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AN INSTITUTIONAL OVERVIEW OF THE NORTH DAKOTA STATE WATER CONSERVATION COMMISSION: ITS OPERATION AND SETTING*

DEAN F. BARD** AND ROBERT E. BECK***

While it was not until 1965 that the North Dakota Legislature expressly declared that

> the public health, safety and general welfare, including without limitation, enhancement of opportunities for social and economic growth and expansion, of all of the people of the state, depend in large measure upon the optimum protection, management and wise utilization of all of the water and related land resources of the state . . . , [1]

it had recognized the policy implicitly much earlier. Already by 1937 the Legislature had created the State Water Conservation Commission[2] as the institution responsible for substantial control of

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1. N.D. CENT. CODE § 61-01-26 (1) (Supp. 1969).

2. The official title of the body here under consideration includes the word "Conservation". Ch. 255, § 3, [1937] N.D. Sess. Laws 486. In 1963, the legislature provided that "The state water conservation commission may also be known and referred to as the 'State Water Commission.' " N.D. CENT. CODE § 61-02-04 (Supp. 1969). Commission files and correspondence indicate that the permissive change has been adopted. While not construed by the Century Code, "conservation" is broadly defined as a "protection from loss, waste, etc." or as "the official care and protection of forests, rivers, etc." by WEBSTER, NEW WORLD DICTIONARY 161 (1961). While the shorter title may have been adopted for convenience, it probably indicates a basic shift in policy from the more passive or "housekeeping" type approach suggested by "care and protection" of water resources toward the more active development and utilization thereof for various purposes such as irrigation and industry.

Henceforth, for purposes of this article, it will be referred to simply as the "Commission," except when necessary to avoid confusion with some other commission under discussion, it will be referred to as the "Water Commission."

water usage within the state. With the increasing demands for water nationwide, as well as locally, and with the limited supply, it is timely to examine the role of the Commission. This examination will emphasize the function and operation of the Commission so that an evaluation of its effectiveness may at least be started. The following general subdivisions will be used: (1) Historical Background; (2) Composition and Basic Powers; (3) Functions and Operation; (4) Available Funds; (5) Evaluation and Conclusions.

I. HISTORICAL BACKGROUND

Modern water law in the United States, and specifically North Dakota, owes its existence to two separate and contrasting theories, the riparian doctrine and the appropriation doctrine. The riparian doctrine[3] was based on the principle that the abutting land owner on a natural watercourse had certain rights to the water flowing past his property. To oversimplify, but still give the basic idea, the landowner ordinarily could use water as long as he did not appreciably diminish the flow to downstream riparian owners and as long as the water was used in the watershed area served by the stream.[4] This approach was abandoned or rejected later in most jurisdictions in favor of a reasonable use test.[5] The appropriation doctrine,[6] on the other hand, was founded on the premise that water could be appropriated by the first person to capture and utilize it, whether that person owned land abutting on the stream or not. The water could be transported across riparian land abutting on the stream and diverted to lands not lying within the watershed area. In times of shortage, later appropriators were severed from use until enough water was available for prior appropriators.

In England, there was little conflict over the use of water until the rise of the Industrial Revolution, since the supply was adequate for the limited needs of that time, but with the increase in technology that demanded more water, the ownership and use of water became an important property right.[7] In the United States, also

3. *See generally* 1 CLARK, WATERS AND WATER RIGHTS 67-68 (1967); CRIBBET, PRINCIPLES OF THE LAW OF PROPERTY 298 (1962); 1 ROGERS & NICHOLS, WATER FOR CALIFORNIA 227 (1967); Wiel, *Waters: American Law and French Authority*, 33 HARV. L. REV. 133, 137-38 (1919).

4. This has been referred to as the "natural flow" theory. It was subject to an exception for domestic use, allowing an upper riparian owner to take all the water that he needed for that purpose regardless of his lower riparian neighbor's needs. *See* Lone Tree Ditch Co. v. Cyclone Ditch Co., 26 S.D. 307, 128 N.W. 596 (1910).

5. " . . . the question always is . . . whether under all the circumstances of the case the use of water by one is reasonable and consistent with a correspondent enjoyment of the right by the other." Dumont v. Kellogg, 29 Mich. 420, 424 (1874). *See* the discussion in Ellis, *Water Rights and Regulation in the Eastern United States*, in 5 INTERNATIONAL CONFERENCE ON WATER FOR PEACE 650-51 (1967).

6. *See generally* 1 CLARK, *supra* note 3, at 299; CRIBBET, *supra* note 3, at 299-300; ROGERS & NICHOLS, *supra* note 3, at 270; TRELEASE, BLOOMENTHAL & GERAUD, CASES ON NATURAL RESOURCES 2 (1965).

7. CRIBBET, *supra* note 3, at 298.

involved in the Industrial Revolution, the riparian theory of water use probably was first clearly adopted in *Tyler v. Wilkinson*[8] in 1827.[9]

Early legislation concerning water in the Dakota Territory followed the riparian theory as to water use and ownership as riparian owners were given the right to the use of water flowing past their stream-adjacent property.[10] But in a speech given at the North Dakota Constitutional Convention, Major J. W. Powell, the Director of the U. S. Geological Survey, noting this fact, observed:

> All other wealth falls into insignificance compared with that which is to come from these lands from the pouring on them of the running streams of this country. . . . You should provide in the constitution which you are making that the water which falls from the heavens and rolls to the sea, down your great rivers—that water should be under the control of the people, subject always to the will of the people; that property in water should be impossible for individuals to possess.[11]

As adopted October 1, 1889, the North Dakota Constitution did provide in a limited way for the abrogation of riparian ownership in water:

> All flowing streams and natural water courses shall forever remain the property of the state for mining, irrigating and manufacturing purposes.[12]

This provision seems to follow the intent of an earlier territorial statute, but one which was adopted subsequent to the 1877 statement of the riparian doctrine.[13] The later statute also dealt only with mining, irrigating and manufacturing.

The prevalence of semiarid conditions in western North Dakota, the increase in population, the growth of technology and industry in the state and the influence of federal acts recognizing the appropriation system of water on lands within the public domain,[14] combined to produce a climate unfavorable to the existence of the riparian theory. Consequently, the appropriation doctrine was adopted by the North Dakota Legislature in 1905 through the passage

8. 4 Mason 397, Fed. Cas. No. 14,312 (1827); 3 KENT COMM. 439 (1828).
9. There is controversy about the exact origins of the doctrine. *See* Larson, *A Local View: The Development of Water Rights and Suggested Improvements in the Water Law of North Dakota,* 38 N.D. L. REV. 243, 246-47 (1962).
10. REV. CODE OF TERR. OF DAK., Civ. Code § 255 (1877).
11. Speech by Major J. W. Powell, Director, U.S. Geological Survey at Bismarck, North Dakota, August 5, 1889, found in DEBATES OF THE CONSTITUTIONAL CONVENTION, p. 410 (1889).
12. N.D. CONST. art. 17, § 210 (1889).
13. Ch. 142, [1881] TERR. DAK. LAWS 201.
14. Desert Land Act, 19 Stat. 377 (1877), *as amended,* 43 U.S.C. §§ 321-23 (1964).

of the Irrigation Code,[15] and the two systems operated side-by-side until repeal of the riparian statutes in 1963.[16] However, vested rights were protected under this repeal and would in all probability be measured according to riparian doctrine.[17] Against this background the North Dakota Legislature in 1937 created the Commission to conserve, control, and maintain the waters of the state for the ". . . benefit, welfare and prosperity . . ." of its inhabitants.[18]

II. COMPOSITION AND BASIC POWERS

A. *MEMBERS.* The enabling legislation designated the Governor as ex-officio chairman of the Commission and provided that he appoint six other "qualified electors" of the state to serve as members.[19] The reference to "qualified" does not refer to specific qualifications in relation to water, and it would be possible to appoint someone to the Comission who had no knowledge regarding water resources. In 1939, the number of members was reduced to five including the Governor,[20] and a subsequent amendment in 1949 increased the membership of the Commission to its present size of seven members, including the Governor and the Secretary of Agriculture.[21] The appointments have customarily been made on a geographical basis to accord representation to different areas of the state.[22]

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15. N.D. CENT. CODE ch. 61-01 (1960). And the appropriation language was comprehensive: "All waters within the limits of the state from all sources of water supply belong to the public and, except as to navigable waters, are subject to appropriation for beneficial use." Ch. 34, § 1 [1905] N.D. Sess. Laws 44-45.

16. Ch. 419, § 7 [1963] N.D. Sess. Laws 802.

17. *See* Baeth v. Hoisveen, 157 N.W.2d 728, 733 (N.D. 1968): "A declaration that all waters in the State belong to the public and may be appropriated through proper administrative procedure is a valid exercise of the State's police power, insofar as it does not expropriate 'vested rights'. Because the 'vested right' which the plaintiff in the instant case claims is, in reality, a usufructuary right, and its existence is contingent upon application of the underlying water to beneficial use, the legislative exercise of power embodied in Section 61-01-01, N.D.C.C., does not 'expropriate' any 'vested right of the plaintiff." *See* the discussion of the *Baeth* case at pp. 42 in the text.

18. N.D. CENT. CODE § 61-02-01 (1960). There had been a "Board of Water Commissioners" with limited powers concerning irrigation as early as 1905. Ch. 34, § 40 [1905] N.D. Sess. Laws 55.

19. Ch. 255, § 3 [1937] N.D. Sess. Laws 486.

20. Ch. 256, § 3 [1939] N.D. Sess. Laws 468.

21. N.D. CENT. CODE § 61-02-04 (Supp. 1969).

22. *See* N.D. CENT. CODE § 61-02-04 (Supp. 1969); Interview of Mr. Bard with Mr. Alan K. Grindberg, Assistant Chief Engineer, North Dakota State Water Commission, at Bismarck, North Dakota, January 29-30, 1968 [hereafter cited as interview with Mr. Grindberg].

At present, the Commission members are:

1) William L. Guy, ex-officio Chairman; Governor of the State of North Dakota;

2) Arne Dahl, North Dakota Commissioner of Agriculture;

3) Russell Dushinske, Devils Lake; Newspaper publisher—Former President, State Reclamation Association—Active in the Garrison Diversion Project—Also past president, North Dakota Wildlife Federation; term expires July 1, 1971;

4) Richard P. Gallagher, Vice-Chairman, Mandan; Attorney, represents City of Mandan and Lower Heart River Water Management District—Active in National Reclamation Association; term expires July 1, 1973;

5) Harold Hanson, New England; Farmer interested in water development in North Dakota; term expires July 1, 1971;

By statute, the State Engineer is appointed by the Commission and serves as secretary to that body.[23]

B. *TERMS.* Appointments are made for a six year term, with at least one term, but not more than two terms, expiring on July 1st of each odd-numbered year.[24]

C. *MEETINGS.* Regular meetings are held at the Commission offices in Bismarck[25] upon call by the chairman, or the vice-chairman in his absence.[26] Special meetings may be held at such times and places as the Commission provides by resolution; this allows meetings to be held outside the principal offices.[27] For the period of July 1, 1966, to June 30, 1968, the Commission met eighteen times to take up routine business; eleven of the meetings were held in Bismarck and seven elsewhere throughout the state.[28] Four members present constitute a quorum, and it takes a vote of four members to bind the Commission.[29]

D. *SCOPE OF POWERS AND DUTIES.* An examination of Chapter 61-02 of the North Dakota Century Code shows that the legislature has delegated broad powers to the Commission. While the Commission is an agency of the state, it has status as a public corporation, and may, therefore contract and sue in its own name.[30] Its property is exempt from taxation.[31] Further, it must maintain an accounting system to show the expenditures and investments in projects entered into,[32] and prepare annual balance sheets and income statements to be filed with the Secretary of State for public inspection.[33]

The following description of Commission powers is not intended to be exhaustive, but sufficient to give an accurate overview or general picture of the institution, its nature, purpose and scope. Basically, it has authority to ". . . investigate, plan, regulate, under-

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6) James Jungroth, Jamestown; Past President, State Wildlife Federation—Member, Pollution Control Board; term expires July 1, 1975;

7) Henry J. Steinberger, Donnybrook; Farmer—Active in Mississippi Valley Association—Director, Garrison Conservancy District; term expires July 1, 1973.

23. N.D. CENT. CODE § 61-03-01 (1960); N.D. CENT. CODE § 61-02-05 (1960). Milo W. Hoisveen, the present State Engineer, and Secretary to the Commission, was appointed July 1, 1954. A registered professional engineer, trained at North Dakota State University, he served with the Federal Bureau of Reclamation for nineteen years before becoming State Engineer.

24. N.D. CENT. CODE § 61-02-04 (Supp. 1969).

25. N.D. CENT. CODE § 61-02-08 (1960); N.D. CENT. CODE § 61-02-06 (1960).

26. N.D. CENT. CODE § 61-02-08 (1960).

27. *Id.* Each member receives $15.00 per day plus travel and maintenance expenses while in the performance of his official duties. N.D. CENT. CODE § 61-02-12 (Supp. 1969).

28. 16 N.D. STATE WATER COMM. BIENNIAL REP. 4 (1966-1968). Two meetings each were held in Fargo and Minot and one each in Devils Lake, Dickinson, and Valley City.

29. N.D. CENT. CODE § 61-02-07 (1960).

30. N.D. CENT. CODE § 61-02-09 (1960).

31. N.D. CENT. CODE § 61-02-69 (1960).

32. N.D. CENT. CODE § 61-02-65 (1960).

33. N.D. CENT. CODE § 61-02-17 (1960).

take, construct, establish, maintain, control, operate, and supervise all works,[34] dams, and projects, public and private, which in its judgment may be necessary or advisable . . ."[35] to achieve any of various objectives. These objectives are here summarized and categorized since the statutory statement seems to be needlessly unorganized and repetitive. One set of objectives relates directly to stream flow and channeling.[36] Thus the Commission may control low-water flow, control and regulate flood flow, improve channels for more efficient water transportation, and provide sufficient flow to abate stream pollution.

Another set of objectives relates directly to providing water supplies.[37] Thus the Commission may impound water to improve municipal, industrial and rural water supplies; it may develop, restore and stabilize waters for domestic, agricultural and municipal needs, irrigation, recreation and wildlife conservation through construction of dams, reservoirs and diversion canals; it may provide better subsurface water supplies for municipalities, finance "public and private works, dams, and irrigation projects," and provide for storage, development, diversion, delivery and distribution of water for irrigation and supply water for municipal and industrial purposes. Further, it may provide water for stock and for mining and manufacturing purposes.

A third set of objectives relates to drainage.[38] Thus the Commission may promote maintaining of existing drainage channels in agricultural lands and construct new ones, provide for drainage of lands injured by, or susceptible to injury from, excessive rainfall or from use of irrigation water, and cooperate with agencies involved in the construction or improvement of drains.

