

TABLE 3
WELLHEAD PROTECTION AREA MANAGEMENT OPTIONS

Regulatory: Zoning	Advantages	Limitations
Overlay GW Protection Districts	<ul style="list-style-type: none"> • <i>Similar</i> to other overlay zoning methods familiar to planning commissions. • Targeted to specific wellhead protection areas. • Restricts certain high risk land uses in wellhead protection areas. • WHPAs are identified on practical base/zoning map. 	<ul style="list-style-type: none"> • Requires staff to develop overlay map. • Requires modifying existing zoning ordinance. • Inherent nature of zoning provides "grandfather" protection to pre-existing uses and structures.
Site Plan Review	<ul style="list-style-type: none"> • Requires developers to design facilities for groundwater protection • Assurance/consistency with County and State permits • Proactive-places community in process of protecting groundwater 	<ul style="list-style-type: none"> • Requires qualified staff or consultants • Administrative cost higher
Permits Checklist	<ul style="list-style-type: none"> • Alerts businesses to environmental permit requirements • Helps community monitor environmental risks 	<ul style="list-style-type: none"> • Requires staff to develop system
Prohibition of Various Land Uses	<ul style="list-style-type: none"> • Used within mapped WHPAs to prohibit known groundwater contaminants and processes that generate contaminants. 	<ul style="list-style-type: none"> • Requires amendment to zoning ordinance. • Requires enforcement by both visual inspection and on-site investigations.
Special Permitting	<ul style="list-style-type: none"> • Used to restrict contaminant uses within WHPAs that may cause groundwater contamination. • Community adopts special permit "thresholds" for various uses and structures within WHPAs. Community grants special permits for "threshold" uses only if groundwater quality will not be compromised 	<ul style="list-style-type: none"> • Requires detailed understanding of WHPAs sensitivity by local permit granting authority. • Requires enforcement of special permit requirements and on-site investigations. • Requires case-by-case analysis to ensure equal treatment of applicants.
Transfer of Development Rights	<ul style="list-style-type: none"> • Used to transfer development from WHPAs to locations outside WHPAs. 	<ul style="list-style-type: none"> • Cumbersome administrative requirements. • Not well-suited for small communities without significant administrative resources.
Cluster/PUD Design	<ul style="list-style-type: none"> • Allows for "point source" discharges that are more easily monitored by guiding residential development outside of WHPAs. 	<ul style="list-style-type: none"> • Slightly more complicated to administer than traditional "grid" subdivision. • Enforcement/inspection requirements are similar to "grid" subdivision.
Growth Controls/Timing	<ul style="list-style-type: none"> • Community imposes growth controls in the form of building caps, subdivision phasing or other limitation tied to planning concerns which allows the community an opportunity to plan WHPA protection. 	<ul style="list-style-type: none"> • Generally complicated administrative process. • Requires administrative staff to issue permits and enforce growth control ordinances.

**TABLE 3 (cont.)
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Regulatory: Health Regulations	Advantages	Limitations
Compliance with existing regulations	<ul style="list-style-type: none"> • Inexpensive/easy to enact and administer • Places burden on applicants to obtain permits/approvals 	<ul style="list-style-type: none"> • Local groundwater may be vulnerable if other permit agencies fail to enforce compliance
Regulating or prohibiting Underground Fuel Storage Systems	<ul style="list-style-type: none"> • Monitors or eliminates underground fuel storage systems (UST) within WHPAs. 	<ul style="list-style-type: none"> • Prohibition of USTs require little administrative support. • Regulating USTs require moderate amounts of administrative support for inspection follow-up and enforcement.
Privately Owned Wastewater Treatment Plants (Small Sewage Treatment Plants)	<ul style="list-style-type: none"> • Prohibit Small Sewage Treatment Plants (SSTP) within WHPAs. 	<ul style="list-style-type: none"> • Prohibition of SSTPs require little administrative support. • Regulating SSTPs require moderate amount of administrative support for inspection follow up and enforcement.
Prohibit Septic Cleaners Containing Solvent Compounds	<ul style="list-style-type: none"> • Prohibits the application of certain solvent septic cleaners within WHPAs. 	<ul style="list-style-type: none"> • Difficult regulation to enforce even with sufficient administrative support.
Septic System Upgrades	<ul style="list-style-type: none"> • Requires periodic inspection and upgrading of septic systems. 	<ul style="list-style-type: none"> • Significant administrative resources required for this option to be successful.
Toxic and Hazardous Material Handling Regulations	<ul style="list-style-type: none"> • Promotes proper handling and disposal of toxic materials/waste. • Community knows what is being used and where • Hazardous substance users may have incentive to reduce or eliminate use 	<ul style="list-style-type: none"> • Requires administrative support and on-site inspections.
Regulatory: Subdivision Control		
Drainage Requirements	<ul style="list-style-type: none"> • Uses advanced engineering designs of subdivision roads within WHPAs to ensure that road drainage is directed outside of WHPAs. 	<ul style="list-style-type: none"> • Requires moderate level of inspection and enforcement by administrative staff.

**TABLE 3 (cont.)
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Nonregulatory: Land Transfer and Voluntary Restrictions	Advantages	Limitations
Sale/Donation	<ul style="list-style-type: none"> • Provides broad protection to the groundwater supply. 	<ul style="list-style-type: none"> • There are few administrative requirements involved in accepting donations or sales of land from the private sector. • Administrative requirements for maintenance of land accepted or purchased may be substantial, particularly if the community does not have a program for open space maintenance. • Legal consequences of accepting land for donation or sale from the private sector, mostly involving liability.
Monitoring	<ul style="list-style-type: none"> • Monitors groundwater quality within WHPAs. 	<ul style="list-style-type: none"> • Requires moderate administrative staffing to ensure routine sampling and response if sampling indicates contamination.
Contingency Plans	<ul style="list-style-type: none"> • Provides appropriate response in cases of contaminant release or other emergencies within WHPAs. 	<ul style="list-style-type: none"> • Requires significant up-front planning to anticipate and be prepared for emergencies.
Hazardous Waste Collection	<ul style="list-style-type: none"> • Reduces the accumulation of hazardous materials within WHPAs and the community at large. 	<ul style="list-style-type: none"> • Hazardous waste collection programs are generally sponsored by government agencies, but administered by a private contractor.
Public Education	<ul style="list-style-type: none"> • Informs community residents of the connection between land use within WHPAs and drinking water quality. 	<ul style="list-style-type: none"> • Requires some degree of administrative support for programs, such as brochure mailing, to more intensive support for seminars and hazardous waste collection days.
Legislative:		
Regional WHPA Districts	<ul style="list-style-type: none"> • Protects regional aquifer systems by establishing new legislative districts that often transcend existing corporate boundaries. • Provides for protection of areas outside an individual community • Involves many stakeholders. • Efficient use of technical and administrative resources by reducing duplication of tasks. • Increases coordination between communities. 	<ul style="list-style-type: none"> • Difficult to develop due to several planning/governmental bodies. • May be perceived as reducing local control on land use/zoning issues.
Land Banking	<ul style="list-style-type: none"> • Acquires and protects land within WHPAs. 	<ul style="list-style-type: none"> • Land banks require significant administrative support if they are to function effectively.