Chesapeake Bay Local Assistance Board

Response to the Virginia Department of Planning and Budget's Economic Impact Analysis of proposed amendments to the

Chesapeake Bay Preservation Area Designation and Management Regulations (9 VAC 10-20)

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation amendment in accordance with § 9-6.14:7.1.G of the Administrative Process Act and Executive Order Number 13(94). The DPB has delivered a draft of its analysis to the Chesapeake Bay Local Assistance Department (CBLAD), which provides staff support to the regulating agency, the Chesapeake Bay Local Assistance Board (CBLAB). Section 9-6.14:7.1.H of the Administrative Process Act requires that the CBLAB develop a response to the DPB analysis to be delivered to the Registrar of Regulations at the time the regulation is submitted for public comment. This document is that response.

It is instructive to point out in the beginning that DPB appears to have established a double-standard for its analysis of this regulation, allowing the DPB analysis to be based on broad assumptions associated with "economic theory" while admitting that "[e]ach step of this analysis is subject to uncertainty." However, DPB's comments establish an expectation for CBLAD to demonstrate scientifically defensible connections between each regulatory requirement and specific improvements in water quality.

It is also important to point out that the Bay Act and Regulations aim at protecting existing water quality, even in the face of growth, through reasonable land use restrictions effectuated through local planning, zoning subdivision and other land use management ordinances. The Bay Act and Regulations are intended to proactively prevent nonpoint source pollution from various polluting land uses, resulting in enhanced protection of the water quality of the Bay and its tributaries.

This program is reflective of the difficulty faced by many state and local governments is that land owners, developers and other land users have often taken actions on their lands that have resulted in negative consequences for water quality and other natural resources. This presents three significant problems. First, the negative impact has already occurred, rather than being prevented by the responsible party through proper management. Second, the costs of repairing the damages has often been borne by taxpayers in general, through clean-up and restoration programs such as the Chesapeake Bay Program, the SuperFund program, etc., rather than by the individual(s) responsible for causing the damage, who usually have benefitted economically from the action. Third, the cost of repair/restoration is often significantly greater than the cost of preventing the problem in the first place. The goal of this program is to prevent or, at least, minimize the negative water pollution consequences of prominent land

uses and development, and to ensure that those who are causing potential impacts and, presumably, benefitting from the results of their actions, actually pay the cost of prevention.

The following is a point-by-point response to the DPB comments.

A. DPB attempts to estimate the economic impact of the proposed changes, section by section.

1. Definitions (§40)

a. *Shoreline* - This is a new definition, which DPB characterizes as vague and ambiguous. DPB recommends that the definition have more clarity, especially for tidal areas. This will be done. In fact, the intention for tidal areas is to define the land between MLW and MHW as shoreline, which is already done in state code (definition of nonvegetated wetlands).

CBLAD is concerned about DPB's perception of the program as portrayed in the statement that "[i]t may be costly to leave the determination of which lands are and are not subject to these rules to local interpretation of what it means for land to be "routinely submerged." This entire program is based on the idea that such decisions can be made more accurately at the local level by those who are familiar with the setting and conditions. In reality, such decisions are typically made interactively during the site plan review process. When there is a question or dispute, local government officials usually discuss the issue with landowners and their consultants to resolve the problem. The intent of the Act was to empower local governments to proactively protect their environment. CBLAD has never been given the requirement or resources to determine every shoreline tidal area.

b. *Tributary Stream* - DPB agrees that the proposed change in this definition affords local governments and, ultimately, landowners complying with the regulations more flexibility and should lower compliance costs.

2. Local Government Programs (§§50-60)

DPB states concerns about the addition of a new item to the list of regulation objectives and recommends that the language be removed. The item in question specified "assurance, to the extent feasible, that all streams and shorelines will be protected by a forested or other riparian buffer area." DPB contends that this is "*not a desired end of the enabling legislation but, rather, a means toward achieving the other ends specified in the Act.*" While this may be true, this objective was proposed to be added as one means toward fulfillment of Virginia's 1996 Chesapeake Bay Executive Council (Governor Allen's) commitment to conserve and restore riparian buffers along all streams and shorelines.

Furthermore, DPB states that ". . . *the best available scientific evidence indicates that there are many cases where alternative techniques for protecting water quality* ***may*** *[emphasis added] actually perform significantly better than vegetated buffers.*" This statement is footnoted, referencing conversations with CBLAD staff, two Virginia Tech professors, and a member of the agency's regulation advisory committee. CBLAD suggests that this position is anecdotal, reflecting the personal opinions and biases of those interviewed. In fact, scientific research continues to demonstrate the extremely high removals of nitrogen, phosphorus, and sediments by vegetated (especially forested) buffer areas in settings similar to Tidewater Virginia. It is most difficult for CBLAD to respond to unknown statements made in response to unknown questions within an unknown context, yet CBLAD has provided written scientific evidence supporting the agency's position.

DPB goes on to state that "*So long as this language is interpreted in a way that allows the balancing of other considerations against the policy favoring vegetated buffers, then this language is consistent with the economically efficient use of resources.*" The CBLAB does, in fact, allow such balancing of considerations as a matter of routine. Since this regulation has always included vegetated buffers as a core component, inclusion of this objective is not inconsistent with the program, even if not mentioned in the legislation. On the other hand, not including this objective in this regulation will not necessarily hinder the Commonwealth from fulfilling its Bay Program commitment.

3. Area Designation Criteria (§§70-105)

DPB takes the position that language in § 9 VAC 10-20-80.B.5 confuses a linear measurement for the required "buffer area" and a management practice (vegetated buffer area). DPB recommends that these two concepts should be clearly separated to avoid the confusion they perceive. However, we are not convinced that DPB's proposed solution will, indeed, avoid confusion where none previously existed. Furthermore, since the participating local governments are familiar with the way this part of the regulations is constructed, making such a change may introduce confusion. Numerous localities commented during the NOIRA phase of

this process that the Board should minimize the changes to the regulations, since their constituents were now familiar with the regulations and how they worked. It was their opinion that needless changes would, indeed, cause unnecessary confusion.

