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AGENCY REVIEW

DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF WATER AND WASTE MANAGEMENT

AUDIT OVERVIEW

The Division of Water and Waste Management's Key Performance Measures Suggest That the Agency Is Having Success in Achieving the Mission of Protecting the Quality of the State's Water Resources, However Improvement Is Still Needed



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EXECUTIVE SUMMARY

The Legislative Auditor conducted an evaluation of the Division of Water and Waste Management (DWWM) as part of the Agency Review of the West Virginia Department of Environmental Protection (DEP) authorized pursuant to West Virginia Code §4-10-8. The report contains the following issue:

Report Highlights

Issue 1: The Division of Water and Waste Management’s Key Performance Measures Suggest That the Agency Is Having Success in Achieving the Mission of Protecting the Quality of the State’s Water Resources, However Improvement Is Still Needed.

- The mission statement developed by DWWM is less than what is statutorily required. West Virginia Code assigns the DWWM with mandates to manage the quality of the state’s water resources as well as solid waste.
- The performance measures reported by DWWM are relevant for water management but they are not the most important ones.
- A more important performance measure suggests that the DWWM is having mixed success in achieving the outcome of protecting the quality of the state’s water resources.
- The DWWM should develop performance measures for solid waste management.
- The most important performance measures should also be publically available on the DWWM website and in the agency’s annual report to enhance transparency and accountability.

Recommendations:

1. *The Legislative Auditor recommends that DWWM add language to the agency's mission statement that reflects the agency's role in managing solid waste and hazardous waste.*
2. *The Legislative Auditor recommends that DWWM list the most important performance goals and measures in the Operating Detail of the Executive Budget and list these and other performance measures on the agency website and in the agency's annual report.*
3. *The Legislative Auditor recommends that DWWM report the most important performance and outcome measures of other programs it administers in order to better gauge the agency's performance in relation to its overall mission.*

ISSUE 1

The Division of Water and Waste Management’s Key Performance Measures Suggest That the Agency Is Having Success in Achieving the Mission of Protecting the Quality of the State’s Water Resources, However Improvement Is Still Needed.

Issue Summary

State departments are required to submit division-level performance goals and measures for the *Executive Budget Operating Detail* of the State’s Executive Budget as part of the appropriation request process. Although the Division of Water and Waste Management (DWWM) reports relevant performance goals and measures to the Legislature, it does not report the most important ones. Important performance measures are those that have the highest correlation to the agency’s overall outcomes, which in this case are measures of the actual water quality in the state. Although the DWWM did not report these types of measures, it does have the information. When the Legislative Auditor requested water quality data, they indicate that the DWWM is maintaining good to very good biologic health in almost 60 percent of stream mileage within the state. The DWWM should establish performance goals for water quality performance measures.

The DWWM also has the responsibility of managing the state’s solid waste. Yet it does not include this responsibility in its mission statement, nor does it report performance goals or measures for solid waste management. The agency should provide performance measures for all aspects of its statutory mandate.

DWWM’s Mission Statement Does Not Fully Reflect Policy Goals Outlined in West Virginia Code.

The Department of Revenue requires that state agencies submit division-level performance measures for the *Operating Detail* as part of the appropriation request process. Other information reported includes the agency’s mission statement, goals, and objectives. Although legislative appropriations are not based on performance measures submitted by state agencies, performance measures are required in order to promote accountability before the Legislature and the public, and to encourage agencies to become result-oriented in their operations.

When the Legislative Auditor requested water quality data, they indicate that the DWWM is maintaining good to very good biologic health in almost 60 percent of stream mileage within the state.

The Department of Revenue requires that state agencies submit division-level performance measures for the Operating Detail as part of the appropriation request process. Other information reported includes the agency’s mission statement, goals, and objectives.

The Legislative Auditor has observed that many state agencies have not provided adequate performance goals or measures in the *Operating Detail*. In some cases, the performance measures are not strongly tied to the agency’s overall mission, while in other cases the list of performance measures is incomplete. In addition, state agencies often do not provide goals or benchmarks for their performance measures. Without a performance goal or benchmark, a performance measure does not indicate whether performance is good or needs improvement.

DWWM states its mission statement as follows:

**Division of Water and Waste Management
Mission Statement**

To preserve, protect, and enhance the state’s watersheds for the benefit and safety of all its citizens through implementation of programs controlling surface and groundwater pollution from any source.

The Legislative Auditor has observed that many state agencies have not provided adequate performance goals or measures in the Operating Detail.

