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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
WATER

NPS: FY-87-49

MEMORANDUM

SUBJECT: Nonpoint Source Controls and Water Quality Standards

FROM: Carl F. Myers, Chief *Carl F. Myers*  
Nonpoint Sources Branch (WH-585)

TO: All Regional Water Quality Branch Chiefs

ATTN: All Regional NPS Coordinators  
All Regional WQS Coordinators

Mr. Jensen has signed the attached guidance which will now be part of Chapter 2 of the Water Quality Standards Handbook. This guidance updated earlier policy issued November 1978 as SAM-32.

Attachment

August 19, 1987

This guidance is designated as part of the  
Water Quality Standards Handbook  
Chapter 2, General Program Guidance, Page 2-25

#### NONPOINT SOURCE CONTROLS AND WATER QUALITY STANDARDS

##### PREAMBLE

Section 208(b)(2)(F)-(K) of the Clean Water Act (CWA) requires the development of a State process to identify, if appropriate, agricultural, silvicultural and other nonpoint sources of pollution and to set forth procedures and methods, including land use requirements, to control to the extent feasible such sources.

Section 319(a)(1) to the CWA [as amended by the Water Quality Act of 1987] requires each State to:

- o Identify its navigable waters which, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain applicable water quality standards or the goals and requirements of the Act.
- o Identify those categories of nonpoint sources or, where appropriate, particular nonpoint sources which add significant pollution in amounts which contribute to such navigable waters not meeting water quality standards or the Act's goals and requirements.
- o Describe the process, including intergovernmental coordination and public participation, for identifying best management practices and measures, to control those nonpoint sources identified, and to reduce to the maximum extent practicable, the level of pollution from such nonpoint sources.
- o Identify and describe State and local programs for controlling pollution added from nonpoint sources to, and improving the quality of, each such portion of the navigable waters, including but not limited to those programs which are receiving Federal assistance under subsection 319(h) and (i).

Section 319 provides a mechanism and sources of Federal funds to assist States in implementing their nonpoint source management programs in those assessed waters where water quality standards or the Act's goals and requirements are not likely to be attained or maintained without State management action. Sections 319(h) and 205(j)(5) provide assistance for the application of best management practices (BMPs) and measures which the State proposes to assist, encourage or require in order to meet water quality standards or the Act's goals.

It is recognized that Best Management Practices (BMPs) are the primary mechanism to enable the achievement of water quality standards. The State water quality plan should include identification of the process by which nonpoint source controls including Best Management Practices (BMPs) are selected to achieve water quality standards. The process should include: (1) design of BMPs based on site-specific conditions, technical, economic and institutional feasibility, and the water quality standards of those waters potentially impacted; (2) monitoring to ensure that practices are correctly designed and applied; (3) monitoring to determine: a) the effectiveness of practices in meeting water quality standards, and b) the appropriateness of water quality criteria in reasonably assuring protection of beneficial uses; and (4) adjustment of BMPs when it is found that water quality standards are not being protected to a desired level and/or possible adjustment of water quality standards based on considerations in 40 CFR 131.

EPA's water quality standards regulation (40 CFR 131) provides that State adopted water quality standards shall include designated beneficial uses and water quality criteria to protect those uses as well as include an antidegradation policy. It is intended that proper installation of State approved BMPs will achieve water quality standards. Therefore, water quality standards are to be used to measure the effectiveness of BMPs. In the review and revision of water quality standards as provided for in the CWA, the State should ensure that water quality standards are achievable and that water quality criteria reflect what is needed to assure protection of beneficial uses. As provided for in EPA's National Nonpoint Source Policy Statement, there should be "flexibility in water quality standards to address the impact of time and space components of NPS as well as naturally occurring events." This involves the consideration of the variability of natural conditions, magnitude and frequency of impact, and level of acceptable risk.

For proposed management actions, BMPs designed and implemented in accordance with State approved process will normally constitute compliance with the CWA. The CWA does not itself directly establish a mechanism for enforcing WQSS directly against NPS. BMPs developed under a State approved process may be used as

performance standards for proposed actions. Applicable water quality standards along with water quality monitoring should be used to measure the effectiveness of BMPs.

