

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

IN THE MATTER OF APPLICATION FOR)
RESERVATION OF WATER NO. 9952-r43P)
BY THE BIG HORN CONSERVATION DISTRICT)

FINDINGS OF FACT AND CON-
CLUSIONS OF LAW OF APPLI-
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 20,185af/y from the Big Horn River with a maximum diversionary flow rate of 143.8 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.

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 7.36 cfs 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.