Part II:
LINKAGE TO EPA AND OTHER FEDERAL AGENCY PROGRAMS

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1. LINKAGE TO EPA PROGRAMS

This section provides a program-by-program discussion of the linkages between the CSGWPP approach and each EPA program that potentially affects ground water. For each program, a brief description of how CSGWPP-supported resource-based decision-making would benefit the program is provided. For most programs, this is followed by a discussion of how the CSGWPP affords greater beneficial coordination to the program. Finally, for programs that provide grants to States, a brief discussion of how those grants can be used in a coordinated fashion to support the development and implementation of CSGWPP follows. The material described below is not meant to take the place of any specific program guidance or regulation, and, where seeming discrepancies might exist, the information in the most current program-specific guidance or regulation must prevail. EPA is in an on-going process to align and update all of its programs related to ground water protection with the CSGWPP approach.

WELLHEAD PROTECTION PROGRAM

Resource-Based Priority Setting in Decision-Making

An EPA-approved State Wellhead Protection (WHP) Program will be a required and integral part of the Fully-Integrating CSGWPP. A CSGWPP will emphasize that wellhead protection areas, recharge areas, and basins of drinking water aquifers are to be afforded extra management focus across all programs within the CSGWPP framework.

In addition to being an integral part of the priority-setting portion of the CSGWPP, wellhead protection programs will benefit by other activities that make up a CSGWPP. For example, characterization and mapping will aid in delineating actual wellhead protection areas and recharge zones.

Coordination with Other Programs

Many programs use the wellhead protection areas to identify areas of priority concern. USDA's Conservation Reserve Program, for example, provides incentives to farmers not to conduct practices that may impact ground water in sensitive areas. Other programs use wellhead protection areas as a tool in program management schemes, such as the Public Water Supply (PWS) Supervision Program for vulnerability assessments and sanitary surveys. The vulnerability assessment completed under a WHP Program will meet the requirement of the PWS Program as a first step for a PWS to apply to the State to waive monitoring. The CSGWPP will become the vehicle to further demonstrate the utility of State WHP Programs and ensure that WHP-related activities are carried out consistently across programs.

Coordinating Grants

To date, grant funding under the Safe Drinking Water Act for State Wellhead Protection Programs has not been appropriated. However, State ground water assessment and characterization activities and other wellhead protection activities are supported by EPA with CWA §106 grants, and wellhead protection is referenced as a viable and valuable activity in the grant guidances of other EPA ground water-related programs (e.g., CWA §319 and RCRA). Within the CSGWPP framework, all of these grants would be coordinated so that the maximum number of wellhead protection areas are established.

PESTICIDES STATE MANAGEMENT PLAN (SMP) PROGRAM

Resource-Based Priority Setting in Decision-Making

EPA's Pesticides and Ground-Water Strategy released in October 1991 offers States the flexibility to continue the use of a pesticide that EPA would otherwise cancel due to ground water contamination concerns. States will gain this flexibility by developing and implementing State Management Plans (SMPs), which are designed to ensure that each State can sufficiently manage, control, and enforce pesticide use to protect valuable and vulnerable ground water. EPA will coordinate its efforts with USDA and with State agricultural agencies to alleviate redundancies and ensure consistent regulatory requirements.

Figure II-1 demonstrates that the specific components and adequacy criteria of a Pesticide SMP are closely aligned with those of a CSGWPP. This close alignment means that implementation of a Generic Pesticide SMP[1] will meet the general condition of many of the adequacy criteria for a Core CSGWPP that the State's intended comprehensive approach be adopted or implemented by at least one operating program within the State.[2] Obviously, however, a Pesticide SMP, even at the Generic level, will require more specificity on pesticide management measures than would be found in a CSGWPP. An SMP should be viewed as a more program-specific version of the more general, but broader scope CSGWPP.

The Pesticide SMP approach fully adopts the Agency's overall ground water protection goal and the tiered hierarchy of preferred protection objectives outlined in this CSGWPP Guidance. Under an SMP, States are encouraged to pursue prevention of ground water contamination whenever possible. However, protection of the nation's currently and reasonably expected sources of drinking water supplies, both public and private, is a required SMP priority. Further, ground water that is closely hydrologically connected to surface water must receive priority protection to ensure the integrity of associated ecosystems.

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[1]According to EPA's draft Pesticide SMP Guidance, a Generic SMP is the State's primary source document which provides the overarching policies and approaches from which Pesticide-Specific SMPs will be derived, if necessary, to address unique concerns for individuals pesticides.

[2]A State needs to demonstrate, however, that its comprehensive approaches are intended to eventually encompass all ground water protection programs within the State.