The Legislative Auditor examined the agency’s mission statement to determine if the agency’s focus is statutorily supported. The performance of an agency is tied to what the agency considers its mission. Therefore, the mission should be clearly understood by the agency and it should not be more or less than what is statutorily required. The Legislative Auditor’s evaluation of what the agency considers its mission statement is shown in the following table.

| DWWM’s mission statement is: | |
|--|---|
| fully supported by statute. | |
| not supported by statute. | |
| less than statutorily required. | X |
| more than statutorily mandated. | |
| determined administratively as allowed by statute. | |

West Virginia Code §22-1-7(5) charges DWWM with administering and enforcing the provisions of Chapter 22, Articles 11 through 20. These articles of chapter 22 specify mandates for managing both water quality (Articles 11-14) and solid waste (Articles 15-20). The agency's mission statement only reflects the duties associated with managing the state's water resources. For example, §22-11-2 states that it is the policy of the State:

(a)... to maintain reasonable standards of purity and quality of the water of the state consistent with (1) public health and public enjoyment thereof; (2) the propagation and protection of animal, bird, fish, aquatic and plant life; and (3) the expansion of employment opportunities, maintenance and expansion of agriculture and the provision of a permanent foundation for healthy industrial development.

West Virginia Code §22-12-2 further states the policy of the State is:

(11)(b)... to maintain and protect the state's groundwater so as to support the present and future beneficial uses and further to maintain and protect groundwater at existing quality where the existing quality is better than that required to maintain and protect the present and future beneficial uses. . . .

However, DWWM is also charged with enforcing West Virginia Code §22-15, the Solid Waste Management Act, which establishes the permitting process for solid waste facilities, and West Virginia Code §22-18, the Hazardous Waste Management Act, which establishes regulation of the storage, transportation, treatment and disposal of hazardous wastes. These solid waste management functions are not reflected in the agency's mission statement. Therefore, **the Legislative Auditor recommends that DWWM add language to the agency's mission statement that reflects the agency's role in managing solid waste and hazardous waste.**

DWWM Reported Relevant Performance Measures But More Important Ones Should Be Reported

DWWM provided the following performance measures for the 2011 Executive Budget:

| Fiscal Year | Actual 2007 | Actual 2008 | Estimated 2009 | Actual 2009 | Estimated 2010 | Estimated 2011 |
|--|----------------|----------------|-------------------|----------------|-------------------|-------------------|
| Achieve cumulative targeted fund utilization rate by loaning 90% of funds available. | | | | | | |
| Available funds loaned | 89% | 90% | 90% | 87% | 90% | 90% |
| Ensure that wastewater permits are issued within 180 days of receipt of a complete application. | | | | | | |
| Permits issued within the time frame | 98% | 97% | 95% | 95% | 95% | 95% |
| Collect, interpret, and sample 15% of available streams annually for water quality and biological information consistent with the watershed management framework. | | | | | | |
| Available streams sampled each year | 24.7% | 14.3% | 15.0% | 13.5% | 15.0% | 15.0% |

The Legislative Auditor asked DWWM to indicate how each measure pertains to the agency's mission.

1. **Achieve cumulative targeted fund utilization rate by loaning 90% of funds available.**

The agency gave the following reason why this performance goal provides a relevant performance measure.

Ensuring that monies available to build wastewater treatment infrastructure are adequately utilized minimizes the impacts of untreated domestic sewage to ground and surface water, thereby protecting the integrity of the receiving water.

2. **Ensure that wastewater permits are issued within 180 days of receipt of a complete application.**

The agency gave the following reason why this performance goal provides a relevant performance measure.

By issuing permits within 180 days of receiving a completed application, DWWM is meeting the requirements of WV Code §22-11-11(c) and 47 CSR 10 and ensuring the integrity of our waters is protected by the conditions set forth in the permit. The permit's effluent limitations and other conditions are designed to protect water quality. The economic needs of humanity are served as industries and municipalities can legally discharge treated wastewater.

3. **Collect, interpret, and sample 15% of available streams annually for water quality and biological information consistent with the watershed management framework.**

The agency gave the following reason why this performance goal provides a relevant performance measure.

Sampling a portion of West Virginia's waters annually allows the DWWM to measure the overall result of a myriad of water pollution control efforts. Chemical and biologic measurements of waters are made and compared against established water quality standards, which are measures of integrity.

Achieving the goals of DWWM's activities listed in the Operating Detail are clearly relevant towards achieving the ultimate outcome of clean water resources. However, there are other performance and outcome measures that either have a stronger correlation to or directly represent the outcome.