Once BMPs have been approved by the State, the BMPs become the primary mechanism for meeting water quality standards. Proper installation, operation and maintenance of State approved BMPs are presumed to meet a landowner's or manager's obligation for compliance with applicable water quality standards. If subsequent evaluation indicates that approved and properly installed BMPs are not achieving water quality standards, the State should take steps to: (1) revise the BMPs, (2) evaluate and, if appropriate, revise water quality standards (designated beneficial uses and water quality criteria) or both. If BMPs are revised, the landowner or manager is expected to begin implementing such BMPs. Through the iterative process of monitoring and adjustment of BMPs and/or water quality standards, it is anticipated and expected that BMPs will lead to achievement of water quality standards.

#### I. APPROACH

This chapter explains the purposes and methods for controlling nonpoint sources (NPS) of water pollution and suggests approaches which States can take in managing NPS.

NPS controls include cost-effective and reasonable best management practices to be applied in a manner designed to achieve water quality standards. This is consistent with EPA's policy first issued on November 14, 1978 (SAM-32).

While the Clean Water Act does not establish a Federal regulatory program for nonpoint sources, it clearly intends that the NPS controls developed and approved as part of State WQM Plans and/or State NPS Management Programs be implemented by the States to the extent feasible [see section 208(b)(2) (F) through (I) and sections 319(a) & (b)]. State WQSS must be consistent with the WQS Regulation (40 CFR 131) including the antidegradation provision. Any such requirements adopted by States are applicable to Federal agencies to the same extent as to the public at large (CWA Section 313 and E.O. 12088), and may be enforced under State law to the extent provided by State law.

In the event of persistent and continuing WQS violations, and/or where additional NPS controls are found not to be feasible, State enforcement or other actions may have to be undertaken to assure the protection of water quality.

The following defines the key terms in this chapter:

Water Quality Goals have been established to implement the objectives of the CWA, that is to restore and maintain the chemical, physical and biological integrity of the Nation's waters. One of the national goals established by the CWA pursuant to this objective, provides that "... wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved ...". [see CWA section 101(a)(2)]

In addition. The Water Quality Act of 1987 added new language to section 101(a):

"it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act to be met through the control of both point and nonpoint sources of pollution."

State water quality standards (WQSs) consist of designated beneficial uses, the water quality criteria necessary to protect those uses (including both narrative and numeric criteria), antidegradation requirements, and other provisions found in the WQS Regulation. The antidegradation policy applies to both point and nonpoint sources of pollution (WQS Regulation. 131.12 and Q and A's on Antidegradation). Section 131.12(a)(1) of the regulation requires all existing uses (whether designated or not) and the level of water quality necessary to protect the existing uses to be maintained and protected. Section 131.10 (d) clearly requires the imposition of appropriate point and nonpoint source controls to attain and maintain such uses. Designated uses are those uses specified in WQSs for each body or segment whether or not they are being attained. Existing uses are defined as those uses actually attained in the waterbody on or after November 28, 1975, whether or not they are included in the WQS [40 CFR 131.3(e)].

NPS Implementation requires development of a process for determining NPS controls, including BMPs' necessary to correct or avoid a site-specific water quality problem originating from urban, agricultural, silvicultural, mining, construction and other nonpoint sources. This process must identify existing or potential water quality problems, determine causes of such problems, devise control strategies and measures, set the overall timeframe, assess the effectiveness of BMPs and other management practices and techniques in terms of water quality goals and, if indicated, modify and improve the performance of BMPs as a key element of NPS controls.

NPS Implementation includes the development of the State NPS Assessment Report called for by section 319(a); the State Management Program called for by section 319(b); and the process, including intergovernmental coordination and public participation, for identifying best management practices to control nonpoint sources of pollution called for by section 319(a)(1)(C).

Best Management Practices (BMPs) are methods, measures or practices to prevent or reduce water pollution, including, but not limited to, structural and non-structural controls, operation and maintenance procedures, other requirements and scheduling and distribution of activities. Usually BMPs are applied as a system of practices rather than a single practice. BMPs are selected on the basis of site-specific conditions that reflect natural background conditions and political, social, economic, and technical feasibility.

NPS Controls are designed to meet the requirements of the CWA, and to control NPS pollution to the extent feasible, (including, as appropriate, nonregulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects). Such controls are to be developed as described above under NPS implementation. NPS controls also include Federal, State and local requirements (administrative and regulatory), incentive programs and assistance. The application of NPS controls include establishment of milestones, and institutional arrangements and responsibilities for implementation and monitoring. NPS controls need to be applied and then monitored to see if WQSS are met, and where necessary, modifications or adjustment of such measures are made to meet the goals of the Act.