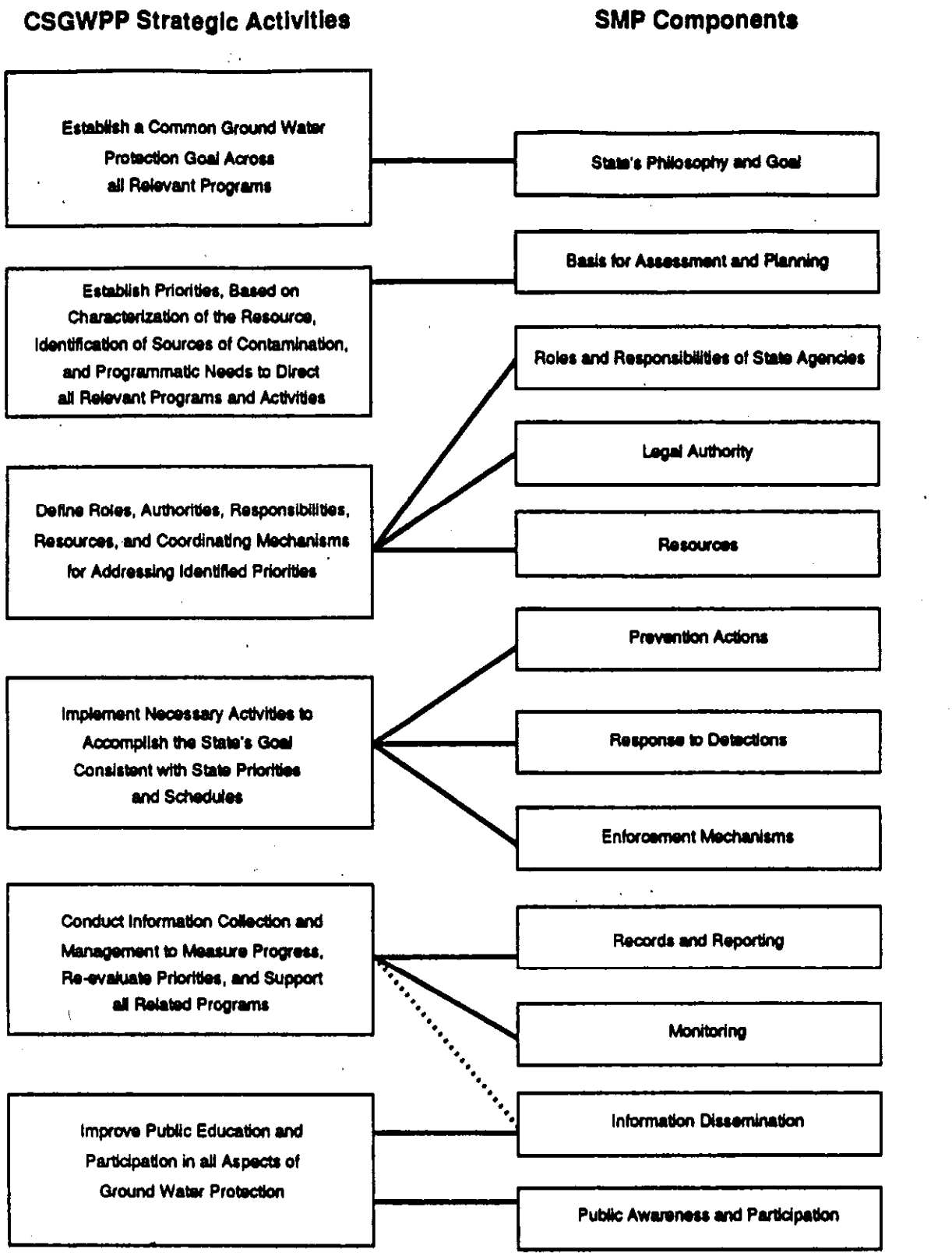

Figure II-1. Relation of the Six Strategic Activities of a CSGWPP to the 12 Components of a Pesticides State Management Plan.

PESTICIDES STATE MANAGEMENT PLAN (SMP) PROGRAM (continued)

Coordination with Other Programs

Examples of how CSGWPPs will contribute to coordinating or promoting consistency between key activities of SMPs and other ground water-related programs include:

- Coordination and priority-setting under CSGWPPs will promote better integration of the regulatory and non-regulatory prevention measures called for by an SMP, such as those available under FIFRA and the CWA's Nonpoint Source Program, as well as needed monitoring information, available from a number of programs.

- CSGWPP efforts to define roles, responsibilities, and coordinating mechanisms will further clarify and build on foundations laid under SMPs to define roles, and promote coordination between agricultural agencies with primary pesticides management responsibilities and water, environmental, or health agencies with primary ground water resource responsibilities.

- Efforts under CSGWPPs to promote State legal authorities and to form coordinated enforcement strategies for ground water protection will also strengthen legal and enforcement capacity to protect ground water from pesticides.

- Coordination mechanisms developed under CSGWPPs should establish links at the State level to other federal agencies with ground water protection responsibilities. These links should facilitate the targeting of non-EPA federal water quality projects to address a State's SMP priorities.

Coordinating Grants

CSGWPPs will help coordinate CWA, SDWA, CERCLA, and RCRA, as well as FIFRA funding for activities that will help meet the adequacy criteria of both CSGWPPs and SMPs. For example, money from §106 of the CWA could support State efforts to assess and identify the areas most vulnerable to ground water contamination by pesticides as a basis for establishing priorities for protection. FIFRA funding would be available for tailoring pesticides management practices to certain critical areas and for

PESTICIDES STATE MANAGEMENT PLAN (SMP) PROGRAM (continued)

outreach to the agricultural community. State agriculture agencies would work with State water quality agencies to utilize their expertise and facilities for monitoring, assessments of aquifer sensitivity, data management, and other activities necessary for SMP development. Under the CSGWPP approach, SDWA funding of PWSS monitoring, enforcement, and vulnerability assessments could also be coordinated to provide significant information to a State for developing and improving its SMP. Finally, the coordination mechanisms developed under CSGWPPs also have the potential to facilitate the targeting of grants from other federal agencies, such as USDA, to support SMP activities or to get the State agencies involved in SMP implementation in the selection of federally-funded water quality projects.

SOLE SOURCE AQUIFER PROTECTION PROGRAM

Resource-Based Priority Setting in Decision-Making

The Sole Source Aquifer (SSA) Protection Program is a resource-oriented ground water contamination prevention program. It is one of many tools that should be utilized in a CSGWPP to increase public awareness of the value of ground water as a resource and to prevent contamination from federal financially-assisted projects.

The SSA Protection Program's objectives and activities correspond to the Strategic Activities of a Comprehensive Program. Common management measures in both programs include resource assessment, identification of important resources for setting priorities, development of management options, and involvement of State and local governments.

The CSGWPP approach should provide the framework for increased State participation and improved EPA decision-making in determining priority SSA designations and project reviews. State and local prevention, control, and remediation efforts within SSA designated areas should be prioritized and managed through a CSGWPP.

Coordination with Other Programs

Under coordination efforts of a CSGWPP, SSA protection activities should significantly support the development and implementation of other ground water-related programs in the following ways:

- Contributes valuable aquifer characterization and assessment information to assist States in setting priorities;
- Assists States in establishing priority ground water protection areas based on use and value of the resource;
- Implements a pollution prevention program for reducing or eliminating pollution in SSA areas;
- Uses a broad range of education, voluntary, and regulatory techniques to protect the resource; and
- Provides opportunities for monitoring, data collection and data analysis of the nature and quality of ground water.

RCRA SUBTITLE C PROGRAM

Resource-Based Priority Setting in Decision Making

The FY 1992 RCRA Implementation Plan indicates that the RCRA program is implementing a cooperative strategic framework with the States which is designed to: (1) identify regional and State-wide environmental priorities among all facilities in the RCRA universe, and (2) use these priorities to select the most appropriate allocation of resources for RCRA permitting and cleanup activities. One factor in setting these priorities will be the use, value, and vulnerability of the ground water. Since CSGWPPs encourage States to develop systems that allow resource-based priority setting, the CSGWPP approach should serve as an integral part of the efforts the States and RCRA are undertaking to implement this strategy for setting RCRA priorities.