Achieving the goals of DWWM's activities listed in the Operating Detail are clearly relevant towards achieving the ultimate outcome of clean water resources. However, there are other performance and outcome measures that either have a stronger correlation to or directly represent the outcome. For example, the DWWM could use its probabilistic monitoring results for biologic integrity.

According to statements made by DWWM staff the goal of the probabilistic monitoring program is to provide statistically unbiased estimates of stream condition throughout a particular region (i.e., watershed, eco-region or state) without assessing every single stream mile in that region. This approach can be used to describe various aspects of stream conditions including the proportion of stream miles with

biological impairment as depicted in the Figure 1 (which is replicated from a document received from DWWM) below.

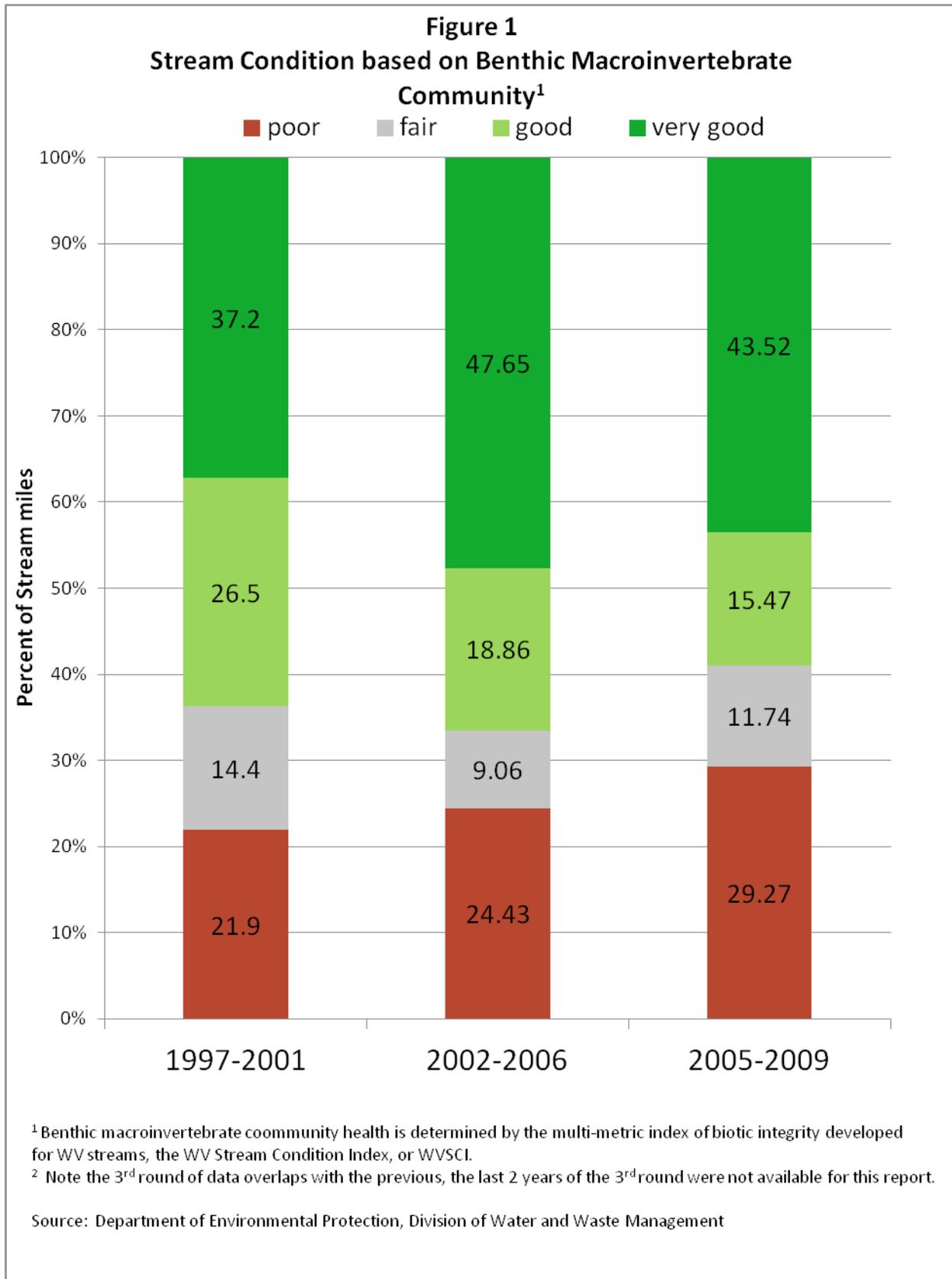
The DWWM uses benthic macroinvertebrates, such as worms, snails and various types of flies, to assess the biological condition of streams in the state. These organisms provide reliable information on water and habitat quality in streams. They are extremely diverse and exhibit a wide range of tolerances to pollutants. Further, they serve as an excellent tool for measuring overall ecological health, especially when summarized into a single index of biological integrity. In West Virginia, the health of benthic macroinvertebrate communities are rated using a multi-metric index, the West Virginia Stream Condition Index (WVSCI) developed for use in wadeable streams.

