

Chapter 4

Management Measures for Forestry: Request for Exclusion of Forestry Source Category

4.1 Introduction

The *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, Section III.C.1., allows a state to exclude some categories, sub-categories, or sources from the requirements of its coastal nonpoint program. An exclusion may occur under two scenarios:

- (1) if a nonpoint source category or subcategory is neither present nor reasonably anticipated in the 6217 management area, or
- (2) if a state can demonstrate that a category, subcategory, or particular source of nonpoint pollution does not and is not reasonably expected to, individually or cumulatively, present significant adverse effects to living coastal resources or human health.

Moreover, as NOAA and USEPA assert in their “Final Administrative Changes to the CNPCP Guidance,” states may focus resources on preventing and controlling significant impacts of nonpoint source pollution on coastal resources. Finally, NOAA and USEPA encourage coordination and integration of coastal nonpoint programs with other programs and water quality initiatives to establish priorities and develop strategies to meet CZARA § 6217 program requirements.

In developing its CNPCP, Ohio intends to address all categories of nonpoint source pollution that do or may present significant adverse effects to its coastal waters. Ohio will, however, exclude those that do not and are not reasonably expected, individually or cumulatively, to present significant adverse effects to living coastal resources or human health.

After considering a wide range of information related to forestry activity within the Lake Erie basin, interviewing and coordinating with other agencies and programs, and reviewing analyses and assessments from other agencies, Ohio believes the category of forestry should be excluded from the state’s § 6217 CNPCP.

Forestry-related activities in the Lake Erie watershed do not and are not reasonably expected to present significant adverse effects to Ohio’s living coastal resources or human health. Based on the information, data, and opinions received from other agencies and programs, Ohio believes it would not be productive or useful to develop priorities and strategies for such a non-significant source of nonpoint pollution. Therefore, based on the following information and per item (2) above, Ohio believes a categorical exclusion for forestry is warranted.

4.1.1 Geography, Forest Cover, and Land Uses

The Lake Erie drainage basin encompasses 7,456,334 acres and includes, wholly or in part, 35 of Ohio’s 88 counties. Of this total land area, 1,427,970 acres (or 19.1 percent of the drainage basin) is considered wooded by the ODNR Division of REALM. REALM reports,

however, that included within this 1.4 million acres are municipal, ODNR, and federal land holdings totaling 388,366 acres. Since this area encompasses residential land uses with extensive tree canopy, public parks, and general wooded areas within municipalities, this acreage would not be viable logging areas for timber interests. Figure 4-1 shows the forested lands within Ohio's § 6217 Coastal Management Area. As is evident from the map, woodland areas are very sparse and highly fragmented in the western and central portions of the basin. Such fragmentation cannot support large-scale, commercial logging operations.

Most of the more heavily forested and contiguous woodlands are located in the eastern portion of the basin south and east of the Cleveland metropolitan area. Figure 4-2 provides a close-up of these more heavily forested counties, and several points can be made. First, though there are wooded lands along the coast, also interspersed throughout the region are urbanized areas. The ODNR, Division of Forestry, reports timber harvesting is significantly reduced in proximity to urban areas with factors such as urban population size and closeness to urban areas negatively affecting the possibility of commercial timbering operations. Second, the development of improved transportation systems serves to further dampen harvesting activities. The existence of Interstate 90 cutting through the coastal region, along with the development of new highways and feeder routes, all lend themselves to promoting ever longer commutes to and from urban areas. The resulting new housing developments and sub-divided forest lands make future silvicultural activity less likely.

4.1.2 Forestry-Related Activity and Land Ownership

The state of Ohio does not maintain information that directly accounts for the number of logging operations or number of acres logged within the state. The Division of Forestry does, however, compile a directory of sawmill operators. Though the directory itself cannot provide definitive proof of forestry's impact within the Lake Erie drainage basin, it does give an indication of where most of the milling activity is within the state. Given the economic factors associated with the timbering industry, the majority of logging operations and sawmills are located within a fairly close distance to one another.

The *Ohio Sawmill 1997 Directory* lists approximately 120 mills that produce 470,000,000 board feet of hardwood lumber. Less than 20 of these mills are located in the Lake Erie watershed and produce only 10 percent of total statewide production.