A fourth objective allows the Commission to provide water for generation of electric power.[39]

A fifth objective allows the Commission to conserve and develop[40] waters within natural watersheds, although it is allowed to divert waters from one watershed to another subject to vested rights.[41]

In addition, the Commission has power to establish rules and

34. As defined by N.D. CENT. CODE § 61-02-02 (Supp. 1969), "works" includes all property rights, easements, franchises, water rights, reservoirs, dams, canals, channels, lateral ditches, pipelines, pumping units, mains, treatment plants and waterworks systems for the conservation, development, storage, treatment, distribution and utilization of water.
35. N.D. CENT. CODE § 61-02-14 (1) (Supp. 1969).
36. N.D. CENT. CODE § 61-02-14 (1) (a), (c), (e), (f) (Supp. 1969).
37. N.D. CENT. CODE § 61-02-14 (1) (b), (g), (i), (j), (k), (m), (n) (Supp. 1969).
38. N.D. CENT. CODE § 61-02-14 (1) (h), (1) (Supp. 1969).
39. N.D. CENT. CODE § 61-02-14 (1) (n) (Supp. 1969).
40. While "develop" is not defined by the Century Code, in this context it would seem to mean to "cause to become gradually fuller, larger, better, etc.," or "to bring into activity . . .", WEBSTER, NEW WORLD DICTIONARY 207 (1961). Thus, it would appear to refer to "activity" which would make water available for use.
41. N.D. CENT. CODE § 61-02-14 (1) (d) (Supp. 1969).

regulations for the regulation and control of water supplies, the sale of waters and water rights, the control of acts tending to cause pollution, and the financing of projects by local participants.[42] It has the authority to acquire any lands, water rights, easements or other necessary property by purchase, exchange or condemnation.[43] Additionally, provision is specifically made for the acquisition and development of lands for irrigation and water conservation.[44] When necessary, court actions may be instituted and maintained for acquiring, owning or developing lands for irrigation, water conservation and other necessary purposes.[45] Contributions of property as well as money may be accepted.[46] The title to any lands "purchased, acquired or condemned" is to be in the name of the Commission, to be held in trust for the people of North Dakota.[47] Bonding, bonding guarantee and other funds available to the Commission will be discussed later.[48]

III. FUNCTIONS AND OPERATION

In an effort to illustrate its involvement in water conservation and development in North Dakota in the light of the responsibilities delegated by the Legislature, the Commission has promulgated a comprehensive state water resources program. Briefly, this program involves:

1) Administration of the state's water laws and representation of the state's interest in water on federal and international levels;

2) Preparation and maintenance of a statewide master plan for future water resources development, including the collection of basic data;

3) Promotion, investigation and direction of planning the development of water resources projects in accordance with the master plan;

4) Coordination of federal and state agencies' programs of tion with these agencies as well as counties, municipalities, water water resources planning, development and research; and cooperamanagement districts and other entities in planning and completing water resources development projects;

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42. N.D. CENT. CODE § 61-02-14 (2) (a), (b), (c), (d) (Supp. 1969).
43. N.D. CENT. CODE § 61-02-22 (1960).
44. N.D. CENT. CODE § 61-02-14 (6) (Supp. 1969).
45. N.D. CENT. CODE § 61-02-23 (1) (a) (Supp. 1969). Such lands may be sold on such terms as the Commission determines. *Id.*
46. N.D. CENT. CODE § 61-02-71 (1960).
47. N.D. CENT. CODE § 61-02-22 (1960).
48. *See* discussion at notes 296-322, *infra.*

5) Organization of various types of legal entities through which water resources projects can be completed and operated; and

6) Construction and repair of dams, drains and other water management facilities.[49]

To fulfill the above functions, the Commission may employ a staff sufficient "for the efficient performance of its powers and duties"[50] at a compensation schedule comparable to that paid by the federal government for the performance of similar services. As of June 30, 1968, the staff contained forty-six salaried employees working in law, engineering, geology, drafting, chemistry, planning, hydrology, construction, and administration, and to which salaries totalling $358,194.34 were paid during the 1966-68 biennium.[51] Offices are now in the State Office Building in Bismarck where administrative work and much of the planning, research and engineering functions are performed. Thus there is some lack of convenience in communicating with other state agencies located in the Capitol Building.[52]

Since it is not possible in this study to definitively discuss each phase of the Commission's activities, certain areas have been singled out for discussion due to their substantial impact on our water resources:[53] (1) administration of state water laws; (2) planning and development of irrigation facilities; (3) development of ground water resources according to a master plan; and (4) cooperation with international, interstate, federal, state, local and non-governmental agencies.

A. *ADMINISTRATION OF STATE WATER LAWS*

1. *Scope of Powers.* As previously mentioned, title to waters within the State of North Dakota with the exclusion of diffused surface waters in contributing drainage areas, and privately owned waters[54] in non-contributing drainage areas,[55] is vested in the public

49. 15 N.D. STATE WATER COMM. BIENNIAL REP. 11 (1966-1968).
50. N.D. CENT. CODE § 61-02-13 (1960).
51. *Supra* note 28, at 5.
52. Interview with Mr. Grindberg, *supra* note 22.
53. One important area not discussed is drainage, as there is a separate study on that subject, one which will be edited for publication as soon as feasible.
54. "The meaning of 'privately owned waters' is not entirely clear; if one were to turn for aid to the 1866 territorial statute previously discussed, the phrase would seem to recognize private ownership rights in underground percolating water and diffused surface water. Rights to both of these, however, are expressly declared to be owned by the public when located in a noncontributing drainage area. Hence, the only other possible meaning of the phrase would seem to be water which has been physically separated from its natural condition so as to become personal property, i.e., water held in private tanks, basins, or receptacles in which there is no flow or drainage in the natural manner. If this is what is mean by 'privately owned waters', there can be no quarrel; not only have such waters always been recognized as private property, but the total amount involved would be infinitesimal compared to the total natural water

and may be appropriated for beneficial use as provided by statute.[56] The right to use the waters of the state is granted by the State Engineer,[57] subject to review and amendment by the Commission,[58] and subject to judicial review.[59] In addition to control over appropriations of water, the Commission is given such authority over all unappropriated waters as is necessary to perform its functions,[60] and it may appropriate waters in its own name for development by giving notice to the State Engineer together with copies of its plans and specifications.[61] The exclusion of diffused surface waters in contributing drainage areas and privately owned waters in non-contributing drainage areas from the public domain, and theoretically from the control of the Commission, would appear at the moment to be of minor consequence since these waters are still subject to some Commission jurisdiction through delegated powers in the area of drainage.[62]

2. *Water Permits.* The procedural steps that eventually lead to a perfected water permit usually begin with an inquiry to the State Engineer asking for the right to appropriate a specified amount of water.[63] Upon receiving such a request, the State Engineer forwards three copies of an "Application for a Permit to Divert and Appropriate the Water of the State of North Dakota,"[64] and a pamphlet entitled "Circular of Instructions Relative to Appropriation and Use of Water."[65] The application is to be completed in duplicate and filed with the State Engineer together with a transparency and two prints of a map indicating thereon the county, section, township and range designations of the area where the appropriation is to be made. The points of diversion and direction of water flow, as well as any canals, reservoirs, underground wells and watercourses must be indicated. The map must be prepared from an actual survey, and certified to by a competent surveyor. In ad-

supply." Larson, *A Local View: The Development of Water Rights and Suggested Improvements in the Water Law of North Dakota,* 38 N.D. L. REV. 243, 263 (1962).

55. A noncontributing drainage area is defined as "any area which does not contribute natural flowing surface water to a natural stream or watercourse at an average frequency oftener than once in three years over the latest thirty year period; . . ." N.D. CENT. CODE § 61-01-01 (1960).

56. *Id.*

57. N.D. CENT. CODE § 61-02-30 (Supp. 1969). The State Engineer plays an all important role in relation to the Commission's work with water resources. He has many independent functions to perform and in many instances appeals from his decisions would be directly to district court. No attempt has been made in this paper to single out and treat individually the role of the State Engineer. *Cf.* The organization chart in Appendix A. And *see generally* N.D. CENT. CODE ch. 61-03 (1960).

58. N.D. CENT. CODE § 61-02-30 (Supp. 1969).

59. *See* note 78 and accompanying test, *infra.*

60. N.D. CENT. CODE § 61-02-29 (1960).

61. N.D. CENT. CODE § 61-02-30 (Supp. 1969).

62. Interview with Mr. Grindberg, *supra* note 22.

63. Except as otherwise indicated, the procedure outlined here was set out in the interview with Mr. Grindberg, *supra* note 22, or in the documents referred to.

64. *See* Appendix B for sample application.

65. The circular consists of 8 fully printed pages of substantial detail, including a

dition to the application and completed maps, a filing fee must be tendered in an appropriate amount as follows:

1)	Municipal Use, 2500 population or over	$ 100.00
2)	Municipal Use, less than 2500 population	50.00
3)	Irrigation	20.00
4)	Industrial Use (1 c.f.s. or less)	50.00
5)	Industrial Use (over 1 c.f.s.)	100.00
6)	Recreation	20.00
7)	Commercial Recreation	50.00[66]

Upon receipt of the application and necessary enclosures, a notice of hearing on the request is to be published for two consecutive weeks in a newspaper of general circulation in the area where the diversion of water is planned, the cost to be paid by the applicant.[67] During the period July 1, 1966, to June 30, 1968, one hundred eighty-eight such applications were received.[68] A hearing on the request at which any interested person may appear and participate is held in the State Office Building at Bismarck.

Hearings are never held in the locality in which the diversion is planned.[69] Several reasons have been suggested for this approach. First, the Commission has a limited staff that now is able to devote eighty percent of its time to planning and needs to devote only about twenty percent to hearings and inspections. Under the current practice as many as three hearings can be held in one morning. The traveling that would be necessary to hold hearings around the state has been estimated to result in a reversal of the eighty-twenty percent time allocations—eighty percent for hearings and inspections and twenty percent for planning.[70] Second, there is seldom any opposition and the applicant often does not even appear, so travel to a particular locality for such a hearing would be fruitless. But perhaps appearances should be encouraged. The statutes provide not only that if "no unappropriated water is available, he (the State Engineer) *shall* reject an application,"[71] but they also clearly provide that "he *may* refuse to consider or approve an application . . . if, in his opinion, the approval thereof would be contrary to the public interest."[72] It is difficult to believe that there would not be at least some applications for appropriation

sample map of the type that must be prepared by the applicant.
66. N.D. CENT. CODE § 61-03-05 (1960).
67. N.D. CENT. CODE § 61-04-05 (Supp. 1969).
68. *Supra* note 28, at 21-35.
69. Interview with Mr. Grindberg, *supra* note 22.
70. *Id.*
71. N.D. CENT. CODE § 61-04-07 (1960) (Emphasis added).
72. *Id.* (Emphasis added).

that would involve serious "public interest" questions, and it does not seem improper, but highly commendable, to encourage citizens to participate in the limited fashion available to them in the allocation of *their* natural resources. And as water becomes less available and user demand greater, public interest questions will gain in importance. Therefore, the holding of local hearings is a question that should be seriously considered in the near future; if not on a full scale basis to begin with, then perhaps in relation to certain types of applications. Constitutional doctrines of fairness may even require it.

If the State Engineer determines from surveys of the water supply and evidence presented at the hearing that there is a sufficient amount of water available for appropriation, he will grant the application upon approval by the Commission, and the construction of works for the diversion may begin.[73] The possibility of a conflict of interest arises in this situation, at least to the extent that the approval of the Commission is required. It would probably exist anyway, considering the close relationship between the State Engineer and the Commission.[74] Suppose, for example, that the Commission has a project of its own that it wishes to pursue and that an individual applies for a use of water that might in some way be inconsistent with the Commission's proposed project. Who will the Commission favor? In other words, the Commission is much more than merely a referee or judge as between competing private interests.

The length of time within which construction is to be completed is prescribed by the State Engineer, and one-fifth of the work must be completed within one-half of the time allotted. However, the time may be extended by discretion of the State Engineer if good cause is shown.[75] Upon completion of the project and application of the water to beneficial use, an inspection will be performed by the State Engineer. If the project is found to be satisfactory, a "Perfected Water Permit"[76] will be issued as evidence of the perfected water right, and may be registered with the local Register of Deeds. For purposes of priority, the date of perfection of the water permit will relate back to the date of the original application.[77] In the event that the State Engineer denies the application,

73. Interview with Mr. Grindberg, *supra* note 22. *See* N.D. CENT. CODE § 61-04-06 (Supp. 1969); N.D. CENT. CODE § 61-02-30 (Supp. 1969).

74. *See* note 23 and accompanying text, *supra*. The statutes appear to require Commission approval only when the Commission has acquired a water right in its own name. *See* N.D. CENT. CODE § 61-02-30 (Supp. 1969).

75. N.D. CENT. CODE § 61-04-14 (Supp. 1969).

76. *See* Appendix C for sample.

77. As to the priority of the Water Commission's own permit *see* N.D. CENT. CODE § 61-02-31 (Supp. 1969). The same rule is not expressly stated for any other cases,

an appeal may be taken within sixty days directly to the district court of the county where the diversion is to take place.[78] Of the 188 applications filed during the 1966-1968 period, 167 were approved during that period, one was withdrawn, two were denied and eighteen were still pending.[79]

A problem has arisen recently concerning the situation where a second application has come into the State Engineer from the same area that a first application is from and where the Engineer has not completed processing the first application. In a recent North Dakota Supreme Court decision at least several of the justices, if not all, seemed to suggest that at this point, or at least when the applications come at "approximately the same time," the State Engineer should abandon the rationale of the appropriation system and adopt some other approach whereby he would have to act on both applications at the same time, making some sort of *apportionment* of water between the two, if there is not enough for both.[80] The problems with this approach are manyfold. Obviously in the first place, it burdens the simple and rather easily administered appropriation system of first in time is first in right. Second, what if now a third application comes in before the first two are acted on, and then a fourth, and so on? The first applicant might have to wait a considerable time before he knows whether he will get any water or not. Third, it would appear to be the legislative policy decision in this state that one person should have sufficient water for his needs as long as applied to beneficial uses on a given strata of priority rather than that the water should be divided so that the people in the state could wind up with no one having enough.[81] While there may be disagreement as to whether this is the best approach, it would appear to be a reasonable one.[82] Be that as it may, the opinion is on the books and must be dealt with. As a result, further study of the Commission's procedures seems warranted.

One problem in determining how much water is available is the existence of abandoned or otherwise nonused water rights.[83]

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but it can be implied from several sections of the Code. *See* N.D. CENT. CODE §§ 61-04-04, -05 (Supp. 1969). *See also* the forms in Appendices B and C.

78. N.D. CENT. CODE § 61-04-07 (1960).

79. *Supra* note 28, at 21-35.

80. Baeth v. Hoisveen, 157 N.W.2d 728 (N.D. 1968), 4 U. of WYO. LAND & WATER L. REV. 185 (1969).

81. *See* N.D. CENT. CODE § 61-01-01.1 (Supp. 1969): "As between appropriations for the same use, priority in time shall give the better right."

82. The common law riparian preference for domestic use was based on the idea that " . . . it is better for a few to have water sufficient for their health and well-being, even at the expense of driving others to make their homes elsewhere, than that many should suffer from only a partial supply of water." Lone Tree Ditch Co. v. Cyclone Ditch Co., 26 S.D. 307, 128 N.W. 596, 598 (1910).

83. *See* NORTH DAKOTA STATE WATER COMMISSION, NORTH DAKOTA WATER RESOURCE DEVELOPMENT PROJECTS 1955, at 37.

In 1963, the Legislature provided a procedure whereby the State Engineer could get a permit declared forfeited where water had not been put to beneficial use for three successive years.[84] However, three years is still a fairly long time, and the statutory procedure adds more time. Further, exceptions are provided for unavailability of water, justifiable inability to complete works, "or other good and sufficient cause."[85]

3. *Police Powers.* In North Dakota the above procedure must be followed to effect a valid appropriation of water, except by a landowner or lessee who constructs an impoundment capable of retaining less than twelve and one-half acre-feet of water for domestic and livestock purposes.[86] While the Commission must realize that numerous other appropriations are made for which no perfected water permit is obtained, there is no apparent concern for several reasons. First, a water permit does not give "title" to water to the permit holder, but only the use; title remains in the public.[87] Therefore, a permit has practical value only if the appropriator wants to preserve a certain priority for his use of the water; apparently, anyway, since 1963 prescriptive rights to use no longer can be obtained in North Dakota.[88] Second, while seemingly broad power as to the control of North Dakota waters has been delegated to the Commission, there has been no direct grant of police power by which administrative decisions may be enforced. The use of a "Water Master" to enforce and control water use had long been advocated by the Commission, but specific authority for this has not yet been granted by the Legislature.[89] At present, the Commission may hold hearings and make findings relating to the rights of claimants in conflict over waters,[90] compel the attendance of witnesses and the production of documents by subpoena,[91] maintain an action to adjudicate water rights,[92] and inspect the point of diversion to determine the amount of water being used.[93] In the latter instance, rules may be promulgated for preventing an excessive diversion,[94] but there has been no attempt yet to create such rules.[95] Even so, any power thus exercised would relate only to

84. N.D. CENT. CODE §§ 61-02-24, -25, -26 (Supp. 1969).
85. N.D. CENT. CODE § 61-02-24 (Supp. 1969).
86. N.D. CENT. CODE § 61-01-01.1 (Supp. 1969).
87. N.D. CENT. CODE § 61-01-01 (1960); *see* Baeth v. Hoisveen, *supra* note 80.
88. *See* N.D. CENT. CODE § 61-04-22 (Supp. 1969).
89. *Supra* note 49, at 58; 13 N.D. STATE WATER COMM. BIENNIAL REP. 147 (1960-1962).
90. N.D. CENT. CODE § 61-02-43 (1960).
91. N.D. CENT. CODE § 61-02-75 (Supp. 1969).
92. N.D. CENT. CODE § 61-02-23 (1) (b) (Supp. 1969).
93. N.D. CENT. CODE § 61-02-37 (1960).
94. *Id.*
95. Interview with Mr. Grindberg, *supra* note 22.

existing appropriations validly obtained, and not to appropriations made without a water permit.