The Board fully intended that the buffer area would be vegetated, ideally with trees but, as needed, with other types of appropriate vegetation, except where encroachments are allowed or in the case of locally designated Intensely Developed Areas that consist of impervious surfaces. The CBLAB views these changes as clarifications of existing regulations and practice and, therefore, fails to see how they will result in a negative economic impact, as DPB predicts.

2. Purpose of Performance Requirements (§ 9 VAC 10-20-110)

1. The only changes in this section were (1) the relocation of the language regarding local discretion to consider better site-specific information in their CBPA designations, and (2) incorporation of some language from the Act directing localities to incorporate these requirements into their zoning and subdivision ordinances and comprehensive plans, included herein for the sake of continuity. There are no substantive changes. The language at issue has been publicly debated and resolved through the legislative process and previous regulatory processes. Therefore, it should not be at issue in this regulatory process. This has been previously discussed many times with DPB and was explained in the explanation document accompanying the draft amendments, which was provided to DPB for their evaluation.

   However, DPB chose to comment on this language anyway, most notably in the following: " *. . . it is not known whether, even if the goals established in this section are reached, the improvement in water quality will generate a significant increase in the flow of services from the Bay. If the requirements of this regulation, in conjunction with the other requirements affecting the Bay region, are not sufficient to substantially increase the flow of value derived from the Bay, then little would be gained relative to the costs experienced, and the expenditure on meeting these goals would not be efficient.*" Here DPB appears to call into question the entire CBPA program, rather than focusing on their statutory responsibility – to evaluate the potential economic impacts of the **proposed changes** to the regulations.

2. DPB then states that "*Data from CBLAD and other sources of information about the economic value of the Bay seem to suggest that these rules, if fully implemented, would be more likely than not to have a positive impact at the margin on the flow of economic services from the Bay.*" While indicating that program enforcement will be addressed more specifically elsewhere in their evaluation, DPB goes on here to comment that ". . . *even this tentative conclusion rests on the assumption that the provisions of this regulation will be effectively enforced. The*

prospect of sufficient resources being made available to CBLAD to provide for effective enforcement appears to be the most uncertain link in the chain of causality between the promulgation of these rules and improvements in the flow of services from the Bay." The CBLAB would agree that while the enforcement aspect of the program is evolving, the agency has very limited resources for this purpose. It has been necessary to focus up until now on assisting localities in developing their local programs and beginning their implementation. Within the past year, the agency has been able to reorient some staff toward enforcement. This pattern is true of virtually all regulations: develop the program, begin implementation, then turn attention to auditing implementation effectiveness and, where necessary, enforcing compliance. However, resources for effective enforcement of the program remain limited, compared to those needed for other program priorities.

5. General Performance Criteria (§ 120)

1. DPB makes a distinction between how the term "performance standards" is intended to be interpreted in the regulations and what it means to an economist. While we understand the point DPB is trying to make, nevertheless, the terms "performance standard" and "technology standard" also have specific meanings in the arena of regulations. To the regulator, "performance standard" means a requirement that states a general objective but leaves a great deal of flexibility regarding how to accomplish that objective (i.e., which practice, from among numerous alternatives, will be used to achieve the desired objective, etc.). A "technology standard" is a specified method or practice for achieving the desired objective. In that regard, the CBLAB chose to use, as much as possible, performance standards to give those complying with the program the greatest amount of flexibility in satisfying the requirements. Limitations in the application of this concept were considered administratively prudent in order to evaluate the many local programs for consistency and/or equivalency in their implementation of program standards.

   DPB does recognize that the reason for choosing technology standards (or a mix of technology and performance standards) is that pure performance standards generally involve much higher monitoring, oversight and enforcement costs – costs that the state and local governments can rarely sustain. DPB states that "*Observing performance, especially in efforts to reduce non-point source effluents, is notoriously difficult. The combined costs of monitoring and enforcement of a given performance standard could outweigh the lower costs of compliance [with the technology standards]. And without the monitoring and enforcement activity, performance standards may provide even less reliability assurance that the goals of the rules are being met than would a set of technology standards.*"

Furthermore, while it is true that monitoring performance of the existing standards is not required, it is important to understand that there is a body of evidence that supports the effectiveness of these measures in protecting and/or improving water quality. When the regulations were initially considered, a number of stakeholder advisory committees were involved in recommending the specific standards to be included, the effectiveness of which were generally understood and accepted, based on research available at that time. While this approach relied on generalized assumptions about BMP performance and the effectiveness of other criteria, this was considered to be the preferred approach. It is important to recognize that regulatory processes involve not only political considerations, but a great deal of objectivity and science. Sometimes compromises are necessary, but CBLAD contends that under controlled conditions these standards have an overall positive effect. Rather than requiring routine monitoring of implemented practices, CBLAD is conducting an extensive ten-year monitoring project (as a surrogate for the whole) to determine if the program is effective in protecting water quality.

b. DPB goes on to suggest that the regulations could be potentially improved by making performance standards available as an alternative to specific technology standards, as long as appropriate conditions are applied to their use (e.g., equivalent results, etc.). DPB recognizes that "*[b]efore these performance-based alternatives would be useful, some development of assurance mechanisms would have to take place. CBLAD could assist in the development of contract mechanisms, private land-use restrictions and other legal and financial tools that would be required for implementing performance-based alternatives.*" This comment assumes a much greater role for CBLAD in providing guidance and oversight for individual local development projects. Since there has never been a clear legislative or executive policy for CBLAD to assume such involvement, and no resources provided to assume this greater role, we question how this could be achieved. In fact, during the original debate of the Act, the legislature and Governor agreed that CBLAD's roles were to (1) develop the regulations that would provide the parameters for the program and (2) provide assistance and oversight to localities implementing it, but that the localities themselves would have primary responsibility regarding land use decision-making. We doubt that our local government partners or their citizens would agree with DPB's proposal.