From a coastal nonpoint perspective, it is even more important to consider the location of the mills in relation to Lake Erie. Figure 4-3 shows the location of cities with sawmills and the distance from the coast. As can be seen from the map, mills are widely distributed throughout the watershed ranging from 17 to over 90 miles from the shoreline. None are located directly on the coast, which also suggests an absence of logging operations within close proximity to the coast. The overwhelming majority of mills in both number and production are located well outside the § 6217 management area (predominantly located in eastern and southeastern Ohio). The minimal amount of milling activity within the watershed provides presumptive evidence that timbering does not present a significant threat to coastal resources.

From the U.S. Forest Service's *Private Forest-Land Owners of the Northern United States, 1994* and from information provided by the Division of Forestry, some generalized observations regarding forest land ownership patterns and landowner reasons for owning such properties can also be made. Over half of all forested landowners have fewer than ten

acres. Individual owners total over 300,000 statewide which comprises approximately 6,000,000 acres, while corporate landowners only number 5,800 representing 780,000 acres. Also, per the DOF, as one moves north toward the coastal area, this tendency of more individual owners owning small wooded plots generally increases. The overwhelming majority of landowners indicated little interest in logging activity with only two percent of Ohio's owners of forested lands listing timber production as either a primary or secondary reason for owning wooded acreage. From this, some generalized points can be made. First, ownership patterns in a majority of cases tend to involve small parcels of land which are not conducive to large scale logging operations. Second, statewide, large corporate land holdings are not the norm, and, per the DOF, the majority of corporate holdings are outside the § 6217 management area. Finally, given all of the above plus the small percentage of forested landowners even showing an interest in any logging activity, within the § 6217 management area, the forestry-related industry is not a major activity and, thus, is not a major contributor to nonpoint pollution.

Providing additional support for a forestry exclusion is correspondence from the Division of Forestry and from the Ashtabula SWCD (Appendix I). DOF provided a variety of information including forest land statistics, landowner demographics, and anecdotal information from its Service Foresters in northeastern Ohio. DOF concludes silviculture is not and will not be a significant source of nonpoint pollution within the Lake Erie watershed. DOF believes land use patterns coupled with land ownership priorities will continue to preclude significant silvicultural activity.

Ashtabula SWCD also agrees a forestry exclusion would be appropriate. The District supports an exclusion based on the few number of forestry-related complaints and calls it receives, Ashtabula's topography and land uses, and the general knowledge the staff has regarding day-to-day activities throughout the county.

4.1.3 Nonpoint Pollution Inventories and Data

A recent measure demonstrating the insignificance of forestry-related activities within the Lake Erie drainage basin is through a survey completed by ODNR's Division of Soil and Water Conservation. In 1997 the Division of Soil and Water Conservation surveyed all of Ohio's 88 counties, through the soil and water districts, to determine the activities that resulted in the highest number of complaints for the districts. According to the Division's findings, in 1996, 57 formal pollution complaints were received by the Lake Erie watershed counties and, of that total, only two (3.5 percent) concerned logging activity. Both of these complaints came from the Ashtabula SWCD, which is located in the northeastern corner of the state. A closer examination of the complaints found they involved small operations with portable mills, occurred a considerable distance from the coast (one was approximately 15 miles and the other over 20 miles), and were quickly resolved with no significant environmental effects.

A wide variety of Ohio EPA data can also be used to discern forestry's small impact on water quality in the Lake Erie watershed. One general source of information is the *State of Ohio 1990 Nonpoint Source Assessment* (Ohio EPA, April 1990).

The Assessment divides the state into five regions, two of which comprise the Lake Erie watershed; Lake Erie West and Lake Erie East. The Ohio EPA developed a survey

instrument for nonpoint source water quality data and information and distributed it to over 200 local, county, regional, state, and federal agencies statewide. Also incorporated into the Assessment were data and information from several Ohio EPA divisions, biological and chemical monitoring data, and observations based on survey respondents' best professional judgment. In both regions, forestry activities (silviculture) affected very few stream miles and were considered an insignificant source of nonpoint pollution. Figure 4-4, taken from the Assessment, graphically depicts forestry's small impact in both regions. Clearly, compared to other sources of nonpoint pollution, forestry is not a significant factor.

