

Springfield Drinking Water Protection Plan

Prepared for City of Springfield Planning and Development
Department Springfield Utility Board

Prepared by Lane Council of Governments
and
Springfield Utility Board

Adopted
May 17, 1999

(Note: this document contains only Chapter 5 of the Springfield Drinking Water Protection Plan)

Chapter 5: Management of Potential Sources of Contamination

In this chapter, potential sources of contamination are addressed by goals and related management strategies. Goals are broad vision statements that describe desired conditions or activities in the future. They provide direction for the development of management strategies. The management strategies for each goal more specifically describe a course of action.

Goals developed by the Springfield Drinking Water Protection Citizen Task Force (Citizen Task Force) are listed below in order of priority. The Citizen Task Force prioritized these goals without information on their relative costs and benefits. It is important to emphasize that the first two goals (Public Education and Overlay Zone) received a score in the prioritization significantly higher than the remaining recommendations. public education and the-adoption of an overlay zone were intended as the key recommendations of the Citizen Task Force (Please refer to the *Citizen Task Force Recommendations for Springfield Drinking Water Protection Plan* for results of Citizen Task Force prioritization process, December 1997).

1. implement a Public Education Program
2. Adopt a Drinking Water Protection Overlay Zone
3. Develop and Implement a Groundwater Monitoring Program
4. Enhance the Existing a Hazardous Waste Collection Program
5. Develop and Implement a Septic System upgrade/maintenance program
6. Use and Enhance Existing Spill Response Plan
7. Form Public-Private Partnerships
8. Implement a Water Conservation Program
9. Use Property Purchase and Donation to Provide Protection Areas

During the prioritization process, the Citizen Task Force offered the following additional recommendations for which there was general consensus of support, although they were not ranked with the others as separate alternatives. These additional recommendations are discussed at the end of this chapter.

- Intergovernmental coordination
- Stormwater management
- Abandoned wells
- New well site location

Goals and Related Management Strategies

Goal 1: Implement a public education program.

The citizen Task Force's highest priority was to develop and implement a public education program that would include the following four components, in order of priority.

1. Comprehensive public education program
 2. Notification
 3. Technical assistance
 4. Signs
1. Develop a comprehensive public education program that would include the following activities:
 - Set aside funds for a coordinated-program that integrates all water aspects (e.g., drinking water, stormwater, wastewater); develops a different approach for different-age groups and land uses, targeting the greatest efforts toward school children and high-risk zones; uses the media; encourages volunteers to monitor; and draws from cost-effective approaches and materials used elsewhere.
 - Identify the areas at greatest risk to the aquifer and focus public education and technical assistance efforts in the 1-year time-of-travel (TOT) zone, including sending a message to new and existing businesses and property owners about which activities are allowed-
 - The program could continue the work that Project WET and the McKenzie Watershed Council have been doing.
 - Increase education about Lane County's hazardous materials collection program.
 - For businesses, there could be *industrial men to ring zones* in which large industries with technical expertise who have *been there* mentor smaller ones on best management practices (BMPs).
 - The program should organize volunteers to monitor drinking water quality.
 - Prepare displays and models to use in special events conducted by the program or at other public events such as city and county public works days and local fairs. Informational hand-outs can be prepared and made available at these events and also at the front desk of the Planning Department at City Hall (to be handed out to permit applicants) and at local utility offices. These materials would explain activities that affect drinking water quality and would be copied from other communities to the extent possible.
 - Use the local media, including newspapers, radio and television, to raise awareness about drinking water protection and about where to go for more information.
 2. Provide notification to people in the drinking water protection area.
 - Contact everyone in the drinking water area (via utility bills, school take home notices, mailers, etc.). Target well owners and inform them of BMPs and proper abandonment procedures.
 3. Provide technical assistance.
 - Use existing technical assistance programs of the Oregon Department of Environmental Quality and Oregon Department of Agriculture to encourage BMPs, especially in the 0 to 5-year TOT zone.
 4. Use signs to increase awareness.

