

**REPORT OF THE
VIRGINIA SOIL AND WATER
CONSERVATION COMMISSION ON**

**Nonpoint Source Pollution
Potential and Control
On State-Owned Land**

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



House Document No. 7

**COMMONWEALTH OF VIRGINIA
RICHMOND
1985**

November 30, 1984

TO: The Honorable Charles S. Robb
Governor of Virginia

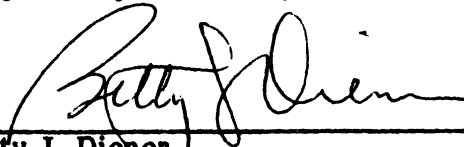
and

The General Assembly of Virginia

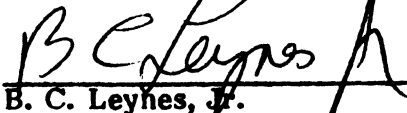
The report contained herein is in response to House Resolution No. 11 of the 1984 Session of the Virginia General Assembly.

The report was prepared by the Virginia Soil and Water Conservation Commission at the direction of the Governor, under the supervision of the Secretary of Commerce and Resources.

Respectfully submitted,



Betty J. Diener
Secretary of Commerce and Resources



B. C. Leynes, Jr.
Director, Soil & Water Conservation Commission

REPORT CONTENT

	<u>Pg.</u>
Introduction	1
Problem Magnitude and Scope.....	2
<u>Current Laws, Policies and Procedures</u>	4
* E & S Control on Capital Outlay Projects	4
* E & S Control on Highway Construction.....	4
* Stormwater Management	6
* Agricultural Land Management	7
* Timber Land Management	7
* Mineral Land Management	8
* Fertilizer and Chemical Use	8
<u>Conclusions and Recommendations</u>	9
<u>Appendices</u>	
A. House Resolution No. 11	11
B. Table - Inventory of State-Owned Lands By Agency	12
C. Agency Policy Questionnaire	13

INTRODUCTION

The 1984 General Assembly adopted House Resolution No. 11 (Appendix A), to express its concern over the potential for nonpoint source water pollution from state-owned land. The Resolution requested the Governor to assign responsibility for coordinating state agency and institutional programs to deal with nonpoint source water pollution problems on state-owned land. It further requested that a report on this subject be prepared for further consideration by the General Assembly.

The Governor subsequently assigned this responsibility to the Secretary of Commerce and Resources and the Virginia Soil and Water Conservation Commission (VSWCC). In response, the Commission conducted a study with two primary objectives:

1. To determine the magnitude and scope of nonpoint source (NPS) pollution potential on state-owned land.
2. To determine current agency policies and procedures for controlling NPS pollution.

As a first step, an inventory of state-owned land was conducted. By using the computerized Fixed Asset Accounting And Control System at the Department of Accounts, a summary of land ownership by agency, was produced. A rough breakdown by various land-uses was also possible using this system. A table containing a summary of the data generated from this inventory is contained in Appendix B.

In order to determine agency policies and procedures relative to nonpoint source pollution control a questionnaire was developed and sent to all state agencies with significant land holdings. Each was asked to respond to five basic questions corresponding to different nonpoint source pollution and control issues. A copy of the questionnaire is contained in Appendix C. The Virginia Department of Highways and Transportation (VDH&T) was sent a separate list of questions relevant to its operations. The responses to these questionnaires provided the primary basis for this report. Copies of individual agency responses are on file in the Commission office.

Completion of this report would not have been possible without the helpful assistance of the Division of Engineering and Buildings, the Department of Accounts and all of the state agencies and institutions who responded to the questionnaire. The assistance of all contributors is greatly appreciated.

PROBLEM MAGNITUDE AND SCOPE

Virginia agencies and institutions own a total of about 337,400 acres, not including highway rights-of-way. This amounts to about 1.3% of the total land in Virginia. Nearly 85% of these lands are owned and managed by just two agencies: The Commission of Game and Inland Fisheries (184,377 acres), and the Department of Conservation and Economic Development (99,509 acres). Considering the types of land managed by these agencies, (i.e. parks, lakes, wildlife areas and forest lands), the potential for serious nonpoint source pollution problems does not appear to be high. In addition, the mission of these agencies relates to the preservation and conservation of natural resources which is consistent with the objective of nonpoint source pollution control.

