest because of the economic and agricultural consequences.

13. It is established to the satisfaction of the Board that the reservation of 17,476 acre-feet per year with an average diversionary flow rate of 75.76 is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose with reasonable diligence in accordance with an established plan.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9942-r42C
BY THE MONTANA DEPARTMENT OF NATURAL
RESOURCES AND CONSERVATION

The above-entitled matter came on regularly for hearing starting on or about August 11, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodsite Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Witnesses were duly sworn, and oral and documentary evidence was introduced.

-255-

FINDINGS OF FACT

1. The Department of Natural Resources and Conservation has applied for the reservation of a storage right of up to 450,000 acre-feet of water per year (af/y) from the Tongue River for enlarging the existing Tongue River Reservoir. This is an increase of 383,000 af/y over the existing Reservoir (Application No. 9942-r42C).
Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The primary purpose of this reservation is to reserve water for the future expansion of an existing state-owned multipurpose reservoir on the Tongue River (Tr. Vol. 4, following p. 140, Testimony of Orrin Ferris, p. 2).

3. A purpose of this reservation is to ensure that the water supply of the Tongue River Subbasin would be available for future needs, uses, and purposes (Montana Department of Natural Resources and Conservation, Application No. 9942-r42C).

4. A purpose of this reservation is to make water available in the Tongue River Subbasin for all beneficial uses recognized by law and at a price all can afford to pay (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 2).

5. A purpose of this reservation is to provide a reasonable allocation of water among beneficial users, although there are many factors that will ultimately determine an exact allocation of water from the project (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 2).

6. A purpose of this reservation is to protect uses such as irrigated agriculture which cannot afford to pay the full cost of new water development or the full cost of maintaining existing water development (Tr. Vol. 4, Cross of Ferris, p. 142).

7. A purpose of this reservation is to ensure that water is available for an enlarged project which would protect the over 35,000 acre-feet now stored in the existing Tongue River Reservoir and used by existing irrigators (Tr. Vol. 4, following p. 81, Testimony of Richard Bondy, p. 38; Tr. Vol. 4, Cross of Bondy, p. 85).

8. A purpose of this reservation, as envisioned, is to provide water for full irrigation of 13,000 additional acres of irrigable land (Tr. Vol. 4, following p. 99, Testimony of Gary Fritz, p. 2).

9. Maintenance of instream flows is one of the potential uses for which the reservation request was made (Montana Department of Natural Resources and Conservation, Application No. 9942-r42C; Tr. Vol. 4, Redirect of Bondy, p. 98).

10. A purpose of this reservation is to secure a priority date for the use of the applied-for water that is earlier than the priority date such use would have if a permit were obtained immediately before construction or use began (Tr. Vol. 4, following p. 131, Testimony of Keith Corrigan, p. 2; Montana Department of Natural Resources and Conservation, Application No. 9942-r42C).

11. It is established to the satisfaction of the Board that the purpose of the reservation has been shown (Findings 2 through 10).

Findings of Fact Related to Need for the Reservation (89-890(3)(b)).

12. The reservation of water is needed because there is competition for Yellowstone Basin water which may affect the ability of the Applicant to obtain a water right by permit in the future (Montana Department of Natural Resources and Conservation, attachment submitted with Application No. 9942-r42C, p. 2).

13. The reservation of water is needed because it will secure a priority date for the project that is earlier than the priority date the project would have if a permit were obtained immediately before construction or use began (Draft EIS, Vol. I, p. 1).

14. The reservation of water is needed because there is a need for development of more irrigation water in the Tongue River Subbasin (Tr. Vol 4, following p. 99, Testimony of Fritz, p. 3).

15. The reservation of water is needed because the major water supply problem in the Tongue River Subbasin is lack of adequate storage (Montana Department of Natural Resources, Application No. 9942-r42C, supplemental information of May 5, 1977, p. 3).

16. The reservation of water is needed because no further water is available for irrigation from existing sources (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 2).

17. The reservation of water is needed because the yield of the existing reservoir is fully committed (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 2).

18. The reservation of water is needed because irrigation of potentially irrigable land is not possible in the Tongue River Subbasin without expansion of the Tongue River Dam (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 3).

19. The reservation of water is needed because it provides adequate water for an intermediate level of irrigation development at a price irrigators can afford (Tr. Vol. 4, following p. 99, Testimony of Fritz, pp. 5 through 9).

20. The reservation of water is needed because nearly 22,000 potentially irrigable acres are located within one-half mile of the Tongue River and less than 50 feet in elevation above the river, and the project could provide new full-service irrigation to a large portion of these potentially irrigable acres (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 3).

21. The reservation of water is needed because the proposed project will protect the existing project's water users from possible loss of the project (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 4).

22. The reservation of water is needed because the existing project needs extensive repairs which would be too expensive for existing users (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 4).

23. The reservation of water is needed because failure of the existing Tongue River Dam would be a disaster to the Tongue River Subbasin (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 34).

24. The reservation of water is needed because, without extensive repair to the existing project, much of the irrigation now present in the Tongue River Subbasin will be lost (Tr. Vol. 4, Cross of Fritz, p. 102).

25. The reservation of water is needed because operation of the existing reservoir is already constrained to reduce the use of the deteriorating spillway (Tr. Vol 4, following p. 140, Testimony of Ferris, p. 4).

26. The reservation of water is needed because replacing the existing spillway would be too expensive for present users (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 38).

27. The reservation of water is needed because the existing spillway is too small to safely pass floods that are known to be possible in the Tongue River Subbasin (Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 34 through 37).

28. The reservation of water is needed because, although financing the repairs would be impossible for existing users, financing the repairs and the construction of a larger structure would be possible because the additional storage could be sold at a price high enough to pay for a substantial amount of the costs (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 38; Tr. Vol. 4, Cross of Bondy, p. 85).

29. The reservation of water is needed because, in addition to the enlarged spillway associated with the proposed project, many other features would be incorporated to make the dam safe (Montana Department of Natural Resources and Conservation, Application No. 9942-r42C; Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 15 through 19).

30. The reservation of water is needed because, although the cost to merely provide an adequate spillway for the existing dam at its present capacity is \$30,112,000 (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 2), the cost to provide 100,000 acre-feet firm annual yield (60,000 acre-feet more than the 40,000 acre-feet provided by the existing reservoir) varies from \$33,890,000 for raising

the reservoir directly to the maximum elevation to \$40,131,000 if the dam is raised in stages after first building a spillway at the existing elevation (Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 27 and 38).

31. The reservation of water is needed because the project is complex, and there are numerous constraints to its immediate development; development of the project by a water use permit would have to be immediate (Tr. Vol. 4, following p. 140, Testimony of Ferris, pp. 3 and 4).

32. The reservation of water is needed because there are many strippable coal reserves near the Tongue River Reservoir (Draft EIS, Vol. I, p. 39), and the cost of land acquisition will decrease significantly when coal near the reservoir has been mined (Tr. Vol. 4, following p. 131, Testimony of Corrigan, p. 2).

33. It is established to the satisfaction of the Board that the need for the reservation of water has been shown (Findings 12 through 32).

Findings Related to Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

34. An annual average of 187,080 acre-feet is diverted from Tongue River for irrigation; 87,930 acre-feet of that is depleted (Draft EIS, Vol. I, p. 108).

35. The existing Tongue River Reservoir, seven miles northeast of Decker, now provides 67,000 acre-feet of storage, 40,000 of which is firm annual yield (Draft EIS, Vol. I, p. 108; Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 2).

36. A reservation of a storage right of up to 450,000 acre-feet of water per year would fully develop Montana's share of the Tongue River and would provide a reservoir with a firm annual yield of 112,000 acre-feet (Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 3 and 15).

37. Provision of 450,000 acre-feet of storage annually could provide 72,000 acre-feet of firm annual yield for new use, in addition to the 40,000 acre-feet yield now obligated in the existing reservoir, while releasing an average of 75 cfs below

the reservoir (Montana Department of Natural Resources and Conservation, Application No. 9942-r42C; Tr. Vol. 4, following p. 81. Testimony of Bondy, p. 24; Tr. Vol. 4, Cross of Fritz, p. 106 and 107; Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 6).

38. The resolution of existing constraints on development of the Tongue River could increase or decrease the amount of water available to Montana for development, but considering all reasonable possibilities, the 450,000 acre-foot reservation is adequate and necessary (Tr. Vol. 4, following p. 140, Testimony of Ferris, pp. 5 and 6).

39. An adequate economic feasibility analysis for the proposed development, based upon sound engineering and user cost estimates, has been submitted (Tr. Vol. 4, Cross of Ferris, p. 143; Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 39 and 40; Tr. Vol. 4, following p. 99, Testimony of Fritz, pp. 3 through 10; Tr. Vol. 4, following p. 131, Testimony of Corrigall, pp. 4 through 10).

40. Costs for irrigation, assuming the use of center-pivot sprinklers and including initial costs and annual operating costs, were calculated for each parcel of irrigable land (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 4).

41. Of the proposed additional firm annual yield, it is envisioned by the Applicant that 29,250 af/y would be allocated to agriculture for irrigation (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 6).

42. Of the proposed additional firm annual yield, it is envisioned by the Applicant that 23,750 af/y would be allocated to industry in order to meet the project cost (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 6; Tr. Vol. 4, following p. 131, Testimony of Corrigall, pp. 3 through 10).

43. A minimum of 320,000 acre-feet of new storage would be required to provide this total of 60,000 acre-feet of firm annual yield for new use (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 5; Findings 41 and 42).

44. Further economic feasibility studies may dictate increasing or decreasing the amount of water to be made available for industrial sales (Tr. Vol. 4, Cross of Corrigall, p. 133).

45. The firm annual yield estimates are conservative and are based upon a conservative allocation under the Yellowstone Compact, a reserved Indian water right assumption, an assumption of prior rights in Montana and Wyoming, and a severe drought condition (Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 21 through 30).

46. Further resolution of Indian rights and the Yellowstone Compact would allow for better water supply estimates and a more accurate size estimate of a reservoir to provide a given firm annual yield (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 42).

47. The Department of State Lands has requested a water reservation of 1,431 acre-feet per year from the Tongue River (Department of State Lands, Application 9931-r); and a water reservation request of 390 acre-feet per year from the Tongue River to be used for irrigation of state-owned lands (Department of State Lands, Application 9933-r).

48. Although no significant additional irrigation development can occur in the Tongue River Subbasin unless new storage is developed, the Montana Department of State Lands Application includes no plans for development of storage in the Tongue River Subbasin (Draft EIS, Vol. II, p. 244 and Applications 9931-r and 9933-r).

49. With the expansion of the existing state-owned multipurpose reservoir on the Tongue River, there will be sufficient storage for the amount of water requested from the Tongue River by the Department of State Lands in Application 9931-r and Application 9933-r.

50. The following Conservation Districts have requested a water reservation from the Tongue River to irrigate agricultural lands:

- a) Big Horn Conservation District has requested a reservation of 1,034 acre-feet per year from the Tongue River (Application No. 9952-r43P).
- b) Rosebud Conservation District has requested a reservation of 7,144 acre-feet per year from the Tongue River (Application No. 10,005-r42KJ).
- c) North Custer Conservation District has requested 10,897 acre-feet per year from the Tongue River (Application No. 9947-r42M).

51. Although no significant additional irrigation development can occur in the Tongue River Subbasin unless new storage is developed, the Big Horn, Rosebud, and North Custer Conservation Districts' Applications include no plans for development of storage in the Tongue River Subbasin (Draft EIS, Vol. II, p. 244, and Applications 9952-r43P, 10,005-r42KJ and 9947-r42M).

52. With the expansion of the existing state-owned multipurpose reservoir on the Tongue River, there will be sufficient storage for the amount of water requested from the Tongue River by the Big Horn, Rosebud, and North Custer Conservation Districts.

53. The average annual minimum flows in the Tongue River at Miles City is approximately 30 cfs (Draft EIS, Vol. II, p. 358).

54. The flow of the Tongue River at Miles City has been zero (Tr. Vol. 4, Recross of Fritz, p. 128).

55. In order to maintain a flow in the Tongue River and contribute to the instream reservation of the Department of Fish and Game below the proposed multipurpose reservoir on the Tongue River, it is necessary for the Department of Natural Resources to cause to release an average of 75 cfs from the Reservoir.

56. It is established to the satisfaction of the Board that a storage right of up to 450,000 af/y which is to include all existing water rights is the amount of water necessary for the purpose of the reservation at least to the year 2000. However, this reservation is subject to the following:

- a) Part of this reservation is to be used to meet the request of the Department of State Lands reservation request for 1,431 acre-feet per year from the Tongue River (Application 9931-r) and 390 acre-feet per year from the Tongue River (Application 9933-r).
- b) Part of this reservation is to be used to meet the request of the Big Horn Conservation District's reservation request for 1,034 acre-feet per year from the Tongue River (Application 9952-r43P).
- c) Part of this reservation is to be used to meet the reservation request of the Rosebud Conservation District for 7,144 acre-feet per year from the Tongue River (Application No. 10,005-r42KJ).
- d) Part of this reservation is to be used to meet the reservation request of North Custer Conservation District for 10,897 acre-feet per year from the Tongue River (Application No. 9947-r42M).
- e) The Department of Natural Resources is to cause to release an average of 75 cfs from the Reservation in order that for the instream reservation in the Tongue River of the Department of Fish and Game to be met.

Findings Related to the Public Interest (89-890(3)(d)).

58. The existing project will have to be abandoned unless it is repaired, but an expanded project would increase benefits now realized by the public, such as a good fishery and agricultural use (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 9; Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 5).

59. Estimates of the extent of existing rights have been taken into account in the analysis of the proposed project, and such existing rights would be protected by the proposed project (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 26).

60. The information provided on plans for construction of the diversion conveyance and application facilities and the maps of the location of potential irrigable lands to be served by the project contain sufficient detail to adequately define the size and function of such facilities (Montana Department of Natural Resources and Conservation, Application No. 9942-r42C).
61. Private development of the proposed project would likely result in single-purpose development, selling water to the highest bidder (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 6).
62. Reservation of water by the State would result in a plan to optimize the public benefit (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 6).
63. Public interest has been served by many projects developed by the Montana Department of Natural Resources and Conservation and its predecessors (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 7).
64. The expanded project would provide water to all Tongue River Subbasin water users at a price they can afford (Tr. Vol. 4, Testimony of Ferris, p. 6).
65. The reservation can provide a substantial amount of additional stored water for use in the Tongue River Subbasin at a cost only marginally greater than must, in any event, be expended to repair this existing facility at its present storage capacity (Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 2 and 38).
66. The proposed expansion of the project would produce net benefits to the economy and the environment (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 6).
67. The economic feasibility of the proposed project has been demonstrated by the completion of a reconnaissance-level benefit/cost evaluation (Montana Department of Natural Resources and Conservation, Application No. 9942-r42C).
68. Because benefits of the proposed project would exceed costs, the project is economically viable (Tr. Vol. 4, following p. 131, Testimony of Corrigan, p. 4).

69. Water from the proposed project can be made available in sufficient quantities and at a reasonable cost to both agriculture and industry (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 7).

70. The economic analysis of the benefits and costs concerning the project is sound (Tr. Vol. 4, Cross of Corrigall, p. 140).

71. Additional storage can be provided either by raising the existing dam or by building a new dam downstream (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 3).

72. Additional storage can be provided at the existing dam site by constructing the dam at its maximum elevation directly or by raising the dam to successively higher elevations in stages by using gates after first building a spillway at the existing elevation (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 38).

73. The mineral fuel resources of the Yellowstone Basin are extensive and important (Draft EIS, Vol. I, p. 36).

74. The largest coal mine in the Yellowstone Basin is adjacent to the Tongue River Reservoir (Draft EIS, Vol. I, p. 98).

75. Staged raising of the reservoir could begin soon, keeping the reservoir level below the coal mines until mining near the reservoir is complete (Tr. Vol. 4, following p. 81, Testimony of Bondy, pp. 39 and 41).