- Use billboards on freeways and major transportation routes, signs at businesses and stores, and messages at card locks or gas pumps to raise awareness about drinking water protection in general and about specific products and alternatives. Change signs occasionally. Use donations or ask sign companies for temporary use. Specific examples suggested were;
- *Adopt a Well* program.
- Placing sign at businesses similar to the one at Farmers' Co-op on 30th and Olympic Street.
- Electronic message at card locks or gas pumps (on the gas card reader)-
- At point of sale; where oil, chemicals, paints, or other hazardous materials are sold. Signs could emphasize, *Try to use an alternative that won't produce a hazardous waste* and suggest alternatives.
- Install Burma Shave style of signs in the protection areas.
- *Entering Groundwater Protection Zone* signs on freeway.
- Large billboard on 1-105, Beltline, and Thurston area.

Goal 2: Adopt a drinking water protection overlay zone.

The Citizen Task Force's other highest priority was for the City of Springfield to adopt a *Drinking Water Protection Overlay Zone* for the combined zone of contribution and to refer the overlay zone to the City of Eugene and Lane County for adoption and application to areas that are in their jurisdictions. (The overlay zone's score in the ranking of alternatives differed from public education by just two points). Businesses and property owners that provide scientific evidence that demonstrates their property is not in the regulated TOT zones would be exempt.

The Citizen Task Force agreed that the overlay zone should apply to both existing and new businesses, but most members recognized the need to lessen the burden on existing businesses that might need to relocate as a result of the regulations. For this reason, some Citizen Task Force members agreed that large commercial nodes with expensive infrastructure, that pose a potential risk to the aquifer, would have the option of working with local agencies to relocate a well that would affect their operations by sharing in the costs of relocation. For example, businesses in the commercial node might pay the costs to close down the existing well (possibly through a bond paid to the city) and develop an equitable way to replace the well.

The Citizen Task Force generally agreed that the overlay zone would contain the following five components, in order of priority. (One Citizen Task Force member favored a more incentive-based approach over strict regulation in the district.)

1. Prohibitions
2. Standards
3. inspections
4. Monitoring
5. Transport

1. Prohibit high-risk uses.

- Prohibit new use of *sinkers*, (i.e., hazardous chemicals such as Dense Non-Aqueous Phase Liquids (DNAPLs) that are heavier than water, which sink in the aquifer and are very difficult to clean up) in the 0 to 5-year TOT. Phase out existing uses of sinkers over time in the 0 to 5-year TOT. (The prohibition applies to TOT zones for existing and new

businesses, inconsistent with the Citizen Task Force direction to treat these two groups the same, although the initial Citizen Task Force recommendation was 1 to 10- year TOT for new uses.)

- Prohibit high-risk uses in the 1-year TOT zone; for existing businesses, allow a longer
- phase out time for those with a high level of protection in place than for those with a low level of protection.
- When higher risk uses convert ownership, they must convert to an allowed use (Citizen Task Force members requested information on the number of properties that would be affected by this recommendation. Map 8 shows the number of tax lots by zoning in each TOT zone. Note that the tax lots are not cumulative, e.g., to determine the number of tax lots in the O to 5-year TOT zone, one must add the five year to the one year. This information provides an indication of the potential scope of impact)

2. Develop standards.

- Apply stricter standards in the O to 5-year TOT zone to discourage high-risk businesses from locating there.
- In the 1-year TOT zone, set storage requirements and a threshold for the amount of hazardous materials stored on site (The Citizen Task Force noted that the threshold should be higher than Renton, Washington's, which was considered to be too low)..
- Require tight pipe sanitary and storm sewers for new construction and retrofits of existing construction.
- Address use of chemicals on lawns.

