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Assessment of Water Quality Progress and Problems in the West

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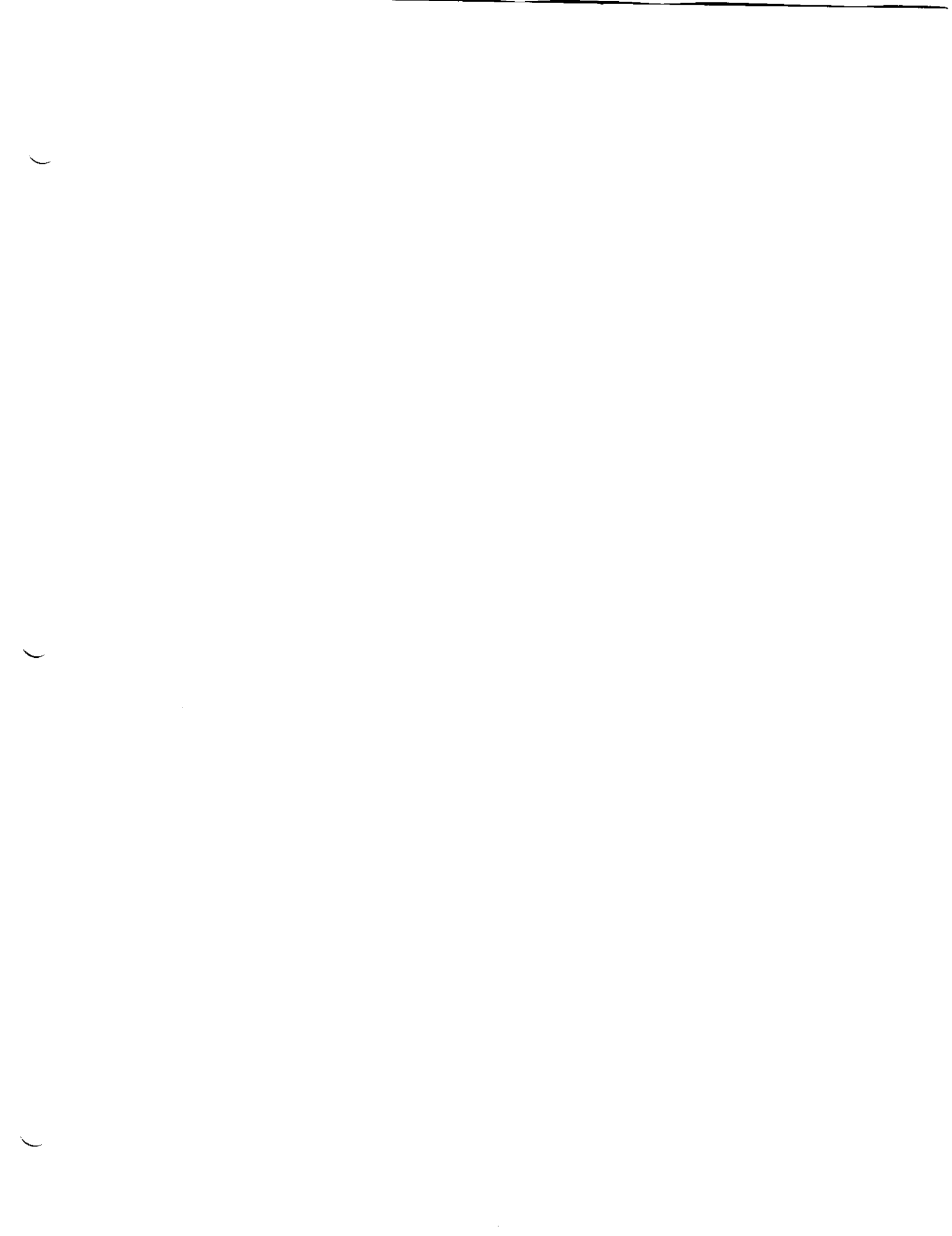
Assessment of Water Quality Progress
and Problems in the West

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Water Quality Control: Integrating Beneficial Use
and Environmental Protection

Natural Resources Law Center
University of Colorado School of Law
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and Problems in the West
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I. Introduction

A. Summary

Nearly all western state efforts at water quality control have been in response to federal programs or mandates. A survey of western state programs shows that most have complied with federal requirements to the extent necessary to qualify for "primacy" and therefore to administer the federally-prescribed programs. Presumably, water is cleaner, but data are not sufficiently reliable to prove it.