c. This section is another example of DPB commenting on existing regulatory language that is not being changed, although we have contended repeatedly that these comments exceed DPB's review authority. DPB commented on ten of the 11 performance standards, although only three of them – septic system criteria, stormwater management criteria, and agricultural criteria – involved substantive changes. Furthermore, of those three, one includes language intended to provide more compliance flexibility without

making the existing requirement more stringent; the second achieves language consistency with the other state stormwater program without really changing the requirement; and the third deals more with process than with the actual standard, but in fact should result in greater efficiency as well as faster development of agricultural water quality plans and their implementation. The following are responses to DPB comments with which we take issue.

d. Minimize the extent of disturbed land: The minor change in the language of this standard is intended to provide consistency in the use of terms in several of the "general" standards (no's. 1, 2 and 5). Indeed, through the local plan-of-development review processes, developers and localities routinely agree on the extent of land disturbance and management practices for specific projects. Landowners are free to develop to whatever density the underlying zoning allows. The intent of this standard is simply to discourage indiscriminate land clearing. An extreme example would be not clearing an entire five acre site of vegetation if the development will only involve two acres. Existing vegetation, especially tree cover, is without question the best protector of soil and water. Observing this standard often saves both money and negative impacts on water quality and other environmental resources, especially on single lots. The CBLAB views these changes as clarifications and, therefore, fails to see how they will result in a negative economic impact.

e. Preserve indigenous vegetation: DPB comments that "*[i]t is not at all clear that native vegetation is necessarily the best choice for achieving improvements in water quality.*" However, it is generally accepted that vegetation native to an area has the best chance of thriving with minimal disease and climatic impacts. The objective of this standard is to discourage indiscriminate removal of native vegetation (closely associated with the above standard of minimizing land disturbance) and to encourage the planting of native vegetation where it is called for. This standard does not prevent the planting of non-native species, nor does it prevent or even discourage innovations in vegetative management. The language change here is, once again, minor and intended to ensure the consistent use of terms. The CBLAB views these changes as clarifications, with no substantive change in the way the standard is applied. Therefore, we fail to see how the change will result in a negative economic impact and do not believe DPB has substantiated their contention that it may.

In addition to guidance provided in CBLAD's *Local Assistance Manual*, the Board and Department have a grant to develop a site planning guidance document that will provide additional guidance. Furthermore, the board has provided grants to several PDCs for development of vegetative BMP manuals that more specifically explain how to use vegetation to accomplish the purposes of this program. Each of those manuals includes lists of vegetation that are considered appropriate for water quality protection

purposes, emphasizing species native to each region. Where such local criteria exist, that criteria is commonly used in determining appropriate vegetation to be planted.

f. Local governments must ensure appropriate BMP maintenance: **No change is proposed for this standard.** DPB comments that this requirement of BMP maintenance agreements between developers and local governments appears to lack effective enforcement and, thus, is potentially one of the key weaknesses in using both BMPs and vegetated buffer areas. The intent of these agreements is to establish who will be legally responsible for maintaining the BMPs and, generally, what kinds of maintenance will be performed and at what intervals. While the CBLAB agrees that little oversight has been provided for this standard in the past, it is one of the objectives of CBLAD local program implementation oversight. DPB comments that "*some increased effort in this area would almost certainly produce positive net economic benefits.*"

g. New development of 2,500 feet or more must be reviewed: DPB had only neutral comments on the plan-of-development review requirement although, once again, **this requirement does not involve any proposed changes.**

h. Minimizing impervious cover: This is the third standard that is being changed only to ensure the consistent use of terms. This should not result in any substantive change in the way this standard is applied. The intent is that, in the context of the proposed development, no unnecessary impervious cover be constructed. If the cover can be justified for the proposed use, in the context of an evaluation intended to minimize water quality impacts, then it is typically approved by the locality. Minimizing imperviousness is important not only to reduce the amount of runoff and associated pollutants, but conversely to continue providing for infiltration of rainwater into the soil. This replenishes groundwater supplies and the base-flow of nearby streams, but it also provides some treatment of the pollutants in the water. Again, this is not a new standard, and the one change is not substantive but rather to provide consistency in the language of the entire set of performance standards.

i. Reduces the cut-off size of developments must comply with local erosion and sediment control ordinance: DPB states that "*there do not appear to have been any studies to measure the actual changes in erosion and sediment in the Chesapeake Bay watershed resulting from this rule.*" **This is a programmatic issue, not a regulatory issue.** In fact, an entire industry has arisen around providing erosion and sediment control in various settings, such as development, mining, agriculture and forestry. There is an international trade association and a couple of specific journals aimed at these issues. They are full of research documenting the effectiveness of various erosion and sediment control practices as well as continuing innovations. The average

citizen can describe the differences observed in streams near construction sites that do not use appropriate erosion and sediment controls as opposed to those that do. Again, this is not a new standard. The only change is not substantive; it merely removes language no longer necessary because it has been incorporated into the basic DCR state erosion and sediment control regulations, which this requirement supplements.

j. On-site sewage treatment system standards: The first alternative proposed to the existing regulations would give local governments the option of allowing septic system owners to install a plastic filter in the outflow pipe from the tank in lieu of the mandatory five-year pumpout. When the filter clogs and the tank fills to a critical point, it will become obvious in the building that the tank needs to be pumped, aligning pumpouts with need rather than an arbitrary schedule.

DPB suggests that the regulations should also allow septic system owners or pumping contractors to provide evidence of annual or semi-annual inspections, especially for newer systems with inspection ports. DPB suggests that allowing such routine inspections could "*. . . significantly reduce septic maintenance costs.*" The basis of this statement is not provided and appears hypothetical at best. We therefore disagree that the savings would be significant. A significant portion of the cost of a septic system inspection is in the travel time to the site. Just as a plumber or electrician charges a flat rate of $40-$60 for the first hour of a repair visit, we expect a septic system contractor will charge a flat rate for an inspection visit, even if there is an inspection port to make the task easier. Furthermore, the plastic filter allows the building occupant to determine if the tank needs pumping without the cost of an inspection. It appears that DPB's suggestion would be a more costly alternative, would not be locally implemented without large resource requirements, and would not result in a cleaner environment.

