

APPENDIX H

IDENTIFICATION OF SOURCE WATER TOPIC STRENGTHS, WEAKNESSES, AND GAPS IN WATER RESOURCES EDUCATION MATERIALS

Identification of Drinking Water Sources

Strengths:

- Characteristics and locations of ground water and surface water ecosystems.

Weaknesses:

- Analysis of topographic maps.

Gaps:

- A definition for, and delineation of, source water and source water areas.

Geohydrology: Dynamics of Drinking Water Sources

Strengths:

- The hydrologic cycle; ground and surface waters as components of the cycle.
- Soil composition and structure as relates to water and contaminant movement.
- Watershed delineation, and the influence of landscape features on water movement.
- Surface and ground water interactions and movements.

Weaknesses: None.

Gaps: None.

Accessing, Storing, Treating, and Distributing Drinking Water Sources

Strengths:

- Delivery of community drinking water.
- Public wastewater treatment.

Weaknesses:

- The methods and costs of treating contaminated source water for public drinking supplies.

Gaps:

- Well concerns; public and private testing of source water.
- Accessing, and means of storing, source water for drinking water use.
- Home treatment of public and private drinking water sources.

Contamination, Risk Assessment, and Remediation of Drinking Water Sources

Strengths:

- Wastewater and industrial/business hazardous waste as point sources of pollution.
- Urban and agricultural nonpoint source pollution.
- Water quality as measured by chemical tests, physical appearance, and macroinvertebrate populations.
- The impact of water quality on plant and animal communities.

- An informational overview of contamination sources.

Weaknesses:

- Agricultural sources as point sources of pollution.
- Home wastewater treatment (i.e. septic systems) - construction, maintenance, and their role as contamination sources
- In-depth treatment of bacteria, nitrates, pesticides, and salinity as contaminant sources.
- The effects of water quality on human health.

Gaps:

- Costs of creating new or supplementary municipal water systems.
- Forestry, mining, and atmospheric deposition as nonpoint sources of pollution.
- Energy production wastes as point sources of pollution.
- Home wastewater treatment (septic systems) - construction, maintenance, and role as contamination sources
- Risk assessment
- The effects of water quality on food sources

Protection and/or Prevention Activities and Programs of Citizens, Communities, and the Government

Strengths:

- Hazardous chemicals in the home - proper use, storage, and disposal.
- Identification of alternate, nontoxic, household chemicals.
- Individual home-based water conservation practices.
- Citizen involvement in water resource issues.

Weaknesses:

- Protection of strategic areas through zoning.
- Water quantity policy issues.
- The role of the Clean Water Act (CWA) in source water protection.

Gaps:

- Zoning strategies for wellhead and ground water recharge areas.
- The interrelationships between lifestyle, socioeconomic status, population growth, culture, and accessibility as they relate to source water availability and contamination.
- Citizen and community actions in a source water contamination situation
- The role of the 1996 Safe Drinking Water Act Amendments (SDWAA) and the Source Water Assessment Program (SWAP)
- Citizen involvement in source water protection based on state Source Water Assessments

Present and Future Needs for Safe Drinking Water Sources

Gaps:

- The quantity of safe drinking water needed to meet present and future needs based on current rates of consumption and growth in the U.S.