An adequate characterization of a State's ground water resources developed as part of the implementation of a CSGWPP could supply much useful information that may be useful in implementing current and future RCRA-related activities. RCRA corrective actions to cleanup releases of hazardous waste and constituents are conducted on a site-specific basis, and take into account ground water protection as a major factor in selecting cleanup remedies. The information generated as part of a CSGWPP will help to ensure that site-specific decision making will be conducted in the context of the regional ground water resources. In addition, future regulation on location standards for RCRA facilities is likely to be integrated with regional ground water resources identified and characterized as part of a State's CSGWPP.

Coordination with Other Programs

Subtitle C permits should be coordinated with UIC, NPDES, and Wetlands (§404) permits. When these and other ground water-related programs are all implemented within the CSGWPP framework, consistency among priorities and pollution prevention measures will be significantly enhanced. Overall implementation will be more efficient and effective.

Some commentators noted that RCRA's requirements on the handling of pesticide wastes were burdensome. The Office of Solid Waste will explore this problem with the Office of Pesticide Programs.

Coordinating Grants

RCRA implementation grants can be used, in part, to support general assessment and infrastructure building, as long as the activities funded demonstrably aid in implementing RCRA. Because of RCRA's emphasis on State-led, priority-based decision making, activities such as assessment, mapping, and characterization of ground water resources would fit this criterion. These activities are also key in other programs and are essential to developing and implementing a CSGWPP. As such,

RCRA SUBTITLE C PROGRAM (continued)

the RCRA grants should be coordinated with funds from a variety of programs. The CSGWPP supplies the coordinating framework which ensures that no unnecessary duplication of effort exists across programs, thus assuring that grants from RCRA and all other programs provide maximum overall benefit.

RCRA SUBTITLE D PROGRAM

Resource-Based Priority Setting in Decision Making

Under the Subtitle D program regulations on municipal landfill criteria, States have the opportunity to adjust certain aspects of the EPA-promulgated standards concerning landfill design, monitoring, siting and corrective action. To gain this flexibility, States must have EPA-approved municipal solid waste landfill permitting programs. When an approved State makes a site-specific permit decision on landfill design or monitoring requirements, it may do so based, in part, on the relative vulnerability of the ground water. For corrective action requirements, decisions can be based, in part, on the underlying ground water's use, value, and vulnerability. Assessment and characterization carried out under the strategic activities of the CSGWPP can be used to help demonstrate to the EPA Regional Administrator that their Municipal Waste Programs adequately incorporate Subtitle D federal guidelines.

Other Subtitle D programs for solid waste (e.g., mining, oil and gas, and industrial wastes) are just beginning to be developed at this time. EPA expects these Subtitle D industrial programs to incorporate the CSGWPP approach and allow States to make decisions on aspects of landfill design, monitoring requirements, or corrective action requirements based, in part, on the use, value, and vulnerability of the ground water.

Coordination with Other Programs

The RCRA Subtitle D program already has developed ground water monitoring requirements for municipal solid waste landfills. These requirements allow the use of a sampling and analysis program that accurately represents the ground water quality at a particular site. A CSGWPP could ensure the development of a consistent monitoring program applicable to both Subtitle D facilities and to other programs such as the UST program that may affect ground water.

A number of industrial facilities and operations likely to be covered under future RCRA Subtitle D regulations for industrial solid waste also will require NPDES permits for surface water discharges, for sewage sludge facilities, or for industrial pretreatment permits from POTWs and also may be subject to the SDWA Underground Injection Control Program, particularly Class V regulations. The CSGWPP will provide a framework for better coordination of these programs to avoid cross-purposes in objectives and approaches. EPA will also work to coordinate these regulatory activities through the Agency's Ground Water Cluster.

RCRA SUBTITLE D PROGRAM (continued)

Coordinating Grants

Grants given to States to develop an understanding of the characteristics of their ground water will be coordinated with grants from other programs so that duplication is avoided when a State implements certain functions such as monitoring. (See also the discussion under RCRA Subtitle C.)

UNDERGROUND STORAGE TANK PROGRAM

Resource-Based Priority Setting in Decision-Making

Under EPA's UST Program, minimum federal standards are set and a State is allowed to be more stringent or different if the State's program is no less stringent and provides for adequate enforcement of compliance. Because the program's size often overwhelms the ability of the States to staff the program, EPA encourages States to implement UST programs and achieve compliance through a variety of State-specific management measures and mechanisms.

The UST program offers States flexibility in the following ways:

- The UST program encourages States to set enforcement priorities and do multimedia enforcement.

- The federal UST program defines minimum standards and allows States to set more stringent or different (but no less stringent) standards for prevention and detection of releases from USTs, for site characterizations, soil and ground water cleanup investigations, and remedial action for releases from USTs.

Maximum flexibility is realized when a State is authorized to implement its UST in lieu of the federal program. To be approved, the State must demonstrate that it has additional funding sources, adequate staff, authorities that are no less stringent than the federal UST program in scope and regulation, and capacity and willingness to enforce the program.

The ground water assessment and characterization efforts carried out under the priority setting Strategic Activity of a CSGWPP will help a State better determine its UST program priorities in regard to inspection and enforcement actions and program resource allocations. Information provided by the CSGWPP approach on the relative use and value of ground water resources also will assist in UST program decision-making regarding cleanup investigations and corrective actions.

Coordination with Other Programs

Because the UST program seeks to regulate potential sources of ground water contamination (i.e., underground storage tanks), there are several specific links between a State's UST program and its CSGWPP. For example, the UST program requires all UST owners to notify the State of existing underground storage tanks. This inventory will assist the States in cataloging and assessing one potential source of contamination.

UNDERGROUND STORAGE TANK PROGRAM (continued)

A number of facilities and operations with underground storage tanks may also be subject to requirements by other ground water-related programs, such as SDWA underground injection controls or RCRA hazardous waste or solid waste management. The CSGWPP will provide a management focal point for a State to establish more coordinated inspections and enforcement schemes across ground water-related programs. Presently many States' UST programs barely have enough personnel to meet their enforcement needs. Through the integration provided by the CSGWPP, State personnel from other programs may be trained to look for UST violations or to take enforcement actions.