DPB points out that the Virginia Department of Health (VDH), in recent amendments to its own septic system regulations, would require observation ports to be installed on all new septic tanks. Systems that have such ports enable inspections without opening the tanks. However, there are few, if any, such systems installed in Virginia at this time. Furthermore, the VDH amendments actually provide three options to address the maintenance issue: (1) an inspection port, (2) a baffle (two-compartment) tank or two separate tanks, or (3) the plastic filter.

Department staff suggested a mandatory periodic inspection to the agency's regulatory advisory committee as an alternative to mandatory pump-out. However, the idea was rejected for numerous reasons. For example, local government representatives noted that more alternatives would further complicate what they already view as a difficult tracking process. DPB further discusses options for funding local septic pumpout tracking systems, perhaps implying that localities have few or no options for

implementing this provision. In fact, the Board has approved several different implementation mechanisms and will consider still others, as long as they prove to be effective in implementing the requirement. Furthermore, most local set-up costs to date for septic maintenance tracking systems have been funded through grants from the CBLAB. In fact, septic system pumpout tracking has been one of the CBLAB's priority purposes for local assistance grants at this time.

DPB also questions whether this provision of the regulations is being enforced. However, the CBLAB has already recognized this problem and has made septic system criteria enforcement among the top priorities for the department's oversight and enforcement efforts.

Once again, however, it seems that DPB is questioning the existing program. The option that is proposed merely offers some flexibility for localities and their citizens, should the localities choose to extend it. They are not required to, in which case this criterion will continue to be implemented in its current form. DPB's discussion far exceeds the evaluation of proposed regulatory language.

12. The second component of the septic system criteria is the requirement of a 100-percent reserve drainfield area. Once again, there was interest in providing alternative ways to satisfy this requirement. The option proposed has been used for numerous years in Fairfax County, and the advisory committee agreed that it would be appropriate to include it as an alternative. Therefore, the Fairfax County language was included verbatim in order to provide consistency. Again, the option that is proposed merely offers some flexibility for localities and their citizens, should the localities choose to extend it. They are not required to offer it, in which case this criterion will be implemented in its current form. Therefore, we fail to see why there should be any negative economic impact and disagree with DPB's assumptions.

13. Stormwater management: Regarding the proposed changes to the stormwater management criteria, DPB recognizes that the CBLAB is conforming its language to that of the new DCR Stormwater Management Regulations, the result of an effort to reconcile varying stormwater management requirements among DCR, CBLAB and DEQ.

14. Water quality assessments on agricultural land: Regarding the proposed changes to the agricultural criteria, DPB begins by questioning the department's position that conducting soil tests and developing nutrient management plans based on the results generally produces an economic benefit by boosting farm profits (through reducing the quantities of nutrients applied). However, during our regulatory advisory committee process, **even farm industry representatives** (Virginia Farm Bureau, Virginia

Agribusiness Council) **agreed that there is an economic benefit for the farmer, while achieving the water quality benefit**. DPB assumes that if using soil tests is truly profitable for the farmers, they would embrace them on their own initiative and not need a regulation to require them. DPB's statement assumes all people have all knowledge of what is best and they will always do what's best for themselves. However, in counterpoint, there are many things required by law and regulation in our society for our own good (and often economic well-being) which some do not necessarily embrace on their own initiative – for example, speed limits, seat belt laws, etc. – but comply reluctantly because it is the law.

DPB does go on to state that "*[e]ven if the tests do not pay for themselves in terms of greater profits, they are probably essential for the development of appropriate and effective nutrient management plans. A number of studies do indicate that nutrient management is currently a cost effective method of reducing nutrient flows into the Chesapeake Bay . . . . This implies that the soil tests produce a net economic benefit.*"

DPB states that "*[t]he rules do not require that farmers implement the provisions of any management plan.*" However, in § 9 VAC 10-20-130.5.b, varying levels of implementation are required if there is to be a modification of the buffer. Otherwise, the board and department stand by their view, based on much anecdotal evidence from federal, state and local government staff working with farmers, that there is much voluntary BMP implementation in the agricultural sector and it is becoming easier to demonstrate the economic as well as environmental benefits of practicing good conservation. DPB suggests that further studies to confirm this phenomenon would be useful.

o. Silvicultural activities: Again, DPB's comments regarding the silvicultural criteria demonstrate misunderstanding of the program. Furthermore, the only change proposed is the elimination of outdated language regarding a 1991 benchmark for the Department of Forestry to demonstrate the adequacy of its non-regulatory water quality protection program. Therefore, **there is no substantive change in this criterion** and, therefore, no need for DPB to comment at all.

However, DPB does make some statements that need to be corrected. First, DPB states that "*[t]he regulation of forestry activities is not under CBLAD's jurisdiction because the Board has deferred to DOF in regulating silvicultural activities.*" This is only due to the Board's choice. The CBLAB has the necessary authority to regulate silvicultural activities in its basic law. The board chose to allow an exemption for silvicultural activities (most notably logging) if forestry BMPs were used effectively, in deference to the Department of Forestry's claims over the effectiveness of

its non-regulatory water quality protection program. This position could be reversed if evidence accrues that the DOF program is not effective enough. There is some concern about that at this time, since there is information indicating decreasing inconsistent or even decreasing voluntary implementation of forestry BMPs.

DPB goes on to state that " *[i]n the longer run, it may be worth exploring whether the control of water quality impacts from forestry activities in the Chesapeake Bay watershed might logically be placed under the control of localities as part of their comprehensive control of the water quality effects of land use practices.*" In fact, under the current regulatory language local governments could require demonstration of proof that a logging site is in compliance with the DOF BMP guidelines in order to establish the exemption status.

