# GROUND WATER MANAGEMENT PLAN

## 1995

LOWER PLATTE SOUTH
NATURAL RESOURCES DISTRICT
3125 Portia
Lincoln, Nebraska

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## Ground Water Management Plan Update


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## 10.0 The Plan for LPS NRD Ground Water Management

### 10.1 Introduction

In 1985, the LPS NRD developed it's first Ground Water Management Plan, designed to satisfy requirements of the Nebraska Ground Water Management and Protection Act (Section 46-673.01-.04 of Nebraska Statutes). The Plan served as a foundation upon which the LPS NRD has built goals, programs, and policies to preserve the valuable resource. Since, nearly the entire population of the LPS NRD depends upon ground water for its source of water, the development and maintenance of a good solid plan is important for present and future members of the Board of Directors to understand the supply and its quality, as well as provide a tool for use in decision-making. This Plan section provides the framework for the LPS NRD's planning activities. It provides a discussion of its relationship to the overall LPS NRD mission, describes the LPS NRD's general strategy for ground water management, defines the goals for management of ground water in the LPS NRD, and details the objectives, programs, and policies designed to meet those goals.

During the planning process for the 1985 Plan, the Board of Directors anticipated that the demand for ground water would generally increase during the next 20 years in the LPS NRD. They anticipated the following development scenario:

> *Irrigation use will increase, but so will efficiency of water use.*
>
> *Individual domestic use will see little change because rural water districts are reaching out to these users and are providing water of better quality and quantity for them.*
>
> *Municipal use will increase.*
>
> *Industrial use will increase.*
>
> *Areas and the number of residents served by Rural Water Districts will increase.*

It has been ten years since this prediction was made and it appears to have been relatively on target. Irrigation well development has continued to rise (as shown by the number of irrigation wells). Municipal and Industrial water needs have increased, and are projected to continue to do so, which resulted in the City of Lincoln's drive to expand the capacity of the Ashland well field. Some growth in individual domestic use has occurred on the fringes of the Lincoln area, with the development of non-farm acreages, many of which are self-supplied and some are community water systems. Generally, Rural Water Districts (RWD) within the LPS NRD have experienced increases in population and service connections, with some RWD's expanding their water supply capacity to accommodate the demand. While the LPS NRD is largely overlain by Rural Water Districts (RWDs) and the area served by the Lincoln Water System, an additional RWD has been proposed and is under early stages of investigation to serve an area west of Lincoln whose water supply is limited by quality concerns.

During the update (1993) planning process, county officials within the LPS NRD and the Nebraska Bureau of Business Research, were contacted to gain insight into projected growth. While the type of information provided varied significantly, generally the following 20-year development scenario was expressed:

1) Farm populations will remain stable or decrease.
2) Non-farm residents will increase.
3) While the total number of farms will likely decrease, the land in agriculture will remain stable.

The dependency of water users in the LPS NRD on a sufficient supply of good quality water now and in the future has spurred the Board of Directors to adopt a policy of proactive ground water management. They recognize the time and resources required to correct a problem after it occurs or is allowed to continue, is substantial when compared to the cost of prevention and/or quick response.

## 10.2 Ground Water Quality and Quantity Life Goals

The LPS NRD developed a Master Plan for resources development in the late 1970's, which early on stated the following Goal and Objectives for water quantity, quality and pollution control:

**GOAL: MAINTAIN THE QUANTITY AND QUALITY OF GROUND WATER FOR ANY BENEFICIAL USE IN CONFORMANCE WITH STATE STANDARDS.**

*Objective 1 - Protect ground water from point and non-point sources of pollutants, with effluent discharges meeting standards set by State or other agencies.*

*Objective 2 - Manage ground water quantity and quality levels through monitoring programs in compliance with Nebraska Ground Water Protection Standards and with provisions of Ground Water Management and Protection Act.*

*Objective 3 - Manage ground water for effective long-term conservation and utilization.*

*Objective 4 - Encourage proper development and conservation of ground water.*

*Objective 5 - Implement the policies in the District's Ground Water Management Plan and update as needed.*

*Objective 6 - Reduce potential for contamination by pesticides and fertilizers from chemigation through irrigation systems.*

*Objective 7 - Work collectively with other agencies to evaluate ground water quantity and quality data.*

These management objectives to achieve the stated goal have been instrumental in guiding the allocation of the LPS NRD's financial and manpower resources, and serve as the foundation upon which the Ground Water Management Plan is built.