Federal programs have not always fit well western needs or western legal systems for water allocation. Furthermore, a lack of coordination among state and federal programs and between water quality regulation and water allocation schemes is endemic to federal water pollution control. Because of a generalized resentment of federal control, states have often resisted imposing more stringent controls than federal programs require. It is often seen as an area of federal regulation in which states participate to receive federal grants and to avoid direct federal agency enforcement. This has left serious causes of water pollution uncontrolled. Because some of the most

apparent gaps in the federal regulatory scheme are in areas that create the most significant pollution problems for the West (e.g., nonpoint agricultural sources), they go unremedied and create a vacuum for federal action to fill.

States have an opportunity to tailor water quality control programs to their own needs. This requires acceptance of a state responsibility for preventing and remedying water pollution problems. Agricultural pollution is the most serious and uncontrolled source of water pollution in the West. Well designed, fuller state programs should reflect more than the minima demanded by federal requirements for primacy or financial assistance. State initiatives can also overcome some of the weaknesses in federal programs by being more comprehensive and integrated in their administration. For instance, permitting review could be combined and quality controls could be administered together with water allocation and administrative functions under state water law.

The federal government should respond to the need to integrate the goals and administration of its programs and to make them as compatible as possible with state programs. Federal support is also needed for the development of better and more uniform data concerning water quality.

B. References

Conservation Foundation, State of the Environment: A View Toward the Nineties (1987).

Currie, "State Pollution Statutes," 48 U. Chi. L. Rev. 27 (1987).

Environmental Law Institute, Law of Environmental Protection (1987).

R. Patrick, E. Ford & Quarles, Groundwater Contamination in the United States (2d ed. 1987).

W. Rodgers, Environmental Law: Air and Water (1986).

Symposium, "Prevention of Groundwater Contamination in Kansas," 35 U. Kan. L. Rev. 241 (1987).

II. State Responses to Federal Water Pollution Control Programs

A. Financial Incentives

1. The strong regulatory role of the federal government in water pollution control was initially accompanied by significant opportunities for financial assistance.
2. Clean Water Act provided \$ 208 planning grants and major construction grants.
 - a. Construction grant program has provided about \$48 billion since

1972 to assist local governments in constructing sewage treatment facilities. In fiscal 1986, Congress began a nine-year phase-out of grant authorizations and conversion of the construction grant program. Direct grants will cease in fiscal 1990; from 1989 to 1994 funds are authorized for a program of state administered revolving loan funds. Congress authorized a total of \$9.6 billion for direct grants and \$8.4 billion for state loan funds to be granted to states. To be eligible for loan funds, grantee states must contribute an amount equal to 20% of the federal grant. Loans may be made by the states from the funds to cities for construction of sewage plants. Repayments may then be used to fund other loans. 33 U.S.C. § 1285 (1987).

- b. Section 208 of the Act (33 U.S.C. § 1288) directs the states to develop plans for dealing with point and nonpoint source

pollution. The planning process is to include estimates of the growth of and needs for municipal sewage treatment, inventories of point source pollution, and identification of nonpoint sources of pollution. States are to develop best management practices for controlling nonpoint pollution sources as a part of their plans. EPA put little emphasis on the nonpoint source aspects of the plans and so the states emphasized politically more palatable issues of point source control, including documentation of their needs for construction funds for sewage treatment facilities.

From 1974-1981, EPA spent \$400.9 million for grants to the states for § 208 planning. Since 1981, planning grants have come from other sections of the Act.

3. The most significant federal funding now available to benefit states is under CERCLA (Superfund) for response actions (dealing with releases of hazardous

wastes), and remedial actions (clean up of deposits of hazardous wastes) at National Priority List sites. 42 U.S.C. §§ 9604, 9611 (1982).

a. \$8.5 billion authorized as of 1986. (1987 - \$1.1 billion spent; 1988 - \$1.5 billion appropriated; 1989 - \$1.6 billion appropriated.) 18 Env't Rptr. 1798 (1987).