## II. IMPLEMENTING NONPOINT SOURCE CONTROLS

NPS implementation occurs through the initiation and execution of State Management Programs [section 319(b)] and should be initiated wherever nonpoint sources prevent or threaten the achievement of WQSS as indicated in the State's NPS Assessment Report [section 319(a)]. This is particularly important in water quality limited segments, as defined in 40 CFR 130.2 and 130.7. NPS controls will be concerned with the attainment or the maintenance of water quality standards or the goals and the requirements of the CWA. States have the responsibility to identify waters, through their Assessment Reports, in need of the application of NPS controls to address particular NPS problems, including high quality waters where changes in land use activities might pose a threat of degradation and a threat to the maintenance of WQSS. States will then develop the necessary NPS controls for such identified waters.

It should be recognized that governmental programs often provide financial and technical assistance to private citizens, either individually or through sponsoring groups. The Federal agency coordination requirements of E.O. 12372 for such Federal assistance programs does not relieve recipients of their individual responsibilities for meeting State laws.

States and operators, managers and/or owners of large tracts of private or public land containing areas of high quality water, where changes in the use or management of the land could pose a threat of degradation, may find it advantageous to negotiate and establish comprehensive planning and operating procedures for the NPS management of such tracts or major portions thereof, consistent with this guidance. Such agreements would include, among other things, understandings regarding monitoring responsibilities, BMP implementation and plan enforcement.

Such procedures could be incorporated into memoranda of understandings (MOUs) between the parties, which should be reviewed and reexecuted periodically to allow for changes in conditions and/or policy.

#### Problem Assessment

Where a NPS problem exists and the sources/causes are not readily apparent, a detailed assessment may be necessary as a part of or supplementary to the State's NPS Assessment Report accomplished under the provisions of 319(a). The process for developing these specific detailed analyses fall into two categories: use attainability analysis and a process for allocating pollution loads (see 40 CFR 130.7).

Where designated uses are not currently being fully supported (and have not been supported since 1975), a use attainability analysis may be used. Use attainability defines the uses currently being achieved in the waterbody, and determines the potential uses that can be attained in the absence of pollution based on the physical, chemical and biological characteristics of the waterbody (see 40 CFR 131.10(g) and Chapter 3 of this Water Quality Standards Handbook).

It should be noted that where the uses currently designated in standards do not reflect the section 101(a)(2) goals of the CWA, a use attainability analysis must be conducted by the State consistent with sections 131.3(g) and 131.10 of the WQS Regulation.

#### Approval of NPS Controls

The State's approval process for generic NPS controls should provide for input from the affected community, including the private sector and all levels of government as provided for under 319(a)(1)(C).



## BMP Implementation and Maintenance

BMPs must be properly applied and maintained. The implementing agency or individual has primary responsibility to ensure adequate installation/application and maintenance/operation. This can be accomplished either through direct action or by assuring that NPS controls containing adequate O & M requirements have been included in agreements with landowners/operators for the life of the BMPs.

### Modification of NPS Controls

Once the BMPs have been installed/applied and sufficient time has elapsed to establish the controls and monitor their effectiveness, attainment or maintenance of WQSS and other water quality goals should be verified. If WQSS are not met, then the State may require that the NPS controls be modified or the practice causing the nonpoint source pollution cease. In some cases, reassessment of the WQSS may be warranted, e.g., if the designated uses appear to be unattainable, or if the criteria and requirements for applying the criteria need adjustment based on sound scientific evidence.

The lead State NPS agency has primary responsibility for evaluating the effectiveness of the NPS controls, including BMPs. Where nonpoint sources continue to impede the achievement of WQSS after implementation of site-specific management systems, the lead State NPS agency and responsible NPS management agency (Federal, State, local or private) should make sure the NPS problems were correctly assessed. If problem assessment and critical area designation is correct, both agencies should then cooperatively examine and modify the individual BMPs, and/or add additional BMPs and other nonpoint and point source controls.

After the necessary modifications are completed, attainment or maintenance of WQSS and water quality goals must again be used to assess NPS control systems effectiveness. This becomes an iterative process for developing, implementing and evaluating NPS controls where appropriate. Further refinement in the controls or revision in WQSS may be needed and regulatory programs may need to be developed and adopted where they are determined to be necessary by the State to attain or maintain an approved water use or where non-regulatory approaches are inappropriate in accomplishing that objective (see 40 CFR 130.6).

In cases of short term excursions beyond numerical criteria that result from conditions that exceed the approved NPS controls design criteria, narrative criteria, biological assessments and other on-site evaluations should be used to determine whether designated uses in fact have been adversely affected, and to determine whether future action is appropriate to restore or protect the designated uses.