## 10.3 Ground Water Management Strategy

### 10.3.1 Intent

The Lower Platte South Board of Directors has taken a proactive approach to ground water management in the LPS NRD. In order for a proactive approach to be effective it is important to understand the existing geologic conditions which vary widely across the LPS NRD and the extent and cause of ground water quality and quantity problems. Once understood, solutions can be tailored to match the problems and can be implemented. The LPS NRD will protect the ground water resource from non point source pollution and ground water level declines by utilizing all of its technical, financial, and educational capabilities and its regulatory authorities. The LPS NRD will also assist other local entities to protect ground water from point source pollution.

The LPS NRD recognizes the need for a combination of approaches to manage its ground water resources. Historically, the LPS NRD has utilized primarily non-regulatory approaches, including: public education; encouragement of voluntary use of best management practices; governmental inter-agency coordination; monitoring to identify water quality and quantity problems; and inspection and demonstration (training) programs. These voluntary programs will continue until either ground water quality or quantity problems become known and are evaluated. Where problems arise the LPS NRD will first offer additional cost-share incentives and accelerate information and education activities in the affected area. If problems continue to worsen regulations will be implemented to protect the ground water resource.

To best respond to ground water quality or quantity problems the LPS NRD has determined that a Ground Water Management Area (GWMA) encompassing the entire LPS NRD will be established. Once the Ground Water Management Plan is approved by the Department of Water Resources the LPS NRD will begin the process of establishing the Ground Water

Management Area. The LPS NRD anticipates it will take 6-12 months to establish the Ground Water Management Area. Under a Ground Water Management Area, the LPS NRD will manage ground water by use of any one or a combination of the following means:

1) Allocating the total permissible withdrawal of ground water;

2) Rotation of use of ground water;

3) Well-spacing requirements pursuant to Section 46-673.12;

4) Reduction of irrigated acres;

5) Requiring the use of flow meters on wells;

6) Best management practices;

7) Requiring the analysis of water or deep soils for fertilizer and chemical content

8) Educational programs designed to protect water quality.

(Source: Laws 1982, LB375, 11;Laws 1986, LB894, 30;Laws 1991, LB51, 4;Laws 1993, LB439, 2;Laws 1993, LB131, 32.)

The LPS NRD has designated areas of management for both ground water quality and quantity, has established a limit "trigger" to the amount of contamination or decline that is allowed, and has developed actions to be implemented in three different Phases of management. The entire LPS NRD will be placed in Phase I of the Ground Water Management Area. If problems arise and a higher limit is reached this will trigger the actions called for in a higher Phase (II or III) of management.

### 10.3.2 Ground Water Quality

#### 1) Designated Areas of Management

The ground water resources in the LPS NRD are widely varied from area to area, both in quantity and quality. The LPS NRD has established this plan to manage ground water quality in wellhead protection areas of community water systems, hereafter referred to as "Community Water System Protection Areas", "Ground Water Reservoirs", and the "Remaining Area".

The LPS NRD has designated the following five "Ground Water Reservoirs": Missouri River Valley, Platte River Valley, Waverly, Dwight-Valparaiso, and Crete-Princeton "Ground Water Reservoirs". (Figure 3)

The LPS NRD has also designated the balance of the LPS NRD, outside the five "Ground Water Reservoirs" as the "Remaining Area". The best available information indicates that portions of the "Remaining Area", including the Dakota Sandstone formation, can yield useable quantities of ground water. The natural quality and quantity of the ground water in the "Remaining Area" is highly variable.

The LPS NRD has designated, and will also delineate, "Community Water System Protection Areas" which will encompass the 20-year time-of-travel of water systems that are classified by EPA as a Community Water System. A 20 year time-of-travel refers to the amount of time it will take water or a contaminant to reach the wellhead site from the edge of the delineated area. Each designated area of management will be managed separately and have a monitoring network, components that will trigger phase determination, and management tools established to serve as the LPS NRD's plan for management.

The "Community Water System Protection Area" will automatically assume the phase designation of the "Ground Water Reservoir" or "Remaining Area" in which it is located unless the "Community Water System Protection Area" is at a higher phase of management.