Local governments have been resistant to taking on more responsibility for directly regulating activities such as agriculture and forestry, because they have no tradition and experience with these fields and, in most cases, lack adequate staff and resources to administer such programs effectively. However, logging in particular is regulated by localities in other states, such as Maryland, so there is precedent for this. Furthermore, the tributary strategy planning processes have divulged recognition that total suspended solids (e.g., sediment) is a much more significant pollutant than had previously been believed. Logging activities, especially if they do not effectively employ BMPs, are often significant contributors of sediment until the sites become stabilized with new vegetation. Even though the Regulatory Advisory Committee recommended that this criterion be left unchanged substantively, the CBLAB expects it to receive substantial public comment revolving around the issues noted above.

6. Use and Development Criteria for RPAs (§ 130)

a. The first significant DPB comments regarding this section pertain to the buffer area requirements in subsection 3 of this section. DPB questions the addition of language in subsection 3 of §130 which is redundant with language in §80-B.5. However, this redundance is intended as a reinforcement of the clarification of buffer requirements, since some local governments are not applying the buffer criteria as the Board intends.

After repeating an earlier comment, DPB goes on to state that the last sentence of this subsection "*. . . deems something to be true that is not true in general, and the data do not exist to determine whether it is even approximately true on average.*" DPB contends that the language is counterfactual and should be removed from the regulation. We disagree. The comment refers to pollution removal rates arbitrarily assigned to vegetated buffers in the original regulations. These removal rates were included to provide the basis for calculating equivalent removals for BMPs employed

due to the allowance of buffer encroachments in the cases of pre-1989 lots where there is not sufficient area to build outside the buffer. These rates were based on the best available research at the time. The rates were considered an average for all buffers, and they assumed the large proportion of buffers would be wooded, even though the regulations do not require wooded buffers in all cases.

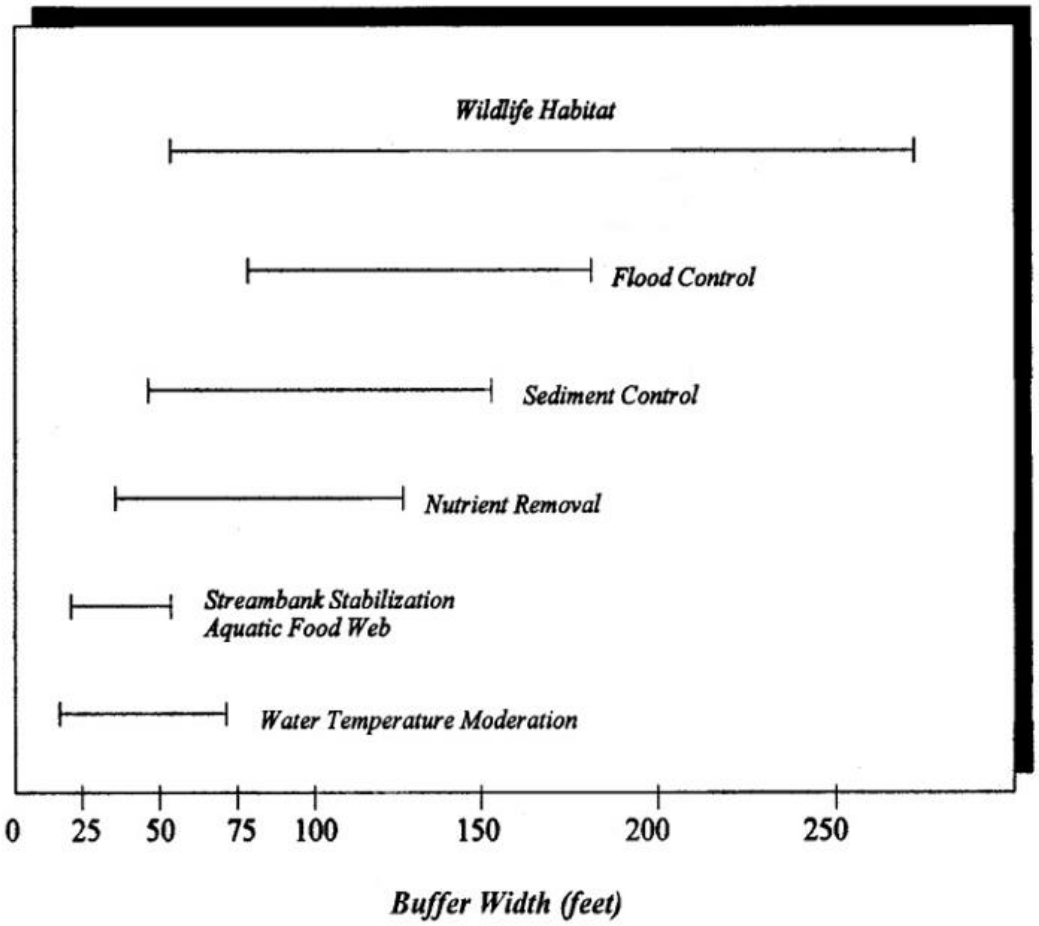
A significant amount of research on buffer pollution removal has been conducted since then, and the data generally demonstrate even higher pollution removal rates in the coastal plain and lower piedmont geophysical provinces, where this program is being implemented. It is not unusual to see the older removal rates applied to grass buffers, and removal rates of 40 percent for nitrogen, 60 percent for phosphorus, and 90-98 percent for sediment applied to wooded buffers at least 100 feet wide. While we agree that effectiveness varies some based on the buffer width, type of vegetation and level of maintenance provided, on average these numbers are reasonable assumptions for the purposes described.

b. Regarding that same subsection, DPB addresses language that is proposed to be deleted at the end of the subsection. This language has been the source of considerable confusion regarding allowable buffer modifications or encroachment and has been the subject of numerous letters and interpretive documents. This was explained in the explanation document accompanying the proposed amendments and provided to DPB. DPB states that deletion of this language "*. . . will almost certainly increase the cost of compliance with the regulations . . . .*" This is an unsupported statement. DPB does not attempt to explain why compliance costs should rise, or what specific costs are being described. **Once again, the change being discussed is, from the Board's point of view, not substantive but, rather, clarifying. An attempt is being made to clarify the confusion surrounding this language because some local governments have not complied properly in the first place. However, the requirement is staying the same, as demonstrated through numerous CBLAD guidance documents and interpretations issued since localities began to implement the regulations in the early 1990's. Therefore, we fail to see why there should be any negative economic impact. The fact that some have saved money in the past by wrongly interpreting or misapplying this rule should not be construed to mean this change will drive costs up. The expectation has <u>not</u> changed.**