Facilities with underground storage tanks often are located in an area where ground water remediation efforts are being considered. Knowledge of the presence of underground storage tanks in such areas may be crucial information in determining the source and responsibility for an area's contamination and means for successful remediation. Under the UST program, owners are required to notify the State of existing underground storage tanks. Inclusion of such information in the CSGWPP strategic activity of coordinated ground water data bases within the State could greatly assist other programs' field personnel in determining appropriate actions.

Coordinating Grants

The federal UST program provides grants to States to prevent, detect, and correct leaks from underground storage tanks containing petroleum and other hazardous substances. As a result, UST grant funding, which supports the development and implementation of an UST regulatory program, also can support the following corresponding CSGWPP activities: identifying sources of contamination; establishing a comprehensive remediation program that sets priorities according to risk; defining federal, State, and local enforcement authorities; conducting monitoring, data collection, and data analysis; and improving public participation.

SUPERFUND PROGRAM

Resource-Based Priority Setting in Decision Making

The Superfund program was created by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. The Superfund program is designed to respond to contamination at sites with uncontrolled hazardous substances. Sites that are candidates for Superfund response action first undergo a Preliminary Assessment and Site Investigation (PA/SI) in order to quantify the human health and environmental risk posed by the site. Sites are then evaluated under a number of risk related and other factors set out in the Hazard Ranking System (HRS) to determine if the site is a priority for possible remedial action and inclusion on the National Priority List (NPL). A CSGWPP may influence this process in the following areas.

Priorities for conducting HRS assessments and for taking short-term removal actions are determined by the threat that potential contamination may pose. A State's ability to demonstrate, through a CSGWPP, that it understands the use, value, and vulnerability of its ground water could be an important factor in setting priorities for PA/SI and HRS listing evaluations or other actions. By helping to establish high priority candidate sites, the State can influence which of its sites ultimately get on the NPL, and become eligible for longer term remedial action.

Once on the NPL, the Superfund policy is to address the worst sites and worst problems at sites first, based on an assessment of risk to human health and the environment. Thus, a CSGWPP can assist in determining which studies and sites will receive priority Superfund attention.

EPA's goal for long-term cleanup of NPL sites includes returning usable ground waters to their beneficial uses within a reasonable period of time, wherever practicable. When selecting a remedy and determining remediation requirements for long-term cleanup at a site, EPA considers both the anticipated uses of ground water and established State standards. A clear understanding of ground water resources in the State, demonstrated through consistent application of a CSGWPP, can help inform these site-specific decisions.

The Superfund Program is currently working to develop a more integrated approach for its site remediation program, and to identify opportunities for adopting innovative approaches to restoration and management of hazardous waste sites. Superfund will also be looking for ways to increase State participation in the remedial decision process, where allowed by statute.

SUPERFUND PROGRAM (continued)

Coordination with Other Programs

Superfund remedial actions are required to comply with (or justify a waiver of) applicable or relevant and appropriate requirements (ARARs) of State environmental laws that are promulgated, timely identified, and consistently applied in similar situations. ARARs pertinent to ground water remedial actions include standards established by various State and Federal environmental statutes. Ground water cleanup levels are determined for each Superfund site based on ARARs and/or on acceptable human health and environmental risk levels for all potential exposure pathways. ARARs and risk levels are determined for both current and reasonably expected future use of the ground water. Other EPA programs, such as RCRA Corrective Action, use a similar approach for setting cleanup levels for contaminated ground water. Under the CSGWPP approach, current and reasonably expected uses would be determined by a State and would be consistently applied to all State and Federal programs. Where a CSGWPP is in place, the Superfund program may provide flexibility to focus more intensive long-term remedial efforts at sites where ground water is more highly valued by the State and less intensive efforts (i.e., longer restoration time periods) in other areas.

Coordinating Grants

A State or Indian Tribe may enter into a Core Program Cooperative Agreement to build and enhance its capabilities to respond to uncontrolled hazardous substance sites and to promote more effective State participation in the Superfund program. The Core Program focuses on assisting a State to develop its ability to support or implement emergency and long-term response under the Superfund program. The Core Program Cooperative Agreement may enable EPA Regional Offices to fund appropriate ground water tasks that contribute to the recipients ability to implement Superfund and also are useful to comprehensive ground water management in a State. Examples might include development of ground water sampling protocols or design of risk assessment criteria and procedures, and other similar components that also could support a framework for a CSGWPP.

OIL POLLUTION ACT

Resource-Based Priority Setting in Decision Making

The Oil Pollution Act of 1990 (OPA) provides EPA (and the Coast Guard) with expanded authorities to address discharges of oil that pose substantial threats to public health or welfare and natural resources. Section 311 of the Clean Water Act, which is implemented through the National Contingency Plan like CERCLA, empowers EPA to arrange for the removal of oil discharges or to mitigate or prevent the substantial threat of the discharge that threatens public health or welfare.

A comprehensive assessment of a State's ground water resource carried out as part of a CSGWPP will support speedy and effective actions under Section 311 by better identifying the ground waters, and surface waters closely hydrogeologically connected to ground waters, that could be affected by a discharge of oil, and by identifying reasonably expected sources of drinking water that could be threatened. This will help to determine when removal actions are necessary.

Coordination with Other Programs

The ARARs pertinent to removal actions involving oil discharges into ground water that threaten surface waters will, under the CSGWPP approach, be based on an understanding of the ground water resource and its use, value, and vulnerability that is common to all programs in the State.

UNDERGROUND INJECTION CONTROL PROGRAM

Resource-Based Priority Setting in Decision Making

CSGWPP resource-based priority setting will help make permitting, inspection, and enforcement actions for all classes of underground injection wells more effective and efficient. The overall CSGWPP framework will supply the States with an important understanding of the use, value and vulnerability of their ground water resources that will be useful in UIC programs involving all classes of wells.

UIC Class I hazardous waste injection wells (deep industrial disposal wells), for example, are permitted under the SDWA and by rule under RCRA Subtitle C. Before operation such wells must be determined not to endanger human health or the environment. Comprehensive assessment of the ground water resource will expedite the identification of all potentially threatened ground waters and confining layers, and will help to ensure complete and accurate monitoring and identification of potential migration in the subsurface. The requirements currently being developed for UIC Class V wells (shallow drainage and miscellaneous wells) also demonstrate how CSGWPPs will support resource-based decision making. Under the regulations and guidance being developed by the UIC program, the most environmentally harmful Class V wells (e.g., service station drains, industrial waste disposal wells, etc.) will be controlled by permits; other Class V wells will be controlled by general rules supplemented by guidance or proper practices to comply with those rules. Although the controls placed on these wells will be tied to the level of contamination being injected, the use and value of the underlying ground water resources could be a key consideration in the setting of priorities under this approach.