**2) Monitoring Network**

Different levels of monitoring will be conducted in each designated area of management. The greatest level of monitoring will be within the "Community Water System Protection Areas" and the five designated "Ground Water Reservoirs", with less intense monitoring in the "Remaining Area". (see Appendix C)

All monitoring wells will be sampled at least annually for Phase determination. When more than one sample is taken from any well in a given year the quality results will be averaged. To ensure the LPS NRD's ability to sample production wells in a timely manner, long term agreements with landowners will be obtained. Past LPS NRD sampling efforts have been hampered by wet and dry climatic cycles and wells being rendered temporarily inactive as a result of the Conservation Reserve Program, land use changes, etc.

**a) Community Water System Protection Areas**

For each "Community Water System Protection Area", a monitoring well network will be established in cooperation with the community water supplier. At a minimum this network will include the water supplier's well(s) and possibly other registered wells, supplemented as necessary by dedicated monitoring wells. The LPS NRD will encourage the owner of each Community Water System to participate with the LPS NRD and share in the cost to install and monitor a system of dedicated detection wells.

**b) Designated Ground Water Reservoirs**

In the five designated "Ground Water Reservoirs", the LPS NRD will sample a minimum of one well per two mile grid. Existing wells to be sampled will be registered large capacity wells with yields greater than 50 gallons per minute (gpm) that are screened in the water bearing formation, as well as registered small capacity wells. In areas where existing wells are not available, the LPS NRD will install dedicated monitoring wells to complete the network.

**c) Remaining Area**

The LPS NRD will identify 20% of the registered large capacity wells, as spatially distributed as possible, to monitor long term trends and Phase determination in the "Remaining Area" of the LPS NRD.

**3) Phase Determination Criteria - Water Quality Trigger**

Upon establishment of the Ground Water Management Area (GWMA), the entire LPS NRD will be placed in Phase I.

For a designated area of management to move into another Phase, all of the following must occur based on samples from the monitoring network:

1) a monitoring network well meets or exceeds the percentage of the maximum contaminant level (MCL) for a contaminant that could potentially be from non point source pollution;

2) a set percentage of the monitoring network wells (% listed on the following page) within a designated area of management must be at or above the percentage of the maximum contaminant level (MCL);

3) an investigation (verification) of the area where the monitoring network well(s) exceed the percentage of maximum contaminant level (MCL) and percentage of monitoring network wells will have been conducted to verify the sample and identify contributing sources of pollution.

**a) Percentage of Maximum Contamination Level (MCL)**

The most current Safe Drinking Water Standards as set by the Nebraska Department of Health and the U.S.E.P.A. will be the official listing of the Maximum Contaminant Level (MCL) (Table 6). The Maximum Contaminant Level (MCL) will be the basis of management. Contaminants include all pollutants that are potentially from a non point source (i.e. Nitrate, pesticides, etc.) The following are the water quality levels for phase determination:

**≤49% of the MCL - Phase I**

**50-79% of the MCL - Phase II**

**≥80% of the MCL - Phase III**

**b) Percentage of Monitoring Network Wells**

In designated "Ground Water Reservoirs", "Community Water System Protection Areas" or the "Remaining Area", at least 50% of the wells in the monitoring network must be at/or above 50% of the MCL to initiate the verification component. In order for a designated "Ground Water Reservoir", "Community Water System Protection Area" or "Remaining Area" to qualify as Phase III, at least 80% of the samples in the monitoring network must be at/or above 80% of the MCL.

**c) Verification**

When the annual sampling of the monitoring network indicates that an area meets the Phase II or III requirements of both (a) and (b) above, the LPS NRD will conduct an investigation. This investigation will be conducted and completed within a two year period and will address but not be limited to:

- re-sampling all monitoring wells in the area,
- if N is a contaminant, determine if it is organic or inorganic,
- determine if contaminant(s) are from a point or nonpoint source,
- re-evaluate susceptibility of the vadose zone to nonpoint source pollution,

- install multi-level monitoring wells to evaluate the saturated zone,
- evaluate susceptibility of the monitoring well to preferential flow, and
- determine impacts of the ground water reservoirs' recharge areas.

**4) Management Tools**

Upon approval of the Ground Water Management Plan the LPS NRD will begin the process to establish a LPS NRD-wide Ground Water Management Area (GWMA). Within one year a Ground Water Management Area (GWMA) will be established and the following management actions will be taken for Ground Water Quality in each of the appropriate designated areas for Phase I, II, or III.