76. Staged raising of the reservoir would reduce acquisition costs and land rights conflicts (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 3).

77. The Montana Department of Natural Resources and Conservation is now conducting studies to estimate the feasibility of adding hydroelectric generating facilities to its projects (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 41).

78. The Montana Department of Natural Resources and Conservation intends to pursue the addition of hydroelectric generation at the Tongue River Dam (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 7).

79. Hydroelectric generation is feasible for the enlarged reservoir (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 41; Tr. Vol. 4, Cross of Bondy, p. 92).

80. An ideal time to add generating facilities would be during expansion of the project (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 7).

81. A 6-megawatt power plant could be constructed with the enlarged project to produce 21 million kilowatt-hours of electricity per year (Tr. Vol. 4, Cross of Bondy, p. 92).

82. Revenue for hydropower sales could be used for repairs and improvements to this and other state water projects (Tr. Vol. 4, Cross of Bondy, p. 95).

83. Private water development in the Tongue River Subbasin would cost up to \$50.00 per acre-foot (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 3).

84. Differential pricing of water is an accepted method of marketing water, and by subsidizing irrigation, differential pricing results in an economic benefit to the state (Tr. Vol. 4, Cross of Fritz, p. 122).

85. Irrigation would be economically feasible with the proposed project (Tr. Vol. 4, following p. 99, Testimony of Fritz, pp. 6 through 10; Tr. Vol. 4, Cross of Fritz, p. 102).

86. Water from the existing reservoir provides full or supplemental irrigation for nearly 17,000 acres (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 8).

87. Most of the existing irrigation using water from the Tongue River Reservoir cannot continue unless repairs are made to the dam (Tr. Vol. 4, Cross of Fritz, p. 102).

88. All of the lands proposed to be irrigated are suitable for irrigation (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 8), and no land below class 3 has been included in the project (Montana Department of Natural Resources and Conservation, Application No. 9942-r42C).

89. The Montana Department of Health and Environmental Sciences did not apply for a reservation of water for quality purposes in the Tongue River Sub-basin (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 40).

90. The Tongue River has been dry in the past at Miles City (Tr. Vol. 4, Recross of Fritz, p. 128).

91. Maintenance and improvement of water quality can be adequately considered in development of the proposed project (Tr. Vol. 4, Cross of Ferris, pp. 152 through 155).

92. Water could be allocated from the proposed project for improving water quality and alleviating existing water quality problems (Tr. Vol. 4, Redirect of Fritz, p. 127; Tr. Vol. 4, Recross of Fritz, p. 129).

93. Any amount of the new water supply provided by the proposed project could be allocated to water quality, as the public interest dictates (Tr. Vol. 4, Cross of Ferris, p. 148).

94. Increases in total dissolved solids (TDS), if any, caused by the expanded project are unlikely to damage crops (Tr. Vol. 4, Cross of Fritz, pp. 124 and 125).

95. The Tongue River Subbasin has an especially productive fishery (Draft EIS, Vol. I, p. 75).

96. The Tongue River Reservoir provides a warm-water fishery for walleye, northern pike, smallmouth bass, and crappies (Draft EIS, Vol. I, p. 76).

97. The Tongue River provides on the most diverse sport fisheries in the state (Draft EIS, Vol. I, p. 75).

98. The Tongue River Reservoir is a heavily used source of varied recreation (Draft EIS, Vol. I, p. 50).

99. Increasing the size of the Tongue River Reservoir would increase the recreation and fish and wildlife benefits of the existing reservoir (Tr. Vol. 4, Cross of Fritz, p. 108).

100. As the public interest dictates, fish and wildlife maintenance can be adequately considered in development of the proposed project (Tr. Vol. 4, Cross of Fritz, pp. 111 and 112; Tr. Vol. 4, Cross of Ferris, p. 147).

101. The existing reservoir and the proposed enlarged reservoir provide the benefit of waterfowl and fish habitat maintenance (Tr. Vol. 4, following p. 81, Testimony of Fritz, p. 9).

102. Without the existing project, irrigation carried out with existing water rights would dewater much of the Tongue River most years, thereby greatly reducing instream benefits (Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 7).

103. The existing reservoir provides good habitat for several species of fish which thrive in the reservoir; they should continue to do well in the expanded reservoir (Tr. Vol. 4, following p. 99, Testimony of Fritz, p. 9).

104. No endangered species have been identified that would be harmed by an enlarged Tongue River Reservoir (Draft EIS, Vol. I, p. 79).

105. The purchase of storage in the enlarged reservoir for maintenance of fish and wildlife habitat in the subbasin would be possible if the reservation were granted (Tr. Vol. 4, Cross of Ferris, p. 145).

106. The planning process of the expanded Tongue River Project has been going on since 1967 (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 40).

107. The Montana Department of Natural Resources and Conservation has done a substantial amount of work on the expansion of the Tongue River Project, including:

- a) A water supply study
- b) Preliminary design of several alternative methods of expanding the project
- c) Economic feasibility studies
- d) Preliminary electrification studies

(Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 41).

108. The Montana Legislature has supported the Tongue River Project and its proposed expansion through several actions including:

- a) Funding for construction of the Tongue River Dam in the late 1930's
- b) Funding for enlargement studies in the late 1960's
- c) Funding for further enlargement studies in 1975
- d) Directing the Montana Department of Natural Resources and Conservation to enter negotiations with potential users of an expanded project, with the State of Wyoming, and with the Indians

(Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 41; Tr. Vol. 4, following p. 140, Testimony of Ferris, p. 8).

109. The Montana Legislature is likely to provide further direction in 1979 in the development of the Tongue River Project (Tr. Vol. 4, following p. 81, Testimony of Bondy, p. 41).

110. The proposed project conforms to the policy of this State and the purpose of the Water Use Act: to encourage the wise use of the State's water resources by making them available for appropriation consistent with the Water Use Act and provide for the wise utilization and development of conservation of water for the State for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems (Tr. Vol. 4, Cross of Bondy, p. 88).

111. It is established to the satisfaction of the Board that the reservation of a storage right of up to 450,000 af/y which is to include all existing water rights, and is subject to the conditions mentioned in Finding 56, is in the public interest and that there will be progress toward completion of the facility and accomplishment of the purpose within a reasonable time in accordance with an established plan. This reservation is 384,000 af/y of new storage. (Findings 58 through 109; Montana Department of Natural Resources and Conservation, Application No. 9942-r42C).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.
2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.
3. The Applicant, the Montana Department of Natural Resources and Conservation, is an agency of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.
4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.
5. Based upon the above Findings of Fact, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.
6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 12330-r42KJ) FINDINGS OF FACT AND CON-
BY THE U.S. BUREAU OF RECLAMATION) CLUSIONS OF LAW OF APPLI-
CATION NO. 12330-r42KJ)

The above-entitled matter came on regularly for hearing on or about August 31, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodsite Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the U.S. Bureau of Reclamation, Application No. 12330-r42KJ, for Cedar Ridge offstream storage: -272-

FINDINGS OF FACT

1. The U.S. Bureau of Reclamation has applied for the reservation of 121,800 acre-feet of water per year (af/y) from the Yellowstone River for storage in the proposed Cedar Ridge reservoir to be used for municipal, industrial, recreation, and fish and wildlife purposes (U.S. Bureau of Reclamation, Application No. 12330-r42Kj).

2. The reservoir, with a capacity of 144,000 acre-feet, would inundate 5,000 acres on the north side of the Yellowstone River on Starved to Death Creek, a tributary of the Yellowstone River, in Treasure and Rosebud Counties about 16 miles northwest of Forsyth (U.S. Bureau of Reclamation, Application No. 12330-r42KJ; Draft Addendum EIS, Map 1, following p. 8).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

3. The purpose of the reservation request is to divert and store water for release during critical summer flow periods (Tr. Vol. 18, following p. 179, Testimony of Derwood Mercer, p. 12).

4. The released water would replace or augment flows used for municipal, industrial, recreation, water quality, aquatic resource maintenance, irrigation, sanitation, and fish and wildlife purposes (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12).

5. The purposes and uses are similar for all three U.S. Bureau of Reclamation proposed offstream storage projects along the Yellowstone River (Tr. Vol. 19, Cross of Mercer, p. 10; Tr. Vol. 18, following p. 179, Testimony of Mercer, pp. 7 and 10).

6. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Findings 3 through 5).

Findings Related to the Need for the Reservation (89-890(3)(b)).

7. The need for each of the three U.S. Bureau of Reclamation offstream

storage projects depends on the level of water reservation requests granted to the other applicants (Tr. Vol. 19, Cross of Mercer, pp. 10 and 51).

8. Certain reservation requests of other applicants are granted herein (See "Order," § 1 through 96).

9. It is established to the satisfaction of the Board that a need has been shown for the reservation of water to be stored in Cedar Ridge Reservoir in Treasure and Rosebud Counties (Findings 7 and 8).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

10. The Application is for a maximum annual need of 121,800 acre-feet of water from the Yellowstone River to be stored in an offstream reservoir (U.S. Bureau of Reclamation, Application No. 12330-r42KJ).

11. Annual flow data shows that the maximum annual need would not be required every year (Tr. Vol. 19, Testimony of Mercer).

12. The offstream reservoir would provide storage so that water could be returned to the river for irrigation uses, municipal uses and industrial uses (Tr. Vol. 19, Testimony of Mercer).

13. With an offstream reservoir, the instream flows could be regulated so as to protect water quality and recreational use and fish and wildlife use (Tr. Vol. 19, Testimony of Mercer).

14. Water would be pumped from the river during periods of excess flows and returned to the river during months of low flows (Tr. Vol. 19, Testimony of Mercer).

15. The anticipated increase in energy-related depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development by the year 2000 is 75,490 af/y (Draft EIS, Vol. II, p. 230).

16. The anticipated increase in irrigation depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development

by the year 2000 is 83,840 af/y (Draft EIS, Vol. II, p. 239).

17. The total anticipated increase in depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development for these two uses by the year 2000 is 159,330 af/y (Findings 15 and 16).

18. A purpose of the reservation is to provide stored water for uses such as those discussed above in Findings 12, 13, 14 and 15 (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12; Finding 4).

19. It is established to the satisfaction of the Board that the applied- for 121,800 af/y of water is a reasonable amount of water necessary for the purpose of the reservation (Findings 15 through 18).

20. It is further established by the Board that the Bureau of Reclamation may only withdraw water from the Yellowstone River during high flow months.

Findings Related to the Public Interest (89-890(3)(d)).

21. Stored water would be released from the proposed project to augment flows during critical summer periods (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12).

22. Stored water would be available from the proposed project for new diversionary uses (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 121).

23. Possible effects of the proposed project on the ecosystem include establishment of a multispecies warm-water fishery, introduction of muskrat into the area, and attraction of migratory waterfowl (Draft Addendum EIS, pp. 34 and 37).

24. Increased number of waterfowl could benefit hunters and sightseers, and flatwater recreation and fishing opportunities would be expanded (Draft Addendum EIS, pp. 36 and 38).

25. It is established to the satisfaction of the Board that the reservation of 121,800 af/y from the Yellowstone River for storage at the Cedar Ridge site in Treasure and Rosebud counties is in the public interest and that there will be progress toward accomplishment of the purpose with reasonable diligence in accordance with an established plan (Bureau of Reclamation, Application No. 12330-r42KJ).

26. The public interest requires that specific design, construction, and operating plans; economic, social, and environmental analyses; time schedules; and probable allocations of water to various beneficial uses be supplied so that other water users in the basin may know the status of the proposed Cedar Ridge Project and the amount of water available for appropriation (Application No. 12330-r42KJ).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Bureau of Reclamation, is an agency of the United States and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 12332-r42K
BY THE U.S. BUREAU OF RECLAMATION

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 12332-r42K

The above-entitled matter came on regularly for hearing on or about August 31, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating

to the U.S. Bureau of Reclamation, Application No. 12332-r42K, for
Sunday Creek offstream storage:

FINDINGS OF FACT

1. The U.S. Bureau of Reclamation has applied for the reservation of 539,000 acre-feet of water per year (af/y) from the Yellowstone River for storage in the proposed Sunday Creek reservoir to be used for municipal, industrial, recreation, and fish and wildlife purposes (U.S. Bureau of Reclamation, Application No. 12332-r42K).

2. The reservoir, with a capacity of 678,000 acre-feet, would inundate 13,700 acres on the north side of the Yellowstone River in Custer County near the Miles City airport (U.S. Bureau of Reclamation, Application No. 12332-r42K).
Findings Related to the Purpose of the Reservation (89-890(3)(a)).

3. The purpose of the reservation request is to divert and store water for release during critical summer flow periods (Tr. Vol. 18, following p. 179, Testimony of Derwood Mercer, p. 12).

4. The released water would replace or augment flows used for municipal, industrial, recreation, water quality, aquatic resource maintenance, irrigation, sanitation, and fish and wildlife purposes (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12).

5. The purposes and uses are similar for all three U.S. Bureau of Reclamation proposed offstream storage projects along the Yellowstone River (Tr. Vol. 19, Cross of Mercer, p. 10; Tr. Vol. 18, following p. 179, Testimony of Mercer, pp. 7 and 10).

6. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Findings 3 through 5).

Findings Related to the Need for the Reservation (89-890(3)(b)).

7. The need for each of the three U.S. Bureau of Reclamation offstream

storage projects depends on the level of water reservation requests granted to the other applicants (Tr. Vol. 19, Cross of Mercer, pp. 10 and 51).

8. Certain reservation requests of other applicants are granted herein (See "Order," ¶ 1 through 96).

9. It is established to the satisfaction of the Board that a need has been shown for the reservation of water to be stored in Sunday Creek Reservoir in Custer County (Findings 7 and 8).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

10. The Application is for a maximum annual need of 539,000 acre-feet of water from the Yellowstone River to be stored in an offstream reservoir (U.S. Bureau of Reclamation, Application No. 12332-r42K).

11. Annual flow data shows that the maximum annual need would not be required every year (Tr. Vol. 19, Testimony of Mercer).

12. The offstream reservoir would provide storage so that water could be returned to the river for irrigation uses, municipal uses and industrial uses (Tr. Vol. 19, Testimony of Mercer).

13. With an offstream reservoir, the instream flows could be regulated so as to protect water quality and recreational use for fish and wildlife use (Tr. Vol. 19, Testimony of Mercer).

14. Water would be pumped from the river during periods of excess flows and returned to the river during months of low flows (Tr. Vol. 19, Testimony of Mercer).

15. The anticipated increase in energy-related depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development by the year 2000 is 75,490 af/y (Draft EIS, Vol. II, p. 230).

16. The anticipated increase in irrigation depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development

by the year 2000 is 83,840 af/y (Draft EIS, Vol. II, p. 239).

17. The total anticipated increase in depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development for these two uses by the year 2000 is 159,330 af/y (Findings 15 and 16).

18. A purpose of the reservation is to provide stored water for uses such as those discussed above in Findings 12, 13, 14 and 15 (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12; Finding 4).

19. It is established to the satisfaction of the Board that the applied- for 539,000 af/y of water is a reasonable amount of water necessary for the purpose of the reservation (Findings 15 through 18).

20. It is further established by the Board that the Bureau of Reclamation may only withdraw water from the Yellowstone River during high flows.

Findings Related to the Public Interest (89-890(3)(d)).

21. Stored water would be released from the proposed project to augment flows during critical summer periods (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12).

22. Stored water would be available from the proposed project for new diversionary uses (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 121).

23. Possible effects of the proposed project on the ecosystem include establishment of a multispecies warm-water fishery, introduction of muskrat into the area, and attraction of migratory waterfowl (Draft Addendum EIS, pp. 34 and 37).