The DWWM is currently in its third cycle of monitoring ambient conditions in its probabilistic monitoring program. The target population for these efforts are small to medium sized (1st - 4th order) wadeable streams. Ninety-eight (98) percent of West Virginia's stream miles are of this size class and approximately 70 percent of these are wadeable.

The probabilistic design used for the 1997-2001 and 2002-2006 cycles were stratified to ensure adequate coverage across all watersheds and allows the State to characterize overall water quality conditions at the watershed level in addition to providing statewide estimates of water quality condition. Approximately 150 sites were assessed in each of the 5 years for a total of 750 sites per cycle. The results for 2007 through 2009 were combined and analyzed together with the last two years of the second cycle because analysis of data collected in 2010 and 2011 has not been completed at this time.

Figure 1 is a replication of a chart provided by the DWWM. It shows probabilistic estimates of 43.52 percent of the state's stream miles are rated as having very good biological health. Even though this estimate is a slight decrease from 47.65 percent achieved in the previous cycle, it is still well above the 37.2 percent achieved in the first cycle. However, the percent of stream miles with poor biological health appears to have increased over the three cycles from 21.9 percent to 29.27 percent. Staff from the DWWM stated this increase is more a result of the combination of the range of variation within the 95 percent confidence rating and the adverse impact of the very dry summers of 2008 and 2009 on the benthic macroinvertebrate community as opposed to decreased biological health.

The DWWM uses benthic macroinvertebrates, such as worms, snails and various types of flies, to assess the biological condition of streams in the state. These organisms provide reliable information on water and habitat quality in streams.



Performance Measures Should Be Listed for Other Programs Administered by the DWWM

Since DWWM performs other functions and programs, there are a number of other measures that should be utilized to give a more complete indication of the agency's performance in these areas. For example, DWWM also controls the Solid Waste Program, which issues permits for solid waste management facilities such as landfills, and the Groundwater Remediation Program, which remediates sites containing contaminated water and soil. In order to gauge the performance of the Groundwater Remediation Program, DWWM might develop a measure such as the number and/or acreage of sites remediated.

Developing performance measures for these and other waste programs in addition to water programs would provide a better indication of the overall performance of the agency. **Therefore, the Legislative Auditor recommends that DWWM develop additional performance measures in order to better gauge agency performance in relation to its mission.** The Legislative Auditor recognizes that the agency is limited to five performance measures in the *Operating Detail*; so DWWM should select its most relevant outcomes or performance goals and measures. However, since reporting performance measures is a vital part of transparency and accountability, **the Legislative Auditor recommends that DWWM also consider listing performance and outcome measures on the agency website and in the agency's annual report.**

Conclusion

The mission statement developed by DWWM reflects the agency's role in managing the quality of state waters but excludes the agency's responsibility over solid waste. A mission statement should be developed that includes both of these functions. Although the DWWM reports relevant performance measures for water quality, it needs to report its most important performance indicators. The DWWM compiles data that track the most important performance measures of the agency such as the WVSCI; however, it has not established performance goals for them. This should be done not only within the *Operating Detail*, but performance goals and measures should also be provided on the agency's website and in its annual reports. Furthermore, performance indicators should also be reported on other programs administered by the DWWM such as the Solid Waste program, and the Groundwater Remediation program.

Since DWWM performs other functions and programs, there are a number of other measures that should be utilized to give a more complete indication of the agency's performance in these areas.

Developing performance measures for these and other waste programs in addition to water programs would provide a better indication of the overall performance of the agency.

The DWWM compiles data that track the most important performance measures of the agency such as the WVSCI; however, it has not established performance goals for them.