**The GWMA will encompass the entire LPS NRD and the Phase Designations and Phase Actions will apply to both urban and rural lands.**

## Lower Platte South Natural Resources LPS NRD — Ground Water Quality — Phase 1 Area

| Phase Area | Date To Begin | Phase Status | Phase Determination Criteria | The LPSNRD shall adopt all of the following Phase Actions as they apply toward appropriate urban and rural environments |
|---|---|---|---|---|
| Entire LPS NRD | 1 Year after GWMP approved by DWR | Phase 1 Area | Entire LPS NRD is Phase 1 Area after GWMA designation by LPS NRD Board of Directors | 1) Establish educational programs to protect water quality and quantity.<br><br>2) Formation of ground water advisory committee.<br><br>3) Establish, disseminate and demonstrate Best Management Practices (BMPs) and other management practices utilized to prevent or reduce present and future contamination of ground water. This will include, but not be limited to: irrigation scheduling; proper timing of fertilizer and pesticide application; proper chemigation and fertigation techniques; crop rotation; residue management; and contaminant source inventories.<br><br>4) Require permits for all new wells (> 50 gpm) prior to commencing construction of the new well, pursuant to Neb. Rev. Stat. § 46-659 (Cum. Supp. 1994)<br><br>5) Establish priorities for implementing dedicated monitoring well network, a Community Water Supply Protection Area program, best management practices demonstrations, and hydrogeologic research.<br><br>6) Report all ground water quality and quantity monitoring results to appropriate local, state and federal agencies.<br><br>7) Coordinate activities with local, state and federal agencies.<br><br>8) Disseminate ground water information to the public.<br><br>9) Conduct annual review to determine Phase 1 Actions effectiveness. |

## Lower Platte South Natural Resources LPS NRD — Ground Water Quality — Phase 2 Area

| Phase Area | Date To Begin | Phase Status | Phase Determination Criteria | The LPSNRD shall adopt all of the following Phase Actions as they apply toward appropriate urban or rural environments |
|---|---|---|---|---|
| Any Designated Area of Management | 1 Year after Phase Determination Criteria has been satisfied | Phase 2 Area | Upon completion of a verification study indicating at least 50% of the LPS NRD's monitoring network wells within a designated area of management are at or above 50% of the MCL for non-point source contaminant(s) | 1) Continue all Phase 1 Actions<br><br>2) Establish cost-share programs to implement Best Management Practices (BMPs) and other management practices utilized to prevent or reduce present and future contamination of ground water. This will include, but not be limited to: irrigation scheduling; proper timing of fertilizer and pesticide application; proper chemigation and fertigation techniques; crop rotation; residue management; and contaminant source inventories.<br><br>3) Require educational certification programs for landowners/operators engaged in the use, application and storage of the contaminant(s).<br><br>4) Conduct annual review to determine Phase 2 Actions effectiveness. |

| Phase Area | Date To Begin | Phase Status | Phase Determination Criteria | The LPSNRD shall adopt all Phase Actions 1-9 as they apply toward appropriate urban or rural environments |
|---|---|---|---|---|
| Any Designated Area of Management | 1 Year after Phase Determination Criteria has been satisfied | Phase 3 Area | Upon completion of a verification study indicating at least 80% of the LPS NRD's monitoring network wells within a designated area of management are at or above 80% of the MCL for any non-point source contaminant(s) | 1) Continue all Phase 1 Actions<br><br>2) Continue all Phase 2 Actions (except no cost-share)<br><br>3) Require implementation of Best Management Practices (BMPs) and other management practices utilized to prevent or reduce present and future contamination of ground water. This will include, but not be limited to: irrigation scheduling; proper timing of fertilizer and pesticide application; proper chemigation and fertigation techniques; crop rotation; residue management; and contaminant source inventories.<br><br>4) Require landowners applying the contaminant(s) to conduct analysis of water and/or deep soils for the contaminant(s).<br><br>5) Prohibit the application of any contaminant(s) based on soil type, leachability of contaminant(s), contaminant level in water or soil samples, or recommended applications, during certain times of the year.<br><br>6) Require the use of inhibitors to reduce leaching of the contaminant(s).<br><br>7) Increase vadose zone monitoring to determine fate and quantity of contaminant(s).<br><br>8) Require landowners engaged in the use or application of the contaminant(s) to report water and soil sampling results annually to the LPS NRD.<br><br>9) Conduct annual review to determine Phase 3 Actions effectiveness. |
| | | | | **The LPSNRD shall adopt one or more of Phase Actions 10-14 as they apply toward appropriate urban or rural environments** |
| | | | | 10) Allocating the total permissible withdrawal of ground water.<br><br>11) Rotation of use of ground water.<br><br>12) Well spacing requirements pursuant to Neb. Rev. Stat. § 46-673.12 (Cum. Supp. 1994).<br><br>13) Reduction of Irrigated Acres.<br><br>14) Require the use of flow meters on water wells. |