Another 13% of state land is owned by just nine agencies and institutions: Department of Corrections (18,883 acres), Virginia Polytechnic Institute & State University (VPI&SU) (6,036 acres), VDH&T (4,330 acres)*, Community Colleges (4,159 acres), Department of Mental Health (3,866 acres), University of Virginia (2,947 acres), Department of General Services (2,345 acres), William and Mary College (1,823 acres), and the Department of Military Affairs (1,253 acres). The land managed by these agencies typically has a higher percentage of uses which could create a potential for nonpoint source pollution, i.e. developed areas and agricultural land. In addition, the future development potential of these lands is greater creating a possible pollution source from erosion and sedimentation during construction. The remaining 2% of state land (6,700 acres), is distributed among 37 agencies throughout the state.

The Virginia Department of Highways and Transportation manages an additional 389,000 acres of highway right-of-way in Virginia. This exceeds the total of all other lands managed by state agencies. This land is distributed between interstate roads (39,260 acres), primary roads (158,180 acres) and secondary roads (191,740 acres). The potential for nonpoint source pollution from highway right-of-way is relatively high considering the amount of impervious surface, steep slopes, maintenance activities and sources of pollution generated by vehicle traffic. However, the impact of these rights-of-way on any individual watershed or stream is not necessarily great due to their linear nature, i.e. a road will typically traverse a watershed in a narrow path and does not account for a significant portion of the total land area within the watershed. Nonetheless, the potential for isolated pollution problems, particularly during construction, is relatively high and the accumulative affect of all highway rights-of-way on the river basins and the Chesapeake Bay may be significant.

With respect to development and construction, there has been a decreasing trend on state owned lands other than highway rights-of-way. In 1982 - 244 acres were developed, in 1983 - 166 acres, and thru October 1984, only 55 acres were subject land disturbing activities. While there is a potential for erosion and sedimentation problems from any individual state construction project, the impact of such construction on a watershed or the Chesapeake Bay is likely to be small.

*This is land owned by the VDH&T, not highway rights-of-way.

Highway construction, on the other hand, has remained fairly constant in recent years and accounts for a much greater amount of land disturbance than other state construction. For each of the last three years, new highway construction has averaged about 1,500 acres. The potential for sediment pollution from highway construction is often high, particularly where rights-of-way cross streams and wetlands. Erosion and sediment control measures on highway construction projects, therefore, deserves a high priority in state nonpoint source pollution control efforts.

CURRENT LAWS, POLICIES AND PROCEDURES

No state agency or institution has as separate written policy specifically concerning the control of NPS pollution of state-owned land. Each agency operates under the general land management directives of the Division of Engineering and Buildings, requirements of federal and state law and individual agency policies and procedures. Following is a general summary of the laws, policies and procedures pertaining to the various categories of nonpoint source pollution problems.

E & S CONTROL ON CAPITAL OUTLAY PROJECTS

All state construction projects are subject to compliance with the State Erosion and Sediment Control Law (Sections 21-89.1 thru 21-89.15, Code of Virginia). Under this law, state agencies must submit erosion and sediment control plans or standards and specifications to the Virginia Soil and Water Conservation Commission for review. All agencies except the VDH&T submit separate plans for individual construction projects. (Review of VDH&T construction projects will be discussed in a separate Section). The agencies are bound by the comments and recommendations of the Commission with respect to erosion and sediment control requirements on their projects. Approved plans are required before construction can begin.

Section 21-89.6 (f) of the Law places the responsibility for monitoring and enforcement of the approved plans with the state agencies sponsoring the construction. Most agencies have indicated that regular inspections are made either by staff members, a hired inspector, a design consultant or a combination of these. These agencies express confidence that erosion control plans are being complied with under their system. A couple of agencies did not appear to understand their responsibilities for inspection and assumed that the Division of Engineering and Buildings handled this task. None of the responding agencies revealed the existence of written policies or procedures regarding inspection for compliance with the E & S Control Plans. Neither was there any evidence of training requirements for project inspectors indicating that their understanding of the erosion and sediment control principles and practices may be questionable.

The Virginia Soil and Water Conservation Commission has attempted to monitor construction of state projects on a limited basis. The majority of spot inspections made have not revealed many significant problems with compliance. A few projects have required follow-up action to correct problems, however, agencies are generally cooperative in these situations and the problems are resolved. The Commission is increasing its monitoring efforts by training six field specialists to conduct spot inspections of state projects during their routine travel around the state.

To determine how others view erosion and sediment control on state construction the Commission conducted an opinion survey of local erosion and sediment control program administrators in 1982. Seventy-one percent of the respondents thought the state was doing a good or excellent job of erosion and sediment control on their projects.