In examining the extent of the Commission's police powers over unauthorized appropriations, two sections of the Century Code are of primary importance.

Section 61-02-29 states:

> The commission shall have full control over all unappropriated public waters of the state, whether above or under the ground, to the extent necessary to fulfill the purposes of this chapter.[96]

Section 61-02-44 states:

> The commission, when engaged in controlling and diverting the natural flow of any stream under the authority granted by the provisions of this chapter, shall be deemed to be exercising a police power of this state. . . .[97]

These two sections could be construed broadly to give the Commission substantial police powers. Under such a broad construction, the Commission would have the power to force users who had not obtained a valid water permit to cease using water, at least "stream" waters, and possibly "all unappropriated public waters of the state, whether above or under the ground." In fact, such a broad construction would allow police regulation by the Commission of all publicly-owned waters within the state, subject to a minor exclusion of domestic and livestock uses in favor of landowners and lessees as noted earlier.[98]

The argument for such a construction becomes very strong when coupled with an overview of Title 61 of the Code which is clearly designed to be a complete, comprehensive water statute and an overview of Chapter 61-02 which deals specifically with the Commission and which, also, is broad and comprehensive and which contains a provision to the effect that: "This chapter being necessary for the welfare of the state and its citizens, it shall be construed liberally to effect the purposes thereof."[99]

On the other hand, section 61-02-44 seems to be a mere general recitation to the effect that all powers specifically given in Chapter 61-02 relating to stream diversion and control are police powers, and not intended to contain any new or greater grant of police powers. An assertion such as that in section 61-02-44 leaves the question: When doing something other than stream diversion and

96. N.D. CENT. CODE § 61-02-29 (1960).
97. N.D. CENT. CODE § 61-02-44 (1960).
98. *See supra* note 86 and accompanying text.
99. N.D. CENT. CODE § 61-02-73 (1960).

control is the Commission *not* exercising the police power of the state? Such a conclusion would not necessarily be a desirable one. Anyway, section 61-02-44 is applicable only when the Commission is "engaged in controlling and diverting the natural flow of any stream" and may well be applicable only when the Commission has obtained a water permit *itself* as authorized by section 61-02-30.[100] Both sections 61-02-44 and 61-02-29 contain the language "under the authority granted by the provisions of this chapter," clearly showing that the powers conferred must be measured by the scope of Chapter 61-02. Since the Chapter is otherwise silent on the subject of police powers, it may be that the Legislature intended that the Commission exercise control only over those persons holding valid water permits. At least some courts state that grants of police power have to be expressly delegated by the Legislature together with appropriate standards in order to be valid and that they will not be readily implied.[101]

The Commission has adopted the view that it possesses no police power by which non-licensees can be restrained from the unauthorized use of water.[102] To date the existing approach of adjudication by court decree rather than by an unenforceable administrative decision has caused no great inconvenience, since few conflicting claims to the use of water have arisen.[103] A decrease in the availability of water in the future coupled with an increase in the number of conflicts may necessitate a change through legislation to expressly delegate broad police powers to the Commission, subject to suitable provisions for judicial review.

B. *PLANNING AND DEVELOPMENT OF IRRIGATION FACILITIES.*

1. *Background.* Irrigation, of course, has been practiced for centuries over the civilized world, and since territorial days in

100. N.D. CENT. CODE § 61-02-30 (Supp. 1969): "In acquiring the rights and administering the terms of this chapter, the commission shall not be limited to the terms of the statutes of this state relating to water rights heretofore enacted, but, in addition thereto, the commission may initiate a right to the waters of this state by executing a declaration in writing of the intention to store, divert, or control the unappropriated waters of a particular body, stream, basin, or source, designating and describing in general terms the waters claimed, means of appropriation, and location of proposed use, and shall cause said notice to be filed in the office of the state engineer, which right shall vest in such commission on the date of the filing of such declaration. The commission also shall file in the office of the state engineer copies of its plans and specifications involved in completing any project for the appropriation of water which it intends to construct. The state engineer, subject to the approval of the commission, may grant water rights to any person, association, firm, or corporation, or to any municipality or to any state or federal agency, department or political subdivision in the manner provided by law."

101. *See, e.g.*, Lewis v. Nashville Gas & Heating Co., 162 Tenn. 286, 40 S.W.2d 409 (1931).

102. Interview with Mr. Grindberg, *supra* note 22.

103. *Id.*

North Dakota.[104] With the passage of the Federal Reclamation Act of 1902,[105] considerable enthusiasm was generated as to the prospects for irrigation; and as a direct result, a group of interested citizens met as an "irrigation congress" at Bismarck, North Dakota, in October, 1903.[106] Basically, the Reclamation Act provided that the proceeds from the sale of public lands in the seventeen western states were to be expended for surveys and construction to provide irrigation facilities for the reclamation of arid land within these states; and one of the prime concerns of the "congress"—justifiably borne out in later years—was that the greater share of the moneys collected within the state of North Dakota would go to aid the states further west.[107] The "irrigation congress" determined, however, to get as much of them as possible spent in North Dakota, and as a consequence of its efforts, the first irrigation projects of importance within North Dakota were created, one of which, Buford-Trenton, will be discussed in some detail.

As was earlier noted, the Commission has the power "[t]o acquire, own and develop lands for irrigation and water conservation. . ."[108] and "[t]o finance the construction, establishment, operation, and maintenance of . . . dams, and irrigation projects. . . ."[109] Despite a modest appropriation for the 1937-38 biennium of $112,500 for all activities, the Commission, immediately upon its organization, directed its initial work towards irrigation.[110] Aid was given to individual farmers who were willing to prepare their land for irrigation, by subsidizing engineering costs up to seventy-five percent, and by supplying pumps, pipe, and in a few instances, power units.[111] In this manner, one hundred eleven individual projects covering 2020 acres with a cost of $102,496.26 to the Commission were sponsored during 1937-38; of which $68,863.15 was repaid by the end of 1938.[112] In all instances, security in the form of mortgages or promissory notes was obtained from the irrigator to protect the investment of Commission funds.[113]

In the 1940's there was a greatly increased rainfall and a consequent reduction in the interest for irrigation; so the Commission directed its attention to influencing the public through articles, meet-

104. *See* Ch. 142 [1881] TERR. DAK. LAWS 201. "Records show that irrigation in North Dakota dates back to 1889, its first year of statehood, when 445 acres were irrigated." 9 N.D. STATE WATER COMM. BIENNIAL REP. 14 (1952-1954).
105. 32 Stat. 388 (1902), *as amended*, 43 U.S.C. 372, 373, 381, 383, 391, 392, 411, 414, 419, 421, 431, 434, 439, 461, 491, 498 (1964).
106. 8 N.D. STATE WATER COMM. BIENNIAL REP. 16 (1950-1952).
107. 3 N.D. STATE WATER COMM. BIENNIAL REP. 11, 12 (1940-1942).
108. N.D. CENT. CODE § 61-02-14 (6) (Supp. 1969).
109. N.D. CENT. CODE § 61-02-14 (1) (j) (Supp. 1969).
110. 1 N.D. STATE WATER COMM. BIENNIAL REP. 42, 14 (1937-1938).
111. *Id.* at 15-16.
112. *Id.* at 18.
113. *Id.*

ings and conventions as to the continued need for irrigation facilities.[114] However when public interest in irrigation was again demonstrated several years later as the result of drier weather, the program designed to aid the individual farmer was not resumed. Presumably, the Commission had found larger projects more satisfactory as they could be performed in collaboration with irrigation districts with their bonding and assessment powers, and as they would be apt to benefit more people.

And while the Commission has funded some irrigation projects of its own, primarily through the sale of its bonds to the North Dakota Rural Rehabilitation Corporation,[115] its primary activity in relation to irrigation can be seen in the following discussion of the Buford-Trenton Irrigation project.[116] Thus it has worked primarily in a planning and advisory capacity as to the projects themselves and in a somewhat supervisory capacity as to the formation of the local entities, such as irrigation districts, necessary to carry out the projects.

2. *Buford-Trenton Irrigation District.* The Buford-Trenton Irrigation District represents one of the oldest and most comprehensive attempts at irrigation in North Dakota. Located north of the Missouri River in Williams County, the irrigation possibilities of this area were first realized as early as 1903 by the "irrigation congress" of that year.[117] Requests were made to the Bureau of Reclamation that resulted in the initiation of a pumping project completed in 1907.[118] Hampered from the beginning by lack of interest because of "adequate rainfall," the operation failed in 1917.[119] The drought conditions of the 1930's in western North Dakota resulted in a renewed interest in irrigation, and in 1937 the Commission and the Bureau of Reclamation entered into a joint study of the feasibility of establishing an irrigation project in the Williams County area.[120] On August 11, 1939, the intended project was formally designated a Water Conservation and Utility Project under the Great Plains Program,[121] whereby the Department of Interior through the Bureau of Reclamation and the Department of Agriculture through the Farm Security Administration were to cooperate in construction

114. *Supra* note 107, at 7.
115. *See* the discussion of bonds in 1 N.D. STATE WATER COMM. BIENNIAL REP. 28-29 (1937-1938), and notes 277-84 and accompanying text, *infra*. For a specific project see the discussion of the Sioux Mutual Aid project, *Id.* at 30, and 2 N.D. STATE WATER COMM. BIENNIAL REP. 31-32 (1938-1940).
116. *See also,* Beck & Newgren, *Irrigation in North Dakota Through Garrison Diversion: An Institutional Overview,* 44 N.D. L. REV. 465 (1968).
117. *Supra* note 107, at 12.
118. *Id.* at 12-13.
119. *Id.* at 13.
120. 2 N.D. STATE WATER COMM. BIENNIAL REP. 33-34 (1938-1940); *See supra* note 107, at 39.
121. 53 Stat. 1418 (1939), *as amended,* 16 U.S.C. 590y (1964).

of the irrigation facilities and development of the irrigable land with a proposed federal cost of $1,500,000.[122] The original survey had proposed that of the 9,357 acres of cropland and 5,433 acres of brush land, 13,400 acres be prepared for irrigable use but this figure was later increased to approximately 14,800 acres with an accompanying increase in estimated costs to $2,116,000.[123] Work began with the purchase of certain of the project lands by the Farm Security Administration in order that they could be cleared, leveled and made suitable for irrigation.[124] Upon completion of the irrigation facilities in 1943 by the Bureau of Reclamation, the project lands were opened for resettlement with more demand for the irrigated land than could be supplied.[125] The final phase in organization of the project came when Buford-Trenton was established as an irrigation district by the State Engineer on August 31, 1950, in response to a petition by the necessary electors of the district pursuant to statute.[126]

An examination of the physical features of the Buford-Trenton project reveals an undertaking of considerable magnitude. Located on the Missouri River one and one-half miles above its confluence with the Yellowstone River, the three main pumping units are able to provide a flow of 108,720 gallons per minute to the twenty-one mile canal.[127] When the main pumping units failed to deliver enough water during the early 1960's due to changes in the gradient of the stream and low water releases from Fort Peck Dam in eastern Montana, an increase in the flow over the Fort Peck spillway from 3000 cubic feet per second to 5000 cubic feet per second brought temporary relief.[128] In June of 1962, meetings were held between the irrigation district officers and representatives of the Corps of Engineers, the Bureau of Reclamation, and the Commission; whereupon it was decided that permanent changes were necessary to insure the future success of the project.[129] Consequently, a supple-

122. *Supra* note 120, at 34.
123. *Supra* note 107, at 47.
124. 4 N.D. STATE WATER COMM. BIENNIAL REP. 36 (1944-1946). This phase of the Buford-Trenton project has received detailed treatment elsewhere. *See generally* Downie, *The History and Development of the Buford-Trenton Irrigation Project,* prepared for a seminar at Minot State Teachers College under direction of Dr. Paul Morrison, 1960, where it is stated that the project work under direction of the Farm Security Administration was performed by 340 Works Project Administration laborers. Lands were subdivided into plots of 120 acres each, upon which were constructed a four-room house, barn, chicken house, and combination grainery-garage. Beginning in 1944, the completed plots were sold to individual farmers under 40 year repayment contracts.
125. 5 N.D. STATE WATER COMM. BIENNIAL REP. 15 (1944-1946); Memorandum from Mr. Alan K. Grindberg, Assistant Chief Engineer, to Milo W. Hoisveen, State Engineer, January 19, 1967.
126. Memorandum from Mr. Alan K. Grindberg, Assistant Chief Engineer, to Milo W. Hoisveen, State Engineer, January 19, 1967.
127. Interview with Mr. Grindberg, *supra* note 22.
128. Letter from Milo W. Hoisveen, State Engineer, to P. J. Pafford, Reservoir Control Corps, Corps of Engineers, undated.
129. Letter from Charles L. Hipp, Chief, Engineering Division, Corps of Engineers to Division Engineer, U.S. Army Engineer Division, August 28, 1962.

mentary pumping station was located at Lake Trenton to serve the eastern end of the district by providing an additional 18,000 gallons per minute for use during the peak irrigating season.[130]

While the project has only recently approached the half-way mark of the expected 14,400 irrigable acres[131]—partly due to the flooding of project lands by the Garrison Reservoir—there is evidence that over the years it has led to a substantially increased income in the area. Figures obtained from the latest available study reveal that in 1958 a gross return of $538,932.00 was obtained from 6,464 irrigated acres and some 2,000 dry-farmed acres.[132] This is in contrast with the $47,800 annual gross income derived from approximately 9,000 acres being dry-farmed just prior to inauguration of the project in 1943. The difference seems more impressive when it is realized that substantially less than one-half of the anticipated irrigable acreage was being supplied with water in 1958.[133] Any increase in gross return realized by the farmer from such irrigation must of course be reduced by irrigation district levies for maintenance and operation and by the pro rata amount of the federal repayment figure[134] as well as by any other increases in the farmer's operating and overhead costs resulting from such irrigation.

The cost and income figures for the Buford-Trenton project suggest that the resulting economic benefit to the farmer makes irrigation one of the most important areas in which the Commission operates. As the Garrison Diversion Project approaches reality,[135] the Commission with its available technical assistance in such fields as hydrology, engineering and planning likely will become increasingly involved with various large scale irrigation projects.

C. *DEVELOPMENT OF GROUND WATER RESOURCES ACCORDING TO A MASTER PLAN.*

1. *Early Efforts.* In the area of surveying and planning, the continuing study of underground water resources by the Commission reveals a comprehensive effort to develop knowledge of water re-

130. *Id.*
131. The SUMMARY REPORT OF THE COMMISSIONER, BUREAU OF RECLAMATION 1967, STATISTICAL APP. PARTS 1, 2, & 3, at 106 shows 7,081 irrigated acres.
132. U.S. DEP'T OF THE INTERIOR, RECLAMATION PROJECT DATA 62 (1961). For earlier data, *see* 6 N.D. STATE WATER COMM. BIENNIAL REP. 31 (1946-1948).
133. *Id.*
134. The district assessment certified to the County Auditor of Williams County for 1967, as reported to the Commission, was $27,730.35. *See also* 8 N.D. STATE WATER COMM. BIENNIAL REP. 183 (1950-1952), indicating that the Bureau of Reclamation was still negotiating for repayment agreements with the users on the project as late as 1952, and Downie, *supra* note 124, where it is stated that the repayment agreements were cancelled in 1958 as the partial loss of irrigable land by the rising waters of the Garrison Reservoir threatened the feasibility of the project.
135. Beck & Newgren, *Irrigation in North Dakota Through Garrison Diversion: An Institutional Overview,* 44 N.D. L. REV. 465 (1968).

serves on a statewide scale. Early attempts in harnessing underground waters for irrigation were only partly successful, and the Commission reported that few areas in the state contained a sufficient supply of water for this type of use;[136] however, recent Commission efforts in conjunction with federal and other state agencies have contributed considerably to the location and application of this resource.