24. Increased number of waterfowl could benefit hunters and sightseers, and flatwater recreation and fishing opportunities would be expanded (Draft Addendum EIS, pp. 36 and 38).

25. It is established to the satisfaction of the Board that the reservation of 539,000 af/y from the Yellowstone River for storage at the Sunday Creek site in Custer County near the Miles City airport is in the public interest and that there will be progress toward accomplishment of the purpose with reasonable diligence in accordance with an established plan (Bureau of Reclamation, Application No. 12332-r42K).

26. The public interest requires that specific design, construction, and operating plans; economic, social, and environmental analysis; time schedules; and probable allocations of water to various beneficial uses be supplied so that other water users in the basin may know the status of the proposed Sunday Creek Project and the amount of water available for appropriation (Application No. 12332-r42K).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, U.S. Bureau of Reclamation, an agency of the State of Montana, is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 12331-r43Q
BY THE U.S. BUREAU OF RECLAMATION

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 12331-r43Q

The above-entitled matter came on regularly for hearing on or about August 31, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentar evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating

to U.S. Bureau of Reclamation, Application No. 12331-r43Q, for
Buffalo Creek offstream storage:

FINDINGS OF FACT

1. The U.S. Bureau of Reclamation has applied for the reservation of 68,700 acre-feet of water per year (af/y) from the Yellowstone River for storage in the proposed Buffalo Creek reservoir to be used for municipal, industrial, recreation, and fish and wildlife purposes (U.S. Bureau of Reclamation, Application No. 12331-r430).

2. The reservoir, with a capacity of 115,000 acre-feet, would inundate 2,660 acres on the north side of the Yellowstone River in Yellowstone County near the town of Custer (U.S. Bureau of Reclamation, Application No. 12331-r430).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

3. The purpose of the reservation request is to divert and store water for release during critical summer flow periods (Tr. Vol. 18, following p. 179, Testimony of Derwood Mercer, p. 12).

4. The released water would replace or augment flows used for municipal, industrial, recreation, water quality, aquatic resource maintenance, irrigation, sanitation, and fish and wildlife purposes (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12).

5. The purposes and uses are similar for all three U.S. Bureau of Reclamation proposed offstream storage projects along the Yellowstone River (Tr. Vol. 19, Cross of Mercer, p. 10; Tr. Vol. 18, following p. 179, Testimony of Mercer, pp. 7 and 10).

6. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Findings 3 through 5).

Findings Related to the Need for the Reservation (89-890(3)(b)).

7. The need for each of the three U.S. Bureau of Reclamation offstream

storage projects depends on the level of water reservation requests granted to the other applicants (Tr. Vol. 19, Cross of Mercer, pp. 10 and 51).

8. Certain reservation requests of other applicants are granted herein (See "Order," ¶ 1 through 96).

9. It is established to the satisfaction of the Board that a need has been shown for the reservation of water to be stored in Buffalo Creek Reservoir in Yellowstone County (Findings 7 and 8).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

10. The Application is for a maximum annual need of 63,700 acre-feet of water from the Yellowstone River to be stored in an offstream reservoir (U.S. Bureau of Reclamation, Application No. 12331-r430).

11. Annual flow data shows that the maximum annual need would not be required every year (Tr. Vol. 19, Testimony of Mercer).

12. The offstream reservoir would provide storage so that water could be returned to the river for irrigation uses, municipal uses and industrial uses (Tr. Vol. 19, Testimony of Mercer).

13. With an offstream reservoir, the instream flows could be regulated so as to protect water quality and recreational use and fish and wildlife use (Tr. Vol. 19, Testimony of Mercer).

14. Water would be pumped from the river during periods of excess flows and returned to the river during months of low flows (Tr. Vol. 19, Testimony of Mercer).

15. The anticipated increase in energy-related depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development by the year 2000 is 75,490 af/y (Draft EIS, Vol. II, p. 230).

16. The anticipated increase in irrigation depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development

by the year 2000 is 83,840 af/y (Draft EIS, Vol. II, p. 239).

17. The total anticipated increase in depletions projected for the Mid- and Lower Yellowstone subbasins under the intermediate level of development for these two uses by the year 2000 is 159,330 af/y (Findings 15 and 16).

18. A purpose of the reservation is to provide stored water for uses such as those discussed above in Findings 12, 13, 14 and 15 (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12; Finding 4).

19. It is established to the satisfaction of the Board that the applied- for 63,700 af/y of water is a reasonable amount of water necessary for the purpose of the reservation (Findings 15 through 18).

20. It is further established by the Board that the Bureau of Reclamation may only withdraw water from the Yellowstone River during high flow months.

Findings Related to the Public Interest (89-890(3)(d)).

21. Stored water would be released from the proposed project to augment flows during critical summer periods (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 12).

22. Stored water would be available from the proposed project for new diversionary uses (Tr. Vol. 18, following p. 179, Testimony of Mercer, p. 121).

23. Possible effects of the proposed project on the ecosystem include establishment of a multispecies warm-water fishery, introduction of muskrat into the area, and attraction of migratory waterfowl (Draft Addendum EIS, pp. 34 and 37).

24. Increased number of waterfowl could benefit hunters and sightseers, and flatwater recreation and fishing opportunities would be expanded (Draft Addendum EIS, pp. 36 and 38).

25. It is established to the satisfaction of the Board that the reservation of 68,700 af/y from the Yellowstone River for storage at the Buffalo Creek site in Yellowstone County is in the public interest and that there will be progress toward accomplishment of the purpose with reasonable diligence in accordance with an established plan (Bureau of Reclamation, Application No. 12331-r43Q).

26. The public interest requires that specific design, construction, and operating plans; economic, social, and environmental analysis, time schedules; and probable allocations of water to various beneficial uses be supplied so that other water users in the basin may know the status of the proposed Buffalo Creek Project and the amount of water available for appropriation (Application No. 12331-r43Q).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, U.S. Bureau of Reclamation, is an agency of the United States and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 1781-r
BY THE MONTANA FISH AND GAME
COMMISSION

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 1781-r
)

The above-entitled matter came on regularly for hearing on or about August 17, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The City of Billings appeared by and through its counsel of record, Calvin Calton. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Intake Water Company appeared by and through its counsel of record, Henry Loble and Boyd Henderson. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. The Montana Water Development Association appeared without benefit of counsel. The Great Western Sugar Company appeared by and through its counsel of record, Richard McCann. Trout Unlimited and the Federation of Fly Fishermen appeared by and through their counsel of record, James Goetz. The Montana Wildlife Federation

appeared by and through its counsel of record, William Madden. The Environmental Information Center appeared by and through its counsel of record, William Leaphart. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Montana Fish and Game Commission, Application No. 1781-r:

FINDINGS OF FACT

1. The reaches of the Yellowstone River and certain of its major tributaries for which an instream reservation of water has been applied for by the Montana Fish and Game Commission are shown in Map FG-1 (Draft EIS, Vol. I, p. 181).

2. The Department of Fish and Game has applied for an instream reservation on many of the streams in the Yellowstone River Basin, including a request for an instream reservation in the Yellowstone River (Montana Fish and Game Commission, Application No. 1781-r).

3. Fish and Game has made lawful, proper and timely application for reservation of water, to maintain flows, levels, or qualities of water thereof, in the Yellowstone River Basin, including the reaches and tributaries thereof, as follows:

UPPER YELLOWSTONE BASIN (Town of Gardiner to mouth of Boulder River)

Armstrong Spring Creek

Bear Creek

Big Creek

Billman Creek

Brackett Creek

Cedar Creek

Cinnabar Creek

Coke Creek

Eight Mile Creek

Emigrant Spring Creek

Flathead Creek

Fleshman Creek

Fridley Creek

Little Mission Creek

McDonald Spring Creek

Mill Creek

Mission Creek

Hol Heron Creek

Nelson Spring Creek

Rock Creek (Shields Drainage)

Rock Creek (of the Yellowstone)

Shields River

Sixmile Creek

Smith Creek

Suce Creek

Tom Miner Creek

Trail Creek

Yellowstone River (Main Channel, Gardiner to Boulder River)

MIDDLE YELLOWSTONE BASIN (Boulder River to Bighorn River)

Mid-Big Timber Creek

Lower Big Timber Creek

Upper Bluewater Creek

Middle Bluewater Creek

Lower Bluewater Creek

Bridger Creek

Boulder River (Sweet Grass County)

Boulder River (Sweet Grass and Park Counties)

Boulder River (Sweet Grass County)

Upper Butcher Creek

Lower Butcher Creek

Castle Creek (Stillwater County)

Castle Creek (Stillwater and Sweet Grass Counties)

Clarks Fork Yellowstone River

Lower Clarks Fork Yellowstone River

Clear Creek

Dry Creek

East Boulder River (Sweet Grass County)

Fishtail Creek (Stillwater County)

West Fishtail Creek (Stillwater County)

Little Rocky Creek (Stillwater County)

Lower Deer Creek

Picket Pin Creek (Stillwater and Sweet Grass Counties)

Mid-Red Lodge Creek

~~Lower Red Lodge Creek~~

Rock Creek

Mid-Rock Creek

Lower Rock Creek

Lower East Rosebud Creek

West Rosebud Creek

Lower West Rosebud Creek

Sage Creek

Stillwater River (Stillwater County)

Mid-Sweet Grass Creek

Lower Sweet Grass Creek

Upper Deer Creek

Lower West Boulder River

West Fork Stillwater River (Stillwater County)

West Fork Stillwater River (Sweet Grass County)

Mid-Willow Creek

Lower Willow Creek

Yellowstone River (Main Channel, Boulder River to Bighorn River)

LOWER YELLOWSTONE BASIN

Bighorn River

Tongue River

Hanging Woman Creek

Otter Creek

Pumpkin Creek

Powder River

Rosebud Creek

Yellowstone River (Big Horn River to Montana-North Dakota State Line
(Exh. DFG 1781-r pii & iii).

4. The Department of Health and Environmental Sciences has also applied for an instream reservation for waters in the Yellowstone River (Department of Health and Environmental Sciences, Application No. 10003-r).

5. Although the purpose, the need and the public interest of each of these reservation requests differ, the granting of one instream reservation would insure the other state agency an instream reservation.

6. Because the purpose, the need and the public interest for a Fish and Game instream reservation throughout the entire Yellowstone River Basin are basically the same, the Board, as hereinafter set forth, adopts general Findings of Fact relating to these elements of water reservations as mandated by R.C.M. 89-890.

Findings Related to the Purpose of Instream Reservations of Waters in Streams of the Yellowstone River Basin (89-890(3)(a)).

7. The purpose of the reservation is to ensure that waters are available for existing uses and to maintain a minimum flow, level, and quality of water (Montana Fish and Game Commission, Application No. 1781-r, p. 1 through 3).

8. There is an abundant and viable fishery and aquatic ecosystem existent in the Yellowstone River Basin (Tr. Vol. 18, Testimony of Halterman, p. 2)

9. A purpose of the instream reservation being sought by the Department of Fish and Game is to maintain the abundant and viable fishery and aquatic ecosystem existent in the Yellowstone River Basin (Application No. 1781-r).

10. A purpose of the reservation is to provide fish and wildlife habitat sufficient to perpetuate the diverse species comprising the various natural habitats (Montana Fish and Game Commission, Application No. 1781-r).

11. A purpose of the reservation is to help maintain water quality (Montana Fish and Game Commission, Application No. 1781-r, p. 3).

12. A purpose of the reservation is to contribute to a clean and healthful environment (Montana Fish and Game Commission, Application No. 1781-r, p. 3).

13. It is established to the satisfaction of the Board that the purpose of an instream reservation of waters of the streams in the Yellowstone River Basin has been shown.

Findings Related to the Need of Instream Reservations of Waters in Streams of the Yellowstone River Basin (89-890(3)(b)).

14. Instream reservations are necessary for channel flushing and the maintenance of the channels (Tr. Vol. 18, Testimony of Reichmuth).

15. Instream reservations are necessary to control aquatic plant growth and to maintain aquatic and wildlife species and the fishery of the Basin (Application 1781-r, pp. 1 through 3).

16. There is a public need for the purposes of providing fish and wildlife habitat sufficient to perpetuate the diverse species comprising this natural resource at levels comparable to currently existing levels.

17. There is a need for the reservations of waters of the Yellowstone River and its tributaries for recreational purposes which would be met by the reservation of flows requested by Fish and Game.

18. The need for reservations of water in each stream reach requested by Fish and Game is to provide for continued preservation of fish and wildlife habitat sufficient to perpetuate the several and many species found in each stream reach at currently existing levels; to provide water-based and water-related recreation for residents of this state and tourists and other transients to this state; to provide Fish and Game standing to represent the public's interest in fish and wildlife and recreation when future applications for water use permits in the stream reaches are being considered (Montana Fish and Game Proposed Finding 75).

19. It is established to the satisfaction of the Board that the need for instream water reservations of the waters in streams of the Yellowstone River Basin has been shown.

Findings Related to the Public Interest of Instream Reservations for the Waters in the Streams of the Yellowstone River Basin (89-890(3)(d)).

20. The Fish and Game's application for reservations of water in the Yellowstone River Basin represents the public interest in preserving, protecting and enhancing the environment (Fish and Game Proposed Finding 75).

21. The application of the Fish and Game is in the public interest in that it provides aesthetically pleasing surroundings, and that it preserves fishing waters in their natural existing state (Fish and Game Proposed Finding 75).

22. The instream reservation is in the public interest in that it protects and preserves fish habitat, preserves recreational sites and ensures perpetuation of non-game wildlife in the existing ecosystem (Fish and Game Proposed Finding 75).

23. The instream reservation is in the public interest in that it will:

- a) continue the perpetuation of the fish and wildlife resources;
- b) continue perpetuation of the fish and wildlife resources for current and future utilization by the public;
- c) maintain water quality

24. It is established to the satisfaction of the Board that the public interest for instream reservations of the waters in the streams of the Yellowstone River Basin has been shown.

Findings Related to the Amount Necessary for the Purpose of the Reservation of Waters of the Streams of the Yellowstone River Basin (89-890(3)(c)).

Instream Reservation of the Yellowstone River at Sidney, Montana

25. The fish species present in this part of the Yellowstone River are sturgeon, paddlefish, mooneye, trout, minnow, sucker, catfish, codfish, sunfish, perch and drum. *goldeye* *burbot*

26. The resident and migratory wildlife species present in this part of the stream are loons, grebes, pelicans, cormorants, swans, geese, ducks, vultures, hawks, eagles, falcons, herons, cranes, coots, avocets, plovers, sandpipers, snipes, gulls, terns, owls, magpies, crows and other birds and mule deer, white-tailed deer, beavers, minks, muskrats and river otters (Department of Fish and Game, Application No. 1781-r, exh. 1, pp. 231 through 233).

27. A reservation of instream water will protect nesting and production, migrations, incubations and receiving of the various species (Department of Fish and Game, Application No. 1781-r, exh. 1, pp. 234 and 235).

28. An adequate instream flow will provide ample food supply, adequate habitat area and suitable water quality for all the fishery and wildlife species of this part of the Yellowstone River (Tr. Vol. 13, pp. 195 and 196).

29. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation of the Yellowstone River at Sidney is an eighteenth percentile flow less depletions of other reservations on the Yellowstone River Basin above Sidney, Montana. This reservation amounts to 5,492,310 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>	<u>PERCENTILE</u>
January	3,738	229,831	
February	4,327	240,281	
March	6,778	416,711	
April	6,808	405,031	
May	11,964	735,528	
June	25,140	1,495,644	
July	10,526	647,090	
August	2,670	164,166	
September	3,276	194,917	
October	6,008	369,377	
November	5,848	347,920	
<u>December</u>	<u>3,998</u>	<u>245,814</u>	
<u>Average</u>	<u>7,856 cfs</u>	<u>5,492,310 af/y</u>	

Instream Reservation of Powder River

30. The Department of Fish and Game has requested an instream reservation on the Powder River from its mouth at the Yellowstone River to the Wyoming border (Department of Fish and Game, Application 1731-r).