Another source of information is Ohio EPA's 305(b) report. According to the Ohio EPA, of the 7,323 stream miles in the Lake Erie basin, only 286 miles (4 percent) are impaired by forestry-related activities. Primary sources of nonpoint pollution are agricultural land uses and, more recently, urban-related development. Forest land uses have been shown to export the smallest sediment and chemical loads.

A final and more telling indication of the forestry pollution picture can be drawn using the information found in Ohio EPA's section 303(d) report issued in early 1998 (draft). For assessment and mapping purposes, Ohio EPA has divided the waters of the state into approximately 5,000 discrete units called waterbody segments. Utilizing the section 305(b) report as its primary source of information, all waterbody segments meeting several criteria were selected as requiring TMDL development. Of the 5,000 waterbody segments, 881 were selected as requiring TMDL development. A total of 18 waterbody segments had forestry as a component of impairment and only five of those segments were within the Lake Erie watershed. Thus, on a statewide basis, approximately 0.5 percent of the waterbody segments that have forestry as a component of impairment are located within the Lake Erie watershed.

Of greater significance than the low overall number and percentage of forestry impaired streams, however, is the location of these waterbody segments in relation to the Lake Erie coast. Generated from the 303(d) list, Table 4-1 and Figures 4-5 and 4-6 identify and show the location of the five waterbody segments. The level of significance of forestry as a source of impairment in these watersheds ranges from small to moderate. And though such a rating system (i.e., high—moderate—small) provides generalized information at best, it does illustrate that forestry is not considered a high level problem anywhere in the Lake Erie watershed. Each of the forestry-affected waterbody segments is located a considerable distance from Lake Erie. And even this is deceiving, especially in the case of Lake Aquilla. Though, as measured in a straight line, Lake Aquilla appears to be one of the closer forestry-affected waterbodies to the coast, it is, in the most meaningful measurement, one of the farthest. This is because it is located near the headwaters of the Cuyahoga River which, from Lake Aquilla, actually flows south away from the coast before it turns northward to eventually drain into Lake Erie. The total land distance from Lake Aquilla to Lake Erie is nearly 100 miles. Finally, and most important, each of the impaired waterbody segments is located upstream of small lakes. Thus, because of the trapping efficiencies of the lakes, any forestry-induced impairment, especially from sediment, would have little effect on primary tributaries, let alone coastal waters.

Utilizing Ohio EPA's information, along with ODNR's 20 years of nonpoint pollution control experience in the Lake Erie watershed, also helps to demonstrate forestry's insignificance as a source of nonpoint pollution. Since the late 1970s when the Pollution from Land Use Activities Reference Group reports were issued by the IJC, tributaries draining into

Lake Erie have been the subject of exhaustive wet and dry weather monitoring. Storm events, as well as seasonal variations in flow, sediment, and chemicals, have been extensively documented by the Water Quality Laboratory at Heidelberg College in Tiffin, Ohio. Tens of thousands of samples have been analyzed for the Lake Erie tributaries including the Cuyahoga and Grand Rivers, two eastern watersheds having extensive forested areas, and the Maumee and Sandusky Rivers, western watersheds that are a mix of agricultural and urban land uses. Data from 1988–1996 indicate that the Cuyahoga and Grand Rivers, at 2.5 kilograms/hectare/year, have a nutrient export rate about one-eighth that of the Maumee and Sandusky Rivers (19 kg/ha/yr). Such a finding is consistent with watersheds that are predominantly forested compared with those that are primarily row cropped.

Surprisingly, though, sediment export rates were very similar. This is problematic given the low gross erosion rates for forested land. The similarity is explained when the data are analyzed more carefully. Most of the sediment exported by the Cuyahoga and Grand Rivers is coarser materials, indicative of bed and channel erosion, rather than the fine grained sediments originating from land use in the Maumee and Sandusky Rivers. The higher bed loads of sediments from the eastern Lake Erie tributaries result primarily because these rivers export almost twice as much water per unit area due to lake-effect snows and higher precipitation levels. Runoff events of the eastern tributaries are flashy, due to having more local relief and higher stream gradients and, as a result, more coarse-grained materials compose their sediment loads. In summary, the data from the Water Quality Laboratory does not indicate excessive sediment loads from forested areas. Further, sediment loads that are present are highly correlated with stream channel and bed movements rather than upland land use practices.

