

***GUIDELINES FOR**

***DEVELOPING A**

***SOURCE WATER**

***PROTECTION PLAN**



Missouri
Department of
Natural Resources

DIVISION OF ENVIRONMENTAL QUALITY

WATER PROTECTION PROGRAM

PUBLIC DRINKING WATER BRANCH

SOURCE WATER PROTECTION PROGRAM

Source Water Protection helps safeguard community water supplies. It is community-based by definition. In fact, it may be the oldest community-based environmental initiative recorded in North American history as the following colonial directive attests.

"There shall be no man or woman dare to wash nay unclean linen, wash clothes,...nor rinse or make clean any kettle, pot, or pan or any suchlike vessel within twenty feet of the old well or new pump. Nor shall anyone aforesaid, within less than a quarter mile of the fort, dare to do the necessities of nature, since by these unmanly, slothful, and loathsome immodesties, the whole fort may be choked and poisoned."

--Governor Gage of Virginia,

Proclamation for Jamestown, Va. (1610)

The concept is to minimize land use restrictions

while

maximizing source water protection. To do this, the

community performs the following six (6) steps:

1. *Create* a Source Water Protection Committee
2. *Delineate* a Source Water Protection Area
3. *Inventory* known and potential sources of contamination within these areas
4. *Determine* the susceptibility of the water source to these contaminants
5. *Implement* management strategies to prevent, reduce/eliminate threats/risks of these contaminants to the water source
6. *Develop* contingency planning strategies to deal with water source contamination or service interruption emergencies

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❖ Section 1: Contact Information For The Water Supply

- A. Public Water Supply Name & Address
C. Responsible Party Name, Address & Phone Number
E. Chief Operator Name and Phone Number
- B. Public Water Supply ID Number
D. County
F. Contact person Title and Phone Number

❖ Section 2: Source/Plan/Funding Information

- A. Is Source New or Existing?
C. Is Plan Original or Four Year Update?
- B. Source Type is Surface or Ground Water?
D. Funding Sources For Plan Development?

❖ Section 3: Minimum Approval Requirements Sections - 3 Through 6

- **Is Supply In Compliance With Public Drinking Water Program Regulations?:** Water supply must be in compliance or actively pursuing compliance with Public Drinking Water Program Regulations.
- **Emergency Operations Plan (10CSR 60-12.010):** An Emergency Operations Plan must be developed for the supply and pertinent information included in the submitted Source Water Protection Plan. Along with other required information required, the emergency plan should include information on specific contaminants listed in the protection plan and response to an event where these pollutants were released either in the Source Water Protection Area or into the raw water directly. Guidelines for developing an Emergency Operations Plan are available from this office upon request.
- **Source Water Protection Ordinance:** Although listed in this section, an ordinance is not required, but is **recommended**. A sample ordinance is available from this office upon request.
- **List Of The Source Water Protection Committee Members:** A list of persons that assisted with the development of the protection plan and their occupation and agency they represent.
- **Introduction/Purpose:** A description of the purpose of developing the plan.
- **Plan Objectives:** A description of how the plan will achieve its purpose.
- **Definitions:** Definitions of the terms that increase the understanding of the purpose and objectives of the plan should be included.
- **Signatures:** The signatures of those who will implement the source water protection plan.

❖ Section 4: Background Information

- **Background Watershed or Wellhead Protection Area:** Description of land use history, topography and characteristics.
- **Background Source:** Current information on construction of wells or surface water intakes including recent sanitary survey information. Can include when it was built and any joint efforts towards its development. Indicate total surface area or depth if applicable.
- **Raw Water Evaluation:** List of parameters that may be pertinent to understanding raw water quality. For example: Iron, Manganese, or Nitrate levels, high bacteria counts, elevated Total Organic Carbons, Turbidity, taste and odor problems.
- **Assessment Of Current Raw Water Source:** Assess elements of the raw water source's quantity and quality.
- **Background Treatment:** Description of treatment process for public water supply.
- **Assessment Of Current Finished Water:** Determination if current treatment is sufficient to handle characteristics of raw water.
- **Raw Water Removal Treatment Requirements Implemented And Adequate?:** Is the overall treatment applied to the raw water sufficient to maintain finished water drinking water quality standards?

