

Rationale for a single Implementation Plan (IP) for bacterial TMDL, Northumberland County

At numerous public meetings, and in public comments, many people have urged DEQ/DCR to institute County-wide IPs rather than proceeding slowly and at great cost on a watershed-by-watershed basis. There are only very small differences in land use in watersheds with bacterial TMDLs in Northumberland County, summarized in the following table. The percent forest and wetland from each report were combined into a single category designated “Natural,” agricultural pasturage and cropland were combined, the percentage of water was eliminated as it is irrelevant, and all other categories (residential, commercial, transitional and barren) were combined into “Urban.” The acreage was then recalculated to 100%.

	<u>Year approved</u>	<u>%Natural</u>	<u>%Agricultural</u>	<u>%Urban</u>
Coan	2003	54	43	3
Little Wicomico River	2003	71	21	8
Great Wicomico River	2006	74	22	4
Dividing Creek	2006	68	29	3
Mill Creek to Dividing Ck.	2007	67	30	3
Cockrell Creek	2008	49	25	26
Indian Creek	2009	62	31	7
Dymer Creek	2009	60	35	5
Tabbs Creek	2009	63	32	5
Antipoison Creek	2009	62	31	7
Owens Pond	2009	66	20	14
Cod Creek to Hacks Creek	2010?	60	37	3
Average		63	30	7

All watersheds are dominated by forest and wetland. Except for Cockrell Creek, agriculture is by far the second most important land use everywhere.

DEQ/DCR have not provided satisfactory reasons for not proceeding with a single IP. DEQ responded to me via email on 10/27/08 *“The greater the number of creeks which are involved in a TMDL the more cumbersome and difficult the organization and development becomes as you are not only dealing with a larger area, but typically more permitted dischargers, and several different localities. This greater level of variability not only increases the amount of work during the TMDL development phase but also requires much more coordination and funding once the Implementation Planning phase begins. TMDLs are developed for the individual impairment parameters of different streams. In this particular case there were 4 Creeks (Indian, Dymer, Tabbs, and Antipoison Creeks) with relatively similar land uses in close proximity with the same impairment of shellfish harvest use due to fecal coliform bacteria contamination. These 4 Creeks were bundled into one report, however their impairments were discussed individually for Implementation purposes. DEQ does attempt to bundle creeks when the development and implementation will not be negatively affected as a result to reduce costs. By developing TMDLs on small groupings of watersheds, the report is not only*

more focused but the ultimate goal of implementation and the remediation of those impaired waters will also be much more focused as well.” Subsequently, DEQ bundled Cod, Presley, Hull, Cubitt and Hacks Creeks into a single TMDL. Following are my comments on DEQ/DCR’s reasons not to proceed with a single IP for Northumberland County.

“The greater the number of creeks which are involved in a TMDL [or IP] the more cumbersome and difficult the organization and development” No evidence is presented for this statement. In fact, since the goals for bacterial reduction are identical in all watersheds and the land-use is insignificantly different between watersheds (except, possibly, for Cockrell Creek), a single IP is obviously less cumbersome and more efficient than repeating a nearly identical process many times as was done with the TMDL reports, which are substantially all worded identically.

“more permitted dischargers” There is no proof that permitted dischargers are a significant source of bacteria and they are irrelevant because they are already adequately controlled.

“several different localities” There are no formal administrative subdivisions within Northumberland County. If there is intent to “piggy-back” educational materials onto County mailings, there is considerable merit in treating the County as an entity.

“Greater level of variability not only increases the amount of work” The level of variability between watersheds is insignificant. Considerably more work is needed to generate multiple documents (mostly by cut-and-paste from previous documents), arrange multiple public hearings, etc. than would be true of a single effort.

“More coordination and funding once the Implementation Planning phase begins.” In the case of coordination, the opposite is true, just in terms of the number of meetings that must be scheduled and attended. There is no difference in the amount of funds needed for the County as a whole, or summed watershed-by-watershed. The proposed cost for Beach, Greenvale and Paynes Creeks in Lancaster County is currently estimated to be \$362,700 and there are 9.5 square miles in the Towles Point to Deep Creek TMDL. There are 133 square miles in Lancaster County. Perhaps DEQ/DCR balk at a single IP that proposes a price tag of about \$5,000,000 ($(133 / 9.5) * \$362,700$) to attempt to reduce bacterial concentrations in Lancaster County. Given the existing local water quality problems caused by the discharge of nitrogen and phosphorus, at least 75% of which is of agricultural origin, it is doubtful bacterial reduction would be the best use of that level of funding, a source for which has never been identified.