3. Implement an inspection program to regulate use of hazardous chemicals in the O to 10-year TOT zone.

4. In the O to 5-year TOT zone, require monitoring by new and existing high-risk uses.

5. Regulate hazardous materials transport.

- Regulate hazardous materials transport in the overlay zone, with greater restrictions in the O to 5-year TOT zone.
- Limit transport of chemicals in the O to 5- year TOT zone; including transport by rail.
- Consider limiting hazardous travel to certain hours of the day when spill response is available.
- Develop hazardous materials transportation routes.

Goal 3: Develop and implement a ground water monitoring program.

The Citizen Task Force recommended a monitoring program that includes all drinking water protection area delineations inside the Drinking Water Protection Overlay Zone (Wellhead delineations are areas shown on a map that depict the extent, orientation, and boundaries of a wellhead protection area using such factors as geology, aquifer characteristics, well pumping rates, and TOT.) and possibly individual potential sources of contamination. The frequency of the tests and contaminants to be evaluated needs to be determined. The monitoring program includes the following three components, in order of priority .

1. Comprehensive monitoring program
2. Sampling during investigation
3. Sampling during clean up

1. Establish a comprehensive monitoring program.

- Establish a monitoring well network. The network should include wells owned by the water suppliers and those required on private property by the Department of Environmental Quality (DEQ) or through overlay zone requirements for new or modified high-risk activities in the drinking water protection areas.
- Evaluate risk and develop a monitoring plan to detect intentional damage or contamination to the wells and aquifer .
- If BMPs are required at a facility, they should also be required to properly maintain the BMPs installed, especially oil/water separators in parking lots and in containment areas. This would include inspection to determine and enforce compliance.

2. Sample Chemicals of concern during site investigation

- Require that samples for chemicals of are taken during site investigation. (Chemicals of concern are chemical contaminants that are a risk to the public water supply which have been identified in the aquifer and are originating from an unknown source or may be coming from more than one source.) Whenever samples are collected during a site investigation or clean-up and follow-up monitoring, results of this sampling must be provided at no additional cost to the Drinking Water Protection Program.

3. Sample during clean up

- Require businesses conducting clean-up activities to provide sample results of all analyses to the monitoring program at no additional cost to the program.

Goal 4: Enhance the existing hazardous waste collection program

The Citizen Task Force recommended the following four enhancements to Lane County's hazardous waste collection program, in order of priority .

1. Increased frequency and flexibility
2. Demand management
3. Evaluation
4. Increased program funding

1. Increased frequency and flexibility of hazardous waste collection

- Conduct the current program more often and make it more flexible by having more drop-off locations. Increasing drop-off locations is intended to encourage people who move to drop off paints and other household hazardous materials so they do not get left behind for the next occupant.
- Create an amnesty program for chemicals stored in drinking water protection areas now that are not being disposed of due to high costs.

2. Hazardous waste demand management.

- Change the system, or encourage the system to change, to reduce quantities of hazardous materials purchased. For example, discourage homeowners from purchasing greater quantities than needed.

3. Evaluate the current program and implement improvements.

4. Increase program funding. Additional funding for-the program is needed to provide financial assistance to small businesses to reduce the costs of disposal and for an assistance program to remove underground storage tanks (e.g., home heating oil tanks and agricultural fuel tanks) that are not regulated.

Goal 5: Develop and implement a septic system upgrades/maintenance program.

The Citizen Task Force forwarded the following two recommendations in this category , in order of priority:

1. Inspections and maintenance requirements.
2. Septic tank regulations.

1. Work with Lane County to adopt an ordinance of inspections and maintenance requirements on existing septic systems.
2. Allow no more than one septic tank per acre in the county on property within the zone of contribution.

Goal 6: Use and enhance existing spill response plan.

The Citizen Task Force supported the following aspects of spill response, in order of priority.

1. Existing plan
2. Spill diversion and containment
3. Mapping
4. Hot line

1. Recognize and support continuation of the existing Spill Response Plan and support a continuous review process.
2. Construct spill diversion and containment structures at wellheads and along freeways.
3. Continuously update storm sewer system maps and integrate into the geographic information system (GIS). Continue to provide the fire department with good maps of the storm and sanitary sewer systems.
4. Set up a regional hotline spill number, similar to the City of Eugene' s.