Some supervision of the underground waters of the state was originally given to the State Geologist in 1921. He was given control over "flowing" or "artesian" wells with the directive that at least three representative flowing wells in each county be selected for observation purposes in order to determine the flow, pressure, fluctuation and permanence of the water supply.[137] In an effort to obtain information relative to underground water resources, local studies were performed beginning in 1937 by the United States Geological Survey and the State Geologist acting through the North Dakota Geological Survey on a cost sharing basis; and, a test drilling program was carried out, although severely limited by insufficient appropriations.[138] In 1945 the Commission became a participant through a $25,000 appropriation for studying underground waters within North Dakota.[139] In 1965, supervision and control of these underground waters was transferred from the State Geologist to the Commission,[140] and since then the State Geologist has acted in the capacity of technical advisor to the Commission.[141]

2. *Underground Water Surveys.* Underground water surveys are made upon request by local governmental units in an effort to locate and study the amount of water available in a given area for irrigation, industrial, domestic and municipal use.[142] The surveys are not made of small aquifers[143] that are expected to yield a flow of fifty gallons per minute or less.[144] On the county level, surveys are financed by an allocation of cost on a one half-one fourth-one fourth basis among the United States Geological Survey, the Commission, and the participating county, respectively.[145] On the municipal or township level, costs are borne equally by the Commission and the governmental unit.[146] Test holes are drilled by direction of

136. *Supra* note 110, at 24.
137. Ch. 17, § 6 [1921] N.D. Sess. Laws 50-51.
138. *Supra* note 107, at 80-81.
139. Ch. 140, § 1 [1945] N.D. Sess. Laws 198-99.
140. N.D. CENT. CODE § 61-20-06 (Supp. 1969).
141. *Supra* note 49, at 22.
142. *Id.*
143. Aquifer is defined as "A porous soil or geological formation lying between impermeable strata in which water may move for long distances, yields ground water to springs and wells." HANSON, DICTIONARY OF ECOLOGY 29 (1962).
144. Interview with Mr. Grindberg, *supra* note 22.
145. *Supra* note 49, at 24.
146. *Id.* at 25.

the Project Chief—a representative of the United States Geological Survey—generally by an independent contractor, although in some instances the work is done with the Commission's drilling machine.[147] Findings are interpreted by the Commission's geologist who prepares geologic logs and field maps and performs various tests during the course of the drilling.[148] The water is tested for quality and mineral content by chemical analysis.[149] Since the drilling is for test purposes only, the casing is removed after completion to allow the hole to cave in; except occasionally it is allowed to remain in place to provide for continuous inspection over a period of time.[150] In the latter instance, water level recorders are often used to provide information on depletion of the water supply in the aquifer.

Upon the conclusion of a survey, comprehensive reports are published on three phases of the investigation: Report I describes the geological aspects; Report II presents data on existing wells, test drilling and the quality of water; and Report III describes and evaluates the ground water resources of the area studied.[151] Completed reports provide an immediate reference to water reserves within a specific area, and are made available to the public.[152] Currently, surveys for twenty-eight counties are underway or completed.[153] There are also completed city studies for which reports are available.[154] As a result of this continuing program an immeasurable amount of knowledge has been gained concerning ground water resources over the entire state in the past twenty-four years.

D. COOPERATION WITH OTHER INTERNATIONAL, INTERSTATE, FEDERAL, STATE, LOCAL AND NON-GOVERNMENTAL AGENCIES.

1. *Statutory Authority.* In the exercise of its activities, the Commission is necessarily required to maintain a close liaison with many international, interstate, federal, state, local and non-governmental agencies in order to maintain, protect and further the interests of the people of North Dakota. The authority for such action

147. Interview with Mr. Grindberg, *supra* note 22.
148. *Supra* note 49, at 23.
149. *Id.* at 23-24.
150. Interview with Mr. Grindberg, *supra* note 22.
151. *Supra* note 49, at 24.
152. Interview with Mr. Grindberg, *supra* note 22.
153. *Id. See* Appendix D for a map of the state showing studies in progress and completed studies. A study of Steele County will begin next spring.
154. Interview of Professor Beck with Mr. Alan K. Grindberg, Assistant Chief Engineer, North Dakota State Water Commission, at Bismarck, North Dakota, February 6, 1969.

is amply provided by statute. Thus, the Commission is given authority

> [t]o co-operate with the United States and any department, agency or officer thereof in the planning, establishment, operation, and maintenance of dams, reservoirs, diversion and distributing systems, for the utilization of the waters of the state for domestic, municipal and industrial needs, irrigation, flood control, water conservation, generation of electric power and for mining, agricultural and manufacturing purposes, and in this connection the state water conservation commission is hereby authorized, within the limitations prescribed by law, to acquire, convey, contribute or grant to the United States, moneys, real and personal property, including land or easements for dams and reservoir sites and rights of way and easements for diversion and distribution systems or participate in the cost of any project;[155]

and to

> . . . investigate, plan, co-operate, and make all contracts or compacts necessary or requisite:
>
> 1. With the United States . . .;
> 2. With the states of Minnesota, South Dakota, Montana, and Wyoming, and with any other state . . . ; and
> 3. With the Dominion of Canada or any of its provinces. . . .
>
> The Commission is authorized to act and to contract fully with the United States . . . with full power of purchase, sale or lease to carry out, develop, or administer any federal project . . . and also to accept and to use any funds provided by the United States or any agency thereof for any such purposes.[156]

Additionally, the state officers and state agencies concerned with any interstate commission, international commission, or federal agency involving subject matter over which the Commission has control, must submit any plans, purposes, and contemplated action to the Commission and receive its approval before entering into any agreement.[157] Similarly, any state officers or state agencies authorized by law to take any action as to the use or disposition of waters must receive the assent of the Commission before entering

155. N.D. CENT. CODE § 61-02-14 (7) (Supp. 1969).
156. N.D. CENT. CODE § 61-02-24 (Supp. 1969).
157. N.D. CENT. CODE § 61-02-25 (1960).

into any agreement or executing any work or project involving such waters.[158]

Since many of the Commission's activities involve cooperation with various other agencies, it is pertinent to examine these agencies as to the type of function performed and relationship to the Commission.

2. *International Agencies.*

a. *International Joint Commission.* In an effort to solve the many complex and varied problems that naturally arise from the joint interest in waters as between two countries, the International Joint Commission was created in 1909 to determine conflicting rights to international streams, lakes and rivers between the United States and Canada.[159] The Joint Commission is composed of two sections in order that each country be represented on an equal basis.[160] Problems are referred to the appropriate section for study and recommendation, and subcommittees may be appointed to study specific questions.[161] The Water Commission cooperates with the Joint Commission by acting as an advisory body and furnishing needed survey data.[162] Also, the Water Commission sends representatives to meetings and hearings held by the Joint Commission in order to protect the interests of the people of the state.[163]

The Joint Commission's jurisdiction in North Dakota is limited to international waters within the state, the Souris and the Red Rivers, and their tributaries.[164] Recently the Joint Commission completed a comprehensive study of the Pembina River leading to a development plan and recommended apportionment of the waters therein to the two nations, which would have a substantial impact on North Dakota.[165] Since any such development would be under federal law, it is possible that state law would be bypassed, although the Joint Commission recommended that five percent of the water be reserved for nonproject purposes and this would be subject to state control. Also the Joint Commission did have the advice of North Dakota private citizens, officials and government agencies

158. N.D. CENT. CODE § 61-02-26 (1960).
159. 36 Stat. 2448 (1909).
160. 13 N.D. STATE WATER COMM. BIENNIAL REP. 81 (1960-1962).
161. *Id.*
162. *Supra* note 49, at 38.
163. Interview with Mr. Grindberg, *supra* note 22.
164. *Supra* note 49, at 37.
165. *See generally,* REPORT OF THE INTERNATIONAL JOINT COMMISSION, CANADA AND THE UNITED STATES, ON THE COOPERATIVE DEVELOPMENT OF THE PEMBINA RIVER BASIN (Comm. Print 1967). For a recent, good discussion of the Joint Commission and some of the impact it may have on North Dakota, *see* Waite, *International Law Affecting Water Rights in the Western States,* 4 LAND AND WATER L. REV. 67, 73-83 (1969). For references to other Joint Commission activities *see supra* note 49, at 37; 7 N.D. STATE WATER COMM. BIENNIAL REP. 191-92 (1948-1950).

including the Water Commission. One of the better known recommendations is for the construction of Pembilier Dam near Walhalla, North Dakota.

3. *Interstate Agencies.*

a. *Compacts and Commissions.* Compacts between states probably have proven to be a more practical method of determining the rights of various states to the use of interstate streams than extended court litigation or direct congressional action. They are, in effect, interstate contracts formed through agreement by the parties.[166] Procedurally, after preliminary approval for negotiation is granted by Congress, an interstate commission is created consisting of representatives of the states involved.[167] The compact, as formulated by the interstate commission, must be ratified by the legislature of each state that is a party and then submitted to Congress for approval.[168]

There are six interstate streams in North Dakota: Grand, James, Little Missouri, Missouri, Red River of the North and Yellowstone.[169] To date, the Yellowstone River Compact, signed into law by the President on October 30, 1951, is the only compact approved in which the Commission has been involved.[170] Entered into among Montana, North Dakota and Wyoming, the compact provides for the division of the waters of the Yellowstone River, a minute portion of which lies within the extreme western portion of central North Dakota.[171] But of much importance is the fact that the Yellowstone River contributes approximately sixty per cent of the water in the Missouri River at their confluence three miles east of the Montana-North Dakota boundary.[172]

In 1938, Congress approved a compact authorizing Minnesota, North Dakota, and South Dakota to form a Tri-State Water Commission to administer and supervise the drainage area for the Red River of the North and its tributary, the Bois de Sioux.[173] Such a Commission was organized,[174] and to begin with it was quite active,

166. 12 N.D. STATE WATER COMM. BIENNIAL REP. 85 (1958-1960).
167. *Id.*
168. *Id.*; U.S. CONST. art I, § 10.
169. *Supra* note 166.
170. 65 Stat. 663 (1951). *See* N.D. CENT. CODE ch. 61-23 (1960) for the text of the Compact. The negotiations for the Compact Between the State of South Dakota, the State of North Dakota and the State of Minnesota approved by Congress April 2, 1938, obviously antedated the creation of the Commission. 52 Stat. 150 (1938).
171. *Supra* note 49, at 39.
172. *Supra* note 120, at 88.
173. 52 Stat. 150 (1938). The Compact had provided: "A majority of the members *from each state* shall constitute a quorum for the transaction of business, the exercise of any powers, or the performance of any duties, but no action of the Commission shall be binding unless at least two of the members from each state shall vote in favor thereof." (emphasis added) *Id.* at 152. With three Commissioners from each state, this necessitated the presence of two from each state to conduct business.
174. In North Dakota it was authorized by N.D. CENT. CODE § 61-17-01 (3) (1960).

having completed the Lake Traverse-Bois de Sioux flood control project.[175] But it was handicapped by not being given dominion over the Ottertail River, an important tributary of the Red, and by procedural difficulties, so it ceased to function effectively shortly after its organization.[176]

Because of considerable interest demonstrated throughout North Dakota and Minnesota, and as a direct result of North Dakota Senate hearings held in Bismarck, North Dakota, in 1959, the Red River Basin Planning Committee was established to replace the defunct Tri-State Water Commission;[177] it, however, did not include South Dakota. Subsequently, pursuant to the Water Resources Planning Act of 1965[178] the Souris-Red-Rainy River Basins Commission was established by Executive Order on June 20, 1967,[179] to: 1) co-ordinate federal, state, interstate, local and nongovernmental planning for water and related land resource development, 2) develop a comprehensive, joint plan for such development, 3) recommend long-range priorities schedules, and 4) foster and undertake such studies as are necessary to accomplish the foregoing.[180] The Basins Commission has shown considerable activity as witnessed by the Proceedings of the Conference on Water Resource Problems held in Fargo, North Dakota, on October 31, 1967, where problems facing the Basins Commission were presented and discussed.[181] It is well on its way toward completing a long-range frame-work plan.[182] The reports and plans are to be submitted to the federal Water Resources Council which in turn would submit plans to Congress through the President.[183]

As noted earlier, North Dakota statutes grant the Water Commission considerable authority in the investigation, planning and formation of interstate compacts.[184] In practice, it appears that the Water Commission has provided an important service in the planning and surveying stage for the interstate commissions.[185] Also, the Water Commission obviously operates as a pressure group prior to the compact authorization by Congress, as evidenced by its past

175. 4 N.D. STATE WATER COMM. BIENNIAL REP. 58 (1942-1944).
176. *Supra* note 49, at 39.
177. *See* CONFERENCE PROCEEDINGS ON WATER RESOURCE PROBLEMS OF THE SOURIS-RED-RAINY RIVER BASINS 3 (1967). (Sponsored by the North Dakota Water Resources Research Institute.) For a succinct, yet detailed, history of the activity of this Committee *see* CONFERENCE PROCEEDINGS, *supra* at 72-76.
178. Water Resources Planning Act, 79 Stat. 244, 42 U.S.C. 1962 (1965).
179. Executive Order No. 11359, 3 C.F.R. 293 [1967 Comp.], 42 U.S.C.A. § 1962b (Supp. 1969).
180. Water Resources Planning Act § 201(b), 79 Stat. 244 (1965).
181. CONFERENCE PROCEEDINGS, *supra* note 177.
182. There is a separate study on the Basins Commission and this will be edited for publication as soon as feasible.
183. Water Resources Planning Act § 204, 79 Stat. 248 (1965).
184. *See supra* note 156 and accompanying text.
185. *Supra* note 49, at 38-40.

insistence that compacts be authorized for negotiation on the Grand, James and Little Missouri Rivers.[186]

4. *Federal Agencies.*

a. *Department of the Interior-United States Fish and Wildlife Service.* Since 1905 when the first National Wildlife Refuge was established on Stump Lake in North Dakota, the United States Fish and Wildlife Service has played an active part in the conservation of water resources, and it is logical that in pursuing a program of conservation and planning for the propagation and protection of fish and migratory waterfowl the Service and the Commission would have many interests in common.[187] Recent efforts by the Service have included an involvement with the United States Soil Conservation Service in the Devils Lake area in an attempt to reach an agreement between diverse interests represented on the one hand by farmers who want more ditches for removing surface water which, in turn, would run through potholes, draining them as well, and on the other hand by conservationists who want to preserve the potholes so as to provide more and better breeding grounds for waterfowl.[188] Cooperative ventures by the Service and the Commission are possible where the development of recreation projects by the latter will result in an improved habitat for fish and wildlife.[189]

b. *Department of the Interior-United States Geological Survey.* Earlier discussion has pointed out the affiliation of the Commission with the United States Geological Survey as to ground water surveys.[190] Two other important areas of cooperation exist. First, since 1902 the Survey has operated stream gaging stations within the state through its hydrographic survey program.[191] In 1962 one hundred and four gaging stations were in operation on strategic stream locations in order to gather information relating to low stream flows, variations in runoff, and flood conditions, for projection purposes on the basis of analysis of past performance.[192] Second, there is a cooperative topographic mapping venture presently being conducted within the state. Topographic quadrangle

186. *Id.* at 39-41.
187. 7 N.D. STATE WATER COMM. BIENNIAL REP. 177 (1948-1950).
188. Interview with Mr. Grindberg, *supra* note 22. *See generally* the Grand Forks Herald, February 21, 1968, p. 44, col. 1 for an excellent discussion of the Devils Lake problem. *See also* STANFORD RESEARCH INSTITUTE, THE NORTH DAKOTA WETLANDS PROBLEM (1968) and which now appears as Appendix E to the State Water Resources Development Plan. NORTH DAKOTA WATER COMMISSION, NORTH DAKOTA INTERIM STATE WATER RESOURCES DEVELOPMENT PLAN (1968).
189. *Supra* note 49, at 81.
190. *See supra* notes 145-50 and accompanying text.
191. 9 N.D. STATE WATER COMM. BIENNIAL REP. 86 (1952-1954).
192. *Supra* note 160, at 171.

maps are prepared of various sections of the state as designated by the Commission, providing necessary data for the planning of irrigation and flood control projects in accordance with the topography of the area involved.[193] At the present time, over one-half of the state has been mapped on five-foot contour intervals, reprints of the maps may be obtained by interested parties at nominal cost from either the Survey or the Commission.[194] In this program as in the hydrologic surveys, the Commission provides fifty percent of the cost from appropriated moneys for the work performed by the Survey within the state.[195]

c. *Department of the Interior-Bureau of Reclamation.* To fully examine the scope of activities of this federal agency in North Dakota and its cooperative efforts with the Commission would require a study the depth of which is not now possible. Basically, the Bureau is the federal agency involved in the development of major irrigation projects in North Dakota as noted earlier in the discussion of the Buford-Trenton irrigation project.[196] Unquestionably, the multipurpose Garrison Diversion Project includes the largest irrigation project ever dealt with in this state by the Bureau, and it appears to be the project that will have the greatest impact.[197] As the federal agency chiefly involved in the planning and operational stages of projects on the Missouri River and its principal tributaries, the Bureau has been assigned the responsibility by the Secretary of the Interior for marketing power produced by Missouri River Basin power plants including Garrison.[198] While the Commission is not presently involved in the planning or construction stages of the Garrison project, it has in the past cooperated with the Bureau on the plan and still continues to work with the Bureau in many irrigation projects of lesser importance throughout the state, primarily in the planning stages.[199]

d. *Department of Agriculture-United States Soil Conservation Service and United States Forest Service.* Cooperative activities between the United States Soil Conservation Service and the Commission exist in the creation of watershed protection projects for flood prevention, drainage, irrigation and stock water developments.[200]

193. *Id.* at 174-75.
194. *Supra* note 49, at 27; 10 N.D. STATE WATER COMM. BIENNIAL REP. 80 (1954-1956). *See* Appendix E for index map showing the surveys that have been completed as of December, 1968. Each such survey covers only 50 square miles, so that there are a large number of maps already completed.
195. *Supra* note 49, at 27.
196. *Id.* at 81. *See supra* notes 118-25 and accompanying text.
197. *Supra* note 135.
198. *Supra* note 49, at 81-82; 11 N.D. STATE WATER COMM. BIENNIAL REF. 195 (1956-1958).
199. Interview with Mr. Grindberg, *supra* note 22.
200. Watershed Protection & Flood Prevention Act, 68 Stat. 666 (1954); N.D. CENT. CODE §§ 61-02-14, -24, -28 (Supp. 1969).