### 10.3.3 Ground Water Quantity

**1) Designated Areas of Management**

The ground water resources in the LPS NRD are widely varied from area to area, both in quantity and quality. The LPS NRD has established this plan to manage ground water quantity in "Ground Water Reservoirs" and the "Remaining Area". The LPS NRD has designated the following five "Ground Water Reservoirs"; Missouri River Valley, Platte River Valley, Waverly, Dwight-Valparaiso, and Crete-Princeton "Ground Water Reservoir". (Figure 3)

The LPS NRD has also designated the balance of the LPS NRD, outside the five "Ground Water Reservoirs as the "Remaining Area". The best available information indicates that portions of the "Remaining Area", including the Dakota sandstone formation, can yield useable quantities of ground water. The natural quality and quantity of the ground water in the "Remaining Area" is highly variable. Each designated area of management will be managed separately and have a monitoring network, a set amount of decline that will serve as a trigger for each action, and specific actions for each phase of management.

**2) Monitoring Network**

The LPS NRD will monitor 20% of the registered large capacity wells in the "Remaining Area, and one well per two mile grid in the five designated "Ground Water Reservoirs". Existing wells to be sampled will be registered large capacity wells with yields greater than 50 gallons per minute (gpm) that are screened in the water bearing formation. In the five "Ground Water Reservoirs" where existing wells are not available, the LPS NRD will install dedicated wells and utilize them for both water quantity monitoring and water quality sampling. The saturated thickness will be established for each monitoring network well. The saturated thickness will be that vertical distance, measured in feet, between the base of the water bearing formation and the average spring static water level (Figure 26). For newer monitoring

wells with less than five years of data the saturated thickness will be calculated using interpolated levels based on existing data.

**3) Phase Determination Criteria - Water Quantity Trigger**

Upon establishment of the Ground Water Management Area (GWMA), the entire LPS NRD will be placed in Phase I. The LPS NRD will continue to take spring water level readings from each of the LPS NRD monitoring network wells. For a designated area of management to move into another Phase, a set percentage of the monitoring network wells must have declined to a set percentage of the saturated thickness for a two consecutive year period (spring levels).

**a) Triggers for Spring Static Water Level Decline**

**Phase I** - Upon establishment of the Ground Water Management Area.

**Phase II** - When spring static water level elevations in 30% of the monitoring wells in that designated area of management have declined from the established upper elevation of the saturated thickness to an elevation that represents a $\geq$ *% reduction in the saturated thickness and have remained below that elevation for a two-consecutive-year period (spring levels). *See chart below for the *% for each designated area of management.

**Phase III** - When spring static water level elevations in 50% of the monitoring wells in that designated area of management have declined from the established upper elevation of the saturated thickness to an elevation that represents a $\geq$ *% reduction in the saturated thickness and have remained below that elevation for a two-consecutive-year period (spring levels).

* see chart on following page for the *% for each designated area of management.

| GW Reservoir | Phase II | Phase III |
|---|---|---|

| | | |
|---|---|---|
| **Missouri River** | **8%** | **15%** |
| **Platte River** | **8%** | **15%** |
| **Waverly** | **15%** | **30%** |
| **Dwight-Valparaiso** | **8%** | **15%** |
| **Crete-Princeton** | **8%** | **15%** |
| **Remaining Area** | **8%** | **15%** |

(See Figure 26 LPS NRD Quantity Phase Determination)

**4) Management Tools**

Upon approval of the Ground Water Management Plan the LPS NRD will begin the process to establish a LPS NRD-wide Ground Water Management Area (GWMA). Within one year the Ground Water Management Area (GWMA) will be established and the following management actions will be taken for Ground Water Quantity in each of the appropriate designated areas for Phase I, II, or III.