In fact, the rules do allow encroachment into the vegetated buffer by right only for grandfathered lots (those platted prior to the adoption of this program locally, where the lots were platted too small originally to accommodate all of the new requirements. The buffer modifications allowed in agricultural settings generally maintain some type of vegetative cover (pasture, crops, often using reduced tillage practices that leave significant vegetative cover on the ground surface). Also, these agricultural modifications are not permanent. Furthermore, allowing the option for agricultural encroachments was viewed as necessary because the farmer may produce income from that land on an annual basis. Finally, farmers have a built-in incentive to practice good conservation and land stewardship: their economic productivity is tied to the quality of their topsoil and efficient use of nutrients and other resources. However, the encroachments allowed in non-agricultural settings were intended to be the minimum necessary to allow building to occur, they result in permanent changes with the vegetation replaced largely by impervious surfaces, and natural incentives for conservation and land stewardship are not as prominent in such areas.

Next DPB devotes nearly six pages (pp. 25-30) to "*. . . examining the properties of these two tools [buffers and alternative BMPs] for protecting water quality in the Bay.*" It is important to note that such an examination was done when the regulations were first developed and adopted. At that time, the CBLAB, upon consideration of all the factors, chose to include the buffer requirements, with modifications and encroachment allowed under specified conditions.

The following are some of the points DPB raises that are reflective of discussions that have taken place in the past, leading to existing regulatory language or the proposed changes:(1) Most of the stream and water quality protective functions of buffers listed in the DPB's next-to-last paragraph on page 25 of their draft comments are not accomplished by alternative, structural BMPs. (2) On page 27, DPB questions whether we can really know "*how different vegetated buffer arrangements will perform in different regions of the Bay watershed.*" As CBLAD has noted previously, considerable research provides a high level of confidence about how the typical buffer types perform in the two physiographic regions in which the program is being implemented. (3) DPB asserts that there does not appear to be any evidence regarding optimal widths of buffers to provide some of the additional environmental benefits. We disagree. The table on the next page, from the Chesapeake Bay Program *Riparian Forest Buffer Panel Report: Technical Support Document* (based on numerous research citations), illustrates the optimal widths for various functions, including several categories of



Range of Minimum Widths for Reaching Specific Buffer Objectives

water quality protection. It can be clearly seen that the 100-foot wide buffer captures all of these functions, including flood control, which is just beginning to be addressed at a width of 75-feet generally. (4) DPB seems to assume that by vegetated buffers the CBLAB means, in all cases, wooded buffers. This is an incorrect assumption. (5) DPB characterizes both BMPs and buffers as "constructed" practices, when the intent of the CBLAB buffer requirements is to conserve and protect **existing** buffers and only "construct" (restore) buffers where they do not exist or are inadequate to protect water quality. (6) DPB contends that increased local enforcement of BMP maintenance requirements could justify added flexibility in substituting structural BMPs for buffers. This has been attempted in other states, such as Maryland, with no significant improvements in BMP long-term effectiveness. (7) DPB suggests that industry associations (building industry, etc.) could standardize processes of assuring BMP effectiveness, leading to added flexibility to substitute structural BMPs for buffers.

However, local maintenance agreements are executed with individual landowners, homeowner associations, and businesses, **not** with industry associations. (8) DPB suggests that the agency might provide, as an alternative, the option of using BMPs if assurance can be provided that they will continually perform better than the buffer being replaced. And finally, (9) DPB asserts that the kind of incentive recommended in item 7 above would require no additional local revenues to monitor and enforce. We fail to understand why. Without an objective oversight process (reports, inspections and/or monitoring), neither the state nor localities can have any confidence that the effectiveness data being reported by the private sector (that is, policing themselves) is accurate. The recent case of Smithfield Foods falsifying effluent treatment records is a case in point. This kind of accountability would likely be demanded by environmental groups and the public at large. Such state or local oversight programs would require additional resources.

Next, DPB devotes three more pages (30-33) to evaluating the economic impacts of vegetated buffers. While DPB attempts to translate discussions based on economic theories into layman's language, they are not completely successful. In addition, this discussion includes admitted speculation. More important, however, is that this economic evaluation is focused on aspects of the regulation that are **not** being changed substantively. Including this discussion merely causes confusion.

DPB takes issue with the argument that developers will benefit from the buffer requirement because their own land will improve in value from having a vegetated buffer, stating that "*[t]his argument is almost certainly incorrect. Since developers already have the opportunity to put such buffers in place and a clear profit motive to do so, when it does increase profits, then we must conclude that either it is not really profitable to them or that developers do not read the newspaper, watch TV, read their trade publications, or talk to each other because they are clearly passing up an opportunity to make themselves richer.*" And yet, there is anecdotal evidence that, indeed, in some areas raw waterfront lots are selling for more because they have wooded buffers on them. We would propose a simpler explanation for the reluctance of the development industry to embrace riparian buffers: (1) people (in this case, developers) are reluctant to change practices that they have found to work in the past, especially when large sums of money are at risk; and (2) those who have taken the risk and found that buffers and other sustainable development practices, such as clustering, not only add value (i.e., profit) but, once seen by buyers, are considered extremely desirable or even preferable to traditional developments, have not yet gotten the word out effectively because, in historic time frames, this is still a relatively new phenomenon.