4. Authority exists for planning grants to states, municipalities and tribes under several other programs.

a. Clean Water Act, 33 U.S.C. §§ 1256 (comprehensive planning for water pollution control); 1313(e) (water quality standards) (1982).

b. Clean Water Act (Water Quality Improvement Act of 1987) was amended to authorize grants to states that prepare assessment reports and management programs for nonpoint source pollution. 33 U.S.C. § 1329 (1987).

c. Resources Conservation and Recovery Act, 42 U.S.C. § 6948(f) (1982) (planning for materials recovery and conservation programs).

B. Primacy in Program Administration

States and tribes are authorized to administer most important federal water pollution control programs, or at least significant parts of them. They must meet certain criteria set by statute and they remain subject to federal oversight so that EPA can take over the program if the state fails to carry out its responsibilities properly.

1. Clean Water Act permitting (NPDES) program, 33 U.S.C. § 1342 (1982).
 - a. Delegated to all western states surveyed except Alaska, Idaho, New Mexico, Oklahoma (pending), and Texas.
2. Resources Conservation and Recovery Act, 42 U.S.C. § 6901 (1982).
 - a. Delegated to all western states surveyed except Alaska, Idaho and Wyoming.
3. Safe Drinking Water Act - Public Water System Program, 42 U.S.C. § 300g (1982).
 - a. Delegated to all western states surveyed.
4. Safe Drinking Water Act - Underground Injection Control Program, 42 U.S.C. § 300l (1982).

- a. Waste injection wells fall into five classes; states can receive a complete delegation or partial delegations for either oil and gas brine waste disposal or for all other classes.
 - b. All western states states surveyed have received or applied for complete delgation except: Alaska, California and Colorado (which have primacy for oil and gas brine waste only); Arizona (which is pending); and Montana.
- C. Effectiveness of State Programs that Track Federal Laws is Limited by Perceived Flaws in Federal Programs
- 1. Effectiveness of federal programs is inhibited by lack of coordination.
 - a. Similar objectives are pursued in different ways.
 - b. Some program features are contradictory with other programs.
 - c. Administration could be more efficient.
 - 2. Groundwater pollution programs are especially uncoordinated.

- a. Programs are located in several offices within EPA and in the Departments of Agriculture and Interior.
 - b. At least seven federal laws regulate groundwater pollution.
 - c. EPA's 1984 Groundwater Protection Strategy is aimed at improvement of internal administration and decisionmaking, strengthening state programs and researching problems not addressed by federal programs. It is well-intentioned and has had some modest success.
3. Funding for administration and enforcement is inadequate and generally is declining.
 4. Special needs and situations of states are not necessarily reflected in federal programs.
 5. There may be conflicts with state water allocation laws.

III. Progress in Dealing with Water Pollution in the West

The dearth of reliable data to show trends in water pollution in the United States is notorious. Baseline data are lacking; monitoring of contaminants

is uneven; statistics that have been developed for one type of contaminant or source are not comparable with one another. Conservation Foundation, State of the Environment: A View Toward the Nineties 88 (1987) (citing a U. S. General Accounting Office report deploring the lack of reliable information on water quality trends).

Notwithstanding major expenditures of money and regulatory effort, available data do not show statistically significant evidence of water quality improvement. The 1986 EPA National Water Quality Inventory appears to indicate a decline in the proportion of rivers, lakes, estuaries and coastal waters that will support their designated uses.

A. Point Sources

"End-of-the-pipe" discharges (including nearly all municipal sewage and major industrial discharges) are controlled under the Clean Water Act with permits that limit the amount of effluent that may be discharged.

B. Nonpoint Sources

Sources outside the Clean Water Act's definition of "point source" (including agricultural irrigation return flows which are exempted) have been largely uncontrolled by federal or state programs.

