
SUMMARY OF WORKSHOP: NON-POINT SOURCES OF WATER POLLUTION COMPLIANCE

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GOALS

Discussions were designed to address the following issues:

- Main areas of concern for non point source regulation and enforcement.
- The extent of country experiences with non-point source compliance strategies.
- How to get started in building an enforceable system for non-point source pollution control.
- Enforceable mechanism for non-point source pollution control.

1 INTRODUCTION

Non-point source pollution or pollution from diffuse sources generally consists of polluted runoff from farms, forests, land development and other activities. Often these sources for water pollution are not regulated under the water discharge permitting system of a country due to their diffuse nature. Regulation of pollution that runs off the land with rainfall is much more difficult than regulation of pollution that comes from an identifiable pipe outlet. Non-point sources of water pollution are typically difficult to identify and to monitor. Yet, there is an increasing interest in methods for controlling non-point sources of water pollution. Few countries are using enforceable mechanisms to control and prevent non-point source water pollution. Instead, non-point source discharges are addressed primarily through non-regulatory means, such as planning, incentive and cost-share mechanisms, voluntary best management practices, and other approaches.

2 PAPERS

The Proceedings of past International Conferences on Environmental Compliance and Enforcement include the following paper covering non-point source pollution.

- Potassium and Nitrate Pollution of Surface Water in the Catchment Area of the "Blankaert" Water Production Centre in Flanders (Belgium), Baert, Sc. Robert, Loontjens, Roland and Devos, M. Sc. Marc, Volume II, Chiang Mai, Thailand

3 DISCUSSION SUMMARY

3.1 Defining Non-Point Source Pollution

Non-point sources of water pollution of primary concern to the workshop participants were agricultural sources, including pesticide and fertilizer runoff. The workshop also addressed problems with runoff from forestry and construction work sites.

3.2 Country Experiences with Non-Point Source Compliance

The workshop participants discussed their country experiences with non-point source water pollution regulation and enforcement. For example, Taiwan is struggling to regulate agricultural non-point sources. They are requiring best management practices for fertilizer application, buffer zones and other aspects of agricultural production that contribute to water pollution. Taiwan faces certain barriers in that its best management practices are primarily based on voluntary compliance. It combines education with incentive programs, such as subsidies for proper fertilizer application. The Taiwan Environmental Ministry and the Agricultural Ministry have realized that cooperation is crucial in this area to minimize water pollution. The challenge remains how to combine effective enforcement with a program based on voluntary compliance, technical assistance and incentives.

India also is exploring the appropriate mixture of tools to reduce pollutant runoff from agriculture. The challenge is especially strong in the rainy season when agriculture runoff including cattle waste, fertilizers, and pesticides inundates local rivers. India has traditionally depended on a voluntary program, but they are exploring the use of incentives and regulation, along with strengthening the voluntary program for the future.

3.3 Implementation Issues for Non-Point Source Compliance

The workshop addressed how to get started in establishing a program for non-point source water pollution control and prevention. The following elements were seen as necessary prerequisites to any such program:

- Effective monitoring of water quality.
- Identification of the sources of the problem pollutants.
- Scientific research to identify best management practices for different sectors and different geographical areas.
- Coordination mechanisms between the environmental agency and other agencies such as forestry, agriculture, and mining.
- Public awareness, education, and training programs on non-point source pollution and best management practices.

Workshop participants agreed that while education, training, and technical assistance programs could be housed with the sectoral agencies, regulatory and enforcement programs needed to remain with the environmental agency. The group discussed requirements for the creation of an effective regulatory program, including:

- Requirement of operating permits for potential non-point sources of water pollution.
- Set back and buffer zone requirements from watersheds.

- Requirement of plans, such as nutrient management plans for agricultural concerns or erosion and sedimentation control plans for forestry and construction sites.
- Requirement of environmental impact assessments to help set technical mitigation tools.

3.4 Potential Tools for Non-Point Source Compliance and Enforcement

Most countries have authority to deal with non-point source discharges that can be shown to result in water pollution in their water pollution prevention laws. However, few water pollution control laws contain actual enforceable mechanisms for non-point source pollution. Permitting is the most common mechanism for establishing clear standards with which a regulated non-point source must comply. Yet, as non-point sources are typically numerous, small enterprises, environmental agencies rarely have the resources to monitor and enforce against illegal water discharges, even when they do have the authority.

The workshop discussed the following compliance and enforcement approaches:

- Watershed or catchment approach of identifying the water quality problems and their sources in a particular watershed and then targeting the non-point sources as a group.
- Inspections of non-point source sectors and facilities.
- Government support through technical assistance for citizen monitoring programs of non-point sources.
- Penalties and closures of facilities still not in compliance after opportunity for joining voluntary and technical assistance programs has been offered.

4 CONCLUSION

As countries have increasing success in reducing water discharges from industrial facilities, they are realizing that a substantial portion of water pollution does not come from these “point sources” but from runoff from diffuse or non-point sources. Regulation of these typically numerous and small facilities has been difficult due to lack of resources, inherent problems in monitoring runoff, and lack of reliable best management practices. Countries are now approaching non-point source water discharge reduction and prevention through a combination of voluntary, technical assistance and regulatory programs. Enforcement may well prove to be the needed “stick” to encourage farmers, foresters, mining companies, and developers to adhere to the best management practices and join the voluntary programs.