Coordination with Other Programs

The UIC program, and particularly the Class V component, will benefit from being linked to other ground water programs within the CSGWPP. Other programs, such as the WHP program, will assist in identifying Class V wells that have not been inventoried. Under the WHP program, sources of contamination within WHP areas must be identified. Any Class V wells identified during the WHPP inventory can be added to the Class V inventory. Similarly, any Class V wells identified during RCRA Facility Assessments (RFAs) or CERCLA Preliminary Assessments and Site Investigations (PA/SIs) could be added to the Class V inventory.

Efficiencies involving the UIC program and other programs will also be created through the CSGWPP. The UST program, for example, will be able to benefit from joint inspections at gasoline stations that address both Class V wells and underground storage tanks. Pesticide SMPs can include UIC Class V measures to avoid ground water contamination caused by disposal of residues from mixing or washing in shallow drainage wells. UIC Class V inventories will be useful sources of information in RFAs and PA/SIs.

UNDERGROUND INJECTION CONTROL PROGRAM (continued)

Coordinating Grants

States can use UIC grants for activities such as mapping, inventorying, and data management. For these activities, grant guidances among all programs allowing funds to be used for these purposes could be coordinated to insure synergies and to reduce unnecessary duplication among programs.

PUBLIC WATER SUPPLY SUPERVISION PROGRAM

Resource-Based Priority Setting in Decision-Making

The protection of public water supplies (PWS) is a high priority for Comprehensive Programs. This is evident by the CSGWPP adequacy criteria requiring implementation of an EPA-approved State Wellhead Protection Program (WHP) for a Fully-Integrating CSGWPP. A State's WHP, coupled with other CSGWPP efforts, will provide information on the "vulnerability" or susceptibility of source waters of individual PWS systems to contamination. Under the Public Water Supply System Program, States have the flexibility within the Program to:

(1) Work toward flexible federal monitoring requirements for individual water supply systems with less burdensome PWS monitoring requirements;

(2) Offer water suppliers opportunities for obtaining waivers from monitoring requirements for certain contaminants, if their systems are not vulnerable to contamination;

(3) Use PWSS enforcement actions to support development and implementation of local wellhead protection programs. CSGWPPs can provide data and information upon which to initiate enforcement actions, (i.e., SDWA §1431 emergency orders);

(4) Allow more flexibility in the application of the "timely and appropriate" enforcement criteria for violations of the SDWA, particularly PWSs that are in significant noncompliance SNC, if a State can demonstrate that an enforcement action, based on data from a wellhead protection program or other ground water activities, can appropriately address and mitigate the violations;

(5) Set the phase in schedule (beginning in 1993) for monitoring under the new "standardized monitoring framework," implementing a three year compliance period. Setting priorities for targeting when systems would be phased in may be based in part on the use, value, vulnerability of ground waters and extent of data available. Making determinations using these factors would be greatly enhanced by the coordination achieved and data developed under a CSGWPP; and

(6) Enhance Sanitary surveys where use of wellhead protection area delineations and contaminant source surveys, pesticide application information and a pesticide management plan, and other information could be used.

PUBLIC WATER SUPPLY SUPERVISION PROGRAM (continued)

Coordination with Other Programs

Given the high priority of protecting PWS under a CSGWPP, a State's PWSS Program will benefit significantly from the CSGWPP's objective of coordinating and targeting the numerous ground water protection efforts of federal, State, and local programs. Coupled with Wellhead Protection Programs, the source inventory and characterization efforts of numerous source-specific programs (e.g., UIC, UST, Pesticides SMPs, NPS, etc.) should assist the PWSS Program in determining the "vulnerability" or susceptibility of water supply systems to different potential contaminants. Furthermore, these programs should significantly assist the PWSS Program in achieving permanent solutions to contamination by focusing on preventing or mitigating source water contamination rather than often costly treatment by individual PWS systems.

In addition to receiving benefits from the CSGWPP approach, the PWSS Program has much to add. For example, the ability of the PWSS Program to take civil action on an emergency basis to address contamination of underground sources of drinking water (Section 1431 of SDWA) should be integrated under the Comprehensive Program approach with other programs' regulatory and non-regulatory efforts to provide a broader array of tools to address ground water concerns.

Also, under a CSGWPP coordination objective, the monitoring data collected by PWS systems should be integrated with other programs' information (e.g., source inventory and characterization data) to derive better understanding of the environmental fate and movement of contaminants. Greater accessibility of environmental data across programs also would allow vulnerability assessments to be done by automated processes rather than solely by expensive field investigations, facilitating the issuance of monitoring waivers. In addition, some States would not be able to support a waiver program without a coordinated information program mechanism in place to increase confidence in waivers.

Finally, the PWSS laboratory certification programs should be better coordinated, under the CSGWPP approach, with other programs' monitoring efforts to help ensure more accurate information across all ground water-related programs.

NONPOINT SOURCE PROGRAM

Resource-Based Priority Setting in Decision Making

Authorized under §319 of the CWA, the Nonpoint Source (NPS) Program provides grant funds for implementing control activities and institution-building activities based on a State's federally-approved NPS Assessment and Management Program. The program focuses on both ground water and surface water, with a minimum of 10 percent of the grants going for ground water-related activities. On average, the States devote more than 10 percent, with 30 percent going towards ground water-related funding in FY 91.

A State must have an EPA-approved NPS Management Program to be eligible to receive NPS grants. Section 319 requires State NPS Management Programs to identify, among other things, best management practices and measures to be implemented to reduce NPS pollutant loadings, to set up a schedule for implementing the measures, and to define authorities. Only priority ground water protection activities identified in an approved management plan are eligible for §319 grant funding, either by direct identification in the NPS Management Plan or by reference to the CSGWPP. Therefore, the ground water protection priorities established by a CSGWPP should have a direct link to the priorities of the State's NPS Program. This link should focus §319 NPS efforts on the most valuable and vulnerable ground waters.