An assessment done by the states showed that: 174,000 miles of river, or 43% of the river miles assessed, had their uses impaired or threatened by

nonpoint source pollution; 8.1 million acres of lakes, or 53% of the lake acreage assessed, had their uses impaired or threatened by nonpoint source pollution. U.S. Environmental Protection Agency, America's Clean Water: The States' Nonpoint Source Assessment 1985 (1985). The principal causes of nonpoint source pollution are:

1. Agricultural
2. Septic tanks
3. Timber
4. Urban runoff
5. Waste dumps
6. Acid rain

C. Groundwater

Data on groundwater quality are even less available than surface water information. However, a 1984 EPA survey showed that two-thirds of the groundwater supplies tested exceeded EPA's drinking water standards for at least one contaminant. Conservation Foundation, *supra* at 96.

D. Specific Pollutants

1. Toxics
2. Pesticides
3. Salinity

E. Existing Federal and Most State Programs Do Not Deal Adequately with Several Western Water Pollution Problems

1. Agricultural point and nonpoint sources

Largest polluter of surface and groundwater, contributing most of the sediment, nitrogen, phosphorus, and biochemical oxygen demand as well as large amounts of pesticides, bacteria, and dissolved solids. Conservation Foundation, supra at 105.

- a. Irrigation practices (e.g., contaminated return flows and drainage waters; salt loading; excessive application and use of water; inefficient distribution and irrigation systems).
- b. Soil conservation practices (e.g., sodbusting; excessive plowing; blowing dust).
- c. Pesticide application (excessive application; chemigation).

2. Underground storage tanks

3. Mine drainage

4. Mining wastes

IV. Groundwater and Surface Water Protection Programs
Are Artificially Separated

A. State Water Allocation Laws

- 1. Hydrologic connections between surface and groundwater are ignored in many

states. E.g., Metropolitan Utilities Dist. v. Merritt Beach Co., 140 N.W. 2d 626 (Neb. 1966).

2. Some states provide for conjunctive use, integrating systems for the establishment and administration of rights in water that comes from the same source. E.g., Colorado (Colo. Rev. Stat. § 37-92-102 (1973 & Supp. 1987)); New Mexico (e.g., Albuquerque v. Reynolds, 71 N.M. 428, 379 P. 2d 73 (1962); see also N.M. Stat. Ann. §72-12-1 -3.1 (1978 & Supp. 1985)).

B. Federal Water Pollution Statutes

1. The Clean Water Act appears to regulate both groundwater and surface water pollution, but has not been so applied.
 - a. Several sections of the Act expressly or impliedly apply to groundwater contamination. E.g., 33 U.S.C. §§ 1252 (EPA to develop groundwater protection programs); 1314(a)(1) & (2) (EPA to develop groundwater quality criteria, guidelines, etc.); 1314(f) (EPA guidelines for nonpoint sources, disposal wells, etc.); 1252

(planning for controlling diverse sources of pollution including groundwater contamination) (1982).

- b. The courts are divided on whether the Act's NPDES permitting program applies to discharges of pollutants into wells. Decisions holding that the program applies include:

Quivira Mining Co. v. EPA, 765 F.2d 126 (10th Cir. 1985), cert. denied, 106 S. Ct. 791 (1986); and United States Steel Corp. v. Train, 556 F. 2d 822 (7th Cir. 1977). Contra, Exxon v. Train, 554 F. 2d 1310 (5th Cir. 1977). EPA has not

implemented the program to apply to groundwater but a court has ruled that a state could be compelled to promulgate water quality effluent standards to protect groundwater with a "clear hydrologic nexus" with surface waters. Kentucky ex rel. Hancock v. Train, 9 Env't.

R.C. 1280, 1282 (E.D. Ky. 1976).

2. The Safe Drinking Water Act was designed primarily to address groundwater contamination but its standards apply to

water in public water systems from any source.

3. Several federal statutes may apply to the same activity or source.

V. State Pollution Laws Have Not Fully Addressed Western Water Pollution Problems

A. Most programs to administer federal laws track the fragmented federal approach and include only the minima required by statute.