Watershed protection projects are authorized upon application and allowance by the administrator of the Service.[201] Owners of at least fifty percent of the land situated in the drainage area above each retention reservoir to be installed with federal assistance must agree to carry out approved soil conservation measures.[202] Land treatment policies such as planting of grass and legumes, stubble mulching, and tree planting are employed to increase the porosity of the soil.[203] The Commission assists the organization of local entities through which soil conservation practices may be effected, and reviews plans for the construction of dams and water impoundments. As a pilot program, the Tongue River Watershed Project was completed in 1961 and designed to protect 295,575 acres of land in Pembina and Cavalier counties that were previously subject to severe spring flooding.[204] Ten detention dams and forty-eight miles of floodway were constructed.[205]

As assistance in drainage projects, the Service provides surveying and planning help and participates in financing the cost of construction.[206] Service drainage plans are reviewed by the Commission which will contribute forty percent of the cost of construction of approved projects.[207]

Finally, the Service has been instrumental in furnishing surveys leading to small irrigation facilities and the installation of stock water dams.[208] In this connection, the Commission is involved in the processing of the water right application necessary for the irrigation or impoundment.[209]

The second federal agency operating within the Department of Agriculture with which the Commission has some contact is the United States Forest Service. Interaction in this area is limited to cooperation in the planting of trees in recreational and related areas throughout the state.[210] Since the Commission's construction and maintenance report for projects other than drainage from July 1, 1964, to July 1, 1966, classifies eighteen of the thirty-two projects entered into by it as "recreational" in purpose, this trend, if it continues, would indicate greater cooperative activity between the Commission and the Service in the future.[211]

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201. *Supra* note 154, at 194. *See* 7 U.S.C. §§ 1010-11 as to the necessity for prior state approval and under some circumstances that of the Agriculture Committees of the United States Senate and House.
202. Watershed Act, § 4(b), 68 Stat. 666, 667.
203. *Supra* note 160, at 194.
204. *Id.* at 193; 9 N.D. STATE WATER COMM. BIENNIAL REP. 126 (1952-1954).
205. *Supra* note 160, at 193.
206. *Id.* at 194.
207. Interview with Mr. Grindberg, *supra* note 22.
208. *Supra* note 160, at 194-95.
209. *Id.* at 195.
210. *Supra* note 49, at 81.
211. *See Id.* at 18-20.

e. *United States Army, Corps of Engineers.* The Corps of Engineers activities in North Dakota are supervised through its Omaha, Nebraska, and St. Paul, Minnesota, offices.[212] Planning, construction and maintenance in North Dakota for the Garrison Dam and Reservoir and the Oahe Reservoir, as well as smaller projects on the Cannonball, Grand, Heart and Little Missouri Rivers is the responsibility of the Omaha district.[213] Aside from the Garrison and Oahe projects, most of the Corps' activities are intended to protect river-adjacent lands from flooding by the construction of levees and flood walls. The St. Paul District is involved with activity on the Red and Souris Rivers for flood control and associated purposes.[214]

In both instances, the Commission appears to have little contact with the Corps except as a consultant in the original planning stage.[215] This limited contact may have saved the Commission from becoming directly involved in the many controversies surrounding the Corps.[216] These controversies have centered around the dam building program sponsored and carried out by the Corps, the ecological effects thereof and the necessity for it. As flood damage losses continue to go up in value despite the long and tireless dam building program of the Corps, there is some indication that they may place increased emphasis on flood plain zoning and other nonstructural measures.[217] If this occurs, it would appear that the Commission could get a much more important role in dealing with the flooding problem in the state than it now has and that there would be occasion for much more cooperation between the two agencies.

f. *Additional Federal Agencies.* There are several other federal agencies that the Commission deals with in a relatively minor, although undoubtedly important, way. (1) Through the Agricultural Research Service, U.S. Department of Agriculture, studies relative to irrigation are prepared to provide information to irrigation units operating within the state.[218] (2) The Bureau of Outdoor Recreation, U.S. Department of the Interior, assists in the development of needed recreation facilities through its grant program.[219] (3) The Department of Health, Education and Welfare cooperates with the

212. *Supra* note 166, at 196, 201.
213. *See supra* note 160, at 186-89.
214. *Supra* note 49, at 81.
215. *See generally, supra* note 160, at 186-89.
216. *See* DOUGLAS, A WILDERNESS BILL OF RIGHTS 169-71 (1965).
217. Weathersbee, *The New Corps,* 95 SCI. NEWS 122-25 (1969); Interview of Professor Beck with Mr. Grindberg, *supra* note 154. Also the National Flood Insurance Act of 1968, 82 Stat. 572, may cause such a shift in emphasis since it appears to require zoning before insurance would be available. *See* 82 Stat. 574, 580, 587 (1968).
218. *Supra* note 49, at 81.
219. *Id.* at 82.

Commission through various state and federal agencies to prevent and correct pollution problems that may occur or have occurred.[220] (4) The Farm Security Administration, which at one time was an active agency in the preparation of land for irrigation,[221] has since ceased to operate this program and no longer exists. (5) Some contact in the past has also been maintained with the Bureau of Land Management, U.S. Department of the Interior, primarily to make available to the public the results of resurveys performed by the Bureau in order that land plats and field notes be as accurate as possible.[222] (6) As indicated earlier, the plans of the Souris-Red-Rainy River Basins Commission will be presented to the Water Resources Council for ultimate recommendations to Congress.[223]

5. *State Agencies.*

a. *State Department of Health.* The North Dakota Legislature has declared the regulation and prevention of pollution to be a public purpose and within the Commission's regulatory powers.[224] However, the Commission may not declare waters to be polluted unless a finding to that effect is first made by the State Department of Health.[225] In 1967 the North Dakota Legislature created the eight member State Water Pollution Control Board which also will be involved with this problem.[226] Sewage disposal and water supply plants have to have Commission approval before they can be constructed, but here also the Department has prior authority as their approval is necessary before Commission approval can be given.[227] Consequently, it is necessary that close contact be maintained between the Commission and the Department. The Commission does not believe that water pollution is a major problem in North Dakota at present, and the Department undoubtedly deserves much of the credit for this condition. The Department was responsible for recommending the use of lagoons for municipal sewage disposal—a method which since has been widely used throughout the midwest—and for the widespread testing of existing sewage treatment plants for efficiency.[228] In addition to review of plans and specifications for proposed water and sewage treatment plants, cooperation between

220. *Id.*
221. *Supra* note 124.
222. *Supra* note 191, at 163.
223. *See supra* note 183 and accompanying text.
224. N.D. CENT. CODE § 61-02-01 (1960); N.D. CENT. CODE § 61-02-14 (1) (f), (2) (c) (Supp. 1969).
225. N.D. CENT. CODE § 61-02-15 (1960).
226. N.D. CENT. CODE ch. 61-28 (Supp. 1969).
227. N.D. CENT. CODE § 61-02-21 (1960).
228. *Supra* note 166, at 19; Interview with Mr. Grindberg, *supra* note 22.

the Commission and the Department occurs in representing the state before agencies such as the International Joint Commission.[229]

b. *State Game and Fish Department.* Extensive cooperation has taken place between the Commission and the State Game and Fish Department in the development of numerous multipurpose water resource projects that are of inestimable value to the state and its inhabitants.[230] Basically, the cooperation consists of the construction and maintenance of dams to impound water in a single project for both recreational and municipal water supply use. A review of recent construction records of the Commission shows considerable activity in the creation of such multipurpose projects. For the period July 1, 1964, to June 30, 1966, the Commission constructed eleven new small dams and repaired thirteen existing small dams providing side benefits to the Department in the form of fish and wildlife conservation and propagation areas.[231] While available information does not indicate whether the Department participated in all projects, where it does participate costs are generally shared on a ratio of one-third each by the Commission, the Department, and the local promoting agency or group.[232] In the event federal funds can be obtained, each of the foregoing entities bears one-sixth of the cost, with the remaining one-half being contributed by the Bureau of Outdoor Recreation.

c. *State Highway Department.* Since the Commission is, upon petition by a majority of the landowners in an affected area, designated as the authority responsible for matters affecting drainage that are dealt with by the State Highway Department, the Commission is to this extent involved in the planning stage of highway construction.[233] The desired result is that highways be constructed so that the natural drainage of the area involved is not disturbed, and to this end the Commission reviews the feasibility of proposed streamcrossings and the adequacy of culverts and bridges that are to be installed.[234] Occasionally, it is possible for streamcrossing fill to be utilized both as a dam and as a highway crossing, thereby providing substantial savings to both the Commission and the Department.[235] Since the dam usually creates an impoundment, working agreements have been reached involving the Commission, the Department, and the State Game and Fish Department where the project will prove beneficial to wildlife. Where cooperation with

229. *Supra* note 160, at 204.
230. Interview with Mr. Grindberg, *supra* note 22.
231. *Supra* note 160, at 204; *See supra* note 49, at 18-20.
232. Interview with Mr. Grindberg, *supra* note 22.
233. N.D. CENT. CODE § 24-03-08 (1960).
234. *Supra* note 49, at 83.
235. *Supra* note 160, at 205.

another agency results in a multiuse structure, the Department still will contribute to the construction cost.[236]

d. *North Dakota Business and Industrial Development Department.* The Business and Industrial Development Department, created in 1969 out of the 1956 North Dakota Economic Development Commission, to promote industrial and business development on a state level, acts in conjunction with the Commission in a number of ways.[237] Information is exchanged relative to industrial development, proposed water needs and underground water development.[238] Of particular interest to the Department and its predecessor has been the creation of the North Dakota Interim State Water Resources Development Plan which the Commission completed in November of 1968 and which inventories available knowledge about water resources within the state.[239] Obviously most industries use substantial amounts of water, and its availability is a primary concern to industrial developers.

e. *North Dakota Soil Conservation Committee.* This agency operates on the state level as a counterpart of the United States Soil Conservation Service, which has been discussed earlier.[240] As a coordinator of soil conservation district activities in North Dakota, the Committee reviews local plans in conjunction with the Commission for contemplated watershed projects.[241]

f. *North Dakota Natural Resources Council.* This organization, established in 1961,[242] is composed of the heads of various state departments and serves as an advisory organ on topics relating to soils, water, forests, fish and wildlife.[243] Under its direction, information is collected and analyzed, and recommendations are made to the Commission among other state agencies.[244]

g. *State Outdoor Recreation Agency.* This agency was created in 1965 by statute[245] to plan and co-ordinate the development of

236. Interview with Mr. Grindberg, *supra* note 22.
237. N.D. CENT. CODE § 54-34-02 (Supp. 1969); N.D. CENT. CODE § 54-34-06 (Supp. 1969).
238. *Supra* note 160, at 205.
239. NORTH DAKOTA STATE WATER COMMISSION, NORTH DAKOTA INTERIM STATE WATER the five supporting appendices and contains an introductory chapter together with sepa- RESOURCES DEVELOPMENT PLAN (1968). This printed plan contains 240 pages not counting rate chapters on Methodology and Goals; History and Legislation; Regional Setting; Current (1967) and Projected Economic Data for North Dakota; Problems; Beneficial Uses of Water; Supply of Water; Requirements for Water Utilization and Control; Developments to Meet Water Requirements to the Year 2000; Responsibilities and Revenue Sources and Recommendations. The Commission is going to undertake approximately 21 separate basin studies with a six year projected span for completion. These basin studies will begin with the Knife River.
240. *See supra* notes 200-09 and accompanying text.
241. *Supra* note 160, at 205-06.
242. N.D. CENT. CODE § 54-49-02 (Supp. 1969).
243. *Supra* note 49, at 84.
244. *Supra* note 160, at 209.
245. N.D. CENT. CODE § 53-07-01 (Supp. 1969).

outdoor recreation areas in North Dakota. Commission contact with this organization is directed toward those activities that relate to the use of water resources for recreational purposes.[246] The Commission is primarily responsible for the progress of programs in this area through financing, planning, developing and maintaining of such projects, and the issuing of water rights and construction permits. The completed recreation areas and facilities, however, are not under Commission management.

h. *Other State Agencies.* In addition to the above state agencies that have a special interest in the activities of the Commission, there are a number of additional agencies with which a lesser degree of contact is maintained. (1) The North Dakota Geological Survey headed by the State Geologist, assists in ground water surveys, and has been discussed earlier in that setting.[247] (2) The North Dakota State University at Fargo has cooperated in the preparation of many reports of interest to the Commission and is engaged in a continuing program of soil surveys on a cooperative basis.[248] (3) Cooperative tree planting programs are carried out by the Commission and the State School of Forestry at Bottineau.[249] (4) The State Laboratories Department, not to be confused with the State Department of Health,[250] analyzes surface and underground water samples for chemical and sedimentary content in order to determine water purity.[251] (5) The development of state owned lands for recreational purposes arises as a result of cooperative ventures between the State Land Department and the Commission.[252] (6) Close contact is maintained with the Legislative Council in order that water laws may be updated.[253] (7) And finally, through the Department of Public Instruction, the Commission disseminates promotional material to the state's public schools in order to create and promote an awareness of its water conservation measures.[254]

6. *Local agencies.*

Obviously the Commission can become involved with the traditional units of local government, the township, the city, the county. But in North Dakota there are several special local government entities that the Commission may be or become involved with in

246. *Supra* note 49, at 85.
247. *See supra* notes 137-41 and accompanying text.
248. *Supra* note 49, at 82-83.
249. *Id.* at 83-84.
250. *See supra* notes 224-29 and accompanying text.
251. *Supra* note 49, at 83.
252. *Id.* at 84.
253. *Id.* at 85. Through amendment in 1969 to N.D. CENT. CODE ch. 54-35, the Legislative Research Committee is now known as the Legislative Council.
254. *Id.* at 83.

various aspects of its functioning. These special entities will be considered briefly.

a. *Garrison Diversion Conservancy District.* While some might classify the District as a state agency, it is here considered local since it presently covers only twenty-five of this state's fifty-three counties.[255] Created in 1955,[256] the District "is the overall legal entity concerned with the development and operation of the Garrison Diversion unit in North Dakota and serves as a co-ordinating body for all project purposes and interests."[257] Obviously the District will have a tremendously important role in water resource development within the State.

b. *Irrigation districts.* Irrigation districts were first authorized in 1917,[258] and many have been created since then. The Garrison Diversion Conservancy District alone contains eleven such districts.[259] These districts operate specific irrigation distribution systems, and it is to them that individual irrigators generally look for their water. Establishment of such a district must be done through the State Engineer.[260]

c. *Water management districts.* Water management districts have been authorized in North Dakota since 1935, although their scope and name have changed over the years. They began in 1935 as "water conservation districts;"[261] this was changed in 1949 to "water conservation and flood control districts,"[262] and in 1963 to "water management districts."[263] When the law was revised in 1957, the Legislature expressly validated and preserved the previously existing districts.[264] The purpose of these legal entities is to allow local people to deal with water problems peculiar to their locality although with a maximum amount of co-ordination with the Commission. Thus they may deal with surplus water on agricultural land, flood waters, stream flows; they may construct and maintain dams, and so on.[265]

