



Protecting Groundwater from Pesticide Contamination

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■ North Dakota Philosophy of Protecting Groundwater

The North Dakota State Management Plan for Pesticides and Groundwater outlines the strategy to prevent degradation of groundwater by pesticides while protecting the beneficial uses of pesticides. The plan follows guidelines outlined by the United States Environmental Protection Agency (EPA) and is approved by the agencies with roles in the plan. EPA requires states to have this plan as well as approved management plans for each pesticide the EPA determines to be a contamination threat to groundwater.

State Management Plan Goals

The state management plan details five goals designed to keep pesticides out of groundwater.

- Identify the water resources with potential for contamination from pesticides.
- Determine the quantities of each pesticide used in North Dakota each year.
- Develop Best Management Practices that protect groundwater from contamination by pesticides.

- Establish an ongoing groundwater quality monitoring system.
- Develop educational materials designed to prevent or reduce pesticide contamination of water resources.

What is Degradation?

The plan defines degradation of groundwater as adverse impacts on the beneficial use of groundwater or potential human health effects. The standards used are either maximum contaminant levels (MCL) or health advisory levels (HAL) defined in the Safe Drinking Water Act. Other secondary criteria can be applied according to current and future use.

Ways to Prevent Contamination

The North Dakota plan emphasizes Best Management Practices (BMP) designed to protect groundwater quality, encourage pesticide user education, and provide technical assistance. Responses to groundwater contamination depend on the specific pesticide and concentration at which it is detected. Responses may include further groundwater monitoring, contamination prevention measures, mitigation of a specific problem, or temporary pesticide control measures.



NDSU EXTENSION SERVICE



■ Roles and Responsibilities

Coordinating Mechanism

The State Management Plan for Pesticides and Groundwater outlines a committee process to coordinate planning and response activities of the cooperating agencies and groups.

The **Department of Agriculture** serves as the contact between North Dakota and the EPA regarding the state management plan.

The **Working Committee** implements the plan and is responsible to develop management plans for specific pesticides required by the EPA. Representatives of various state agencies make up the Working Committee.

The **Technical Committee** assists the Working Committee by providing scientific assessment of specific pesticide management plans. The Technical Committee includes individuals from the North Dakota research universities and various federal and state agencies.

The **Advisory Committee** is comprised of farm, industry and public interest groups and provides an opportunity for public involvement in the state management plan. Advisory Committee membership is open and individuals interested in serving on the committee are encouraged to contact the North Dakota Department of Agriculture for additional information.

The plan includes a mechanism to form a **Contamination Response Task Force** that would

coordinate investigations and recommend actions for pesticide detection incidents. This committee membership will vary according to the need of the contamination incident, but will always include representatives of the Health Department, North Dakota State Water Commission, Natural Resources Conservation Service, NDSU Extension Service and North Dakota and United States Geologic Surveys.

■ Ground Water Monitoring Program

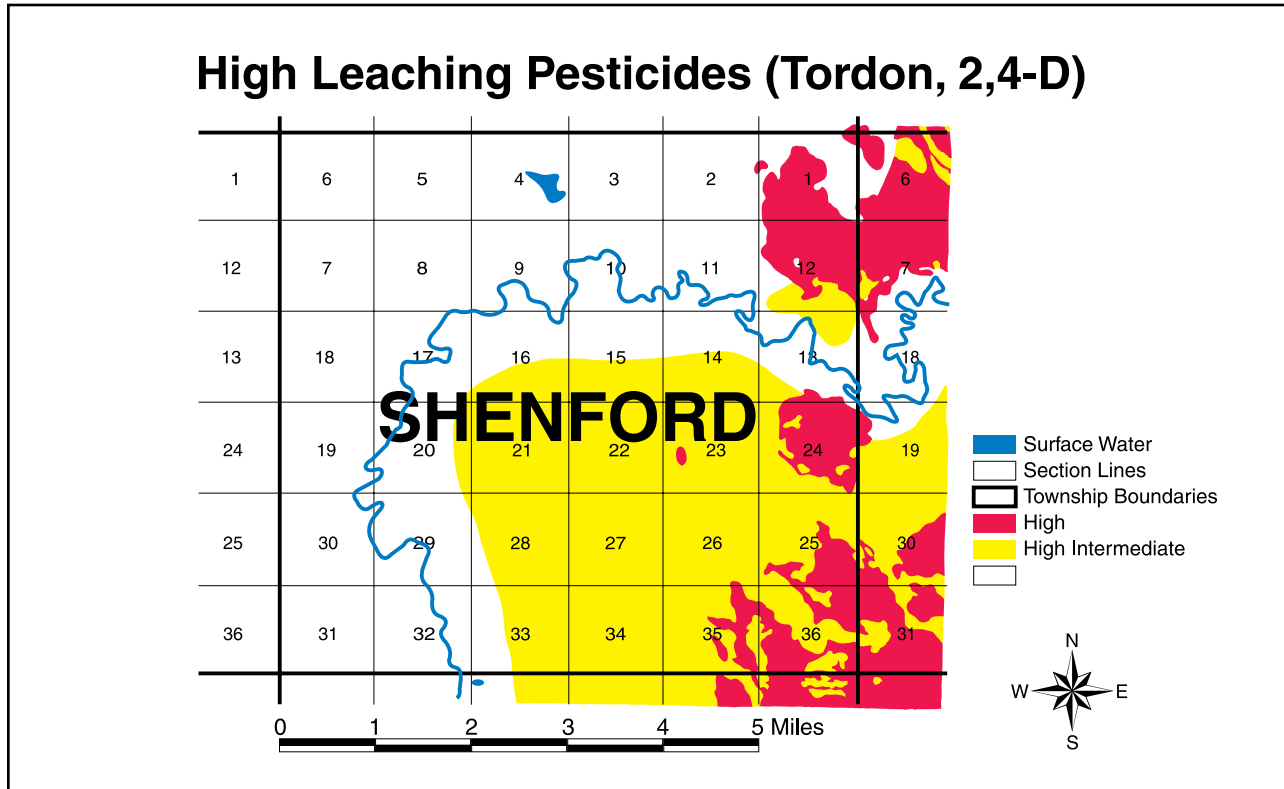
The monitoring required by the State Management Plan for Pesticides and Groundwater is conducted by the North Dakota Department of Health. The schedule includes the 192 major glacio-fluvial aquifers mapped in North Dakota. Twenty-six of the aquifers are classified as high priority, 111 are moderate priority, and 55 are low priority. The monitoring schedule and all data is available from the North Dakota Department of Health at (701) 328-5150.