31. Evaluations of the flow requirements for the Powder River were based on Northern Great Plains Resource Program estimates, United States Gauging Data, and were verified by field observations and measurements (Department of Fish and Game, Application No. 1718-r, exh. 1, p. 220; Tr. Vol. 26, Redirect of Rehwinkel; Department of Fish and Game, Application No. 1731-r, exh. 28; Tr. Vol. 28, p. 16, Testimony of Rehwinkel).

32. Significant reduction in flows of the Powder River would detrimentally affect the habitat of beaver and other furbearers because the number and size of islands and gravel bars would be reduced and the stream morphology would change from a braided to a meandering

stream having less habitat for these animals (Exh. DFG-1781-r-1, p. 23-26).

33. Resident fish species present in the Powder River include the sturgeon chub and sauger, shovelnose sturgeon and channel catfish (Exh. DFG-1781-r-1, p. 219-220).

34. Flows are required by the fish species of the Powder River for passage, spawning and rearing (DFG-1781-r, Exh. I, pp. 221-222).

35. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservation of waters in the Powder River is the ninetieth percentile flow. This reservation amounts to 95,201 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	31.9	1961
February	71.8	3986
March	291	17,888
April	347	20,643
May	424	26,064
June	184	10,946
July	70	4303
August	14.5	891
September	8.87	527
October	9.43	579
November	61.6	3664
<u>December</u>	<u>61</u>	<u>3749</u>
Average	131 cfs	9520 af/y

Instream Reservation of Yellowstone River at Miles City

36. The fish species present in this part of the stream are trout, whitefish, catfish, sauger, walleye, ling, and crappie (DFG-1781-r, Exh. 1, p. 183).

37. The resident and wildlife migratory species present in this part of the Yellowstone River are beaver, muskrat, marten, mink, raccoon, pheasant, white-tailed deer, ducks, raptors, bald eagles, Canadian geese, heron, swans, and cranes (DFG-1781-r, Exh. 1, p. 183).

38. A reservation will ensure proper spawning, incubation and rearing for the fishery of this part of the Yellowstone River (DFG-1781-r, Exh. 1, p. 184).

39. It is established to the satisfaction of the Board that the amount of water necessary for the instream reservation of the Yellowstone River at Miles City, Montana, is the eightieth percentile flow of the Yellowstone River less the depletions of other water reservations on the Yellowstone River Basin above Miles City. This instream reservation amounts to 6,499,936 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	3,329	235,400
February	3,993	221,995
March	6,359	390,929
April	5,848	347,957
May	12,280	754,904
June	26,183	1,557,980
July	10,273	631,856
August	3,862	237,415
September	4,338	266,682

	<u>CFS</u>	<u>AF/Y</u>
October	5,849	359,578
November	5,508	327,730
<u>December</u>	<u>4,009</u>	<u>246,466</u>
<u>Average</u>	<u>7,705 cfs</u>	<u>5,578,892 af/y</u>

40. The Montana Department of Health and Environmental Sciences has been given an instream flow reservation of the same quantity as that listed above for the Department of Fish and Game.

41. In some months the instream reservation established by the Board exceeds the request of the Department of Fish and Game. The reservation of the instream flow for the Fish and Game is only for the amount requested and it is not to exceed that amount.

Instream Reservation of Tongue River

42. The Department of Fish and Game has requested an instream reservation of the Tongue River from the Wyoming border to the mouth at the Yellowstone River (Fish and Game Application No. 1731-r).

43. Evaluations of the Tongue River's flow are based on water temperature data, depth and velocity criteria for spawning and incubation flows, water surface profile program and wetted perimeter method (Department of Fish and Game, Application No. 1731-r, Exh. 1, pp. 203 through 208; Tr. Vol. 14, Testimony of Elser).

44. The resident game fish species present in the Tongue River are bass, pike, sauger, walleye, catfish, paddlefish, sturgeon, and burbot (DFG-1731-r, Exh. 1, pp. 201-207).

45. Flows are required by the various fish species for spawning, rearing and passage (DFG-1731-r, Exh. 1, pp. 202-209).

46. The Montana Department of Natural Resources has been granted a reservation on the Tongue River (Order).

47. The Department of Natural Resources' reservation is based on that Department's intention of building a dam on the Tongue River (Department of Natural Resources, Application No. 9942-r42C).

48. The Department of Natural Resources was granted a reservation on the Tongue River with a condition that an average of 75 cfs be released from the dam in order to contribute/ ^{to the} instream reservation of the Fish and Game (Order).

49. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the Department of Fish and Game's reservation on the Tongue River from the Wyoming border to the Tongue River reservoir is 244,799 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	160	9,836
February	160	8,883
March	200	12,294
April	200	11,898
May (1-20)	700	27,762
May (21-31)	1,200	26,175
June	1,350	80,312
July	360	22,130
August	100	6,147
September	100	5,949
October	200	12,294
November	200	11,898
<u>December</u>	<u>150</u>	<u>9,221</u>
Average	338 cfs	244,799 af/y

50. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the Fish and Game's instream reservation in the Tongue River from the Tongue River reservoir to the mouth of the Yellowstone River an average flow of 75 cfs at the mouth. This reservation amounts to 54,289 af/y with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	75	4,611
February	75	4,164
March	75	4,611
April	75	4,462
May	75	4,611
June	75	4,462
July	75	4,611
August	75	4,611
September	75	4,462
October	75	4,611
November	75	4,462
<u>December</u>	<u>75</u>	<u>4,611</u>
Average	75	54,299
<u>Instream Reservations for Hanging Woman Creek</u>		

51. Evaluations of the flow requirements for Hanging Woman Creek are based on migrant fish trap data, United States Gauging Station stream discharge records and streamflow monitoring (DFG-1781-r, Exh. 1, p. 211, Tr. Vol. 14, pp. 53-54 and 56).

52. The fish species present in Hanging Woman Creek are bass, sauger, pike and catfish (DFG-1781-r, Exh. 1, p. 211).

53. An instream reservation is needed for passage, spawning and rearing of the fishery (DFG-1781-r, Exh. 1, p. 211).

54. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation on Hanging Woman Creek is the historic minimum monthly flow derived from the United States Gauging Station records.

Instream Reservation in Otter Creek

55. Evaluations of the flow requirements for Otter Creek are based on the United States Gauging Station gauging records and field observations of fishery (DFG-1781-r, Exh. 1, p. 215).

56. The fish species present in Otter Creek are crappie, bass, pike and catfish (DFG-1781-r, Exh. 1, pp. 212-215).

57. An instream reservation is needed for passage, spawning and rearing of the fishery (DFG-1781-r, Exh. 1, p. 211).

58. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation on Otter Creek is the historic minimum monthly flow derived from the United States Gauging Station records.

Instream Reservation in Pumpkin Creek

59. Evaluations for the flow requirements for Pumpkin Creek are based on the United States Gauging Station gauging data, field observations and observations of stream flow records (DFG-1781-r, Exh. 1, p. 217).

60. The fish species present in Pumpkin Creek are catfish, sauger, and crappie (DFG-1781-r, Exh. 1, p. 217).

61. An instream reservation is needed for passage, spawning and rearing of the fishery (DFG-1781-r, Exh. 1, p. 218).

62. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation on Pumpkin Creek is the historic minimum monthly flow derived from the United States Gauging Station records.

Instream Reservation for Rosebud Creek

63. Evaluations of the Rosebud Creek flow are based on spawning studies, field studies, migrant fish trapping and United State Gauging Station stream discharge data (DFG-1781-r, Exh. 1, pp. 199-225).

64. Fish species present in Rosebud Creek are sauger, walleye, pike, catfish and burbot (DFG-1781-r, Exh. 1, p. 224).

65. An instream flow is needed in Rosebud Creek in order to protect the passage, spawning and rearing of the fishery (DFG-1781-r, Exh. 1, pp. 225-226).

66. It is established to the satisfaction of the Board that the amount of water needed for the purpose of the instream reservation of Rosebud Creek is the eightieth percentile flow of Rosebud Creek from Cottonwood Creek to the Yellowstone River. It is further established by the Board that the Department of Fish and Game must supply U.S.G.S. or other data in order that the exact flow figures for this reservation may be determined.

Instream Reservation for Bighorn River

67. Evaluations of the flow requirements of the Bighorn River are based on the United States Gauging Station gauging data and comparison of data at various stations along the river (DFG-1781-r, Exh. 1, pp. 188 and 191).

68. The fish species found in the Bighorn River are catfish, crappie, bass, trout, pike, sauger and burbot (DFG-1781-r, Exh. 1, p. 190).

69. The wildlife species present in the Bighorn River area are beaver, muskrat, mink, raccoon, fox, squirrel, deer, coyote, skunk, bobcat, ducks, geese, cormorant, osprey and bald eagle (DFG-1781-r, Exh. 1, p. 187).

70. An instream flow is needed to transport the yearly accumulation of sediment and control weed growth, and to sweep gravel bars free of some vegetation which aids the Canadian geese in nesting activities (DFG-1781-r, Exh. 1, p. 186).

71. An instream flow is needed to provide the fishery with migratory passage, spawning, incubation and rearing (DFG-1781-r, Exh. 1, p. 188).

72. Although the Department of Fish and Game has applied for water for an instream water reservation at two different locations on the Bighorn River, the Board is giving the Department of Fish and Game one instream reservation in the Bighorn River at the mouth.

73. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of an instream reservation for the Bighorn River at the mouth is 2,477,987 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	3,300	202,863
February	3,200	177,679
March	4,000	245,895
April	3,600	214,167
May	3,800	233,600
June	5,200	309,352
July (1-20)	3,800	150,710
July (21-31)	3,200	69,802

	<u>CFS</u>	<u>AF/Y</u>
August	2,800	172,127
September	2,600	154,676
October	2,700	165,979
November	3,100	184,421
<u>December</u>	<u>3,200</u>	<u>196,716</u>
Average	3,422 cfs	2,477,987 af/y
<u>Instream Reservation of Yellowstone River at Billings, Montana</u>		

74. Although the Department of Fish and Game has requested an instream reservation in the Yellowstone River at the mouth of the Bighorn River, but not including the Bighorn River, it is the Board's judgment that the instream reservation should be granted in the Yellowstone River at Billings, Montana. This judgment is based on the availability of U.S.G.S. records at the Billings station and also the instream reservation in the Yellowstone River for the Department of Health and Environmental Sciences.

75. Evaluations of the flow requirement for this part of the Yellowstone River were based on the U.S.G.S. data, and biological data (DFG-1781-r, Exh. 1, pp. 177, 183).

76. Fish species present in this part of the Yellowstone River include trout, whitefish, catfish, sauger, walleye, ling and crappie (DFG-1781-r, Exh. 1, p. 183).

77. Wildlife present in this part of the Yellowstone River include beaver, muskrat, marten, mink, raccoon, pheasant, deer, ducks, raptors, bald eagles, geese, heron, swans and cranes (DFG-1781-r, Exh. 1, p. 183).

78. An instream flow is needed in this part of the Yellowstone River for spawning, incubation and rearing purposes (DFG-1781-r, Exh. 1, p. 184).

79. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservation of the Yellowstone River at Billings, Montana, is 3,846,025 acre-feet per year plus the dominant discharge of 68,430 acre-feet for a total instream reservation of 3,914,455 af/y. This quantity is the DFG's request less depletions through Billings. The monthly breakdown is as follows:

	<u>CFS</u>	<u>AF/Y</u>	<u>APPROX. % tile</u>
January	2,489	153,053	50
February	2,483	138,186	55
March	2,389	177,648	50
April	3,589	213,541	55
May (1-20)	5,143	204,006	) 85 for May
May (21-31)	12,224	266,658	
June (1-7)	17,268	239,703	) 85 for June
June (8-30)	19,068	869,707	
July (1-20)	10,310	408,904	) 75 for July
July (21-31)	5,510	120,194	
August	4,090	251,457	65
September	3,415	203,185	65
October	3,589	220,680	50
November	3,489	207,592	50
<u>December</u>	<u>2,789</u>	<u>171,501</u>	<u>50</u>
Average	5,312	3,846,025	

80. The instream reservation of the Department of Fish and Game in the Yellowstone River at Billings, Montana, is for the same water as that reserved for the Department of Health and Environmental Sciences.

Instream Reservation for Clarks Fork River

81. The Department of Fish and Game has requested an instream

reservation in the Clarks Fork of the Yellowstone from the Montana-Wyoming state line to Bluewater Creek and from Bluewater Creek to the mouth of the Yellowstone River (Application 1781-r).

82. Evaluations of the flow requirements for the entire stream were based on water discharge measurements, water surface profile, judgment of qualified professional personnel and fisheries data collection (DFG-1781-r, Exh. 1, pp. 113 and 115; DFG-1781-r, Exh. 7, pp. 1-48).

83. Fish species present in the Clarks Fork River of the Yellowstone include trout, whitefish and sauger (DFG-1781-r, Exh. 1, p. 113).

84. Wildlife species present in the area of the Clarks Fork of the Yellowstone include beaver, muskrat, mink, raccoon and otter (DFG-1781-r, Exh. 1, p. 113).

85. An instream flow is needed for spawning, incubation and rearing purposes (DFG-1781-r, Exh. 1, p. 113).

86. It is established to the satisfaction of the Board that the amount of water needed for the purpose of the instream reservation in the Clarks Fork of the Yellowstone from the Wyoming-Montana border to the mouth of the Yellowstone River is the ninetieth percentile of the flow of the Clarks Fork River for the months of January, February, March, April, May, October, November and December and the seventieth percentile of the flow of the Clarks Fork River for the months of June, July, August and September.

87. Flow data were not available to the Board and it is the Board's intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Instream Reservations for Certain Tributaries of the Clarks Fork of the Yellowstone

88. The Department has requested an instream reservation on

the following tributaries of the Clarks Fork of the Yellowstone:

- a) Butcher Creek - Headwaters to West Butcher Creek to mouth
- b) Willow Creek - Forest boundary to the Cooney Reservoir
- c) Red Lodge Creek - Custer National Forest to the Cooney River
- d) Clear Creek - Headwaters to mouth
- e) Dry Creek - Headwaters to mouth
- f) Rock Creek - Custer National Forest boundary to mouth
- g) Sage Creek - Headwaters to Crow Reservation
- h) Bluewater Creek - Headwaters to mouth

89. Evaluations of the various flow requirements of these streams included, but were not limited to, water discharge measurements, judgment of qualified personnel, fisheries data collection and measurements of channel physical parameters (DFG-1781-r, Exh. 1, pp. 1-48).

90. The fish species present in these streams include brook, rainbow, brown, cutthroat trout, and whitefish (DFG-1781-r, Exh. 1).

91. The wildlife species present in these streams include beaver, mink, muskrat, and raccoon (DFG-1781-r, Exh. 1).

92. An instream flow is necessary in these streams for spawning, incubation and rearing purposes (DFG-1781-r, Exh. 1).

93. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation of the streams named in Finding 88 is the eighty-fifth percentile of the flow of the various streams, but the instream reservation is not to exceed the various requests of the Department of Fish and Game.

94. Flow data were not available to the Board and it is the Board's intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount for Instream Reservation in Stillwater River

95. The Department of Fish and Game has requested an instream reservation for the Stillwater River from the mouth to the north end of Sioux Charlie Lake (Application No. 1781-r).

96. In granting the instream reservation for the Stillwater River, the Board will grant one instream reservation at the mouth.

