

June 21, 2002

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NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATERSHED MANAGEMENT DIVISION

Mr. Bradley Campbell
Commissioner
New Jersey Department of Environmental Protection
401 East State Street
P.O. Box 423
Trenton, New Jersey 08625

Re: Point Source Phosphorus Control Initiative

Dear Commissioner Campbell:

As an environmental consultant that has studied nutrient impacts on dozens of streams in New Jersey over the last 16 years, I am greatly interested in your initiative to reduce phosphorus loads from wastewater treatment plant discharges. I have also been a very active participant in the watershed management process by serving on the PACs and TACs in many of New Jersey's Watershed Management Areas (WMAs), and I have served as a subcontractor to Morris County (WMA6) and the New Jersey Water Supply Authority (WMAs 8, 9, and 10) to complete water quality modeling tasks needed to ultimately complete TMDLs.

After attending your presentation on May 24, 2002, it is my understanding that NJDEP has identified those wastewater treatment facilities that discharge to streams exceeding the 0.1 mg/l instream total phosphorus criterion that have been identified as "Water Quality Limited Waters" on the "303d List". These treatment facilities will receive a total phosphorus effluent limit of 0.1 mg/l. In the event that the facility does not believe such a limit is appropriate, it will be given the opportunity to complete a site-specific water quality analysis to demonstrate an appropriate level of phosphorus removal.

Please accept the following comments on this initiative:

1. While I wholeheartedly support your mission to improve water quality in New Jersey, I am concerned that the millions of dollars that must be spent to attempt to meet this stringent phosphorus limit may not translate into an environmental benefit. An instream total phosphorus concentration above 0.1 mg/l has been set in the New Jersey Water Quality Standards as an indicator of excessive eutrophication. I have studied many streams in New Jersey that have concentrations well above 0.1 mg/l where excessive eutrophication is not occurring. In those cases, it does not seem

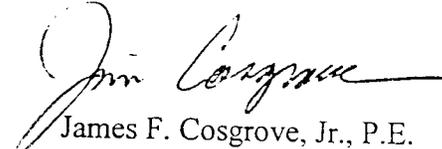
prudent to reduce phosphorus loads. Conversely, there are many streams in New Jersey showing signs of excessive eutrophication. These streams should be studied to understand the cause of the excessive eutrophication and a plan should be developed to remove the causes of the impact. It is imperative that there be a link between point source phosphorus removal and improvement to the environment.

2. It was my understanding that the watershed management process was to rely on an approach that identified the root causes of the problems of the watershed and developed a plan to fix them. Unfortunately, the approach you have set forth brings us back to the days of studying water quality on a discharge-by-discharge basis. I do not believe such a piecemeal approach will be as scientifically defensible and efficient as completing such studies at a watershed level.
3. Given your acknowledged frustration that TMDLs are taking so long, why not focus your initiative on dramatically accelerating TMDLs for phosphorus? It may be possible to get TMDLs completed just as fast as getting each discharger to study its particular component of the watershed.
4. The proposed initiative focuses the burden entirely on point source dischargers. Since nonpoint sources are such a large component to the total load in most watersheds, a part of the initiative should include a focus on those sources.
5. It will be very difficult for most wastewater treatment facilities to add systems to remove phosphorus down to 0.1 mg/l. In fact, many may not be able to consistently meet such a stringent limit. In situations where phosphorus removal is warranted, I recommend that effluent limitations be set using a long-term averaging period, so that short-term fluctuations in effluent concentrations do not lead to permit violations. Instream impacts from phosphorus are long-term in nature; so setting a permit averaging period on a long-term basis will still protect the environment.
6. No mention was made regarding seasonal limitations for phosphorus. Since eutrophication will not occur during cool weather periods, where phosphorus effluent limitations are needed to protect from eutrophication impacts, seasonal limitations should be utilized.
7. Removing phosphorus down to a level of 0.1 mg/l with most processes will require chemical coagulant addition that will result in increased total dissolved solids concentrations. There are many dischargers that are already having difficulty meeting TDS limits. Has the NJDEP studied the impact that phosphorus removal will have on TDS? Has the NJDEP determined that the benefit of phosphorus removal outweighs the negative of increased TDS? Is the NJDEP willing to grant a waiver of the instream TDS criterion in order to attempt to meet the 0.1 mg/l instream phosphorus criterion?

8. Removing phosphorus down to a level of 0.1 mg/l will result in far greater sludge production and higher chemical concentrations within the sludge. Has the NJDEP determined that greater sludge generation rates and higher sludge pollutant concentrations outweighs the reduced instream phosphorus concentrations? -
9. It is my understanding that the NJDEP will be developing a protocol to be used to determine an appropriate phosphorus limit. I would be pleased to participate in that process by serving on a technical review committee. The components of the protocol will be critical to a successful outcome.

Thank you for the opportunity to offer my comments. If you and/or your staff have any questions, please do not hesitate to contact me via telephone at 609-924-8821 x11 or via email at JCosgrove@TRCsolutions.com.

Sincerely,


James F. Cosgrove, Jr., P.E.
Vice President

c: Jeffrey Reading
Samuel Wolfe