B. Several states have enacted new laws that create programs not required by federal law to deal with particular types or sources of pollution. E.g.:

1. Chemigation, Colo. Rev. Stat. §§ 35-11-101 et seq. (1987); Kan. Stat. Ann. §§ 2-2201 et seq. (1987); Neb. Rev. Stat. §§ 46-1121 et seq. (1987); N.D. Cent. Code §§ 4-35.1-01 et seq. (1987); S.D. Codified Laws Ann. § 46-1121 (1987).
2. Underground storage tanks, Mont. Code Ann. §§ 75-10-403 -405 (1986); Neb. Rev. Stat. §§ 81-15, 117 et seq. (1987); N.D. Cent. Code §§ 23-20.3-04.1 et seq. (1987); S.D. Codified. Laws Ann. §§ 34A-2-98 et seq. (1986).
3. Pesticide registration, Cal. Food & Agric. § 13141 (1986).

4. Nonpoint source control, Ore. Rev. Stat. § 552.403 (1987).

C. Some new state laws are more comprehensive but deal only with groundwater protection.

E.g.:

1. Arizona Environmental Quality Act of 1986 (Ariz. Rev. Stat. §§ 36-3501 et seq.) includes programs for permitting point and nonpoint sources, aquifer classification, pesticide controls, regulation of agricultural practices, and sets up a superfund.
2. Nebraska Ground Water Management Act dealt with well driller licensing, well construction (Neb. Rev. Stat. § 46-659 (1984) (see also § 46-1236)), underground storage tanks (id., § 46-666.01 (see also § 46-295)), and special protection areas where agricultural practices may be regulated to control nonpoint source pollution (id., § 46-658).
3. Other states have enacted groundwater quality legislation, including California, (Cal. Water Code § 13000-13970 (Deering 1971)); Idaho (Idaho Code § 39-3601 (1985)); Kansas (Kan. Stat.

Ann. § 82a-901a (1984)); Montana (Mont. Code Ann. § 75-5-101 (1987)); New Mexico (N.M. Stat. Ann. § 72-12-1 (1985)); Oklahoma (Okla. Stat. Ann. § 82-926.2 (Supp. 1988)); Texas (Tex. Water Code Ann. § 28.011 (Supp. 1988)). Such legislation is typically less comprehensive, dealing only with monitoring or specific quality problems.

- D. A few states have begun to integrate laws to protect groundwater and surface water where it is practical to do so.

VI. States Are Concerned That Federal Water Pollution Control Will Interfere with State Water Allocation Systems

- A. Virtually Every Water Use Affects Water Quality, e.g.:
 1. Depletions cause concentrations of dissolved solids and other pollutants and reduce the dilutive capacity of streams and lakes.
 2. Impoundments change the temperature and chemical composition of water and cause evaporation causes depletive effects.
 3. Agricultural irrigation adds silt, salts, pesticides and other chemicals to

the water which returns to the stream
and causes depletive effects.

B. Legitimate Federal Interests Allow Preemption
of State Water Laws Through Federal Pollution
Control Laws

1. The "Wallop Amendment" to the Clean
Water Act provides that state water
allocation authority and water rights
under state law are not to be superseded
or abrogated by the Act. 33 U.S.C. §
1251(g) (1982).

a. A farmer who drained wetlands in
order to farm the land without a
permit as required by § 404 of the
Clean Water Act was not exempt from
the permit requirements although he
argued that the Act's provisions
would render his water rights
meaningless. The court held that
any effect on water rights was
incidental to the Act's purposes.
United States v. Akers, 785 F. 2d
814 (9th Cir. 1986).

b. The Endangered Species Act, 16
U.S.C. §§ 1531-1543, imposes duties
on all federal permit agencies "to
insure that actions funded,

authorized or carried out by them do not jeopardize the continued existence" of an endangered species. This imports such considerations to the § 404 permitting process. Riverside Irrigation Dist. v. Andrews, 758 F.2d 508 (10th Cir. 1985).

2. The federal interests potentially creating a conflict with state water rights are far-ranging and not limited to environmental protection, e.g., public land management and water needs, fish and wildlife, hydropower generation, reclamation programs, navigation, flood control.
 3. The federal government may have an interest in direct regulation to conserve and protect water because of the interstate nature of the resource. Sporhase v. Nebraska ex rel. Douglas, 458 U.S. 941, 954 (1982).
 4. Elimination of multiple and conflicting state regulations may facilitate interstate commerce.
- C. Although States Have an Interest in Pollution Control, They Often Rely on Federal Action

1. Economic pressures may inhibit state or local action more easily undertaken by the federal government.
2. Political influence of water users may prevent state action, leaving the field open to federal regulators.
3. Water pollution control is seen as a federal activity; anti-federal sentiment may cause resistance to strong state programs notwithstanding state benefits from pollution control.