97. Evaluations of the flow requirements for this stream reach are based on U.S.G.S. gauging data, low flow photography, fish population and life history data obtained by electrofishing (DFG-1781-r, Exh. 1, pp. 153-157).

98. The fish species present in the Stillwater River include brown and rainbow trout, and whitefish (DFG-1781-r, Exh. 1, pp. 153-157).

99. The wildlife species present include beaver, muskrat, mink, raccoon, bald eagles and otter (DFG-1781-r, Exh. 1, pp. 153-157).

100. An instream flow is necessary for spawning, incubation and rearing purposes (DFG-1781-r, pp. 154-158).

101. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation of the Stillwater River is approximately the ninetieth percentile flow of the river, and amounts to 379,795 acre-feet per year with the following monthly breakdown:

	<u>CFS</u>	<u>AF/Y</u>
January	200	12,294
February	205	11,382
March	210	12,909
April	225	13,385
May	560	34,425

	<u>CFS</u>	<u>AF/Y</u>
June	2,075	123,444
July	1,030	63,318
August	480	29,507
September	480	28,555
October	380	23,360
November	225	13,385
<u>December</u>	<u>225</u>	<u>13,831</u>
<u>Average</u>	<u>524</u>	<u>379,795</u>
<u>Amount for Instream Reservations of Tributaries of Stillwater River</u>		

102. The Department of Fish and Game has applied for instream reservations in the following tributaries of the Stillwater River:

- a) Castle Creek - Mouth to 1,500 feet above Picket Pin Creek
- b) Picket Pin Creek - Mouth to mouth of Swamp Creek
- c) West Fork of Stillwater - Mouth to Castle Creek to Sweetgrass-Stillwater County line to Tumble Creek
- d) Little Rocky Creek - Mouth to Forest Service road #1414 crossing
- e) West Fishtail Creek - East Fishtail Creek to Richmond-Kennedy Ditch
- f) East Fishtail Creek - West Fishtail Creek to its East Fork
- g) Fishtail Creek - From the confluence of east and west Fishtail Creeks to mouth
- h) West Rosebud Creek - Custer National Forest boundary to Fiddler Creek to mouth
- i) East Rosebud Creek - Custer National Forest boundary to West Rosebud Creek

103. Evaluations of the various streams listed in Finding 102, and the flow requirements were based, but not limited to, water surface

profile programs, U.S.G.S. flow data, Fish and Gauging data, low flow photography, spawning redd velocity measurements, and fish population and life history data obtained by electrofishing (DFG-1781-r, Exh. 1).

104. The fish species present in these streams include brown trout, brook trout, cutthroat, rainbow and mountain whitefish (DFG-1781-r, Exh. 1).

105. The wildlife species present in these streams include beaver, muskrat, mink, raccoon and bald eagles (DFG-1781-r, Exh. 1).

106. An instream reservation is needed in these streams because of spawning, incubation and rearing purposes (DFG-1781-r, Exh. 1).

107. It is established to the satisfaction of the Board that the amount of water needed for the purpose of the instream reservation of the tributaries of the Stillwater River is the eighty-fifth percentile of the flow of the above listed tributaries, but the instream reservation is not to exceed the various requests of the Department of Fish and Game.

108. Flow data were not available to the Board and it is the Board's intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount for Instream Reservation in Bridger Creek and Lower Deer Creek and Upper Deer Creek

109. The Department of Fish and Game has applied for an instream reservation in Bridger Creek from the headwaters to the Krone Ditch headgate, and Lower Deer Creek from the headwaters to Interstate Highway 90 and Upper Deer Creek from the headwaters to a point upstream from I-90 bridge (Application No. 1781-r).

110. Evaluations of flow requirements for these two streams were based on water discharge measurements and photographs, fish data collections and judgments of professional personnel (DFG-1781-r, Exh. 1, pp. 131 and 163; DFG-1781-r, Exh. 7, p. 93).

111. The game species present in both of these streams include cutthroat, rainbow, brown and brook trout (DFG-1781-r, Exh. 1, pp. 93 and 131 and 163).

112. The wildlife species present in the areas of the two streams are beaver, muskrat, mink and raccoon (DFG-1781-r, Exh. 1, pp. 93, 131 and 163).

113. An instream flow is needed for maintenance flows in Bridger Creek and for incubation, spawning and rearing purposes in both streams (DFG-1781-r, Exh. 1, pp. 93, 131 and 163).

114. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation in Bridger Creek from the headwaters to the Krone Ditch headgate and Lower Deer Creek from the headwaters to Interstate Highway 90 and Upper Deer Creek from the headwaters to a point upstream from I-90 bridge is the ninetieth percentile of the flow of these streams and these instream reservations are subject to all reservations previously granted to Conservation Districts.

115. Flow data was not available to the Board and it is their intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount for the Instream Reservation of Sweet Grass Creek

116. The Department of Fish and Game has applied for an instream reservation on Sweet Grass Creek from the Forest Service boundary to Lake Adam diversion and from Lake Adam diversion to the mouth (Application No. 1781-r).

117. Evaluations of the flow requirements for Sweet Grass Creek were based on water discharge measurements, photographs, U.S.G.S. records, fishery data collections and professional judgment (DFG-1781-r, Exh. 1, pp. 159-161).

118. The fish species found in Sweet Grass Creek include rainbow, brook and brown trout, and mountain whitefish (DFG-1781-r, Exh. 1, pp. 159-161).

119. The resident wildlife species found in the area of Sweet Grass Creek are beaver, muskrat, mink and raccoon (DFG-1781-r, Exh. 1, pp. 159-161).

120. An instream flow is needed to maintain the fish population after irrigation withdrawals and also for passage, spawning, incubation and rearing purposes (DFG-1781-r, Exh. 1, pp. 159-162).

121. It is established to the satisfaction of the Board that the amount necessary for the purpose of an instream reservation in Sweet Grass Creek from the Forest Service boundary to the mouth is the ninetieth percentile flow of the stream.

122. Flow data were not available to the Board and it is the Board's intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount of Instream Reservation in the Boulder River

123. The Department of Fish and Game has requested an instream reservation in the Boulder River from the mouth of the West Boulder River and from the mouth of the West Boulder River to the mouth of Falls Creek and from the mouth of Falls Creek to the mouth of Hawley Creek (Application No. 1781-r).

124. The Board has established the Boulder River at Big Timber and the Boulder River at Contact as the points for the reservation.

125. Evaluations of the flow requirements for the Boulder River are based on fishery data collection, U.S.G.S. flow data, low flow photography, and life history data obtained by electrofishing (DFG-1781-r, Exh. 1, pp. 95-99; Tr. Vol. 16, pp. 53-80).

126. The fish species present in the Boulder River include brown and brook trout, rainbow and mountain whitefish (DFG-1781-r, Exh. 1, pp. 95-99).

127. The resident wildlife species present include beaver, muskrat, mink and raccoon (DFG-1781-r, Exh. 1, pp. 95-99).

128. An instream flow is necessary for spawning, incubation and rearing purposes (DFG-1781-r, Exh. 1, pp. 95-99).

129. It is established to the satisfaction of the Board that the amount necessary for the instream reservation of the Fish and Game of the Boulder River
Timber
at Big/Is 195,163 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	80	4,920
February	80	4,441
March	80	4,920
April	80	4,760
May	300	18,445
June	1,690	100,540
July	490	30,122
August	60	3,690
September	95	5,650
October	130	7,995
November	80	4,760
December	80	4,920
<u>Average</u>	<u>260</u>	<u>195,163</u>

130. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation of the Fish and Game in the Boulder River at Contact is 137,120 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	50	3,075
February	50	2,875
March	50	3,075
April	50	2,975
May	150	9,220
June	1,080	64,265
July	380	23,365
August	170	10,450
September	110	6,545
October	85	5,225
November	50	2,975
<u>December</u>	<u>50</u>	<u>3,075</u>
Average	189	137,120
<u>Amount for Reservation of Certain Tributaries of the Boulder River</u>		

131. The Montana Department of Fish and Game has applied for an instream reservation for the following tributaries of the Boulder River:

- a) East Boulder River - Mouth to Dry Fork Creek and from Dry Fork Creek to Brownlee Creek
 - b) West Boulder River - Gallatin National Forest boundary to mouth
- (Application No. 1781-r).

132. Evaluations of the flow requirements for these streams were based on Water Surface Profiles, fish data collections U.S.G.S.

flow data, low flow photography and life history data (DFG-1781-r, Exh. 1, pp. 119 and 165; Tr. Vol. 16, pp. 53-30 and Tr. Vol. 17, pp. 1-48).

133. The fish species present in these streams include brown, brook, cutthroat and rainbow trout and mountain whitefish (DFG-1781-r, Exh. 1, pp. 119 and 165).

134. The wildlife species present in the areas of these streams include beaver, mink, muskrat and raccoon (DFG-1781-r, Exh. 1, pp. 119 and 165).

135. An instream flow is needed for spawning, incubation and rearing purposes (DFG-1781-r, Exh. 1, pp. 120 and 166).

136. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation for the Department of Fish and Game in the East Boulder River at its mouth is 23,146 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	15	922
February	15	832
March	15	922
April	15	892
May	20	1,229
June	165	9,815
July	50	3,073
August	22	1,352
September	20	1,189
October	18	1,106
November	15	892
December	15	922
<u>Average</u>	<u>32</u>	<u>23,146</u>

137. It is established to the satisfaction of the Board that the amount of water necessary to meet the purpose of the Department of Fish and Game's instream reservation in the West Boulder River at the mouth is 74,853 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	50	3,073
February	50	2,776
March	50	3,073
April	50	2,974
May (1-20)	50	1,983
May (21-31)	300	6,543
June	300	17,847
July (1-20)	300	11,898
July (21-31)	200	4,362
August	75	4,610
September	75	4,462
October	75	4,610
November	60	3,569
December	50	3,073
<u>Average</u>	<u>103</u>	<u>74,853</u>

Amount for Instream Reservation in Big Timber Creek

138. The Department of Fish and Game has applied for an instream reservation in Big Timber Creek from the Gallatin National Forest boundary to the confluence with Swamp Creek to the Yellowstone River (Application No. 1781-r).

139. Evaluations of the flow requirements of this stream were based on electrofishing data, photographs and fisherman observations (DFG-1781-r, Exh. 1, pp. 83-86).

140. The fish species present in this stream include rainbow, brown and brook trout, and mountain whitefish (DFG-1781-r, Exh. 1, pp. 83, 85).

141. The wildlife species present in the area of this stream include beaver, raccoon, mink and muskrat (DFG-1781-r, Exh. 1, pp. 83-85).

142. An instream flow is necessary in Big Timber Creek in that it is necessary to maintain a portion of the existing fish and aquatic life and to maintain water quality to sustain trout population (DFG-1781-r, Exh. 1, pp. 83-85).

143. An instream flow is necessary for incubation, rearing and spawning purposes (DFG-1781-r, Exh. 1, p. 86).

144. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservation in Big Timber Creek at its mouth is 28,267 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	10	615
February	10	555
March	10	615
April	20	1,190
May	85	5,225
June	180	10,710
July (1-20)	100	3,967
July (21-31)	30	655

	<u>CFS</u>	<u>AF/Y</u>
August	25	1,535
September	20	1,190
October	13	800
November	10	595
<u>December</u>	<u>10</u>	<u>615</u>
<u>Average</u>	<u>39 cfs</u>	<u>28,267 af/y</u>
<u>Amount for Instream Reservations of Tributaries of Yellowstone River</u>		
<u>Between Shields and Boulder River</u>		

145. The Department of Fish and Game has requested an instream reservation for Little Mission Creek from the mouth to Little Mission Forks and Mission Creek from the mouth to Spring Creek and from Spring Creek to Little Bear Draw (Application No. 1781-r).

146. The basis for calculating the fishery and the necessary flow requirements for these streams is the "Blue-Ribbon Stream Classification" (DFG-1781-r, Exh.

147. The fish species present in these streams include cutthroat, brown, rainbow, rainbow-cutthroat hybrid trout and mountain whitefish (DFG-1781-r, Exh. 1, pp. 49, 56).

148. The wildlife species present in these streams include beaver, muskrat, mink, marten, otter, ducks and bald eagles (DFG-1781-r, Exh. 1, pp. 49, 56).

149. An instream flow is necessary for passage, spawning and recruitment of trout (DFG-1781-r, Exh. 1, p. 49).

150. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservations for Mission Creek at its mouth and for Little Mission Creek at its mouth is the fiftieth percentile

flow of the stream from January 1 through April 30 and from October 1 through December 31 and the ninetieth percentile flow of these streams from May 1 through September 31. The dominant discharge for each of these streams is also reserved.

151. Flow data was not available to the Board and it is their intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount for Instream Reservation of Shields River

152. The Department of Fish and Game has requested an instream reservations in the Shields River from the mouth to Lodgepole Creek (Application No. 1781-r).

153. Evaluations of the flow requirements for the Shields River are based on U.S.G.S. data (DFG-1781-r, Exh. 1, p. 63).

154. The fish species present in the Shields River include cutthroat, rainbow, brown trout and whitefish (DFG-1781-r, Exh. 1, p. 63).

155. The wildlife species present in the Shields River include beaver, muskrat, mink, marten, otter, ducks, blue heron and bald eagles (DFG-1781-r, Exh. 1, p. 63).

156. An instream flow is necessary to allow potential spawning of cutthroat, rainbow and brown trout and whitefish from the lower reach of the Shields River and the Yellowstone River.

157. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservation in the Shields River from the mouth to Lodgepole Creek is approximately the ninetieth percentile flow of the Shields River.

158. Because the Board does not have complete flow data of the Shields River at the mouth it can only set forth the monthly breakdown of the instream reservation of the Shields River at Elk Creek near Wilsal and

at Cottonwood Creek near Clyde Park. The instream reservation of the Shields River at Elk Creek near Wilsall is 21,764 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	7	430
February	7	389
March	9	553
April	24	1,430
May	41	6,824
June	111	7,079
July	27	1,660
August	12	737
September	11	655
October	12	737
November	11	655
<u>December</u>	<u>10</u>	<u>615</u>
Average	30	21,764

The instream reservation of the Shields River at Cottonwood Creek near Clyde Park is 35,435 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	26	1,598
February	29	1,610
March	44	2,704
April (1-15)	93	2,766
April (16-30)	39	1,160
May (1-10)	83	1,645
May (11-20)	137	2,716
May (21-31)	184	4,012

	<u>CFS</u>	<u>AF/Y</u>
June (1-10)	189	3,747
June (11-20)	157	3,113
June (21-30)	105	2,082
July	22	1,352
August	13	800
September	13	773
October	30	1,845
November	27	1,606
<u>December</u>	<u>31</u>	<u>1,905</u>
Average	40 cfs	35,434 af/y

159. Flow data were not available to the Board and it is their intent that the Department of Fish and Game document the 90th percentile for the Shields River at mouth reservation by use of U.S.G.S. data or other acceptable data. This missing data were for the Shields River at the mouth.

Amount for Instream Reservations for Streams in Shields River Drainage

160. The Department of Fish and Game has applied for instream reservations for the following streams in the Shields River Drainage:

- a) Smith Creek - From mouth to Bitter Creek
- b) Flathead Creek - From mouth to Muddy Creek and from Muddy Creek to Cache Creek and from Cache Creek to South Fork of Flathead Creek
- c) Cottonwood Creek - From mouth to Little Cottonwood Creek and from Little Cottonwood Creek to Trespass Creek
- d) Rock Creek - From mouth to Forest Service West Boundary in Section 8 and from Forest Service West Boundary in Section 8 to Smeller Creek
- e) Brackett Creek - From mouth to Sheep Creek and Sheep Creek to Skunk Creek and Skunk Creek to one mile up north, middle and south forks (Application No. 1781-r).