Coordination with Other Programs

Because CSGWPPs require that States define roles and coordination points between and among ground water-related programs, the CSGWPP will provide a means by which the NPS program will have information about all of the other ground water-related programs. This should decrease unnecessary duplication and increase efficiency in the §319 program. For example, coordination afforded by a CSGWPP should promote better integration of NPS prevention activities and prevention measures under EPA's Pesticide State Management Plan (SMP) approach for protecting ground water from pesticides contamination. Integration between the NPS Management Program's requirements and those of upcoming Underground Injection Control (UIC) Class V regulations and guidance, particularly for agricultural drainage wells, can also be facilitated by the CSGWPP approach. At a minimum, a CSGWPP should ensure that these major national programs are not working at cross-purposes within the State.

Coordinating Grants

The bulk of §319 grants must be used for implementing NPS control activities for either surface water or ground water quality concerns. Considerable and wide-ranging ground water protection efforts have been undertaken through these NPS

NONPOINT SOURCE PROGRAM (continued)

grants, including abandoned well plugging, agricultural drainage well siting and closure, installment of best management practices in the field, and improved septic tank maintenance. Many of these activities would meet the objectives of other EPA programs (e.g., Coastal Nonpoint Programs, UIC, UST, Pesticides, RCRA). CSGWPP coordination of the NPS efforts with the control efforts supported by other programs will provide a vehicle for establishing and focusing joint efforts on highest ground water priority concerns.

EPA's Section 319 grant guidance requires that at least 10% of a State's work program be devoted to addressing priority ground water nonpoint source activities. However, where the requisite information to establish State implementation priorities is lacking, the State is encouraged to use Section 319 grants to further its assessment and characterization of ground water resources and to establish a basis for identifying priority protection needs prior to undertaking any site-specific measures.

NPDES AND INDUSTRIAL PRETREATMENT PROGRAM

Resource-Based Priority Setting in Decision Making

Under the Clean Water Act, EPA and the States regulate facilities that either discharge wastewaters directly to surface waters or discharge to municipal wastewater treatment systems. Direct discharges are covered under the National Pollutant Discharge Elimination System (NPDES), whereas industrial discharges to municipal treatment systems are covered by pretreatment requirements. The primary objective of these regulatory programs is to ensure the attainment of the "designated uses" (e.g., fishable, swimable) of receiving surface waters.

While a number of States have incorporated ground water discharges into their NPDES permits and pretreatment requirements, there is no national requirement to do so. States might consider surface water recharge to valuable ground waters as a designated use for surface water and issue specific NPDES permit requirements *designed to assure attainment of that designated use and, thereby, indirectly protect* inter-connected high priority ground waters. States could use the resource assessment, source evaluation and priority setting mechanism of CSGWPPs to identify high-priority ground waters that are subject to contamination from closely hydrologically connected surface waters.

Coordination with Other Programs

CSGWPPs can provide a central coordination point for surface water regulators to coordinate with ground water officials from a wide variety of ground water-related programs. For example, a number of facilities with required NPDES or pretreatment permits for surface water protection are also likely to be subject to future RCRA D and SDWA Underground Injection Control Class V Well requirements. The CSGWPP can help a State make integrated environmental management decisions across both ground and surface waters. In other words, States can use their ground water protection authorities in conjunction with the NPDES permitting process to ensure that specific requirements in NPDES permits do not result in unintended contamination of sensitive ground water from practices such as the use of surface impoundments.

STORM WATER PROGRAM

Resource-Based Priority Setting in Decision Making

Industiral storm water discharges to surface waters and discharges from municipal separate storm sewer systems serving populations greater than 250,000, are regulated through National Pollutant Discharge Elimination System (NPDES) permits. Storm water management can affect ground water in a number of ways -- some storm water management practices may be designed to recharge ground water in urban areas as an important means for water supply storage; other storm water controls focus on pollution prevention controls which reduce risks to both surface and ground water; and in some industrial and agricultural situations, storm water collection devices or best management practices (BMPs) may transfer contaminants to underlying ground waters. In any of these cases, this water may eventually re-enter the surface water again as ground water discharges to streams and lakes.

Given the possible inter-connection between storm water management and ground water, it is important to consider potential ground water impacts, particularly where this underlying resource is highly valuable or closely hydrogeologically linked to surface water quality. To address the potential for ground water contamination, storm water BMPs should be developed to reflect States' CSGWPP resource protection objectives and priorities.

Coordination with Other Programs

Coordination within the CSGWPP framework among the NPDES program, UIC Class V program, the NPS program, and the Wellhead Protection Program will help focus efforts to manage cross-media impacts and avoid having major national programs working at cross-purposes within the State.

SEWAGE SLUDGE PROGRAM

Resource-Based Priority Setting in Decision Making

Requirements to protect public health and the environment from the adverse effects of pollutants that may be contained in sewage sludge are authorized by Section 405 of the Clean Water Act. The CWA Sewage Sludge Program has proposed regulations for the final use and disposal of sewage sludge. Requirements already exist under RCRA for sewage sludge that is determined to be hazardous. Sludge determined to be hazardous under RCRA must be managed in RCRA Subtitle C facilities. Sludge disposed in municipal solid waste landfills, which frequently receive sludge from POTWs, must be managed in facilities that satisfy the RCRA Subtitle D regulatory requirements. Both the Subtitle C and D requirements include location standards and ground water monitoring and remediation, if necessary. Some commentators were concerned about possible duplicative regulation. The Sewage Sludge Program and the RCRA Program will coordinate their efforts to alleviate excessive duplication.

Proposed rules on management of sludge under the CWA Sewage Sludge Program in landfills limited to sewage sludge monofills are expected to set limits on concentrations of certain pollutants in sludge placed in monofills so as not to exceed ground water MCLs or contaminate an aquifer with nitrogen. Proposed rules on land application of sludge are expected to include both management practices and national pollutant limits, including pathogen requirements and limitations on the concentrations of certain metals. Sludge application rates also should minimize the amount of nitrogen that passes below the root zone to the ground water. A comprehensive ground water assessment carried out under a CSGWPP will assist the implementation of these requirements by ensuring accurate and timely information about the condition of the ground water resources.

Coordination with Other Programs

The development of priorities through the CSGWPP process will help to coordinate the sewage sludge program with other programs in the State in several ways. Decisions about capacity and siting of RCRA Subtitle D facilities, for example, will affect how sludge is managed. Similarly, decisions concerning discharges into POTWs may affect whether sludge can be used in land application or must be managed in RCRA Subtitle C facilities.