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255. For a general discussion of the District, *see* Beck & Newgren, *supra* note 135, at 467-69.
256. N.D. CENT. CODE ch. 61-24 (1960).
257. Beck & Newgren, *supra* note 135, at 467.
258. Ch. 115, [1917] N.D. Sess. Laws 125-61.
259. See Beck & Newgren, *supra* note 135, at 469-72, for a general discussion of North Dakota irrigation districts as related to Garrison Diversion.
260. *See generally* N.D. CENT. CODE ch. 61-05 (1960) entitled: "Organization of Irrigation Districts."
261. Ch. 228, § 1 [1935] N.D. Sess. Laws 319-20.
262. Ch. 348, § 2 [1949] N.D. Sess. Laws 475-76.
263. "District" shall mean a water management district provided for in and under this chapter; wherever the term 'water conservation and flood control district' appears, it shall mean 'water management district' . . . ." Ch. 421, § 1 [1963] N.D. Sess. Laws 806.
264. Ch. 383, § 45 [1957] N.D. Sess. Laws 764-65; N.D. CENT. CODE § 61-16-45 (1960). For a case involving such a district see Snortland v. Nelson County, 123 N.W.2d 288 (N.D. 1963).
265. N.D. CENT. CODE § 61-16-11 (1960), *as amended,* (Supp. 1969).

d. *Drainage districts.* Drainage districts have long been authorized in North Dakota.[266] But since the water management districts have "the powers conferred by statute upon the board of county drain commissioners,"[267] it is questionable whether separate drainage districts are justified.[268] However, the Legislature has not repealed the drainage law, and it does confer jurisdiction: "Watercourses, ditches, drains, and improvements thereto for the drainage of sloughs and other low lands may be surveyed and investigated and established, constructed, maintained, repaired, improved, and cleaned out in the several counties of this state under the provisions of this chapter wherever the same shall be conducive to the public health, convenience, or welfare."[269]

e. *Soil conservation districts.* The preamble to the soil conservation districts statute fairly indicates the scope of activity permitted to such organizations in relation to water:

> It shall be the policy of this state and within the scope of this chapter to provide for the conservation of the soil and soil resources of this state and for the control and prevention of soil erosion, and to preserve the state's natural resources, control floods, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers, preserve wild life, protect the tax base, protect public lands, and protect and promote the health, safety, and general welfare of the people of this state.[270]

In other words, it seems all-encompassing. Obviously district activity will be of much interest to the Commission. One of the frequent current involvements is watershed planning.[271]

f. *Reclamation districts.* Reclamation districts were authorized in North Dakota in 1953;[272] in 1963 the authorization was repealed.[273] Essentially they were to be used for drainage purposes when the use of drains or drainage ditches authorized under the regular drainage law[274] was not feasible. Usually this meant that there would have to be pumping of water.[275]

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266. Drainage project authorization on a continuous basis can be found at least as far back as Ch. 75, [1883] Terr. Dak. Laws 177-89.
267. N.D. CENT. CODE § 61-16-11 (11) (Supp. 1969).
268. This question is being raised and considered in the drainage study currently underway. *See supra* note 53.
269. N.D. CENT. CODE § 61-21-02 (1960).
270. N.D. CENT. CODE § 4-22-01 (1960). *See generally* N.D. CENT. CODE ch. 4-22 (1960) and acts amendatory thereof.
271. The State Soil Conservation Committee has already been discussed. *See supra* notes 240-41 and accompanying text.
272. Ch. 348, [1953] N.D. Sess. Laws 557-71.
273. Ch. 421, § 22 [1963] N.D. Sess. Laws 820.
274. *See supra* notes 266-69 and accompanying text.
275. N.D. CENT. CODE § 61-25-01 (1960).

g. *Miscellaneous entities.* It might be possible to use other organizational forms for various water resource development programs, such as the mutual aid corporation, a type of co-operative.[276] Furthermore, other local entities, such as park districts,[277] may well engage in some activities that pertain to water.

7. *Non-Governmental organizations.*

In addition to liaison and cooperation between the Commission and various international, interstate, federal, state and local agencies, some contact is maintained with citizen-group organizations active in the utilization and conservation of water resources, but which possess no governmental authority.

a. *National Rivers and Harbors Congress.* Organized in 1901 by interested federal, state and local leaders, this organization operates on the national level to seek optimum water resources development in the United States.[278] As a member, the Commission attempts to take advantage of the influence exerted by this group through the endorsement of projects that are deemed favorable. Also, since all members of Congress are ex-officio members of the National Rivers and Harbors Congress, close contact is maintained with the numerous federal agencies that exercise delegated powers over water resources. Projects that have been recommended by this body for construction within North Dakota include the Garrison Diversion Project and the Bowman-Haley and Pembilier dams.[279]

b. *National Reclamation Association.* Composed of citizens, organizations and governmental agencies from the seventeen western reclamation states, the Association maintains an office in Washington, D.C., and is primarily interested in the development of reclamation projects in its member states.[280] It is also influential in securing federal legislation for reclamation development, in protecting states' rights to water within their boundaries, and in furthering recognition of the benefits accruing from these projects. The State Engineer has recently been an active participant in this organization in the capacities of Director and First Vice-President.[281]

c. *Mississippi Valley Association.* This voluntary association is composed of those agencies and organizations concerned with the development of water resources in the twenty-three states lo-

276. N.D. CENT. CODE ch. 10-12 (1960).
277. *See generally* N.D. CENT. CODE ch. 40-49 (1960).
278. *Supra* note 166, at 180.
279. *Supra* note 160, at 211.
280. *Supra* note 166, at 179.
281. *Id.; supra* note 49, at 86.

cated in the watershed area of the Mississippi River and its tributaries.[282] Specific projects are endorsed by the Association, and annual recommendations are sent to Congress for consideration in the continuing program of Mississippi Valley development.[283] The Garrison Diversion project, which received the Association's support, is representative of the type of project promoted. The Commission maintains an active membership in this organization in order to participate in those matters that affect the state.[284]

d. *Missouri River States Committee.* The Missouri River States Committee was formed in 1941 with flood control, irrigation, navigation and power development in the Missouri basin as its primary concerns.[285] Members of the Committee consist of the Governor of each of the ten Missouri basin states and two representatives named by each Governor. Meetings are usually held twice a year in conjunction with the Missouri Basin Inter-Agency Committee,[286] however, no meeting has been held during the past three years.[287] The Committee evaluates and discusses topics relating to the Missouri basin and has been instrumental in promoting the comprehensive Missouri River Basin Project which is designed to develop the region as a whole.[288]

e. *Missouri Basin Inter-Agency Committee.* Any development plan as detailed and involved as the Missouri River Basin Project must necessarily be supervised by an organization which can coordinate the policies, programs and activities of the various agencies involved, and this function has been fulfilled by the Missouri Basin Inter-Agency Committee.[289] Created in 1945, the Committee is composed of the federal agencies and states involved in development and construction relating to water and water-related land resources in the basin.[290] Although meetings are held every three months, the greater portion of the work accomplished by the Committee is done through standing and *ad hoc* subcommittees. North Dakota is represented through the participation of the Governor, who is a regular member, and an alternate member who participates in the event the Governor is unable to attend.[291]

f. *Red River Basin Planning Committee.* Organized in 1962, the objectives of this committee were to assist in the coordination

282. *Supra* note 166, at 179.
283. *Supra* note 160, at 212.
284. *Supra* note 166, at 179.
285. *Supra* note 160, at 208.
286. *Supra* note 49, at 85.
287. Interview of Professor Beck with Mr. Grindberg, *supra* note 154.
288. *Supra* note 160, at 208.
289. *Supra* note 49, at 82.
290. *Supra* note 160, at 209.
291. *Supra* note 49, at 82; *supra* note 106, at 25.

of federal and state programs, to cooperate with other agencies for the development and conservation of water resources, and to lay groundwork for the preparation of a compact for the Red River of the North.[292] Membership of the Committee consisted of three representatives of each participating state, North Dakota and Minnesota, in addition to each Governor who was an ex-officio member. Pollution problems, flood and drought conditions, and the evaluation of completed projects have been subjects for consideration; and recent efforts included an application submitted to the Secretary of the Interior during the 1964-66 biennium for the establishment of the Red River Planning Commission.[293] With the establishment of the Souris-Red-Rainy River Basins Commission, the Committee terminated its existence.

g. *North Dakota Water Users' Association.* This organization was formed in 1959 through the merger of the North Dakota Reclamation Association and the Missouri-Souris Projects Association.[294] The Reclamation Association had been concerned with water resources in general while the Missouri-Souris group was primarily concerned with the Garrison Diversion Project. The merger of the two associations eliminated duplication of effort that formerly had been present. The Water Users' Association maintains a full-time office in Minot, and its membership, drawn from neighboring states as well as North Dakota, numbers approximately 3,000. In maintaining its interest in water resources development in North Dakota, it has been very active in supporting state appropriations and in the organization of specialized councils to assemble information on the county level as to water inventories and water problems.[295] The Association publishes a monthly newsletter to keep members abreast of developments, and it has cooperated in educational programs in an attempt to keep the public informed of the condition of water resources in the state.

IV. FUNDS AVAILABLE TO THE COMMISSION

The Commission has authority to issue bonds for not less than par value and to a maximum of $3,000,000 for financing the erection of works and acquisition of land to allow it "to participate with state agencies, political subdivisions or the federal government. . . ."[296] The statute as originally enacted[297] gave virtually an unlimited power to bond; there is a question as to whether the sub-

292. *Supra* note 160, at 210.
293. *Supra* note 49, at 86; *supra* note 160, at 210.
294. *Supra* note 160, at 214.
295. *Id.* at 215.
296. N.D. CENT. CODE § 61-02-46 (Supp. 1969); N.D. CENT. CODE § 61-02-53 (1960).
297. Ch. 255, § 21 [1937] N.D. Sess. Laws 496-97.

sequent amendment adding the "in order to participate" language was intended to limit bonding only to those instances when there is participation with other agencies.[298] Probably the question is settled by the 1963 *Report of the Legislative Research Committee* which states that it was intended to broaden the bonding powers by specifically allowing participation in multi-agency projects.[299] Unfortunately this is not clear on the face of the statute.

The amount of interest to be paid on the bonds, the form of the bonds, the time and place of interest payments, and the date of maturity are placed in the Commission's discretion.[300] However, interest may not exceed five per cent per year[301] and the maturity date must be within thirty years from the date of issuance.[302]

In order to secure the payment of bonds issued, the Commission may pledge any part of the income, profits, and revenue of the works or projects involved, and establish such prices and rates for water and other services that will provide sufficient funds for operation and maintenance of the project, pay the principal and interest on the bonds, and create necessary contingent reserves.[303] On the other hand, the Commission is also permitted to covenant *against* pledging any part of the income, profit and revenue.[304] Also, it may make any covenants that are necessary or desirable to secure the bonds or make them more marketable whether expressly authorized by statute or not,[305] and it may do any other act in the issuing of bonds or providing for their security that would not be inconsistent with the North Dakota Constitution.[306] In addition, the Commission may provide in either the resolution authorizing the bond issuance, or the trust indenture under which the bonds are secured, for the protection of bondholders by setting forth the duties of the Commission and the State in relation to the project, and for the designation of only those consulting engineers for project construction that will meet the approval of the bondholders.[307]

Thus, while a great deal of latitude is granted to the Commission in the issuance of bonds to cover all or part of project

298. N.D. CENT. CODE § 61-02-46 (Supp. 1969).
299. REPORT OF THE NORTH DAKOTA LEGISLATIVE RESEARCH COMMITTEE, p. 56 (1963).
300. N.D. CENT. CODE § 61-02-48 (1960); N.D. CENT. CODE § 61-02-47 (1960).
301. N.D. CENT. CODE § 61-02-48 (1960).
302. N.D. CENT. CODE § 61-02-47 (1960). The bonds may be called in for payment before the maturity date if the Commission so resolves, and if the bonds were specified as subject to that right at the time of issuance. *Id.* If the bonds are called before the maturity date, bondholders must be advised of the redemption date at least thirty days in advance by published notice, and the redemption price cannot exceed one hundred and five percent of par value. *Id.*
303. N.D. CENT. CODE § 61-02-62 (1), (4) (1960).
304. N.D. CENT. CODE § 61-02-62 (2) (1960).
305. N.D. CENT. CODE § 61-02-62 (12) (1960).
306. N.D. CENT. CODE § 61-02-62 (13) (1960).
307. N.D. CENT. CODE § 61-02-61 (1960).

costs, originally no provision was made for the guarantee of bonds and it was found that without such a guarantee, the first issues in 1937-38 were not generally marketable.[308] However, the North Dakota Rural Rehabilitation Corporation had been allocated the sum of $300,000 by the federal government for the financing of experimental irrigation projects in North Dakota, and as it did not desire to enter into such a venture by itself, it purchased the first Commission bond issue in an amount of $167,023.85.[309] A plea to the Legislature to make the bond issues more marketable[310] resulted in a $50,000 appropriation for a "bond guarantee fund" which the Commission could use to guarantee up to twenty per cent of the amount of each issue.[311] An additional $40,000 appropriation in 1941 to the guarantee fund brought the balance to $90,000, permitting the guarantee of bonds up to a maximum of $450,000 at the statutory limit of twenty per cent.[312] The Commission anticipated that the added impetus given the marketability of the various intended issues by the creation of the guarantee fund would allow financing plans to proceed as originally intended: The expenditure of appropriated funds for the operating expenses of existing projects, and the sale of bonds for the creation of new projects.[313] This expectation, however, was not realized, and bonds have not been issued since the early 1940's.[314] Since the guarantee fund appropriations were authorized as a permanent revolving fund under which the unencumbered balance at the end of the biennial fiscal period would not revert to the state general fund, the Commission has followed the practice of investing a substantial portion of the guarantee fund moneys in government bonds and local irrigation district interest-bearing obligations.[315]

Since an examination of the Commission's activities shows that bonding powers are not presently utilized to gain funds for project construction and appropriated moneys are not expended for this purpose except for municipal water supply, drainage, and recreational projects,[316] a greater benefit probably could be realized from the guarantee fund than is presently being obtained. One explanation of why bonds have not been issued in recent years is the many programs offered by the various federal agencies utilizing

308. *Supra* note 110, at 28.
309. *Id.* at 28-29.
310. *Id.* at 29.
311. N.D. CENT. CODE § 61-02-56 (1960).
312. Ch. 97, § 1 [1941] N.D. Sess. Laws 125-26.
313. *Supra* note 110, at 28.
314. *Supra* note 49, at 96.
315. *See supra* note 49, at 36; 12 N.D. STATE WATER COMM. BIENNIAL REP. 155 (1958-1960).
316. Interview with Mr. Grindberg, *supra* note 22.

federal funds at the local level, making state or local contributions for project construction unnecessary in many instances.

Other Funds. In addition to the guarantee fund discussed above, the North Dakota Legislature has provided for the establishment of three other funds for use by the Commission.[317] (a) The "revenue bond payment fund" was created to identify moneys pledged to the retirement of outstanding bonds and the payment of interest thereon.[318] No other disbursements are to be made from this fund until such bonds are paid in full. (b) Proceeds from the sale of bonds as well as moneys received from any other source for the construction of works are to be placed in the "construction fund."[319] Payments from this source are to be made as directed by the Commission, and any surplus moneys placed in the "revenue bond payment fund." (c) Payments made by any political subdivision or the federal government in the form of matching funds to meet a portion of project costs are to be deposited in the "contract fund," and withdrawals therefrom may be made for contractual obligations of the Commission that arise from the project.[320]

An additional fund established by enabling legislation in 1937, entitled the "administrative fund," was to be used for general administrative expenses, employee salaries, investigations, planning, and project expenses prior to the receipt of proceeds from the sale of bonds.[321] However in 1965, the Legislature abolished this fund and designated the state treasury as the sole depository for all Commission funds.[322]

V. EMERGING ISSUES

From a state agency of relatively minor importance at the time of its inception in 1937, the Commission has evolved into a significant state organ charged with safeguarding one of North Dakota's most important natural resources.[323] In addition to the specific issues noted throughout the article, some broader issues have emerged that may confront the Commission and the Legis-

317. N.D. CENT. CODE § 61-02-64 (Supp. 1969).
318. N.D. CENT. CODE § 61-02-67 (1960).
319. N.D. CENT. CODE § 61-02-66 (1960).
320. N.D. CENT. CODE § 61-02-64.1 (Supp. 1969).
321. Ch. 255, § 31 [1937] N.D. Sess. Laws 502.
322. N.D. CENT. CODE § 61-02-64 (Supp. 1969).
323. As may be expected, state appropriations of funds for the Commission have increased through the years from the original biennial appropriation of $112,500 in 1937 (Ch. 255, § 31 [1937] N.D. Sess. Laws 502), and, it is projected by the Commission that $3,637,622 will be needed biennially to carry on its work by 1971. NORTH DAKOTA STATE WATER COMMISSION, SIX YEAR PLAN OF OPERATION 1967-1973, 5 (1967). For a more generalized prospectus as to necessary state expenditures through all agencies *see* NORTH DAKOTA STATE WATER COMMISSION, NORTH DAKOTA INTERIM STATE WATER RESOURCES DEVELOPMENT PLAN 216-21 (1968).

lature regarding the Commission's future role concerning the development and multiple use of the State's water resources and the Commission's relationship to other agencies.