The final conclusion of this brief DPB analysis is the opinion that the buffer requirement". . . *will tend to increase development along the riparian zone . . . . could also contribute to a tendency for development to 'sprawl' along the lines of the riparian zones.*"

We would note that the same development pattern was evident before the adoption of the Chesapeake Bay Preservation Act or implementation of this regulation. Increasing pressure was being placed on development within the riparian zone even then, because more people want to live on the water and there is a diminishing supply of land along the water. However, as a result of this program, new development has occurred with less impact on the environment through implementation of good site planning and management requirements. We would also point out that "sprawl" type development is not a necessary result, since there are other development patterns (clustering, etc.), which CBLAD supports and promotes, that can be used to subdivide riparian land in ways that provide more effective water quality protection. However, this is not a "growth management" program, and should not be expected to require significant changes in patterns of development. All this has been debated in previous regulatory processes.

c. Next DPB comments on subsections 4 and 5 of § 9 VAC 10-20-130, regarding encroachments into and modifications of buffers. Again, most of the proposed changes are clarifications or relocations of text and are not substantive. The only changes pertain to agricultural buffer modifications resulting from a change of process requirements. The net result should be an improvement in efficiency both for farmers complying with the regulation and SWCD staff assisting them. In that respect, we fail to see why there should be any negative economic impact.

DPB appears to be confused regarding comments pertaining to agricultural conservation plans. They make a distinction between the requirement of a nutrient management plan where nutrients are the predominant problem and the apparent lack of a similar "plan" requirement where erosion is the predominant problem. The reference to a full nutrient management plan is due to the need for coordination and consistency with plans developed under a separate state conservation program, administered by DCR, also aimed at developing nutrient management plans for farm land. However, when erosion is the problem, similar plans are still developed, including BMPs for controlling erosion.

DPB takes this opportunity to further build the case that the differences in the regulation between how buffer modifications are treated in agricultural settings versus encroachments are treated in urban/suburban settings is unfair and results in an economic disadvantage to urban/suburban landowners. Once again, we would make the point that this issue has been debated and resolved in previous regulatory processes

and is not at issue in this set of proposed amendments. Again, one of the primary reasons for the difference is that buffer modifications on agricultural lands do not result in permanent, impervious cover to the land and must include adequate vegetative cover. Again, these different standards for differing situations were the result of a compromise among stakeholder advisors, recognizing the valid differences between the two settings.

d. Next DPB comments on § 9 VAC 10-20-130.7 regarding buffer area criteria for locally designated Intensely Developed Areas. DPB notes that the minor changes of language in this subsection are not substantive, but they still comment. In this case, they note that this criteria " . . . *would appear to be an appropriate response to the higher costs involved.*" We agree, although we do not feel any comments from DPB are warranted.

7. Non-conformities, exemptions, and exceptions (§ 150):

DPB comments that in subsection C the additional criteria for granting exceptions raises the standard and will result in additional compliance costs. DPB also points out that the "additional proposed criteria" has always been required through CBLAD issued guidance to local governments. Therefore, we do not consider this a substantive change in practice and, therefore, fail to see how there would be a negative economic impact.

8. Comprehensive Plan Criteria (§§ 170-171):

DPB notes that the proposed changes in these sections should not alter costs greatly and should improve water quality benefits to the Bay.

9. Zoning and Subdivision Ordinances (§§ 181-201):

Once again DPB criticizes the use of "technology standards", recommending instead that localities be given the option of providing for "equivalent or greater" protections. DPB states that "*[t]hese technology standards should be considered suspect because they* ***may*** [emphasis added] *unnecessarily increase the cost of achieving the goals of the regulation* . . ." We consider this statement to be very speculative and unsupported. In fact, the CBLAB has allowed local governments to offer equivalent ways of achieving some regulatory requirements and has approved negotiated solutions. The board intends that this flexibility will continue to be offered. DPB suggests that where this is done,
" . . . *localities and landowners could make proposals that include arrangements that resolve any enforcement and monitoring concerns that CBLAD might have.*" We consider this to be true only if there is a role for CBLAD in establishing the parameters.

C. DPB concludes its comments with an summary of the "*Overall economic impact of the proposed regulation.*" DPB begins this summary by making it clear that " . . . *a numerical measure of the costs and benefits of this regulation would be quite speculative.*" This is due to admitted uncertainties about program effectiveness and behavioral responses.

DPB goes on to say that " . . . *the proposed rule is* ***not likely*** *to lead to a significant* ***reduction*** *(from current levels) in pollutants entering the Bay although some reductions may occur over time. The largest part of the gain from these regulations will be in reducing the growth in the contribution of land use practices to the pollution load in the Bay. CBLAD claims that this program places a cap on the amount of pollutants that will enter the Bay from the regulated area. It is hard to see how this could be true.*" In fact, this is a "cap" program, intended to generally prevent increases in pollution, despite significant population growth projected for the program area. Any reductions in pollution from existing population will be a bonus. We would merely call attention to the basic goals of the program: no net increase of pollution from new development, a 10 percent decrease of pollution from redevelopment, and a 40 percent decrease of pollution from agriculture and forestry. Given the relative amounts of agricultural land to urban/suburban land and the immense acknowledged cost-benefit of agricultural BMPs applied to large tracts of land, there is a great possibility that over the long haul, this program may indeed produce a net reduction in pollutant loadings. However, the implementation will take a significant amount of time due to limited resources in support of the program. The CBLAB acknowledges that only limited monitoring of program effectiveness has been conducted up to now, again due to limited resources. However, we still expect the program to result in significant benefits to the Bay.

DPB states that "*[a]n increased number of septic connections, more residential development, and increases in agriculture and forestry activities will give rise to the potential for more pollutants entering the Bay.*" In fact, agricultural activity in the region is gradually diminishing as farmland is developed. The residential development and septic system connections will increase anyway. At least with these regulations in place, there is an opportunity to prevent an increasing degradation of water quality. DPB seems to acknowledge this point, stating ". . . *if water quality in the Bay is better with the regulation than without it, then economic benefits will flow from the land use controls.*"

DPB notes, in a footnote, that the CBLAB financial assistance grant program shifts the cost of implementation away from the implementing localities to the general taxpayer. One could argue, however, that the tax dollars are being distributed programmatically so that taxpayer contributions for this program come from citizens in the remainder of the Bay drainage basin in Virginia, and that this is their "contribution" to the Bay restoration efforts in response to commitments made by the Governors and the General Assembly.