**The GWMA will encompass the entire LPS NRD and the Phase Designations and Phase Actions will apply on both urban and rural lands.**

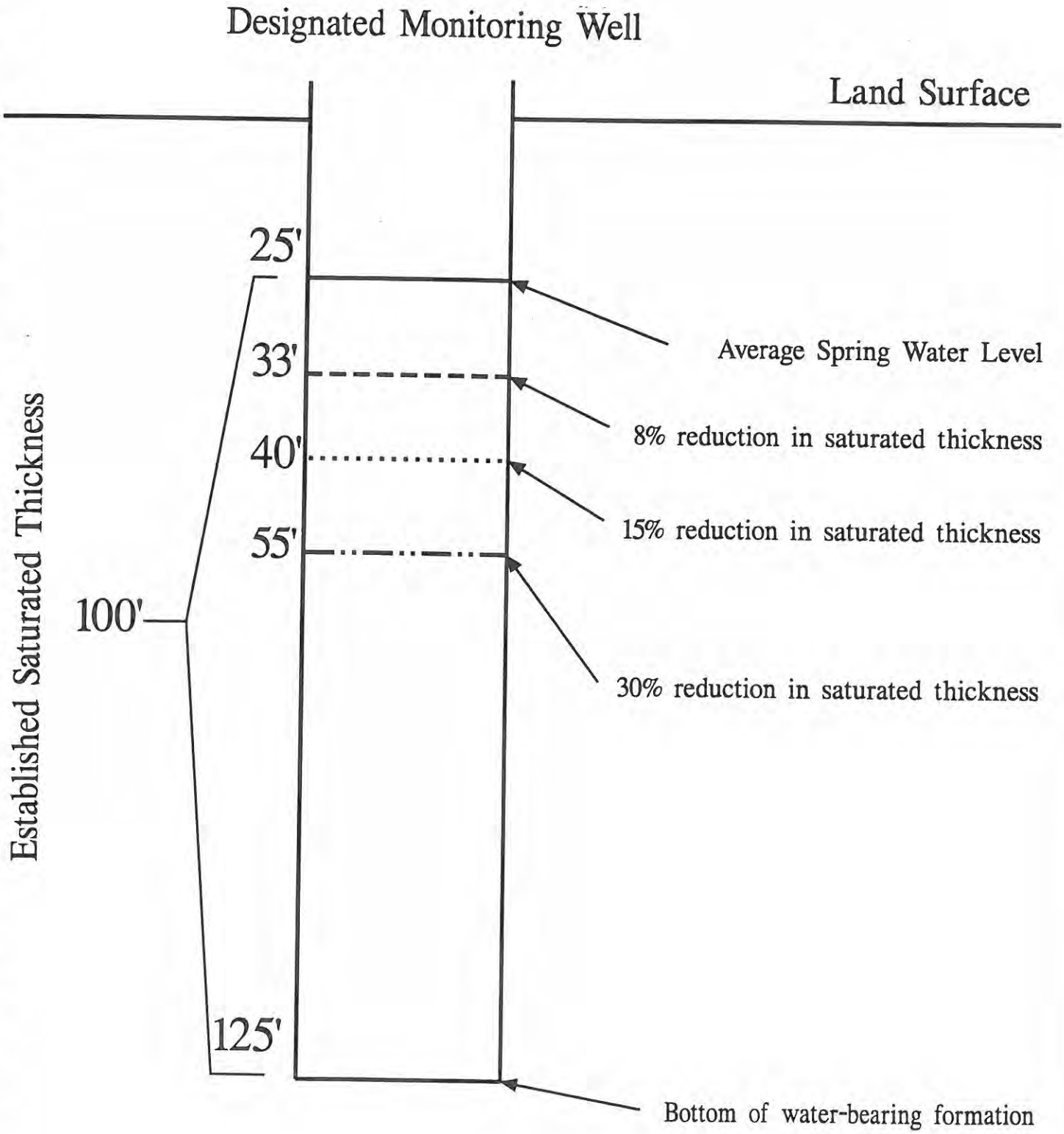


Figure 26
LPS NRD Quantity Phase
Determination

| Phase Area | Date To Begin | Phase Status | Phase Determination Criteria | The LPS NRD shall adopt all the following Phase Actions as they apply toward appropriate urban or rural environments |
|---|---|---|---|---|
| Entire LPS NRD | 1 Year after GWMP approved by DWR | Phase 1 Area | Entire LPS NRD is Phase 1 Area after GWMA designation by LPS NRD Board of Directors | 1) Establish educational programs to protect water quality and quantity.<br><br>2) Formation of ground water advisory committee.<br><br>3) Establish, disseminate and demonstrate Best Management Practices (BMPs) and other management practices utilized to prevent or reduce the depletion of ground water. This will include, but not be limited to: irrigation scheduling; land treatment; irrigation surge and pivot conversions; water return lines; wind breaks; proper chemigation and fertigation techniques; crop rotation; reuse systems; water use efficiency techniques and residue management.<br><br>4) Establish program for landowner cost-share and technical assistance flow meters and flow measurements for irrigation and commercial water wells.<br><br>5) Require permits for all new wells (> 50 gpm) prior to commencing construction of the new well, pursuant to Neb. Rev. Stat. § 46-659 (Cum. Supp. 1994)<br><br>6) Establish priorities for implementing dedicated monitoring well network, a Community Water Supply Protection Area program, best management practices demonstrations, and hydrogeologic research.<br><br>7) Report all ground water quality and quantity monitoring results to appropriate local, state and federal agencies.<br><br>8) Coordinate activities with local, state and federal agencies.<br><br>9) Disseminate ground water information to the public.<br><br>10) Conduct annual review to determine Phase 1 Actions effectiveness. |

| Phase Area | Date To Begin | Phase Status | Phase Determination Criteria | | The LPS NRD shall adopt all of the following Phase Actions as they apply toward appropriate urban or rural environments |
|---|---|---|---|---|---|
| Any Designated Area of Management | 1 Year after Phase Determination Criteria has been satisfied | Phase 2 Area | When spring static water elevations in 30% of the monitoring wells in that designated area of management have declined from the established upper elevation of the saturated thickness to an elevation that represents a ≥ *% reduction in the saturated thickness and has remained below that elevation for a two-consecutive -year period (spring levels).