Both the North Dakota statutes creating the Commission and its resulting activities have been primarily devoted to the *development* of water and related land resources, with considerable emphasis on irrigation and municipal and industrial water supplies. Less explicit attention is given to such considerations as aesthetic values and wildlife and associated recreational uses. In this development context, the statutory power "to conserve"[324] appears to be viewed primarily as the attainment of the most economical or efficient development; and there is little emphasis, for example, on preservation of free-flowing streams or nondevelopment in general as a conservation force.[325] In view of the current controversies in this country relative to development versus nondevelopment, whether the building of another dam on the Snake River in Idaho,[326] or the location of underground power facilities on the Hudson River in New York,[327] this issue is important. The Commission is not immune from becoming embroiled in such a controversy. In the section on priorities enacted by the North Dakota Legislature in 1963, a low priority is given to fish, wildlife and recreational uses. It states:

> In all cases where the use of water for different purposes conflicts such uses shall conform to the following order of priority:
>
> 1. Domestic use.
> 2. Livestock use.
> 3. Irrigation and industry.
> 4. Fish, wildlife and other outdoor recreational uses.[328]

If this section is applied literally to all controversies, it is theoretically possible that all uses except domestic could be preempted in North Dakota. Arguably, and at the other extreme, the policy should be that all uses should be permissible at all times in North Dakota. Perhaps, at the least, before any conflict develops (or even after one does), the Commission should be able to say,

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324. N.D. CENT. CODE § 61-02-14 (1) (d) (Supp. 1969) ("to conserve and develop the waters within the natural watershed areas of the state. . . .").

325. Any of the proposed water bank acts currently before Congress, if passed, may well become a classic example of including nondevelopment as a planning philosophy for water resources. *See, e.g.*, S. 2257, 91st Cong. (1969); H.R. 11,707, 91st Cong. (1969); H.R. 11,717, 91st Cong. (1969). Perhaps the wetlands study undertaken by the Commission, *see supra* note 188, has spurred this legislation along.

326. *See* Udall v. FPC, 387 U.S. 428 (1967).

327. *See* Scenic Hudson Preservation Conf. v. FPC, 354 F.2d 608 (2d Cir. 1965) *cert. denied*, 384 U.S. 941 (1966).

328. N.D. CENT. CODE § 61-01-01.1 (Supp. 1969).

for example, that maintenance of a free-flowing stream or portion thereof as a unique natural resource shall have priority for a certain area; but in another area irrigation shall have priority and so on. In this way the many segments of public preferences as to water resource utilization could be reflected in the ultimate resource allocation rather than just one primary segment. Even the original constitutional provision on this subject[329] can be challenged, since it refers only to mining, irrigation and manufacturing and thus leads toward pre-emption of the water resource for these purposes in *all* parts of the state. Perhaps in 1889 when there seemed to be water everywhere and few people around to use it, this was an understandable direction.

Then too, recognizing a variety of public preferences in the way suggested, is consistent with the preferable interpretation of the multiple-use[330] concept. The approach under this concept should not be that each drop of water is to be used for as many uses as possible, thus, at least theoretically, ruling out any essentially single purpose use. The preferable approach is that the *total* water resources of the state are to be used for as many purposes as possible.[331] Thus, a group of essentially single purpose uses from around the state considered together would form a multiple use of the state's water resources. In one area water might be used only to maintain a wilderness ecology[332] while in another area it might

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329. See the text at note 12 *supra.*

330. In the context of national forest legislation, Congress defined multiple use as:

> "The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output."

74 Stat. 215 (1960). In the same legislation, Congress specifically declared that "the establishment and maintenance of areas of wilderness are consistent with the purposes and provisions of this Act." *Id.*

331. That the concept has been misconstrued, *see* Starr, Multiple Land Use Management, 1 NATURAL RESOURCES J. 288 (1961) and particularly the view of the National Reclamation Association discussed therein at pages 292-93.

332. Wilderness may contain substantial values for society:

> "(1) It preserves for users a better understanding of our heritage; this is how it was when Lewis and Clark explored; this is what grandfather contended with when he homesteaded, and so on. (2) It gives man a refuge, a place to which to escape, a therapy, a place where he can be 'alone' in the midst of the earth.' ISAIAH 5:8. [The full text is: 'Woe unto them that join house to house, that lay field to field, till there be no place, that they may be placed alone in the midst of the earth.'] (3) It contains innumerable aesthetic values, not only for the human senses directly, but for the photographers' lens and the artists' brush. (4) It teaches the interdependence of life, bares the biotic community and shows the evolutionary process. (5) More than this, it is a research laboratory for the ecologist, the botanist, the biologist, and the ornithologist. (6) Maintenance of wilderness areas is neces-

be primarily used for irrigation. Of course, when a primary use for water is selected for any given area, it is only common sense to use it for as many other purposes as are compatible with that prime use and are economically feasible.

An important issue associated with such questions regarding development and multiple use of the State's water resources involves the relationship of the Commission's expanding role to the functions of other agencies. The Commission has been primarily concerned with the development of water and related land resources while some other agencies have been more concerned with the preservation of their natural condition. One can question, for example, whether one agency should be sponsoring drainage for farmland while another may be sponsoring wetland restoration in the same area.[333] An entirely satisfactory resolution of such questions may be difficult to attain. One approach might be for the Legislature to allow one agency to determine and carry out all of the State's water resource policies and programs. It could be given rather broad discretionary powers or it might be given rather detailed guidelines and directives. Another approach is to have one agency represent one view and another agency represent another and then allow them to resolve conflicts by such means as the strength of their arguments, their relative capabilities, and their constituencies.[334] The Commission might continue to have development as its primary mission and another agency have preservation as its primary goal. But difficulties in attaining suitable coordination of functions and resolution of conflicts may remain. This may be compounded by the fact that there are several, perhaps too

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sary to preserve some forms of wildlife. Perhaps in it exists a plant or an animal that will provide a cure for cancer or for heart disease.

> What good is an opossum? The March, 1963, issue of the Texas Game and Fish magazine carried the story of a special research program in the study of leukemia being carried out at the University of Colorado Medical Center. It seems that the lowly, useless opossum may prove the basis of a successful vaccine against this dread form of cancer. If such proves to be the case, it will be no unusual circumstance. From wild plants and animals have come many of our most valued products and medicines.

Boardman, *What Good Is An Opossum?*, National Parks Magazine, June, 1964, p. 19. (7) And even for those who cannot go to and there enjoy the wilderness, it may provide an uplifting feeling of mystery and awe." Beck, Book Review, 7 NATURAL RESOURCES J. 456, 457-58, n.5 (1967).

333. Problems of relationships between different areas of the State also may arise. For example, the draining of farm and housing development land in one area may contribute to the flooding of another area. If so, one can question whether the people of the latter area should in effect be required to pay part of the farmers' or developers' drainage costs. *See* Jones v. Boeing Company, 154 N.W.2d 897 (N.D. 1967), for a recent case involving an immediate consequence to another landowner when one landowner altered the drainage on his land.

334. This latter approach appears to be in part the theory of countervailing force advocated, among others, by Justice William O. Douglas. He would have established in the Federal Government an Office of Conservation with "White House" status to combat the Bureau of Public Roads, the Corps of Engineers, and other developmental agencies. *Supra* note 216, at 168-75.

many, agencies and other entities involved with water resources in North Dakota.[335] A brief description of their scope of operation has been included earlier.

The North Dakota Legislature appears to be wrestling with this problem. During the 1969 session a bill was introduced in the Senate to create a Department of Natural Resources[336] which supposedly would "integrate" the State Water Commission, State Game and Fish Department, State Outdoor Recreation Agency, North Dakota Park Service, State Forester, and Soil Conservation Committee. The bill lost in the Senate on a tie vote.[337] Undoubtedly the proposal will be raised again; final consideration of such a comprehensive change in organization should, however, be preceded by a thorough investigation and it is not evident that any such investigation has been made to date. Hopefully this article presents a small start. All of these questions and more will be explored in detail in the immediate years ahead.[338]

335. A difficulty with counting is that many of the local entities such as irrigation districts have multiplied over much of the state.

It is, of course, clear that a lot of co-operative effort takes place among these agencies. But occasionally snags result. A recent North Dakota newspaper headline read: "Starkweather Watershed Plan Said Unsatisfactory." Fargo Forum, October 22, 1969, p. 1, col. 2. According to the newspaper story the Department of the Interior had disapproved the plan because it was " 'unsatisfactory in recognizing the detrimental effects on wildlife resources from the inevitable drainage of natural wetlands.' " *Id.* This involves to some extent the type of controversy discussed in these concluding comments *supra* at notes 326-30.

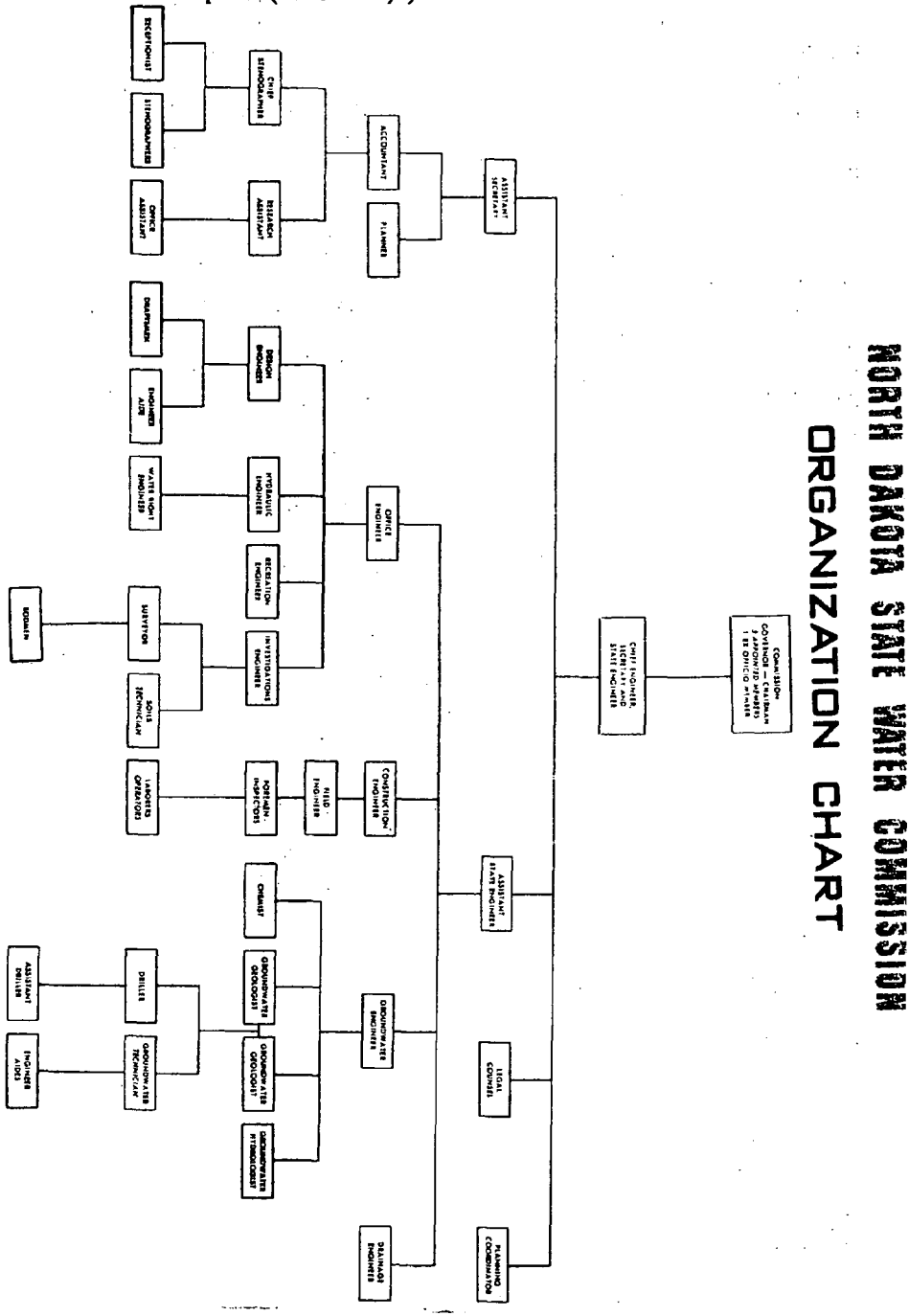
336. N.D. Senate Bill No. 409 (1969). There have been attempts at the national level also to create a Department of Natural Resources or Department of Resources, Environment, and Population. *See, e.g.,* S. 1446, 91st Cong. (1969); H.R. 12,000, 91st Cong. (1969).

337. N.D. Senate Journal 577-78 (1969).

338. This paper has been an overview of the Commission and therefore few, if any, detailed conclusions can be drawn. Certainly further attention will have to be paid to the details of what the Commission's role is with respect to water use and drainage, with respect to the negotiation of interstate compacts, and with respect to how the Commission proceeds, as well as to cooperation with and control over other agencies, and what each of these should be.

APPENDIX A

(Reprinted with Permission from 16 *N.D. State Water Comm. Biennial Rep.* 2 (1966-1968).)



APPENDIX B

Permit No.....

Application for a Permit to Divert and Appropriate the Water of the State of North Dakota

Date received and filed in State Engineer's office.....

....., whose post office
(Name of Applicant)
address is....., State of....., hereby applies for a permit to divert and appropriate water of the State of North Dakota as stated herein, subject to existing rights.

1. Source of proposed appropriation.....
   which is tributary to.....
2. A. Amount of water requested.....acre-feet annually
   B. Proposed rate of withdrawal of water.....cubic feet per second
   or.....gallons per minute.
3. Points of Diversion:
   A. (1) .....¼.....¼ Sec..... Twp.....Rge.....
   (2) .....¼.....¼ Sec..... Twp.....Rge.....
   (3) .....¼.....¼ Sec..... Twp.....Rge.....
   B. If water is to be delivered from storage reservoir complete the following: and file NDSWCC Form 110 or 111:
   Location of dam.....¼.....¼ Sec..... Twp..... Rge.....
   Height embankment above stream bed.....Ft.
   Capacity of Reservoir..... .....acre-feet. Area of water surface.....acres.
   C. If water is to be obtained from well complete the following:
   Proposed depth well.....Depth to top of Aquifer.....
   Proposed size well or well casing.....Depth to Bottom of Aquifer.....
   Has pump test been performed....., if so, by whom.....
   Computed capacity of well.....
4. Purpose.....
   A. If purpose is irrigation:
   Type of irrigation system.....Dates of use.....
   Estimate of time required for completion of system.....
5. Has the quality of water analysis been made?.....Class water C.....S.....
   Date Sample taken.....
6. Description of land to be irrigated (show lot numbers where applicable):

Sec.	Twp.	Rge.	NE ¼				NW ¼				SW ¼				SE ¼				Total
			NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	NE ¼	NW ¼	SW ¼	SE ¼	
																			Total number of acres to be irrigated

Located in.....County, North Dakota.
Estimated quantity of water that will be returned to the approximate source from which diverted:.....

.....
(Applicant's Signature)

NOTE: Above application is merely a declaration of intention to create a water right, approval does not create such right. Water right will be created only if and when water is beneficially used.

APPENDIX B (continued)

DO NOT COMPLETE THIS SIDE OF FORM — THIS SIDE FOR USE OF STATE ENGINEER

PERMIT

This is to certify that I have examined the foregoing application and hereby.....the same

.....
(If denied state reason, if approved state condition, if any, to approval)

.....