4.2 Conclusions and Recommendations

The proposal to exclude forestry from Ohio's CNPCP is strongly supported by a variety of information, data, and opinions obtained from local, state, and federal agencies and programs. Based on the information gathered, several points can be made:

- Forested land uses in the Lake Erie basin comprise a relatively small proportion of total land use and are most heavily concentrated in the eastern end of the basin. The eastern woodlands along the coast, however, are thoroughly intermixed with both established and developing urbanized areas.
- As evidenced by milling activity, commercial forestry operations are located upstream and away from coastal areas.
- Generally, forestland is owned by individuals with small landholdings who have little or no desire to have their properties logged.
- Nonpoint pollution inventories and data have not found forestry-related activities to be a significant source of water quality problems. Moreover, waterbody segments impaired by forestry are located upstream of small lakes far removed from the coast.
- Erosion and sedimentation characteristics from long-term tributary loading data indicate the origin of sediments in eastern basin streams are related to the composition and dynamics of streambanks and streambeds rather than land use activities.

The coastal forestry work group shares the belief that forestry is not a significant source of nonpoint pollution. The work group formed to examine this issue was comprised of forestry agency personnel as well as forestry representatives from the private sector. After meeting for nearly a year, the group concluded that forestry-related activities had almost no effect on Lake Erie.

The forestry work group did, however, conclude that forestry cover should be viewed as a solution or a BMP for a variety of urban and rural nonpoint source pollution problems. The group developed goals, objectives, and strategies for both urban and rural forest settings to promote and enhance the potential benefits of forested areas as part of the effort to address nonpoint pollution prevention and abatement in the coastal management area. For urban forest settings, the group recommended that the following strategies/actions be put into place in the coastal management area:

- Determine existing canopy levels within incorporated coastal communities.
- Build an awareness of the urban forest's influence on pollution.
- Increase funding sources for the implementation of urban forestry programs.
- Determine an appropriate standard for riparian forests, and determine the existing stream miles that meet that standard.
- Develop model ordinances to incorporate riparian forest standards.
- Target funding to implement remedial measures for urban streams.
- Develop model ordinances to protect and enhance urban streams and their associated riparian areas.

For rural settings, the forestry work group recommended the following strategies/actions:

- Promote the benefits of riparian forest buffers to the forestry industry and private landowners.
- Promote and use existing incentives, and develop new incentives, to maintain, enhance, or expand existing riparian forest buffers through the use of CAUV, OFTL, or long-term easements.
- Promote management/stewardship as methods to achieve landowner objectives.
- Exclude livestock from riparian forest buffer and streams.
- Encourage the filing of operation and management plans on all logging jobs within the coastal management area.

Following the work group's recommendations, as well as those put forth by the Division of Forestry, Ohio intends to incorporate and promote the preservation, maintenance, and planting of trees, in both urban and rural settings, as a means of reducing nonpoint pollution problems.

Based on the information and data presented herein, forestry-related activities do not and are not reasonably expected, individually or cumulatively, to present significant adverse effects to the state's living coastal resources or human health. Therefore, Ohio believes a categorical exclusion for forestry within its CNPCP is warranted.

**Table 4-1. Forestry Impaired Waterbody Segments in the Lake Erie Watershed
(Section 303(d) List, Ohio EPA, 1998 (Draft))**

Waterbody Segment Description	Watershed Name and Number	Level of Significance of Source
Harrison Lake	Bean Creek—04100006 020	slight
Findley Lake	West Branch Black River—04110001 020	moderate
Lake Aquilla	Cuyahoga River—04110002 010	moderate
Grand River Wildlife Area Lake	Grand River—04110004 010	slight
Baldwin Lake	Rocky River—04110001 070	moderate