COASTAL ZONE MANAGEMENT PROGRAM

Resource-Based Priority Setting in Decision Making

The Costal Zone Management Act (CZMA) authorizes and supports State programs for protecting the Nation's coastal waters. Amendments to the CZMA in 1990 established a significant initiative to control non-point source pollution to coastal areas. Each State with a federally approved Coastal Zone Management Program must submit a Coastal Nonpoint Program containing the following: 1) provisions for implementing management measures to protect coastal waters; 2) identification of land uses which may cause or contribute significantly to coastal waters degradation; 3) identification of critical coastal areas adjacent to coastal waters which are impaired or threatened by NPS pollution; 4) provisions for implementing additional management measures for land uses or critical coastal areas as necessary to achieve and maintain water quality standards; 5) programs to provide technical assistance to local governments and the public; 6) public participation opportunities in all aspects of the program; 7) modification of coastal zone boundaries as necessary to implement NOAA's recommendations; and 8) enforceable policies and mechanisms to implement the management measures. EPA plays a critical role in this initiative by having the responsibility to develop guidance specifying management measures for controlling the various nonpoint sources in coastal areas. In addition, both EPA and the National Oceanic and Atmospheric Administration (NOAA) must approve State Coastal Nonpoint Programs.

CSGWPPs have a primary function of identifying ground waters of high use, value, and vulnerability, which would include those ground waters that are closely hydrogeologically linked to coastal waters and which are capable of carrying contaminants to sensitive coastal waters. The Comprehensive Program can assist State Coastal Nonpoint Programs by identifying where ground waters play a significant role in coastal waters protection.

Coordination with Other Programs

Strong potential linkage exists between State Coastal Nonpoint Programs and CSGWPPs. For example, in many coastal areas, which include estuaries, ground water nutrient contribution (especially nitrogen) is contributing significantly to eutrophication problems of coastal waters. Sources of this ground water contamination can include septic tanks from coastal developments or fertilizer use in agricultural areas adjacent to coastal land.

The CSGWPP can also assist in coordinating a number of other EPA programs (e.g., RCRA, CERCLA, Pesticides) to reduce coastal water impacts from toxic chemicals by protecting, as a priority, ground water closely linked to coastal waters.

TOXIC SUBSTANCES CONTROL PROGRAM

Resource-Based Priority Setting in Decision Making

EPA is interested in applying its capabilities and authorities under the Toxic Substances Control Act to address local environmental needs and problems. CSGWPP priorities provide an immediate context in which EPA and States can test the geographically-specific applications of certain TSCA authorities. Presently, a number of TSCA authorities can support the Strategic Activities of a CSGWPP, including:

- EPA toxicity determinations, exposure determinations, and risk assessment capabilities under TSCA could support CSGWPP priority-setting. For example, various EPA capabilities, such as testing authorities, Graphic Exposure Modeling Systems, and others, could provide information to assist States in identifying risk-based geographic priorities for ground water protection and in establishing ground water protection priorities across contamination sources.

- EPA risk reduction decision-making capabilities could support the pollution prevention components of a CSGWPP. EPA could perform Substitute Analyses, Cost/Benefit Analyses, and Pollution Prevention Technical assessments to assist with States' efforts to reduce or eliminate potential environmental releases that may adversely affect ground water quality. These EPA capabilities could be directed towards differential management of ground water under a State's CSGWPP by focusing on activities that are located in geographic proximity to the State's most valuable and vulnerable ground waters. These capabilities could also be used to assist a State in implementing pollution prevention priorities across sources.

- EPA risk management capabilities could also be used to support CSGWPP contaminant control efforts. TSCA Section 6(a) provides EPA with the authority to regulate chemicals that present an unreasonable risk of injury to human health or the environment. EPA could use this authority to address chemicals of concern in targeted geographic areas which encompass a State's high priority ground waters. TSCA Section 6(a) offers a wide range of possible actions to prevent pollution from prohibiting the manufacture, sale, or use of a chemical to recordkeeping and labeling requirements which could be selectively applied in specific geographic areas to protect high priority ground waters.

At this time, EPA's efforts to apply TSCA capabilities to local problems will take the form of pilot projects. States need to work with EPA Regional Offices to identify opportunities within the CSGWPP framework which would test the TSCA approach.

RADIATION PROGRAM

Resource-Based Priority Setting in Decision Making

EPA is responsible for development of federal guidance on radiation protection and promulgates standards and regulations for exposure to radionuclides. In particular, EPA provides support to States in radiation monitoring, research, training, and other forms of technical assistance; develops standards for cleanup, management, and disposal of uranium and thorium mill tailings and high-level, low-level, and transuranic radioactive wastes; and assists in the promulgation of standards for the control of radionuclides in drinking waters and in all types of wastes. EPA's standards cover activities of other federal agencies, including DOE and DoD, and activities regulated by NRC.

Resource assessment, source evaluation, and priority setting mechanisms developed through CSGWPPs should be used by States and other federal agencies to implement the ground water protection and remediation standards contained in EPA regulations involving radionuclides. For example, EPA regulations in 40 CFR Part 192 on uranium tailings management at active uranium processing facilities call for evaluation of the hydrogeology of the site, including determination of background ground water quality, rate and direction of migration of contaminated ground water, and extent of the contamination. The regulation calls for remedial action decisions to be made on a case-by-case basis, taking into account, among other things, present and future use of the aquifer and the degree to which human exposure is likely to occur. NRC implements requirements for active uranium processing sites that incorporate ground water protection standards that are comparable to requirements developed under RCRA Subtitle C. A comprehensive characterization and assessment of the resource will facilitate decision-making affecting ground water for such sites.

Coordination with Other Programs

Regulatory authority over some possession and use of radionuclides, with some exceptions, such as commercial nuclear power reactors and high level radioactive waste disposal facilities, has been relinquished by agreement between the Nuclear Regulatory Commission and the States to over half the States (Agreement States). In such States, siting of facilities involving radionuclides and design and operational requirements established by facility licenses are controlled and directed by the States. In States where NRC retains primacy, regulatory limits for some types of licensed nuclear facilities (e.g., uranium mill tailings impoundments) set specific design and operational criteria for licensed facilities to protect ground water and maximum limits are established for ground water contamination. Facilities in Agreement and non-Agreement States are subject to standards issued by EPA under the Uranium Mill Tailings Radiation Control Act and the Atomic Energy Act and implemented by Agreement States or by NRC in non-Agreement States. Implementation of a CSGWPP will enable States to begin to coordinate implementation of such standards and

RADIATION PROGRAM (continued)

requirements more completely and efficiently by ensuring that they address a consistent ground water goal and priorities and share a common assessment of the resource.