The amount of water to be appropriated shall be limited to the amount that can be used beneficially, not to exceed.....acre feet each year.

1. Date of priority.....
2. Date of hearing on application.....
3. Date of approval by State Water Conservation Commission.....
4. Construction to be initiated on or before.....
5. Construction to be completed on or before.....
6. Water shall be beneficially used on or before.....

WITNESS my hand and seal this.....day of....., 19.....

.....
State Engineer
Secretary, State Water Conservation Commission

APPENDIX C

STATE OF NORTH DAKOTA

Perfected Water Permit No. _____

Conditional Permit No._____ Priority Date_____

Name of Conditional Permit Holder_____

Address _____

Source of Water_____

Quantity of Water Approved in Conditional Permit_____ Nature of Use_____

Date Application Approved and Conditional Permit Issued_____

Date Water Beneficially Used_____

This is to certify that the holder(s) of the conditional permit to divert and appropriate water as indicated above ha_____ completed construction of the works as set forth therein. And that the holder(s) of said conditional permit did, on the_____ day of_____, 19____, submit proof of the application to beneficial use of_____ acre feet of water for the following purpose_____

_____

Now, therefore, by virtue of the authority vested in me by the laws of the State of North Dakota, I hereby grant and confirm to_____ of_____ holder(s) of said Conditional Permit No._____, a right dating from_____ to appropriate and divert from at a point located in the_____ ¼ Sec._____, Twp._____, Rge._____, a quantity of water limited to the amount that can be beneficially used herein, but not to exceed_____ acre feet annually for_____
(Purpose)
and if purpose is irrigation, water is to be applied to the following lands to which this Water Permit is appurtenant:

			NE¼				NW¼				SW¼				SE¼				TOTAL
Sec.	Twp.	Rge.	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Estimated return flow to stream_____

This Water Permit is subject to the limitation on the use of water as set forth in the laws of this State and to the rights of prior claimants recognized under the laws of North Dakota, and to the following additional limitations

_____

The right to use water for irrigation set forth herein is limited to the above described lands and is subject to cancellation for nonuse.

WITNESS my hand and seal at Bismarck, North Dakota, this_____ day of_____, 19____

(SEAL)

_____
State Engineer — State of North Dakota

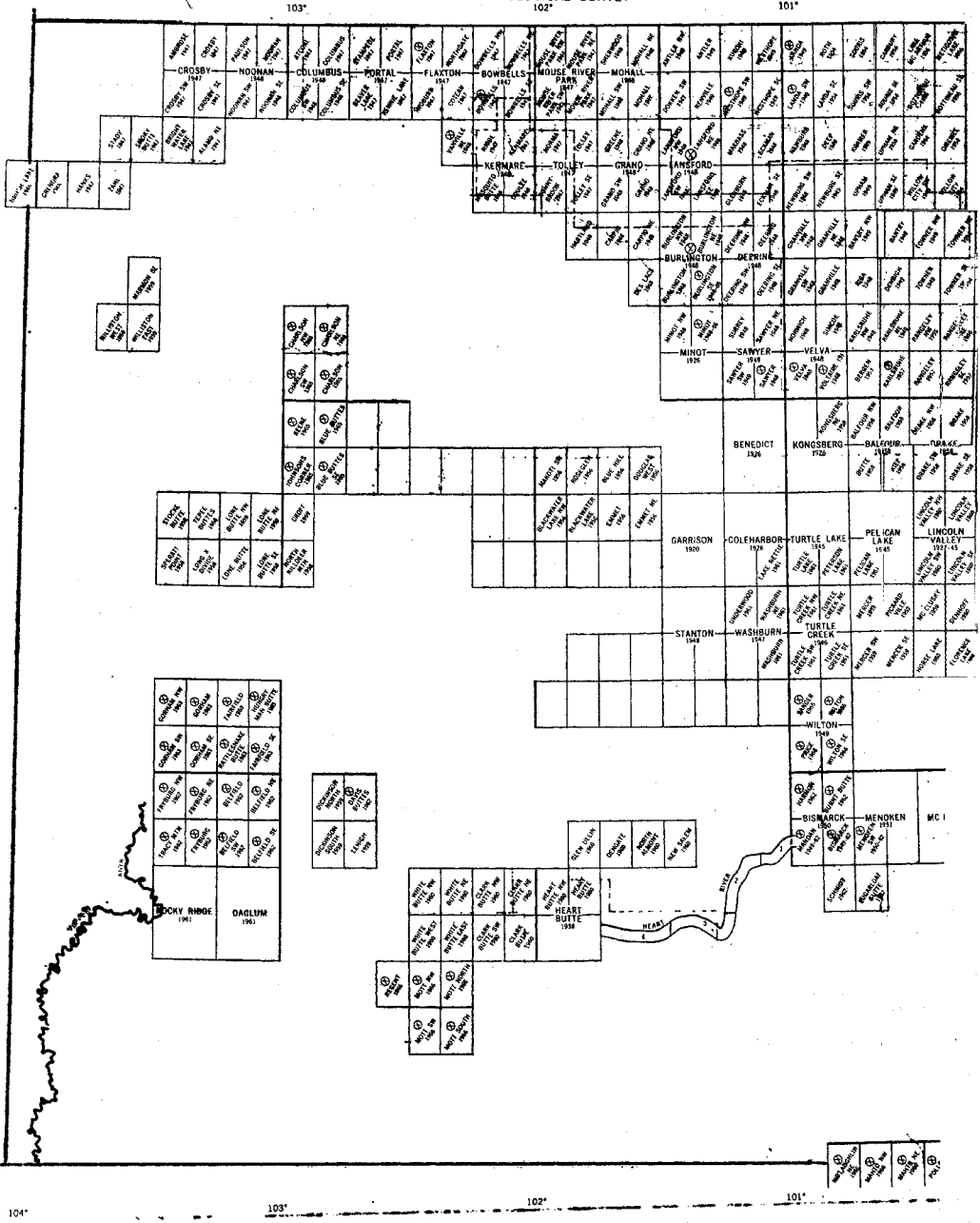
STATE OF NORTH DAKOTA, }
COUNTY OF BURLEIGH. } ss.

On this_____ day of_____, 19____, before me a notary public, personally appeared Milo W. Hoisveen, known to me to be the same person who executed the Perfected Water Permit and acknowledged to me that he executed the same.

_____
Notary Public

APPENDIX E

INDEX TO TOPOGRAPHIC MAPS OF NORTH DAKOTA
ORDER MAPS BY NAMES PRINTED IN BLACK AND BY SERIES DESIGNATION
ALL MAPS SHOWN ON THIS INDEX
ARE DISTRIBUTED BY THE GEOLOGICAL SURVEY



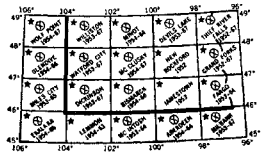
THE NUMBER OF PUBLISHED MAPS SHOWN ON THIS INDEX IS 691
DECEMBER 1968

ALL 7½' QUADRANGLE MAPS ARE PUBLISHED AT THE SCALE OF 1:24,000 UNLESS OTHERWISE INDICATED

(B) FOLLOWING QUADRANGLE NAME INDICATES MAP IS ALSO AVAILABLE IN A SHADED RELIEF EDITION

RIVER SURVEYS (SEE TEXT)

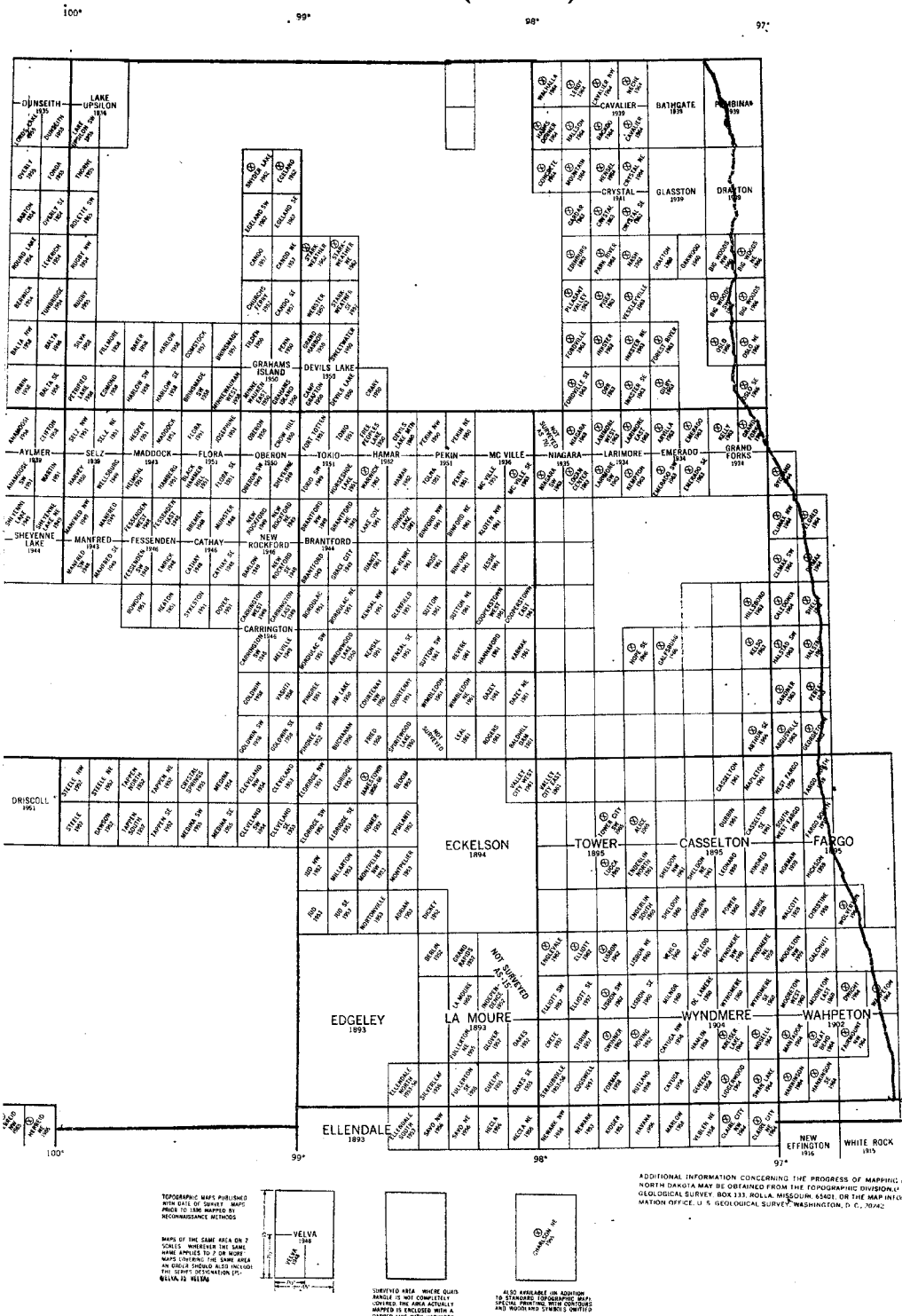
MAPS PUBLISHED



MAPS PUBLISHED AT THE SCALE OF 1:250,000 WITH DATE OF SURVEY (SEE TEXT)

* GEODETIC CONTROL DIAGRAMS PUBLISHED (SEE TEXT)

APPENDIX E (continued)



TOPOGRAPHIC MAPS PUBLISHED WITH DATE OF SURVEY. MAPS PRIOR TO 1936 MAPPED BY RECONNAISSANCE METHODS

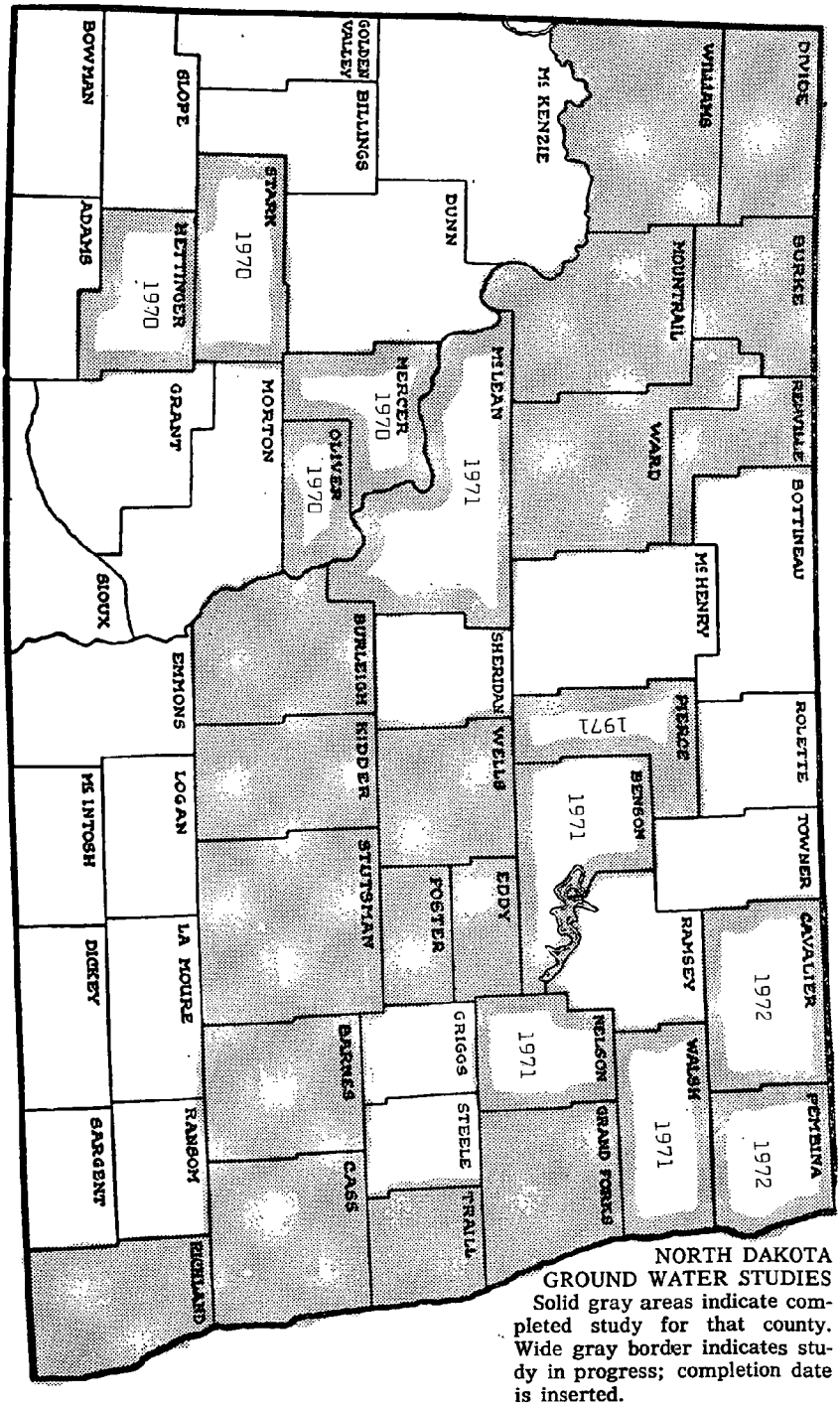
MAPS OF THE SAME AREA ON 7 SCALES. WHEREVER THE SAME NAME APPLIES TO 7 OR MORE MAPS COVERING THE SAME AREA AN ORDER SHOULD ALSO INCLUDE THE SERIES DESIGNATION (P.)

SURVEYED AREA. WHERE QUAD. RANGLE IS NOT COMPLETELY COVERED THE AREA ACTUALLY MAPPED IS ENCLOSED WITH A DASHED LINE WITH NOTCHES

ALSO AVAILABLE (IN ADDITION TO STANDARD TOPOGRAPHIC MAPS) SPECIAL PRINTING WITH CONTOURS AND WOODLAND SYMBOLS OMITTED

ADDITIONAL INFORMATION CONCERNING THE PROGRESS OF MAPPING IN NORTH DAKOTA MAY BE OBTAINED FROM THE TOPOGRAPHIC DIVISION, U.S. GEOLOGICAL SURVEY, BOX 133, ROLLA, MISSOURI, 65401, OR THE MAP INFORMATION OFFICE, U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C., 20242

APPENDIX D



NORTH DAKOTA GROUND WATER STUDIES
Solid gray areas indicate completed study for that county. Wide gray border indicates study in progress; completion date is inserted.