Goal 7: Form public-private partnerships.

The Citizen Task Force forwarded the following three recommendations, in order of priority .

1. Public.-education by private sector
2. Public-coordinated partnerships
3. Business recognition program

1. Encourage public education by the private sector, for example:
 - Hardware stores could place signs or education brochures to identify replacement (i/ chemicals that are as effective but less hazardous.
 - Displays and seminars presented by home improvement stores could address contamination routes, drinking water protection and related topics; or could allow local government staff to give seminars:

- Fuel oil suppliers could distribute information concerning overfills and spill containment.
2. Establish public-coordinated partnerships, for example:
- Local governments could coordinate meetings of businesses to discuss ways to protect drinking water, for example:
 - Successful storage and handling practices. .A local materials exchange program.
 - Establishing ways businesses can assist with public education programs.
 - Setting up a resource center and/or forums for small businesses
 - Partnerships with agricultural chemical suppliers to collect chemical containers and excess agricultural chemicals.
 - Requiring the manufacturer to take back empty hazardous materials containers (e.g., by using a deposit system or not purchasing from makers that do not participate).
3. Establish a business recognition program in which the public sector recognizes private sector efforts to protect groundwater through an awards program or with signs that acknowledge their efforts.

Goal 8: Implement a Water Conservation Program.

The Citizen Task Force forwarded the following four recommendations, in order of priority .

1. Water demand management
 2. Rate structure changes
 3. Piping loss reductions
 4. Rebate program
-
1. Implement the recommendations of a previous Springfield Utility Board (SUB) Citizen Task Force on water demand management.
 2. Direct water suppliers to eliminate the rate structure that encourages water use.
 3. SUB should decrease water loss from piping.
 4. Recommend water suppliers to develop a rebate program for water-efficient appliances.

Goal 9: Use property purchase/donation to provide protection areas.

The Citizen Task Force forwarded the following four recommendations, in order of priority.

1. New wells
 2. Land set-asides
 3. Conservation easements
 4. Voluntary deed restrictions
-
1. Purchase sites now for future wells.
 2. Encourage set-asides in large tract developments that provide open space, wetlands, and riparian areas for aquifer protection.
 3. The public sector would coordinate and facilitate conservation easements for integrated water

management in drinking water protection areas for reimbursement or donation as a tax write-off. The Citizen Task Force, overall, favored using easements instead of property purchase for protection in wellhead areas.

4. Encourage voluntary deed restrictions that are protective of the aquifer .

Goal 10: Consider Additional Recommendations

The Citizen Task Force forwarded the following recommendations regarding:

1. Intergovernmental coordination,
2. Stormwater management,
3. Abandoned wells, and
4. Evaluation of new well sites.

The Citizen Task Force considered these recommendations to be very important, although they were not included as separate options in the initial list of alternatives to be prioritized.

1. Encourage intergovernmental coordination. The City and local utilities should coordinate to protect drinking water, as follows:

- With the Environmental Protection Agency for *sole source aquifer* designation;
- With the Oregon Department of Transportation to ensure road hazards are minimized;
- With the Union Pacific Railroad to institute precautions;
- With the Oregon Department of Agriculture to address agricultural land and county issues through a locally appointed agricultural or resource lands Citizen Task Force;
- With the Department of Environmental Quality (DEQ) to decommission or clean up sites contaminated by businesses in the past; and
- With Junction City and Coburg to partner with agricultural chemical suppliers, DEQ and Lane County to collect chemical containers and excess agricultural chemicals.

2. Support the City's efforts to be proactive and develop a stormwater management program.

3. There are over 1,500 wells identified in the drinking water protection study area, wells that are no longer in use pose a significant risk to aquifer contamination. It is recommended to identify and decommission these abandoned wells.

4. SUB should consider proximity to major transportation routes and other areas prone to risk as one factor in the evaluation of new well sites.