■ Educational Activities

The State Management Plan for Pesticides and Groundwater recommends two levels of actions to protect groundwater. The first level of action is an educational program aimed at pesticide users. The second level involves regulatory responses to detections. The NDSU Extension Service conducts the educational program focusing on Best Management Practices to protect groundwater from pesticides. The program includes an assessment system to identify land sensitivity before applying pesticides. The assessment system also assists pesticide users to identify appropriate Best Management Practices for each land sensitivity category. An interactive GIS computerized application of the NDSU assessment is available on the Internet at www.ageng.ndsu.nodak.edu/pest

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Pesticide Sensitivity Map for Shenford Township in Ransom County



Regulatory Responses

The second level of preventative measures is designed to prevent the level of groundwater contamination from exceeding designated standards. These regulatory measures will be engaged if groundwater monitoring indicates contamination at preventative action levels outlined in the state plan. The state management plan includes a list of voluntary and mandatory measures that could be used.

If the level of groundwater contamination reaches the MCL for a specific pesticide the Contaminant Response Task Group may enforce mandatory measures including prohibiting the use of the pesticide in the area of the detection. These measures will be targeted to the problem area and be designed to decrease pesticide concentrations in the groundwater.

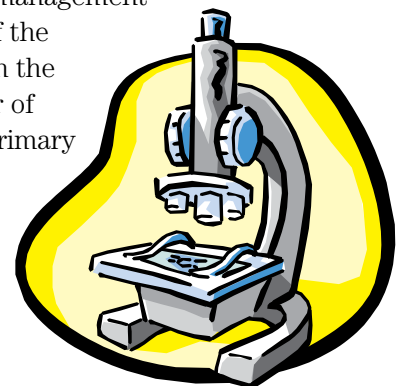
Drinking Water Supply Response

The Working Committee will notify the appropriate division of the North Dakota Department of Health if a pesticide contamination

incident potentially impacts a public drinking water supply or a private drinking water well. The affected private well owner and well users will also be notified. The Working Committee will help coordinate the response actions and assist in the selection of appropriate remedial actions.

Contamination Above MCL

If the contamination level exceeds the MCL the Working Committee will direct regulatory actions to correct or remediate the problem. Regulatory actions may include special restrictions on the pesticide use, pesticide management areas and cancellation of the pesticide use label within the state. The Commissioner of Agriculture will be the primary entity responsible for enforcement actions.



■ Public Awareness and Participation

The Department of Agriculture's Federal Initiatives Coordinator must notify the general public when a draft specific pesticide state management plan is developed. The Federal Initiatives Coordinator will allow at least 30 days for public comment on draft plans. The Working Committee will publicize pesticide management plans statewide.

■ Information Dissemination

The Information Distribution Network was developed to insure information about the state management plan reaches the general public. The Information Distribution Network uses a variety of communication channels, and is detailed in the plan.

■ Records and Reporting

The North Dakota Department of Agriculture Plant Industries Division maintains all records relevant to the State Management Plan for Pesticides and Groundwater for at least four years. The information is public record, including:

1. Monitoring and sampling data
2. Results of analysis
3. Issuance of permits
4. Types and numbers of enforcement action taken
5. Records of any specific actions.

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