

Chapter 4. WATER USAGE AND DEMAND

TABLE OF CONTENTS

	Page
4.1 <u>Registered Wells</u>	3
4.2 <u>Domestic</u>	3
4.3 <u>Agricultural</u>	3
4.4 <u>Industrial</u>	4
4.5 <u>Other Plants and Animal Species</u>	4
4.6 <u>Recreation</u>	4
4.7 <u>Value of Ground Water</u>	4

CHAPTER 4. WATER USAGE AND DEMAND

This section discusses the current uses of water from all ground and surface water sources in the TPNRD.

4.1 Registered Wells

The registered wells in the TPNRD are shown in Figure 12. Figure 12 was prepared by the Nebraska Natural Resources Commission (NNRC) from data compiled in the Data Bank.

4.2 Domestic

Domestic uses of water include human consumption, sanitation and fire protection, as well as seasonal uses for landscaping irrigation and recreation areas. Major ground water concerns in the District focus on individual or community wells that provide potable water for human consumption, business and industry. These concerns are magnified near population centers that rely exclusively upon their relatively inexpensive, abundant ground water resources for future growth and development.

4.3 Agricultural

The use of water in agriculture involves two main enterprises: crop production and livestock.

A summary of irrigated acres by year from 1935 to 1993 is shown in Appendix G. Appendix G shows yearly totals by County within the TPNRD and cumulative totals by County within the TPNRD. Appendix G was prepared by NNRC from data compiled in the Data Bank.

A summary of irrigation wells by year from 1935 to 1993 is shown in Appendix E. Appendix E shows yearly totals by County within the TPNRD and cumulative totals by County within the TPNRD. Appendix E was prepared by NNRC from data compiled in the Data Bank.

The center pivot irrigation systems in the TPNRD are shown in Figure 13. Figure 13 was prepared by NNRC from data compiled in the Data Bank.

Subirrigation

Subirrigation or subirrigated land is the natural occurrence of a ground water table within the root zone of agricultural vegetation. Nebraska statutes section 46-655(14) define subirrigation as not exceeding ten feet below the surface of the ground.

Studies have not been done for the lands within the TPNRD to determine the extent of subirrigation in the TPNRD.

Subirrigation exists in the valley lands and in scattered areas throughout the uplands within the TPNRD.

4.4 Industrial

Water used for industrial purposes in the TPNRD is limited.

A summary of industrial wells by year from 1935 to 1993 is shown in Appendix F. Appendix F shows yearly totals by County within the TPNRD and cumulative totals by County within the TPNRD. Appendix F was prepared by NNRC from data compiled in the Data Bank.

4.5 Other Plant and Animal Species

Surface water is the predominant source of water used by fish and wildlife.

Refer to Chapter 7 for information on endangered and threatened species.

4.6 Recreation

No information was obtained on water usage and demand for recreation.

4.7 Value of Ground Water

There is insufficient data available to estimate the value of ground water use. However, an indication that a value does exist can be shown. In agriculture, irrigation of crops will increase yields. Placing a dollar value on ground water supplies for domestic or municipal usage is extremely difficult. If, however, a public or private water system is threatened either by quality or quantity problems, resolutions may be very costly.

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