“These 4 Creeks were bundled into one report” Then there is no reason why more creeks can’t be bundled, as was also done with the Cod, Presley, Hull, Cubitt and Hacks Creek TMDL. Land use differences between highly developed Cod Creek and relatively undeveloped Hacks Creek are nearly as large as exist between watersheds within all of Northumberland County (Cockrell Creek excepted.)

“By developing TMDLs on small groupings of watersheds, the report is not only more focused but the ultimate goal of implementation and the remediation of those impaired waters will also be much more focused as well.” There is no need for “focus” when the watersheds are all so similar. A piecemeal approach merely delays action and greatly increases cost to the taxpayer.

In an email to Dr. Bob Westbrook on 02/17/19, DEQ wrote *“DEQ agrees with you in that many watersheds in the Northern Neck share certain similarities. However, there are unique qualities to these watersheds which warrant the development of implementation plans (IP) on a more local level.”* No “unique qualities” are specified, and aside from the presence of very few permitted dischargers, already adequately regulated, nothing is unique about any of the watersheds in Northumberland County, Cockrell Creek being a possible exception.

In an email to Nick Ferriter on 03/04/09 DEQ wrote *“DCR is required to access the various bacteria sources in the watershed and the various land uses and pathways for these sources entering the impaired water body.”* The bacterial sources are the same in all watersheds, as has been repeated over and over (with identical words) in the TMDL reports. To quote from page vi in the 2003 report for the Great Wicomico River *“Non-point sources include wildlife; livestock; land application of bio-solids [and poultry litter]; recreational vessel discharges; failed, malfunctioning, or non-operational septic systems, and uncontrolled discharges.”* The sediment is also a source of bacteria. No unique sources of bacteria exist in any watershed, and point-source, permitted discharges are already adequately regulated.

In an email to me on 08/29/09, DEQ wrote *“Implementation Plan development is specialized to the pollutant reduction needs of the Creeks for which the plan is being developed ...”* The actionable pollutant is the same everywhere – fecal coliform bacteria from humans, livestock and pets. Continual contamination from wildlife and the bacterially contaminated sediment are presumed to be inactionable. Because land use is so similar throughout Northumberland County, there is nothing significantly different about the bacterial contamination of any specific watershed (with the possible exception of Cockrell Creek) that would warrant treating the watersheds piecemeal. There are no significant defensible differences in the concentrations of bacteria or in the degree to which they must be reduced. DEQ cannot prove that their Bacterial Source Tracking data provide reasons to treat the watersheds piecemeal. As I have pointed out repeatedly, ARA data obtained by DEQ would never withstand rigorous scientific review. The following table summarizes the percent reduction needed for the four source categories for the larger bodies of water in Northumberland County based on the TMDL reports. These estimates are based on ARA data, and thus are not accurate. The important point is that all (except for the two earliest) TMDLs require 100% reduction in bacteria of human origin (which includes municipal sewage sludge) and approximately 2/3 of the TMDLs also require 100% reduction in bacteria of livestock and pet origin.

	Percent reduction needed				Total
	Human	Livestock	Pets	Wildlife	
Coan	65	0	0	0	53
Little Wicomico	56	0	0	0	37
Great Wicomico	100	24	0	0	39
Dividing	100	100	100	48	79
Prentice	100	100	100	35	75
Mill	100	41	0	0	41
Ball	100	100	100	10	67
Cloverdale	100	100	4	0	33
Indian	100	100	100	75	94
Dymer	100	100	100	63	92
Tabbs	100	100	100	92	95
Antipoison	100	85	85	0	69
Cockrell	100	100	16	0	88
Owens Pond	100	100	100	65	85
Little Taskmaker	100	100	100	70	84
Big Fleets Pond	100	100	100	85	92
Cod W	100	58	100	0	76
Cod E	100	100	100	53	83
Presley	100	100	100	30	76
Hull	100	100	100	58	87
Cubitt	100	100	100	9	84
Hack	100	0	60	0	47

The bacterial sources are identical throughout Northumberland County and variations in land use are insufficient to warrant treating the watersheds on a piecemeal basis. It is undeniable that a single IP will speed the process of attempting to reduce bacterial contamination as well as saving taxpayers a great deal of money. In an attached letter, NAPS (Northumberland Association for Progressive Stewardship – www.napsva.org) agrees to support educational efforts in Northumberland County if there is a single implementation plan for the County. We will not support a prolonged effort that treats the County on a watershed-by-watershed basis, and no citizen has emerged in support of such an inefficient, costly and time-consuming effort.

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10/24/09