DPB states that "*[c]osts of compliance with this rule are likely to be considerable. These costs include: increased farm management costs, increased administration costs to localities, increased scarcity of land near the Bay, possible increased costs due to a greater tendency for*

development to "*sprawl*" *along the riparian zone . . . .*" In response, we would first reiterate that there may be economic gain to farmers from implementing, in particular, nutrient management practices. On the other hand, this is an example of transferring the cost back to those responsible for creating (or preventing) the pollution. Second, waterfront land scarcity is a trend that had begun before this program and would be continuing even without the program in place. Third, we would reiterate that sprawl development is not an outcome of these regulations. In fact, one of the purposes of comprehensive planning is to establish a vision of a way to grow without degrading local natural resources, pointing toward more environmentally protective and economically beneficial development patterns.

DPB goes on to comment that limited knowledge about the physical effect of the Act and Regulations on water quality creates uncertainty regarding their net economic impact. As examples, DPB points to uncertainties regarding the performance of vegetated buffers and the impact of septic system drainfields on water quality. However, as we have pointed out previously, there is significant new research data regarding buffer effectiveness showing them to be even better for water quality protection than previously believed. Furthermore, if one talks to experts in the field of septic systems, it becomes obvious that some of the kinds of water quality problems this regulation attempts to address typically result from septic systems.

D. DPB makes some very general statements regarding "*Businesses and entities affected*" by this regulation. Once again, it appears that the remarks are aimed at the regulation in general rather than the specific changes proposed for this amendment process. The comments, which involve discussion of transfers of costs and values among categories of landowners and users as well as among generations, appear to be based on economic theory and are not explained clearly in layman's language.

E. The CBLAB generally agrees with the DPB description of "*Localities particularly affected.*" However, as has been previously noted, we do not necessarily agree with the characterization of "net loss" to regions outside the program area through use of their tax dollars in support of the program. Again, the meaning and significance of comments regarding inter-generational transfer of value is not clear.

F. The CBLAB agrees with DPB that the impacts on employment are unclear and cannot be estimated given the many uncertainties and the nature of the program.

G. Finally, it its "*Summary*," DPB draws several conclusions. First, DPB states that "*Due to the relatively limited funding available for monitoring and enforcement, it is difficult to make any definitive inferences about how effective the provisions of the regulation have been to date.*" While it is true that, in the big picture, a relatively small amount of resources are aimed at monitoring and enforcement, as a percentage the amounts are significant. This fiscal year, CBLAD estimates that it will spend nearly 12 percent of its annual budget on monitoring, oversight and enforcement, after approximately 43 percent of its budget is committed to providing financial assistance for its local government and SWCD partners. There is not much left over. While the agency did obtain an

additional $60,000 per year for monitoring from the 1998 General Assembly, those dollars merely replace vanishing federal grants. CBLAD has not been able to procure any more funds for monitoring, oversight and enforcement. The funds we have are targeted carefully and efficiently. Obviously, more funding for these purposes would produce greater dividends programmatically.

Next, DPB states that "*[o]ne way of granting increased flexibility in a situation where public monitoring and enforcement efforts are limited is to give localities and applicants the opportunity to provide for the monitoring and enforcement efforts themselves. . . . This may be done in such a way that the alternative compliance plan will provide the authorities with sufficient assurance that water quality will be as good as or better than what could be achieved by the methods specified in the regulation. . . . Localities and applicants will only seek the flexibility if it will lower costs, so any use of alternative methods will be sure to lower compliance costs*." We question whether DPB understands clearly how much it costs to adequately monitor water quality on a continual basis to provide such assurances. Not only would the applicant have an on-going significant cost, but the local government would have additional costs involved in auditing compliance. While we agree this concept has merit in theory, we believe it would be doomed in practice because lower costs are not likely to occur.

It is also important to note that the water quality requirements of this regulation are typically piggy-backed onto other, more costly requirements of other regulations, such as the water quantity requirements of the Virginia Erosion and Sediment Control Regulations. Where water quantity controls are required, such as retention and detention ponds, water quality control can often be achieved at minimal additional cost. Therefore, in many cases, especially for costly development on large tracts of land, the costs of complying with this regulation are incremental and minimal.

DPB concludes its summary by saying that "*[e]stimating benefits and costs is extremely difficult in this instance because the changes in land-use patterns are so large that significant transfers of wealth are taking place, and it is very difficult to disentangle the wealth transfers from changes in net economic value.*" We would argue that, to the degree this is true, the stimulants for changing land use patterns and transfers of wealth extend beyond the scope of this single program and regulation. Therefore, it is not reasonable to attempt to assign any significant responsibility to this program and regulation alone. DPB states that ". . . *CBLAD should make every effort to minimize compliance costs and to encourage private interests to find ways of lowering the costs of protecting the Bay*." In fact, CBLAD routinely spends time and energy attempting to accomplish those very objectives.

In conclusion, as stated earlier, we reiterate concerns raised at the beginning of this response. First, it appears to the CBLAB that the DPB staff extended the scope of their analysis far beyond the criteria specified in the Administrative Process Act. Second, the CBLAB believes that the DPB staff have applied theoretical assumptions in the face of substantial uncertainties to arrive at some of its

conclusions, while expecting CBLAD to demonstrate scientifically defensible connections with each regulatory requirement and specific improvements in water quality.
Third, a number of comments in the analysis are aimed at the overall program for which this regulation provides the foundation, rather than being limited to evaluating the specific changes the amendment proposes. In several cases, significant comments, or even criticisms, are aimed at provisions of the regulations that are not proposed to be changed, having been debated and resolved in previous regulatory processes.

Finally, DPB admits that due to much uncertainty about causes and effects, costs and benefits, it is difficult to draw any sound conclusions about the economic impact of this regulation and its benefits to the Bay. While we agree with this statement, we would take the position that the few substantive changes in the regulation indeed provide greater flexibility and the opportunity to lower compliance costs.