161. Evaluations of the flows of these streams were based on the "Blue-Ribbon Stream Classification (DFG-1781-r, Exh. 1, pp. 30-66).

162. The fish species present in all of these streams include cutthroat, brown and brook trout, rainbow and whitefish (DFG-1781-r, Exh. 1, pp. 32, 38, 44, 59, 66).

163. The wildlife species present in the streams include beaver, muskrat, mink, marten, otter, ducks and bald eagles (DFG-1781-r, Exh. 1, pp. 32, 38, 44, 59, 66).

164. Instream flow is necessary in these streams to allow potential spawning of cutthroat, brown and brook trout and whitefish from the Shields River (DFG-1781-r, Exh. 1, pp. 32, 38, 44, 59, 66).

165. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservation for the following streams is the fiftieth percentile flows of the streams:

- a) Smith Creek - From mouth to Bitter Creek
- b) Flathead Creek - From mouth to South Fork of Flathead Creek
- c) Cottonwood Creek - From mouth to Trespass Creek
- d) Rock Creek - From mouth to Smeller Creek
- e) Brackett Creek - From mouth to one mile up north, middle and south forks.

166. Flow data were not available to the Board and it is the Board's intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount of Instream Reservations of Tributaries of the Upper
Yellowstone River

167. The Department of Fish and Game has requested an instream reservation for the following tributaries of the upper Yellowstone River:

- a) Bear Creek - From mouth to the mouth of North Fork of Bear Creek and North Fork of Bear Creek to Fish Creek
- b) Cinnabar Creek - From mouth to Cottonwood Creek and Cottonwood Creek to Forest Service boundary at Township 8 South, Range 7 East, Section 32
- c) ~~abl~~ Heron Creek - From mouth to Cinnabar Creek and Cinnabar Creek to Yellowstone Park boundary
- d) Cedar Creek - From mouth to Second Fork of Cedar Creek and from Second Fork to North Fork
- e) Tom Miner Creek - From mouth to Canyon Creek and Canyon Creek to Trail Creek
- f) Rock Creek - From mouth to Steele Creek
- g) Big Creek - From mouth to Millfork Creek and Millfork Creek to Bark Cabin Creek
- h) Six Mile Creek - From mouth to the north fork of Six Mile Creek
- i) Fridley Creek - From mouth to Miller Creek and from Miller Creek to Needle Creek
- j) Eight Mile Creek - From mouth to Big Draw and Big Draw to North Fork of Eight Mile Creek
- k) Mill Creek - From mouth to the East Fork
- l) Trail Creek - From mouth to West Pine Creek and West Pine Creek to the south boundary of Section 35
- m) Suce Creek - From mouth to Lost Creek
- n) Coke Creek - From mouth to Minor Creek
- o) Billman Creek - From mouth to the mouth of Coke Creek and Coke Creek to Fork South of NE corner, Section 20
- p) Fleshman Creek - From mouth to Perkins Creek

(Application No. 1781-r).

168. Evaluations of flows of the stream listed above were based on the concept of "Blue-Ribbon Stream Classification" (DFG-1781-r, Exh. 1).

169. The fish species found in the above listed streams include cutthroat, rainbow, brook and brown trout, rainbow-cutthroat hybrids (DFG-1781-r, Exh. 1, pp. 24, 36, 56, 34, 68, 61, 27, 65, 47, 41, 51, 71, 67, 37, and 29).

170. The wildlife species found in the areas of the above listed streams include beaver, muskrat, mink, marten, otter, ducks and bald eagles (DFG-1781-r, Exh. 1, pp. 24, 36, 56, 34, 68, 61, 27, 65, 47, 41, 51, 71, 67, 37, and 29),

171. Instream flows are needed to allow potential passage, spawning, and successful recruitment of cutthroat, rainbow, and brown trout, and whitefish which may migrate from the Yellowstone River (DFG-1781-r, Exh. 1, pp. 24, 36, 56, 34, 68, 61, 27, 65, 47, 41, 51, 71, 67, 37, and 29).

172. It is established to the satisfaction of the Board that the amount necessary for instream reservations for the streams and their stretches is the twentieth percentile of the flow of the streams from January 1 through April 30 and October 1 through December 31, and the fiftieth percentile flow of the streams from May 1 through September 30. Flow data were not available to the Board and it is the Board's intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount for Instream Reservations for "Spring" Creeks that are Tributaries of the Yellowstone River

173. The Department of Fish and Game has requested an instream reservation for the following tributaries of the Yellowstone River:

- a) Armstrong Spring Creek - From mouth to origin
 - b) Nelson Spring Creek - From mouth to origin
 - c) McDonald Spring Creek - From mouth to the norther boundary of Section 32
 - d) Emigrant Spring Creek - From mouth to origin
- (Application No. 1781-r).

174. Evaluations of the above listed streams were based on the concept of "Blue-Ribbon Stream Classification" (DFG-1781-r, Exh. 1).

175. The fish species present in the above listed streams include brown and brook trout, rainbow, cutthroat, rainbow-cutthroat hybrids and whitefish (DFG-1781-r, Exh. 1, pp. 21, 53, 50, and 42).

176. The wildlife species present in the areas of the above listed streams include beaver, muskrat, mink, marten, river otter, ducks and bald eagles (DFG-1781-r, Exh. 1, pp. 21, 53, 50, and 42).

177. Instream flows are necessary to maintain these highly productive spring creeks and the excellent trout population they support (DFG-1781-r, Exh. 1, pp. 21, 58, 50, and 42).

178. Instream flows are necessary to provide potential spawning runs (DFG-1781-r, Exh. 1, pp. 21, 58, 50 and 42).

179. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservations for the above listed streams is the tenth percentile flow of the streams during the periods of January 1 through April 31 and October 1 through December 31 and the fiftieth percentile flow of the streams during the period of May 1 through September 30. Flow data were not available to the Board and it is the Board's intent that the Department of Fish and Game document the reservation by use of U.S.G.S. data or other acceptable data.

Amount of the Instream Reservation in Upper Reach of Yellowstone River

180. The Department of Fish and Game has requested an instream reservation in the upper reaches of the Yellowstone River (Application No. 1781-r).

181. Although the Fish and Game has provided U.S.G.S. data/and ^{at Corwin Springs} instream requests for the Yellowstone River near Tom Miner Creek and at Emigrant, it is the intent of the Board that the instream reservation of the Fish and Game be measured at the U.S.G.S. station near Livingston.

182. Evaluations of the flow data on the upper reach of the Yellowstone River were based on the Blue Ribbon Stream concept, U.S.G.S. gauging data, flow requirements of the lower Yellowstone, current biological data and streamflow frequency data (DFG-1781-r, Exh. 1, pp. 74, 76 and 78).

183. The fish species present in the upper Yellowstone River include cutthroat, rainbow, brown trout, brook trout, rainbow-cutthroat hybrids (DFG-1781-r, Exh. 1, pp. 74, 76).

184. The wildlife species present in the upper reach of the Yellowstone River include beaver, marten, muskrat, river otters, raccoon, deer, pheasant, ducks, geese, bald eagles and blue heron (DFG-1781-r, Exh. 1, pp. 74 and 76).

185. An instream flow is necessary to preserve and maintain fish and wildlife populations at current levels (DFG-1781-r, Exh. 1, pp. 75 and 77).

186. An instream flow is necessary to maintain the physical characteristics of the stream channel through adequate sediment transport and bedload movement (DFG-1781-r, Exh. 1, pp. 22 and 74-77).

187. An instream flow is necessary for nesting, incubation, spawning and rearing purposes (DFG-1781-r, Exh. 1, pp. 22 and 74-77).

188. It is established to the satisfaction of the Board that the amount necessary for the purpose of the instream reservation in the upper reach of the Yellowstone River, as measured at Livingston, is approximately the twentieth percentile for the period between January 1 through April 30 and October 1 through December 31 and approximately the ninety-fifth percentile for the period of May 1 through September 30, plus the dominant discharge of one 24 hour period of 18,200 cfs and 36,091 af/y. This total reservation amounts to 1,879,813 acre-feet per year with a monthly breakdown as follows:

	<u>CFS</u>	<u>AF/Y</u>	<u>APPROX. %tile</u>
January	1,330	81,760	20
February	1,320	73,292	20
March	1,350	82,989	20
April	2,490	148,132	20
May (1-10)	2,500	49,575	) 95 for May
May (11-20)	1,900	37,677	
May (21-31)	4,700	93,202	
June (1-10)	7,700	152,693	) 95 for June
June (11-20)	9,000	178,472	
June (21-30)	8,000	158,642	
July (1-10)	5,400	107,083	) 95 for July
July (11-20)	3,800	75,355	
July (21-31)	2,500	49,575	
August (1-10)	1,600	31,728	) 95 for Aug.
August (11-31)	2,125	88,492	
September	1,555	92,508	95
October	2,350	144,463	20
November	1,790	106,488	20
December	1,490	91,596	20
<u>Average</u>	25,553 cfs	1,843,722 af/y	

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the Montana Fish and Game Commission, is an agency of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon the conditions, limitations, or modifications and partial denials of the full Application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 10006-r
BY THE MONTANA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES

)
)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 10006-r
)
)

The above-entitled matter came on regularly for hearing starting on or about August 17, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Mona Jamison. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. The City of Billings appeared by and through its counsel of record, Calvin Calton. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Intake Water Company appeared by and through its counsel of record, Henry Loble and Boyd Henderson. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. The Montana Water Development Association appeared without benefit of counsel. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Montana Department of Health and Environmental Sciences, Application No. 10006-r:

FINDINGS OF FACT

1. On November 4, 1976, the Montana Department of Health and Environmental Sciences applied for a reservation totaling 6,643,000 acre-feet of water per year (af/y) for instream use in the Yellowstone River at Sidney, Montana (Map DHES-1). Table DHES-1 quantities this request by reach of river and month (Montana Department of Health and Environmental Sciences, Application No. 10006-r).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of DHES' reservation request for instream flow of the Yellowstone River is to:

- (1) assure that the water quality standards will not be violated so as to insure that the Yellowstone River remains suitable for public water supplies, wildlife, fish and aquatic life, agriculture, industry, recreation and other beneficial uses, and
- (2) to carry out the non-degradation policy enunciated in Title 69, Chapter 48, R.C.M. 1947 (Tr. Vol. 7, p. 2).

3. It is established to the satisfaction of the Board that a purpose for the reservation has been shown.

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. A major effect of the increased development of irrigation, energy, and municipal water supply facilities in the Yellowstone River Basin will be to reduce to some degree the streamflow of the Yellowstone River (Montana Department of Health and Environmental Sciences, Application No. 10006-r, p. 5).

5. Dewatering, a major result of increased development in the Yellowstone River Basin reduces the stream's ability to transport and assimilate waste, decreases the sediment carrying capacity, lowers the water level of the river, increases water temperature, and concentrates the inorganic and trace elements (Tr. Vol. 5).

6. Because of increased diversions (dewatering) from the Yellowstone River, increased wasteload discharges resulting from industrial and municipal sources, and irrigation return flows, there is a need for an instream flow reservation in the Yellowstone River to maintain the waters of the Yellowstone suitable for existing beneficial uses (Tr. Vol. 5).

7. Although the increase in suspended sediment during the high flow period detracts from its quality, the quality of water in the Yellowstone River is best at upstream sites and at high-flow period. There is a general degradation in the quality of the river downstream to Sidney (Tr. Vol. 5).

8. The quality of the river is generally good above Miles City and its waters are suitable for most uses throughout this reach, but, below Miles City, dissolved solids, sulphate, and suspended sediment levels might restrict some uses in low flow period due to the marked lowering of water quality through this segment.

9. An instream reservation is needed to maintain water quality and to offset the general water degradation of the stream.

10. If sufficient oxygen is maintained in the river, the end products will be stable forms of carbon, nitrogen, sulfur and phosphorus, but in the absence of oxygen, decomposition is incomplete and will be accompanied by unsightly scum, sludges and offensive odors (Tr. Vol. 5).

11. Domestic wastes require a large amount of dissolved oxygen while rivers naturally contain a limited quantity of dissolved oxygen (Tr. Vol. 5, p. 10).

12. Streams have a natural ability to assimilate a certain amount of organic waste, including that from domestic wastewater treatment facilities (Tr. Vol. 5, p. 12).

13. If the stream flow is reduced, a municipality may have to increase its degree of wastewater treatment with resultant increases in associated costs in order to prevent pollution of the receiving state waters (Tr. Vol. 5, p. 12).

14. There is a need for an instream reservation in order for the Yellowstone River to maintain enough water for dillution of industrial and municipal discharges.

15. The quality of water is measured by the total dissolved solids (TDS) in water.

16. The concentration factors noted above for TDS are the result of two processes:

1. The extraction of essentially pure water (nearly distilled by plants in their growth processes, which concentrates the dissolved salts in the water remaining in the soil, and

2. The leaching of additional salts by water as the water percolates through the soil i.e. "salt pickup" (Tr. Vol. 5).

17. In order to maintain a proper control of the TDS and other pollutants in the Yellowstone River, an instream reservation is needed.

18. It is established to the satisfaction of the Board that there is a need for a reservation.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

19. Both the Department of Health and Environmental Sciences and the Department of Fish and Game have requested reservations of instream flows in the Yellowstone River (Application Nos. 10,006-r and 1781-r).

20. Although the amount of water from the Yellowstone River that is being requested by the Department of Health and Environmental Sciences differs from the amount of water from the Yellowstone River that is being requested by the Department of Fish and Game, an instream water reservation in the Yellowstone River for one of these departments would amount to an instream water reservation for the other.

21. In establishing the amount of water necessary to meet the purpose of the instream water reservation of the Yellowstone River for the Department of

Health and other instream applicants, the Board of Natural Resources has divided the river into four major gauging points, namely:

- a) the Yellowstone River at Sidney;
- b) the Yellowstone River at Miles City;
- c) the Yellowstone River at Billings, and
- d) the Yellowstone River at Livingston.

22. The mouth of the Tongue River is at Miles City, Montana (Tr. Vol. 5, pp. 39 through 41).

23. The request by the Montana Department of Health and Environmental Sciences in the Yellowstone River above the mouth of the Big Horn River for August through April is based on flows necessary to maintain TDS at no more than 500 mg/l in the lower river (Tr. Vol. 5, following p. 89, Testimony of Thomas, pp. 38 and 39).

24. The Board of Health and Environmental Sciences has adopted by reference, the recommended limits published in the 1962 U.S. Public Health Service Drinking Water Standards, as water quality standards, and these limits for TDS and SO₄ were used to establish the flows in the DHES' reservation request (Tr. Vol. 5, p. 31).

25. Specific limits established by the 1962 U.S. Public Health and Service Drinking Water Standards for Total Dissolved Solids (TDS) are 500 mg/l (Tr. Vol. 7, p. 7).

26. Generally as the flow of an unregulated stream like the Yellowstone decreases, the TDS increases (Tr. Vol. 7, p. 33).

27. According to the Department of Health and Environmental Sciences, water quality standards for other criteria probably would not be violated if sufficient water is reserved instream to assure that the TDS standard of 500 mg/l is maintained.

28. For each month, flows were requested that would maintain TDS values equal to or less than the 500 mg/l based on historical relationships between TDS and discharge.

29. The Department of Health and Environmental Sciences used a regression equation between total dissolved solids (TDS) in milligrams per liter and monthly discharge in acre-feet to determine the needed minimum flow in the Yellowstone River for all of the months of the year except May, June, and July (DHES-10,006-r, Finding 49).

30. For May, June and July, flows were selected to represent 7-day, 10-year low flows which is a standard used for the design and operation of waste-water disposed systems (Tr. Vol. 5, p. 38).