❖ Section 5: Watershed or Wellhead Area Delineation And Inventory

- **Delineation of Source Water Protection Area Geology:** Description of the geology of the identified protection area.
- **Method:** What method was used to delineate the area?
- **Maps:** Are maps of the delineated area included with the submitted document?
- **Total Area In Acres:** Total lake surface and protection area acreage (if applicable).
- **Number Of Ponds, Lakes, Rivers, Streams, Number Of Wells (Private, Public, Injection, Etc.), Number Of Wells Requiring Abandonment, Number Of Wells That Have Been Properly Plugged (Per Regulation):** A listing or mention of the number of above mentioned items in the protection area.
- **Geological Survey Resource Assessment Division Contacted:** Was the Geological Survey and Resource Assessment Division contacted to share global positioning information and to obtain information for proper well abandonment?
- **Agriculture:** Types of agricultural practices within protection area (livestock,crop.)
- **Security Issues:** List these issues and corrective measures implemented for raw water sources (no fencing around wellhead, easily accessible raw water intake structure, gates unlocked,)

- **Description And Amounts Of Protection Total Acreage:** Total number of acres of each: cropland, grassland, woodland etc. within the source water protection area.
- **Wastewater Treatment Facility Discharge:** Description and location of wastewater treatment facility discharge if it is within the protection area.
- **Sludge Application:** Description of the method and location of sludge or bio-solid applications within the protection Area. Any Concentrated Animal Feed operations?
- **Contaminate List, Number Of Contaminants Listed, And Types Of Contaminants Listed:** List of potential or actual contaminant sites in the protection area and their category (example: Agriculture- excessive erosion and sedimentation due to livestock encroachment of tributaries.)
- **Impacts And Risks Listed:** Description of the associated risk and potential impact of listed contaminants in the protection area.
- **Means To Update:** How will the plan be updated with information pertaining to the resolution of risks from listed contaminant sources.

❖ **Section 6: Source Water Protection Management Plan Information**

- **Management Of Contaminant Sources:** Description of implementation practices planned or in place to contain, eliminate or reduce the risks of contamination from listed sources of pollutants. Description of steps taken to manage point sources (and their successfulness) that are listed in the plan.
- **Implementation Strategies:** Very specific information including plan of action, milestones, and best management practices. This should be specific information concerning the action to be implemented for the management of contaminates.
- **Timeline For Each Contaminant Management Approach:** A chronological listing or mention of when implementation of management practices will be utilized.
- **Provisions Implemented For Reduction Of Total Organic Carbon, Disinfection Byproducts, Trihalomethanes And Taste and Odor:** Description of measures taken to meet finished water standards. For example: If disinfection byproducts were of concern for the supply and they changed disinfection treatment from Chlorine to Chlorine Dioxide.
- **Source Water Protection Plan In Consumer Confidence Report:** Is protection plan mentioned in the annual Consumer Confidence Report published by the supply?
- **Future Management Approaches:** How will the information that you gained in the writing of the plan be used to manage these sites in the future?
- **Future Surveillance And Frequency:** What method of surveillance will be used to document changes in the Source Water Protection area, and how frequently will these be completed?

- **Procedures For Evaluating Source Water Protection Plan:** Indicate how often and by what method the plan will be reviewed and updated.
- **Planning For Future Public Participation:** List how the public will be involved in the project's future.

DEVELOP A SOURCE WATER PROTECTION PROGRAM
TO PROTECT PUBLIC HEALTH OF MISSOURI CITIZENS
BY THINKING PREVENTION RATHER THAN REACTION

Any questions concerning these guidelines contact: **Frank L. McDaniels** at 1-800-361-4827 or (573)-526-5449, or frank.mcdaniels@dnr.mo.gov or write to: **Frank L. McDaniels, Source Water Protection Coordinator, Missouri Department of Natural Resources, Division of Environmental Quality, Water Protection Program, Public Drinking Water Branch, P.O. Box 176, Jefferson City, Mo. 65102-0176.**



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