VII. State Legal Systems Can Cope With Water Quality -
Water Quantity Conflicts

A. Private Actions to Enforce Personal or
Property Rights Invaded by Polluters
Generally Are Not Considered Inconsistent
With Water Rights.

1. Rights to water under the prior appropriation system historically include protection against unreasonable impairment of quality. Atchison v. Peterson, 87 U.S. 507 (1874); Wright v. Best, 19 Cal. 2d 368, 378, 121 P. 2d 702, 709 (1942); Ravndel v. Northfork Placers, 60 Idaho 305, 91 P. 2d 368 (1939); Helena v. Roqan, 26 Mont. 452, 68 P. 798 (1902).

- a. Remedies are available in tort actions among appropriators but enforcement by private parties is rare.
2. Private actions are being brought more frequently to recover for damage to health or property rights caused by water pollution.
 - a. Traditional tort suits by individuals (mostly in riparian jurisdictions). E.g., Springer v. Joseph Schlitz Brewing Co., 510 F.2d 468 (4th Cir. 1975) (liability for fish kills from discharges of pollutants in stream); Atlas Chemical Indus., Inc. v. Anderson, 514 S.W.2d 309 (Tex. Ct. App. 1974) (liability for polluting creek); Cities Service Oil Co. v. Marritt, 332 P.2d 677 (Okla. 1958) (liability in nuisance for polluting well); Burr v. Eidemiller, Inc., 386 Pa. 416, 126 A.2d 403 (1956) (liability for contaminating water supply by releasing construction debris).

b. Major toxic tort litigation. E.g., Sterling v. Velsicol Chemical Corp., 647 F. Supp. 303 (W.D. Tenn. 1986).

3. States have responsibility for protection of public, future users, etc. that cannot be fully satisfied by private remedies because preventative action may be required.

B. State Judicial Decisions May Demand Water Quality Protection Notwithstanding Apparent Conflicts with Water Allocation Laws

1. The public trust doctrine has been applied to require protection of statewide interests in water quality affecting any possible uses of water, not just protection of water rights. United States v. State Water Resources Control Board, 182 Cal. App. 3d 82, 227 Cal. Rptr. 161 (1st Dist. 1986) (Board can control diversions to protect water quality and even modify existing permits). See Johnson, "The Emerging Recognition of a Public Interest in Water: Water Quality Control by the Public Trust Doctrine," in Water and the

American West: Essays in Honor of Raphael J. Moses (D. Getches, ed. 1988).

2. Many state decisions are beginning to require a consideration of a variety of public interest factors in water rights administration although such factors were not considered when the rights were first recognized or granted. E.g., Alamosa-La Jara Water Users Protection Ass'n v. Gould, 674 P.2d 914 (Colo. 1983) (State Engineer's rules must consider "all significant factors, including environmental and economic concerns.").

C. States Can Avoid Conflicts By Modifying Their Legal and Administrative Systems

1. Private rights of action could be bolstered with legislative or judicial standards that interpreted the beneficial use requirement to prohibit any significant water pollution; inconsistent use would lead to a finding that the water was not being beneficially used and thus the right could be extinguished.

2. Water quality and quantity concerns can be considered together in water allocation and administration.
 - a. Permit issuance
 - b. Project approvals
 - c. Grants for water development
 - d. Changes of use
3. Some states have merged functions related to quantity and quality in a single agency.
 - a. The California State Water Resources Control Board issues appropriation permits for water use and sets and carries out the states water quality objectives. Cal. Water Code § 174.
4. Several states now require the consideration of a number of factors including effects on water quality before a permit will be granted. E.g., Mont. Code Ann. § 85-2-311 (1988)(water quality); Alaska Stat. § 46.15.080 (quality and purity standards); Shokal v. Dunn, 109 Idaho 330, 707 P. 2d 441 (1985) ("local public interest" demands that water permits be conditioned on meeting water quality standards).