31. For those months which the 7-day, 10-year low flow is used, the probability of exceedance in which the TDS and SO₄ standards would not be violated are greater than 99% (Tr. Vol. 5, p. 38).

32. The upper reaches of the Yellowstone River, and in particular, above the mouth of the Big Horn River, are of a higher water quality than the lower reaches of the Yellowstone River (Tr. Vol. 5, p. 39).

33. In order to maintain control of the TDS concentrations and other water quality standards throughout the entire Yellowstone River, it is necessary for the Department of Health and Environmental Sciences to have an instream reservation throughout the entire Yellowstone River.

34. It has been established to the satisfaction of the Board that an instream reservation for the following amounts are needed to satisfy the purpose of the reservation of the Department of Health and Environmental Sciences.

a) An instream reservation of the Yellowstone River at Sidney, Montana, is granted for the following amounts;

- 1) A total of 5,492,310 acre-feet per year which is equal to the total of the eightieth percentile of the flow of the Yellowstone River, less depletions from consumptive reservations of the Yellowstone Basin above Sidney, Montana is reserved.

- 2) The monthly breakdown of this reservation is:

	<u>CFS</u>	<u>AF/Y</u>
January	3,738	229,831
February	4,327	240,281
March	6,778	416,711
April	6,808	405,031
May	11,964	735,528
June	25,140	1,495,644
July	10,526	647,090
August	2,670	164,166
September	3,276	194,917
October	6,008	369,377
November	5,848	347,920
December	3,998	245,814
Average	<u>7,586</u>	<u>5,492,310</u>

b) An instream reservation of the Yellowstone River at Miles City, Montana, is granted for the following amounts:

- 1) A total of 5,578,892 acre-feet per year which is equal to the total of the eightieth percentile of the month by month flow of the Yellowstone River, less depletions from other reservations of the Yellowstone Basin above Miles City, Montana, and inclusive of Miles City, is reserved.
- 2) The monthly breakdown of this reservation is:

	<u>CFS</u>	<u>AF/Y</u>
January	3,829	235,400
February	3,998	221,995
March	6,359	390,929
April	5,848	347,957
May	12,280	754,904
June	26,188	1,557,980
July	10,278	631,856

	<u>CFS</u>	<u>AF/Y</u>
August	3,862	237,415
September	4,338	266,682
October	5,849	359,578
November	5,508	327,730
December	4,009	246,466
Average	<u>7,705</u>	<u>5,578,892</u>

c) An instream reservation of the Yellowstone River at Billings, Montana, is granted for the following amounts:

- 1) A total of 3,914,458 acre-feet per year of the Yellowstone River at Billings is reserved.
- 2) The monthly breakdown of this reservation is as follows:

	<u>CFS</u>	<u>AF/Y</u>
January	2,489	153,058
February	2,488	138,186
March	2,889	177,643
April	3,389	213,541
May (1-20)	5,143	204,006
May (21-31)	12,224	266,658
June (1-7)	17,268	239,708
June (8-30)	19,068	869,707
July (1-20)	10,310	408,904
July (21-31)	5,510	120,194
August	4,090	251,457
September	3,415	203,185
October	3,589	220,680
November	3,489	207,592
December	2,789	171,501
Average	<u>5,312</u>	<u>3,846,025</u>

Plus dominant discharge of + 34,507 + 648,430 acre-feet for one 24 hour period

Total Reservation (Av. 5,406 cfs) 3,914,455 af/y

d) An instream reservation of the Yellowstone River at Livingston, Montana, is granted for the following amounts:

1) A total of 1,379,813 acre-feet per year which includes the dominant discharge for one 24 hour period of 18,200 cfs and 36,091 acre feet of the Yellowstone River at Livingston is reserved. For May, June, July, August and September, this reservation is approximately the ninety-fifth percentile flow. For the seven other months the reservation amounts to approximately the twentieth percentile flow.

2) The monthly breakdown of this reservation is:

	<u>CFS</u>	<u>AF/Y</u>	<u>APPROX. %tile</u>
January	1,330	81,760	20
February	1,320	73,292	20
March	1,350	82,989	20
April	2,490	148,132	20
May (1-10)	2,500	49,575	} 95 for May
May (11-20)	1,900	37,677	
May (21-31)	4,700	93,202	
June (1-10)	7,700	152,693	} 95 for June
June (11-20)	9,000	178,472	
June (21-30)	8,000	158,642	
July (1-10)	5,400	107,033	} 95 for July
July (11-20)	3,800	73,355	
July (21-31)	2,500	49,575	
August (1-10)	1,600	31,728	} 95 for August
August (11-31)	2,125	88,492	
September	1,555	92,508	95
October	2,350	144,463	20

	<u>CFS</u>	<u>AF/Y</u>	<u>APPROX. % tile</u>
November	1,790	106,488	20
December	1,490	91,596	20
Average	2,553 cfs	1,843,722 af/y	
<u>Findings Related to the Public Interest (39-890(3)(d)).</u>			

35. The instream reservation flow request of the DHES is in the public interest since it will assure that the specific standards established by the DHES to protect water quality for beneficial uses will not be violated (Tr. Vol. 5).

36. The instream reservation flow request of DHES is in the public interest since the flows requested will also assure that the Yellowstone River can safely dilute and assimilate waste from industry, municipalities and non-point sources (Tr. Vol. 5).

37. The instream reservation flow request of DHES is in the public interest since it will protect fish and aquatic life, water fowl, furbearers, and recreationists from the adverse impacts of dewatering on water quality (Tr. Vol. 5).

38. It is established to the satisfaction of the Board that instream reservation in the amounts stated above are in the public interest.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Montana Department of Health and Environmental Sciences, is an agency of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890 R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR)	
RESERVATION OF WATER OF THAT PORTION)	
OF NORTH CUSTER CONSERVATION DISTRICT	)	FINDINGS OF FACT AND CON-
APPLICATION NO. 9947-r42M DEALING	)	CLUSIONS OF LAW OF APPLI-
WITH INSTREAM FLOW	)	CATION NO. 9947-r42M

The above-entitled matter came on regularly for hearing starting on or about September 8, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Gary Spaeth. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. Utah International Inc. appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. The Montana Wildlife Federation appeared by and through its counsel of record, William Madden. Trout Unlimited and the Federation of Fly Fisherman appeared by and through their counsel of record, James Goetz. The Environmental Information Center appeared by and through its counsel of record,

William Leaphart, Jr. Witnesses were all sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the portion of the North Custer Conservation District, Application No. 9947-r42M for instream flow:

FINDING OF FACTS

1. The North Custer Conservation District has applied for a minimum-flow instream reservation of 4,000 cubic feet per second (cfs) for the mainstem of the Yellowstone River at the Kinsey #1 pumping station (North Custer Conservation District, Application No. 9947-r42M, p.7).

Findings Related to the Purpose of the Reservation (39-890(3)(a))

2. The purpose of the reservation is to maintain a minimum flow at the Kinsey #1 pumping station during the irrigation season in order to help prevent increased pumping costs due to low water levels (North Custer Conservation District, Application No. 9947-r42M, p. 7).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown.

Findings Related to the Need for the Reservation (89-890(3)(b))

4. A reservation of water is needed because it will secure a priority date for future developments that is earlier than the priority dates such developments would have if permits were obtained immediately before construction or use began (North Custer Conservation District, Application No. 9947-r42M, p. 7).

5. A reservation of water is needed because there is competition for water in the Yellowstone Basin which may affect the ability of the Applicant to obtain a water right by permit in the future (North Custer Conservation District, Application No. 9947-r42M, p.2).

6. Existing pumping plants need a specific minimum water level to operate efficiently (North Custer Conservation District, Application 9947-r42M, p.7).

7. It is established to the satisfaction of the Board that a need for a minimum-flow instream reservation has been shown by the North Custer Conservation District.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890 (3) (c)).

8. August and September are generally the critical months for irrigation water supply in the lower Yellowstone River (Draft EIS, Vol. II, p.277).

9. The U.S.G.S. stream gauge at Miles City is less than 10 miles upstream from the Kinsey #1 pumping station. No large inflow or diversion is apparent in the reach of the river between the gauging and pumping stations (Draft EIS, Vol. I, p. 47).

10. An instream reservation of the eightieth percentile flow less depletions has been granted to the Department of Health and Environmental Sciences and the Commission of Fish and Game for the Yellowstone River at Miles City (Board Order #)

11. The instream reservation mentioned in Finding #13 is sufficient to satisfy the need and the purpose of the instream request of the North Custer Conservation District.

12. It is established to the satisfaction of the Board that the amount of water necessary for the purpose of the instream reservation of the North Custer Conservation District is 4000 cubic feet per second (cfs) and that the reservation is to be concurrent with the instream reservations of the Department of Health and Environmental Sciences and the Commission of Fish and Game in the Yellowstone River at Miles City.

Findings Related to the Public Interest (89-890(3)(d))

13. An instream reservation of 4000 cfs would provide adequate water to properly operate the pumps at the Kinsey #1 pumping station (North Custer Conservation District Application No. 9947-r42M)

14. Without an instream reservation to provide an adequate flow of water in the Yellowstone River it is possible that the North Custer Conservation District would either have to replace the pumps at the Kinsey #1 pumping station or abandon valuable irrigated land.

15. It is established to the satisfaction of the Board that an instream reservation of 4000 cfs of the flow of the Yellowstone River at the Kinsey #1 pumping station is in the public interest.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 12334-03-r
BY THE UNITED STATES BUREAU OF LAND
MANAGEMENT

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 12334-03-r
)
)

The above-entitled matter came on regularly for hearing starting on or about September 21, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the U.S. Bureau of Land Management, Application No. 12334-03-r:

FINDINGS OF FACT

1. The U.S. Bureau of Land Management has applied for a reservation of 1,098 acre-feet of water per year (af/y) with an average diversionary flow rate of 4.60 cubic feet per second (cfs) from the Powder River to be used to irrigate 549 acres. Water would be diverted between May 15 and September 15. In order to divert 1,098 acre-feet during this period, a continuous diversion of the requested 4.60 cfs would be necessary (U.S. Bureau of Land Management, Application No. 12334-03-r, p. 2).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expected expansion of irrigation on federal lands by the U.S. Bureau of Land Management (U.S. Bureau of Land Management, Application No. 12334-03-r, p. 1).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. Regulations and U.S. Bureau of Land Management policy covering the authorization of more intensive agricultural management of the public lands under the 1976 Federal Land Policy and Management Act have yet to be developed. Funds needed to develop the lands described in the Application will not be available at least until after such regulations are developed (Tr. Vol. 19, following p. 146, Testimony of Newman C. Whittington, p. 3).

5. No water would be put to a beneficial use before 1990 (U.S. Bureau of Land Management, Application No. 12334-03-r).

6. The Applicant does not know when all of any reservation that might be granted would be put to a beneficial use (Tr. Vol. 19, Cross of Whittington, p. 158).

7. It is possible that water reserved for this application would never be put to a beneficial use (Tr. Vol. 19, Cross of Whittington, p. 158).

8. The need for the reservation is speculative and is not supported by sufficient evidence.

9. It has not been established to the satisfaction of the Board that the Applicant has shown that there is a need for this reservation (Findings 4 through 10).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

10. No significant additional irrigation development can occur in the Powder River Subbasin unless storage is developed and made available to irrigators at a price they can afford (Draft EIS, Vol. II, p. 248; Finding 1).

11. The Applicant has no plans for the provision of such needed storage in the Powder River Subbasin.

12. The potential for development of additional storage in the Powder River Subbasin is uncertain, and it is unlikely that any future storage that may be built would provide irrigation water at a cost irrigators could afford (Tr. Vol. 32, following p. 86, Testimony of Phil Gibbs, pp. 13 through 18; Tr. Vol. 32, following p. 27, Testimony of Olin Kalmbach, pp. 16 through 18).

13. No reservation for full-service irrigation can be granted for water from the Powder River because no water is currently available for such irrigation and because it has not been shown that water sufficiently inexpensive for full service irrigation will ever be available from the Powder River (Findings 10 through 12).

14. It has not been established to the satisfaction of the Board that any amount of water is necessary for the purpose of a reservation for which there is no need and for which development would be impossible without storage, when

such storage is neither available nor proposed to be made available (Findings 9 through 13).

Findings Related to the Public Interest (89-890(3)(d)).

15. It has not been established to the satisfaction of the Board that it is in the public interest to grant a reservation for which there is no need and for which no water should, or can, be reserved (Findings 9 through 14).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the U.S. Bureau of Land Management, is an agency of the United States and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated in Section 89-890(3)(b), R.C.M. 1947, has not been met, to wit: it has not been established to the satisfaction of the Board that need has been shown for the reservation.

6. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated at Section 89-890(3)(c), R.C.M.

1947, has not been met, to wit: it has not been established to the satisfaction of the Board that any water should be reserved for this application.

7. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated in Section 89-890(3)(d), R.C.M. 1947, has not been met, to wit: it has not been established to the satisfaction of the Board that the reservation is in the public interest.

8. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 9942-r43Q
BY THE HUNTLEY PROJECT

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 9942-r43Q
)

The above-entitled matter came on regularly for hearing starting on or about September 9, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared without benefit of counsel. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the Huntley Project, Application No. 9442-r43Q:

FINDINGS OF FACT

1. The Huntley Project has applied for a reservation of 27,372.3 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 92 cubic feet per second (cfs) from the Yellowstone River to be used to irrigate 4,000 acres.

On the average, this request is for a diversion of 6.82 acre-feet per acre. (Huntley Project, Application No. 9442-r430).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of this reservation is to ensure that water will be available for the expected expansion of irrigation on the Huntley Project (Huntley Project, letter from Paul Sian, President, accompanying Application No. 9942-r430).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Findings Related to the Need for the Reservation (89-890(3)(b)).

4. Funds are not available and it is not known when, or even if funds will be available for the projects.

5. Water will be available for some of the projects proposed with water from the Yellowstone Conservation District.

6. It has not been established to the satisfaction of the Board that the Applicant has shown a need for this reservation (Findings 4 and 5).

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

7. It has not been established to the satisfaction of the Board that any amount of water is necessary for the purpose of the reservation for which there is no need.

Findings Related to the Public Interest (89-890(3)(d)).

8. It has not been established to the satisfaction of the Board that it is in the public interest to grant a reservation for which there is no need.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the Huntley Project, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full application appearing in said Findings, all pertinent criteria delineated in Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.

6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, Huntley Irrigation District, is a political subdivision of the State of Montana and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated in Section 89-890(3)(b), R.C.M. 1947, has not been met, to wit: it has not been established to the satisfaction of the Board that need has been shown for the reservation.

6. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated in Section 89-890(3)(c), R.C.M. 1947, has not been met, to wit: it has not been established to the satisfaction of the Board that any water should be reserved for the

7. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated in Section 89-890(3)(d), R.C.M.

1947, has not been met, to wit: it has not been established to the satisfaction of the Board that the reservation is in the public interest.

8. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF APPLICATION FOR
RESERVATION OF WATER NO. 12333-r43P
BY THE UNITED STATES BUREAU OF
RECLAMATION

)
) FINDINGS OF FACT AND CON-
) CLUSIONS OF LAW OF APPLI-
) CATION NO. 12333-r43P
)

The above-entitled matter came on regularly for hearing on or about August 31, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. The Montana Power Company appeared by and through its counsel of record, Robert Woodahl. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the U.S. Bureau of Reclamation, Application No. 12333-r43P, for use on the Hardin Unit:

FINDINGS OF FACT

1. The U.S. Bureau of Reclamation has applied for the reservation of 131,700 acre-feet of water per year (af/y) with a maximum diversionary flow rate of 862 cubic feet per second (cfs) from the Bighorn River in order to provide a full supply of irrigation water for 42,000 acres and a partial supply of 950 acres for use on the Hardin Unit (Tr. Vol. 18, following p. 179, Testimony of Derwood Mercer, p. 2).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of the reservation request is to ensure that water will be available for irrigation on the Hardin Unit (U.S. Bureau of Reclamation, Application No. 12333-r43P).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown (Finding 2).