WETLANDS PROGRAM

Resource-Based Priority Setting in Decision Making

Because wetlands act as natural pollutant filters and as a source of aquifer recharge, they often are closely linked to the quality and quantity of ground water resources. Wetlands occurring along rivers and streams probably are the most important types of wetlands for ground water recharge. This recharge occurs most often in the wet portions of the year during overbank flooding. Ground water, in turn, may be discharged back to the wetlands and river bed during dry years. The Everglades are a good example of the linkage between a river and a wetlands system and its underlying ground water, the Biscayne aquifer. Florida is acquiring approximately 41,000 acres of partially drained wetlands in the Everglades and restoring them to regain their water quality and recharge benefits.

Several EPA programs are aimed at protecting and restoring wetlands. In some cases, ground water resources are considered when establishing wetland program priorities. For example, EPA is assisting States with the development of water quality standards for wetlands which include methods for designating wetlands uses based on function and value. Currently the State of Michigan is considering designating wetlands as Outstanding Natural Resource Waters if the wetlands are connected to a municipal ground water supply.

Knowledge of State ground water resource priorities would be useful to the wetlands program in administering its responsibilities under CWA §404. For example, under §404, EPA has regulatory responsibility for reviewing permits for the discharge of dredge or fill materials into waters of the United States, including wetlands. The presence of high-priority ground water resources could be a consideration in review of these permits. Also under §404, EPA participates in Advance Identification (ADID) studies to identify waters as possible disposal sites and to identify areas that are likely to be unsuitable for disposal. The results of these studies provide the public and regulated community with an indication of whether a §404 permit will likely be received. Recently, in Bucks County, Pennsylvania, ground water withdrawal and its impact on local water quality was identified as one of the key factors that prompted an ADID.

Ground water protection also can be enhanced by identification and protection of wetlands that recharge and protect ground water. For example, if such wetlands are identified as part of the CSGWPP, their characteristics will be known for wellhead protection programs.

WATERSHED PROTECTION APPROACH

Resource-Based Priority Setting in Decision Making

The Watershed Protection Approach is a resource-oriented framework supported by EPA for focusing and integrating current efforts and for exploring innovative methods to achieve maximum efficiency and effectiveness in water quality protection. The term watershed refers to a geographic area in which water, sediments, and dissolved materials drain to a common outlet -- a point on a larger stream, a lake, an underlying aquifer, an estuary, or an ocean. An aquifer or part of an aquifer, such as a wellhead protection area, can be a watershed. The Watershed Protection Approach is not a new "program," but an effort to target appropriate tools and resources from existing programs to the needs within a particular watershed. The Watershed Protection Approach is built on three main principles: risk-based geographic targeting, stakeholder involvement, and integrated solutions. Presently a number of state projects and programs using the Watershed Protection Approach have been implemented.

The ground water assessment and characterization efforts carried out under the priority setting Strategic Activity of a CSGWPP provide a framework for States to target aquifers or portions of aquifers for the Watershed Protection Approach. In addition, watershed efforts aimed at surface water protection can benefit from information developed under a CSGWPP on those ground waters that are closely hydrogeologically linked to the targeted surface waters. Such information will assist in determining the influence of ground waters on these watershed protection areas.

Coordination with Other Programs

Both the Watershed Protection Approach and CSGWPP are intended to focus the efforts of several programs on protection of high-priority water bodies. CSGWPPs should be considered as an important tool in the Watershed Protection Approach. CSGWPPs will focus those programs with primary ground water protection responsibilities on protection of important watershed areas, whether they are aquifers, portions of aquifers, or surface water bodies that are closely hydrologically linked to ground waters.

The 1992 Agency Operating Guidance states that EPA will focus actual protection and restoration activities in specific watersheds, and several programs have recognized the importance of a watershed approach in their guidance documents. This emphasis will be compatible with and supportive of CSGWPP implementation efforts. For example, in the Region 3 Mill Creek Pequea Creek Watershed, nonpoint source resources have been made available to farmers to implement BMPs to reduce nutrient, bacteria, and pesticide contamination of surface waters and ground water.

POLLUTION PREVENTION PROGRAM

Resource-Based Priority Setting in Decision-Making

Priority setting within the CSGWPP will provide a means for targeting specific geographic environments for the implementation of pollution prevention techniques, technologies and work practices. Focusing pollution prevention efforts in high risk, high value areas will yield the greatest benefits to States as they work to protect their ground water resources.

Coordination with Other Programs

The Ground Water Protection Strategy and the CSGWPP focus on protecting ground water from contamination. One of the most effective means of protecting ground water supplies is through pollution prevention. EPA's Pollution Prevention program has an vital role to play in the CSGWPP as States establish priorities and begin to integrate various ground water protection efforts.

Pollution Prevention programs focus primarily on preventing risks rather than addressing pollutants after they have been created and emitted to the environment. While some large industries have been quick to seize upon the pollution prevention concept, many small, local businesses are still relatively unaware of how pollution prevention practices can benefit them. The CSGWPP will encourage broader industry and public participation in pollution prevention activities through State priorities that emphasize the role of pollution prevention in protecting ground water quality.

The CSGWPP will foster greater emphasis on pollution prevention at the State and local levels and will also help Pollution Prevention programs and activities to be coordinated with other ground water protection programs. As States establish priorities and goals, they will work to coordinate the efforts of ground water protection programs and build the pollution prevention concept into them. This process will also be driven by the on-going interest in promoting pollution prevention in media-specific grant guidance.

Coordinating Grants

The federal Pollution Prevention grants program "Pollution Prevention Incentives for States" provides grants to States to support State, Tribal, and local pollution prevention programs that address the reduction of pollutants across all environmental media: air, land, surface water, ground water and wetlands. This grant funding could be used to support the following CSGWPP activities: defining roles and responsibilities of key participants of proposed projects and promoting coordination with pollution prevention activities already underway in the State; developing and implementing prevention programs for reducing or eliminating pollution; collecting and analyzing data; developing mechanisms to measure progress in pollution prevention; and

POLLUTION PREVENTION PROGRAM (continued)

conducting public education and outreach. Grants may also be used to initiate demonstration projects that test and support innovative pollution prevention approaches and methodologies which may eventually be integrated into prevention programs.