<br>*** see below** | | 1) Continue all Phase 1 Actions<br><br>2) Establish cost-share programs to implement Best Management Practices (BMPs) and other management practices utilized to prevent or reduce the depletion of ground water. This will include, but not be limited to: irrigation scheduling; land treatment; irrigation surge and pivot conversions; water return lines; wind breaks; proper chemigation and fertigation techniques; crop rotation; reuse systems; water use efficiency techniques and residue management.<br><br>3) Require educational certification programs for water well system landowners and/or operators.<br><br>4) Continue cost-share program and require the use of flow meters or flow measurements for irrigation and commercial water wells.<br><br>5) Conduct annual review to determine Phase 2 Actions effectiveness. |
| | | | Waverly GWR | 15% | |
| | | | Missouri River GWR | 8% | |
| | | | Platte River GWR | 8% | |
| | | | Crete-Princeton GWR | 8% | |
| | | | Dwight-Valparaiso GWR | 8% | |
| | | | Remaining Area | 8% | |

| Phase Area | Date To Begin | Phase Status | Phase Determination Criteria | | The LPS NRD shall adopt all Phase Actions 1-5 as they apply toward appropriate urban or rural environments |
|---|---|---|---|---|---|
| Any Designated Area of Management | 1 Year after Phase Determination Criteria has been satisfied | Phase 3 Area | When spring static water elevations in 50% of the monitoring wells in that designated area of management have declined from the established upper elevation of the saturated thickness to an elevation that represents a ≥ *% reduction in the saturated thickness and has remained below that elevation for a two-consecutive -year period (spring levels).<br><br>* see below | | 1) Continue all Phase 1 Actions<br><br>2) Continue all Phase 2 Actions (except no cost-share)<br><br>3) Require implementation of Best Management Practices (BMPs) and other management practices utilized to prevent or reduce the depletion of ground water. This will include, but not be limited to: irrigation scheduling; irrigation surge and pivot conversions; water return lines; proper chemigation and fertigation techniques; crop rotation; reuse systems; water use efficiency techniques and residue management.<br><br>4) Conduct annual review to determine Phase 3 Actions effectiveness.<br><br>5) Well spacing requirements pursuant to Neb. Rev. Stat. § 46-673.12 (Cum. Supp. 1994). |
| | | | Waverly GWR | 30% | **The LPSNRD shall adopt one or more of Phase Actions 6-8**<br><br>6) Allocating the total permissible withdrawal of ground water.<br><br>7) Rotation of use of ground water.<br><br>8) Reduction of Irrigated Acres. |
| | | | Missouri River GWR | 15% | |
| | | | Platte River GWR | 15% | |
| | | | Crete-Princeton GWR | 15% | |
| | | | Dwight-Valparaiso GWR | 15% | |
| | | | Remaining Area | 15% | |