Recommendations:

1. *The Legislative Auditor recommends that DWWM add language to the agency's mission statement that reflects the agency's role in managing solid waste and hazardous waste.*
2. *The Legislative Auditor recommends that DWWM list the most important performance goals and measures in the Executive Budget Operating Detail and list these and other performance measures on the agency website and in the agency's annual report.*
3. *The Legislative Auditor recommends that DWWM report the most important performance and outcome measures of other programs it administers in order to better gauge the agency's performance in relation to its overall mission.*

Appendix A: Transmittal Letter

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John Sylvia
Director

November 30, 2011

June Casto, Chief
West Virginia Department of Environmental Protection
Office of Administration
601 57th Street
Charleston, WV 25304

Dear Ms. Casto:

This is to transmit a draft copy of the Legislative Auditor's review of the Division of Water and Waste Management's performance measures. This report is scheduled to be presented during the December 13-14, 2011 interim meetings of the Joint Committee on Government Operations, and the Joint Committee on Government Organization. We will inform you of the exact time and location once the information becomes available. It is expected that a representative from your agency be present at the meeting to orally respond to the report and answer any questions the committees may have.

If you would like to schedule an exit conference to discuss any concerns you may have with the report, please notify us. We need your written response by noon on Wednesday, December 7, 2011 in order for it to be included in the final report. If your agency intends to distribute additional material to committee members at the meeting, please contact the House Government Organization staff at 340-3192 by Thursday, December 8, 2011 to make arrangements.

We request that your personnel not disclose the report to anyone not affiliated with your agency. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink that reads "John Sylvia".

John Sylvia

c: Scott Mandirola, Director, Division of Water and Waste Management
Terrie Sangid, Assistant Director, Division of Water and Waste Management

Joint Committee on Government and Finance

Appendix B: Objective, Scope and Methodology

Objective

The Legislative Auditor conducted an evaluation of the Division of Water and Waste Management (DWWM) as part of the Agency Review of the Department of Environmental Protection required by West Virginia Code §4-10-8. The objective of this review is to examine the adequacy of DWWM's performance measures.

Scope

The scope of the performance measures issue is performance measures reported in the *Executive Budget Operating Detail* for FY 2011.

Methodology

The Legislative Auditor reviewed DWWM's mission statement and performance measures reported in the FY 2011 *Executive Budget Operating Detail* to determine whether the mission is statutorily supported and if the performance measures are relevant to this mission. The Legislative Auditor suggested the agency that it uses a measure that would better show the agency's performance regarding water quality and add measures that relate to waste management. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix C: Agency Response

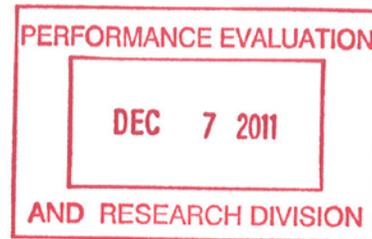


west virginia department of environmental protection

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December 5, 2011



Mr. John Sylvia
Building 1, Room W-314
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305-0610

Dear Mr. Sylvia:

This letter is in response to your letter, dated November 30, 2011, transmitting the Legislative Auditor's Review of the Division of Water and Waste Management's performance measures. I have reviewed the report and offer the following:

- DWWM will review and modify its mission statement to reflect its role in managing solid and hazardous waste activities, and establish a more comprehensive list of performance goals and measures, which will include solid and hazardous waste management activities.
- The Budget Office instructed DEP to reduce its operating detail of the executive budget; therefore, DWWM's performance measures were reduced. During the 2014 appropriation request, DWWM will attempt to report all major performance goals and measures.
- DWWM continuously adds content to our websites to improve upon our transparency and provide valuable information to the public. Our updated mission statement and performance goals and measures will be added to the DEP website and the annual report, once modified.

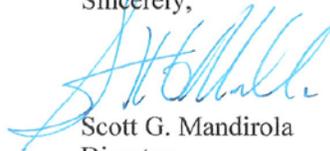
Promoting a healthy environment.

Mr. John Sylvia
Response to Legislative Auditors Review
December 5, 2011
Page Two of Two

- Due to the Budget Office's limitation on the number of performance measures to be reported in the operating details of the executive budget, DWWM has removed many important and relevant measures. DWWM collects and analyzes a wide-variety of chemical and biological data and compiles results which are used to measure water quality, including the Benthic Macroinvertebrate data discussed in the report. Even though the work has not been included in the executive budget in recent years, much of it is available on our website. For example, DWWM has a webpage dedicated to the Benthic Macroinvertebrate information, including links to the WV Stream Condition Index (WVSCI).

Please feel free to contact me if you need additional information.

Sincerely,



Scott G. Mandirola
Director

Cc: June Casto, Chief of the Office of Administration
Terrie Sangid, Assistant Director, Division of Water and Waste Management



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