Finding Related to the Need for the Reservation (89-890(3)(b)).

4. Congressional authorization of the allocation of water stored by Yellowtail Dam set aside stored water for use on the Hardin Unit (Tr. Vol. 19, Cross of Mercer, pp. 66 and 67).

5. Water is presently available from Yellowtail Reservoir for use on the Hardin Unit (Tr. Vol. 19, Cross of Mercer, p. 67).

6. There is no evidence on the record to show that water may not be available in the future from Yellowtail Dam for use on the Hardin Unit (Tr. Vol. 19, Cross of Mercer, p. 67).

7. The reservation request is essentially duplicative of water already set aside and available for use without the reservation (Tr. Vol. 19, Cross of Mercer, p. 66 and 67).

8. It has not been established to the satisfaction of the Board that the Applicant has shown that there is a need for this reservation (Findings 4 through 7).

9. Although the Board has not been satisfied that there is a need for a water reservation as applied for, the Board does recognize the existing water rights of the Bureau of Reclamation on the Big Horn River in the Hardin Unit.

10. The Board of Natural Resources encourages the Bureau of Reclamation to develop and implement its existing water rights on the Big Horn River in the Hardin Unit.

Findings Related to the Amount of Water Necessary for the Purpose of the Reservation (89-890(3)(c)).

11. It has not been established to the satisfaction of the Board that any amount of water is necessary for the purpose of a reservation for which there is no need (Finding 8).

Findings Related to the Public Interest (89-890(3)(d)).

12. It has not been established to the satisfaction of the Board that it is in the public interest to grant a reservation for which there is no need (Finding 8).

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorize the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservation of water.

2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.

3. The Applicant, the U.S. Bureau of Reclamation, is an agency of the United States and as such is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.

4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.

5. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated in Section 89-890(3)(b), R.C.M. 1947, has not been met, to wit: it has not been established to the satisfaction of the Board that need has been shown for the reservation.

6. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated in Section 89-890(3)(c), R.C.M. 1947, has not been met, to wit: it has not been established to the satisfaction of the Board that any water should be reserved for the U.S. Bureau of Reclamation Hardin Unit Project.

7. Based upon the above Findings of Fact, a pertinent criterion for the adoption of an order reserving water as delineated at Section 89-890(3)(d), R.C.M. 1947, has not been met, to wit: it has not been established to the satisfaction of the Board that the reservation is in the public interest.

8. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.

DENIALS

The following Applications, having been reviewed by the Board of Natural Resources and all testimony and evidence having been considered, are hereby ordered denied:

(a) The Applications for Reservations of Water Nos. 12334-0 -r through 12334- -r by the Applicant, United States Bureau of Land Management, for instream water reservations on the Boulder River, Upper Deer Creek, Lower Deer Creek, Bridger Creek, Stillwater Creek, Clarks Fork River, Sage Creek, Bluewater Creek and the Powder River, Bear Creek and Cottonwood Creek.

(b) Application for Reservation of Water No. 9947-r42M by the North Custer Conservation District for full-service irrigation with 78,140 af/y from the Powder River is ordered denied.

(c) Application for Reservation of Water No. 9943-r by the Applicant, Powder River Conservation District, for full-service irrigation of 75,560 af/y from the Powder River is ordered denied.

(d) Application for Reservation of Water No. 12,334-03-r by the Applicant, United States Bureau of Land Management, for 1,098 acre-feet of water per year from the Powder River is ordered denied.

(e) Application for Reservation of Water No. 12,334-03-r by the Applicant, United States Bureau of Land Management, for 200 cfs of water for instream use of the Powder River is ordered denied.

(f) Application for Reservation of Water No. 12,333-r by the Applicant, United States Bureau of Reclamation, for 131,700 af/y of water from the Big Horn River is ordered denied.

(g) Application for Reservation of Water No. 9942-r43Q by the Applicant, Huntley Irrigation Project, is ordered denied.

BEFORE THE BOARD OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

IN THE MATTER OF THE U.S. BUREAU OF
LAND MANAGEMENT, APPLICATION NO.
12334-r, INSTREAM FLOW PORTION ONLY

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FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
CATION NO. 12334-04-r-12334-14-r

The above-entitled matter came on regularly for hearing starting on, or about September 1, 1977, in Billings, Montana, before the Montana Board of Natural Resources and Conservation and its duly appointed Hearing Examiner, James Driscoll. The Applicant appeared by and through its counsel of record, Thomas Gai. The Montana Department of Natural Resources and Conservation appeared by and through its counsel of record, Richard Gordon. The Montana Department of Health and Environmental Sciences appeared by and through its counsel of record, Mona Jamison. The Montana Department of Fish and Game appeared by and through its counsel of record, F. Woodside Wright and Clayton Herron. The fourteen applicant conservation districts appeared by and through their counsel of record, Gary Spaeth. Utah International, Inc., appeared by and through its counsel of record, Urban Roth. Montana Power Company appeared by and through its counsel of record, James Walsh. Intake Water Company appeared by and through its counsel of record, Henry Loble. Witnesses were duly sworn, and oral and documentary evidence was introduced.

The Board, having read and fully considered the complete record, makes the following Findings of Fact and Conclusions of Law relating to the U.S. Bureau of Land Management, Application No. 12334-04-r - 12334-14r, for instream flows:

U.S. BUREAU OF LAND MANAGEMENT RESERVATION REQUEST FOR MAINTENANCE
OF RIPARIAN HABITAT, LIVESTOCK, AND WILDLIFE USES

SUBBASIN	SOURCE	LIVESTOCK AND WILDLIFE USE AMOUNT (af/y)	INSTREAM FLOW (cfs)
Upper Yellowstone	Boulder River	0.53	25
	Bridger Creek	0.22	5
	Stillwater River	0.62	25
	Upper Deer Creek	0.10	5
	Lower Deer Creek	0.28	5
	Yellowstone River	2.4	200
Clarks Fork of Yellowstone	Clarks Fork Yellow- stone River	3.8	25
	Bluewater Creek	0.71	5
	Bear Creek	0.60	5
	Cottonwood Creek	0.41	5
	Five Mile Creek	0.37	5
Bighorn	Sage Creek	4.6	5
	Crooked Creek	0.67	5
Tongue River	Tongue River	0.483	130
Powder River (tributaries of Powder River)	Powder River	4.55	200
	Mizpah Creek	0.574	3
	Sheep Creek	0.63	3
	N.F. Sheep Creek	1.288	3
	S.F. Sheep Creek	0.224	3
	Horse Creek	0.322	3
	Meyers Creek	0.63	3
	Locate Creek	0.224	3
	Archdale Creek	0.434	3
	Snow Creek	0.448	3
	Coal Creek	0.896	3
	Bolocate Creek	0.224	3
	Dislocate Creek	0.224	3
	Ten Mile Creek	1.344	3
(tributaries of Little Powder River)	Little Powder River	0.084	10
	Hay Creek	0.14	3
	Allison Creek	0.434	3
	Dry Creek	0.812	3
	Horse Creek	0.504	3
	N.F. Bowers Creek	0.112	3
	Bell Creek	0.014	3
	Wright Creek	0.056	3
	S.F. Wright Creek	0.336	3
	Ranch Creek	0.042	3
	Williams Creek	0.406	3
	Prarie Creek	0.532	3

FINDINGS OF FACT

1. The U.S. Bureau of Land Management has requested reservation of instream flows for livestock and wildlife watering as shown in table BLM-1 (U.S. Bureau of Land Management, Application No. 12334-r).

Findings Related to the Purpose of the Reservation (89-890(3)(a)).

2. The purpose of the instream portion of the U.S. Bureau of Land Management application is to establish minimum instream flows to protect riparian habitat vegetation on national resource lands and to ensure sufficient water instream for stock and wildlife watering (U.S. Bureau of Land Management, Application No. 12334-r).

3. It is established to the satisfaction of the Board that a purpose of the reservation has been shown.

POWDER SUBBASIN

Findings Related to the Need for the Reservation for the Powder Subbasin (89-890(3)(b) and for the Amount Necessary for the Purpose (89-890(3)(c)).

4. The Department of the Fish and Game has been given an instream water reservation for the Powder River for the amount of the ninetieth percentile flow (Board Order #110(b)).

5. Sufficient amount of the instream flow has been reserved for the purpose of protecting wildlife and riparian habitat for the Powder River.

6. There has not been shown a need for an additional instream reservation for the Powder River.

7. It has not been established to the satisfaction of the Board that need for an instream reservation for the Powder River has been shown.

8. If the zone of saturation in streamside water tables drops below root depth for prolonged periods, streamside vegetation dies and new seedlings cannot become established, resulting in ecosystem damage (Tr, Vol. 19, following p. 146)

9. Although the U.S. Bureau of Land Management did not study streamside water tables, root depth, or any other specific variables where instream reservations were applied for, the U.S. Bureau of Land Management instream-flow request was in part a general attempt to reserve a sufficient level of instream flow to replenish streamside water tables and prevent such riparian ecosystem damage (Tr. Vol. 19, following p. 146).

10. Water is generally scarce in the Powder River subbasin and certain amounts of water are needed for watering of livestock and wildlife and for the maintenance of the ecological system (U.S. Bureau of Land Management Application No. 12334-r)

11. It is established to the satisfaction of the Board that the amounts of water needed for the purposes of the instream reservations for the following streams are:

a) for tributaries of the Little Powder River which include Hay Creek, Allison Creek, Dry Creek, Horse Creek, N.F. Bowers Creek, Bell Creek, Wright Creek, S.F. Wright Creek, Ranch Creek, Williams Creek, and Prairie Creek an instream reservation is granted of one (1) cfs for each named stream.

b) for tributaries of the Powder River which include Mizpah Cree, Sheep Creek, N.F. Sheep Creek, S.F. Sheep Creek, Horse Creek, Meyers Creek, Locate Creek, Archdale Creek, Snow Creek, Coal Creek, Bolocate Creek, Dislocate Creek and Ten Mile Creek an instream reservation is granted of one (1) cfs for each named stream.

c) for the Little Powder River an instream reservation of three (3) cfs is granted

Finding Related to the Reservation for the Powder Subbasin Being in the Public Interest (89-890(3)(b))

12. It has not been established to the satisfaction of the Board that the U.S. Bureau of Land Management applied for flows for the Powder River is in the public interest.

13. An instream reservation for the tributaries of the Powder River and the Little Powder River and for the Little Powder River are in the public interest because of the need for water for watering of livestock and wildlife. (U.S. Bureau of Land Management Application 12334-r).

14. It is established to the satisfaction of the Board that the instream reservations listed in Finding #12 are in the public interest.

TONGUE SUBBASIN

Findings Related to the Need for the Reservation in the Tongue Subbasin 89-890(3)(b)) and for the Amount Necessary for the Purpose of the Reservation 89-890(3)(c))

15. The Tongue River is controlled and regulated by the Tongue River Dam and Reservoir (Draft EIS, Vol. I, p.265).

16. The operation of the Tongue River Dam and Reservoir has provided adequate flows for the protection of the aquatic resource and instream flows in the Tongue River (Draft EIS, Vol. II, p274).

17. Operation of the Tongue River Reservoir will continue to provide ecosystem and economic benefits.

18. The Department of Natural Resources has been granted a reservation for the Tongue River (Board Order # 76)

19. As stated in its application, it is the intent of the The Department of Natural Resources to repair the existing Tongue River Dam and Reservoir, or to construct a new Tongue River Dam and Reservoir. (Department Of Natural Resources Application No. 9942-r42c)

20. The reservation application of the Montana Department of

Natural Resources and Conservation and the instream-flow reservation application of the U.S. Bureau of Land Management for the Tongue River are mutually exclusive (Draft EIS, Vol I, p. 216).

21. It has not been established to the satisfaction of the Board that the Applicant has shown that there is a need for an instream reservation of water for the Tongue River.

22. It has not been established to the satisfaction of the Board that any amount of water is necessary for the purpose of a reservation for which there is no need.

Findings Related to the Reservation for the Tongue Subbasin Being in the Public Interest (89-890(3)(d)).

23. It has not been established to the satisfaction of the Board that it is in the public interest to grant a reservation for which there is no need.

Findings Related to the Need, Amount for the Purpose of the Reservation and the Public Interest (89-890(3)(a)(b)(c)).

24. The Bureau of Land Management has requested an instream reservation for 5 cfs from Five Mile and Crooked Creeks (Application No. 12334-r).

25. There are no other instream reservations requested or granted on Five Mile and Crooked Creeks.

26. An instream reservation is needed on both of these streams to ensure the aquatic habitat and to provide stock water and wildlife water.

27. It is established to the satisfaction of the Board that the need for the instream reservation on Five Mile and Crooked Creeks has been shown and that the reservation is in the public interest.

28. It is established to the satisfaction of the Board that the amount necessary for the purpose of the reservation on Five Mile and Crooked Creeks is 5 cfs.

Findings Related to the Need of the Reservation (89-890(3)(b)).

Upper Yellowstone Basin and the Clarks Fork Yellowstone Basin

29. The Department of Fish and Game has been given an instream water reservation for the following streams:

- (1) Boulder River
- (2) Bridger Creek
- (3) Stillwater River
- (4) Upper Deer Creek
- (5) Lower Deer Creek
- (6) Yellowstone River
- (7) Clarks Fork River
- (8) Bluewater Creek
- (9) Bear Creek
- (10) Cottonwood Creek
- (11) Sage Creek

(Board Order #110).

30. Sufficient amount of the instream flow has been reserved in the streams named in Finding 29 for the purpose of providing wildlife and riparian wildlife habitat. There has not been shown a need for an additional instream reservation for the streams listed in Finding 29.

31. It has not been established to the satisfaction of the Board that any additional amount is necessary for a reservation in the streams listed in Finding 29.

Findings Related to the Public Interest (89-890(3)(d)).

33. It has not been established to the satisfaction of the Board that an additional instream reservation to the United States Bureau of Land Management's application for flows in the Boulder River, Bridger Creek, Stillwater Creek, Upper Deer Creek, Lower Deer Creek, Yellowstone River, Clarks Fork River, Bluewater River, Bear Creek, Cottonwood Creek and Sage Creek is in the public interest.

CONCLUSIONS OF LAW

1. Chapter 8, Title 89, R.C.M. 1947, and in particular, Section 89-890, R.C.M. 1947, authorizes the adoption by the Montana Board of Natural Resources and Conservation of orders reserving water to qualified applicants for reservations of water.
2. If ordered adopted, a reservation must be ordered adopted in accordance with Chapter 8, Title 89, R.C.M. 1947, and any rules adopted thereunder.
3. The Applicant is entitled to apply to reserve waters within the State of Montana in accordance with Section 89-890, R.C.M. 1947, and any rules adopted thereunder.
4. All pertinent statutes and rules of the State of Montana have been adhered to in the review of this reservation Application, both by the Montana Department of Natural Resources and Conservation and by the Montana Board of Natural Resources and Conservation.
5. Based upon the above Findings of Fact, and specifically based upon any condition, limitation, or modification of the full Application appearing in said Findings, all pertinent criteria delineated at Section 89-890, R.C.M. 1947, and any rules adopted thereunder providing for the adoption of an order reserving water have been met.
6. Nothing found herein has bearing upon the status of water rights claimed by the Applicant other than those herein newly applied for, nor does anything found herein have bearing on the status of claimed water rights of any other party except in relation to those rights herein newly applied for, to the extent necessary to reach a conclusion herein.