5. State water planning is beginning to integrate water quality concerns as well as other related state goals, programs and functions.
 - a. In the past, water planning in the West has generally ignored water quality concerns.
 - b. State water quality planning was required as a condition of receiving construction grants under the Clean Water Act but these plans were typically done independently of any state water resources planning efforts.
 - c. Several crises caused by a failure to integrate quality issues in water resources planning have underscored the desirability of comprehensive water planning.
E.g., Kesterson, Wellton-Mohawk.
 - d. A few western states have recently initiated planning processes that involve water quality management as well as many other water-related areas. E.g., Kansas Water Resources Planning Act (Kan. Stat. Ann. §§ 82a-901(a) et seq. (1984));

Nebraska (Neb. Rev. Stat. §§ 2-15,100-106 (Cum. Supp. 1986));
Montana and Oregon (expanding scope of planning under existing statutory authority).

- e. Comprehensive planning can eliminate or minimize conflicts by anticipating and reconciling them in advance through a conscious balancing of multiple state interests.

VIII. Recommendations for Improving State and Federal Water Pollution Control Programs

A. The Federal Agencies Charged with Water Quality Responsibilities Should Develop a Coordinated Water Quality Policy

1. The policy should integrate the goals and administration of all federal programs relating to water pollution control, water quality maintenance and remedial actions for water supplies.
2. A single agency (possibly the restructured Bureau of Reclamation or EPA) should be assigned to take the lead with the other federal agencies and the states, building upon and strengthening

efforts made with the EPA's Groundwater Strategy.

3. Legislation may be desirable but major statutory reform is not necessary if there is a strong Executive commitment.
 - a. Cooperation from states may depend on making the policy economically attractive to them.
 - b. A federal-state task force could recommend the structure for a major Executive Order, technical amendments to statutes and necessary funding.

B. States Should Prepare Comprehensive Water Management Policies and Strategies That Deal With All Aspects of Water Quality and Supply

1. Water planning must include practices, policies, and programs related to surface and groundwater, pollution problems, supply and storage, flood control, soil conservation, land use, irrigation management, recreation, fish and wildlife, and economic development.
2. Legislation should be considered to deal with water problems that, from a state perspective, are not adequately dealt with by existing state and federal laws.

3. State agency structure and processes should be reexamined.
 - a. Changes should be considered where goals could be achieved more effectively and efficiently.
 - b. Consolidation of agency functions related to water (quantity and quality), combined permit reviews, and other attempts to coordinate resource management should be considered.

C. Major Gaps in Water Quality Programs Must Be Filled

1. The most pervasive sources of pollution have been overlooked or dealt with gently for political reasons.
2. Some of the most effective remedies for pollution problems involve regulation of water management, but they are generally avoided.
 - a. Federalism concerns arise where federal pollution controls clash with state water laws.
 - b. State pollution control is segregated administratively and legally from water allocation and administration.

3. Agricultural pollution must be controlled if groundwater and surface water are to be of acceptable quality in the West.
 - a. No single existing water pollution control program is adequate; a special agricultural water pollution effort is necessary.
 - b. Special funding to support these efforts may be necessary because of the tremendous costs involved and the limited ability of agriculture to absorb those costs.
4. Nonpoint source control must receive special attention beyond the measures set forth in the Water Quality Improvement Act of 1987.
5. Improved water management is the single best technique for controlling most sources of water pollution.
 - a. Municipal water conservation will reduce diversions.
 - b. Reduction and regulation of agricultural applications will reduce leaching of salts and chemicals and the assimilation of

pesticides, fertilizers, etc. in return flows.

- c. The cumulative effects of many apparently minor individual diversions cause serious pollution problems, but they can be controlled through a comprehensive water management strategy or plan.

D. A Nationally Uniform, Comprehensive Water Data System Should Be Established

- 1. Funding and technical assistance should be made available by Congress to develop a system to consolidate and coordinate methods of monitoring reporting, data collection, and analysis for water information needed by federal and state agencies.
- 2. The system should be tailored to provide optimum utility to water managers and policy makers consistent with simplicity in reporting and maintaining data.
- 3. The system should provide information needed to evaluate trends, costs, and effectiveness of programs in meeting their goals.