E & S CONTROL ON HIGHWAY CONSTRUCTION

Due to the amount of highway construction in the state and their internal technical capabilities, the Virginia Department of Highways and Transportation is largely

responsible for internal monitoring of their own nonpoint source pollution control program. They hold blanket environmental permits from the State Water Control Board, the Marine Resources Commission and the Corps of Engineers. Under the Erosion and Sediment Control Law the VDH&T submits E&S Control Standards and Specifications to the VSWCC for annual review instead of plans for individual projects. To ensure internal compliance with its permit requirements and approved standards and specifications the VDH&T maintains a staff of construction inspectors, environmental specialists and project engineers in each of its nine construction districts. They also have a staff of environmental professionals in their State office.

To evaluate the effectiveness of the VDH&T Erosion and Sediment Control efforts, the VSWCC conducted a program review in 1979. This review included examination of all relevant standards, specifications, policies and guidelines, and on-site inspections of construction projects in each of the construction districts. One positive observation concerned the consistently high quality of permanent vegetation ultimately established in highway rights-of-way. The Department got high marks for permanent stabilization of disturbed soil after construction was completed. However, temporary measures to control erosion and sedimentation during construction were somewhat less effective in most districts. Some of the primary observations and recommendations resulting from the review were as follows:

1. It was noted that the standards and specifications relating to erosion and sediment control were scattered among several department documents and there were a number of inconsistencies found. It was recommended that the Department consolidate all of the erosion and sediment control standards, guidelines and policies into a single document for easier reference and to ensure better uniformity. Although the VDH&T standards pertaining to E&S Control have not been consolidated, the Department has made improvements in its standards and guidelines for use in the field.
2. There was a significant variation found in the apparent effectiveness of E&S Control Measures among the various highway construction districts. It appeared that the priority placed upon erosion and sediment control was high with some District Engineers and low with others. The Staunton District was cited for its especially effective program. An apparent reason for their effectiveness was the employment of a roving construction inspector whose primary concern was erosion and sediment control. He had the expressed support of the District Engineer and therefore the authority necessary to be effective. The Report recommended that this strategy be considered in other districts as well. The Suffolk and Culpeper Districts have established similar position, however the remaining districts do not appear to have comparable positions. The central office has also established a position to monitor E&S Control in the districts on a quarterly basis.
3. It was determined that very few of the highway construction inspectors had formal training in erosion and sediment control. The report recommended that the highway department put a high priority of providing such training. In 1984 year the Department conducted a total of 12 training sessions in all 9 of their construction districts. A total of about 900 highway department employees received erosion and sediment control training.

Continual external monitoring of VDH&T effectiveness in implementing erosion and sediment control measures is difficult given the magnitude and scope of ongoing highway design and construction operations. Environmental agencies simply do not have the manpower to closely monitor all projects. The Highway Department has, however, instituted an interagency project review process whereby environmental agencies are given an opportunity to express their concerns about specific projects in the planning stages. In addition, this group occasionally makes spot site inspections to determine the level of compliance with plans and permit requirements. This process has improved coordination between the Highway Department and state and federal environmental agencies.

As could be expected with a construction operation of this magnitude, there are occasional complaints about VDH&T Erosion and Sediment Control measures. Citizens complaints received by the VSWCC are investigated and usually resolved quickly with VDH&T assistance. Recently, the Virginia Marine Resources Commission threatened to revoke the Highway Department's blanket wetlands permit if erosion and sediment control measures were not improved. The Highway Department has taken definitive steps to correct this problem.

In order to get outside opinions of the effectiveness of VDH&T Erosion and Sediment Control measures, the Commission included a question on this subject in the 1982 opinion survey of local erosion and sediment control program administrators. Of those responding, 82% indicated that they believed the Highway Department is doing a good or excellent job in this area.

The Highway Department is making a concerted effort to improve its erosion and sediment control program. In addition to the measures already mentioned, the Department is working with the VSWCC to review its erosion and sediment policies and standards pertaining to maintenance activities on existing roads. The working relationship between the Commission and the VDH&T is currently positive and productive.

STORMWATER MANAGEMENT

The VSWCC has adopted statewide stormwater management criteria under authority provided in the State Erosion and Sediment Control Law. These criteria pertain to all new construction projects regulated under the Law including state agency projects. The intent of these criteria, however, is aimed at the control of off-site erosion. Additional requirements for pollution control would be beyond the scope of the Law. Consequently, new construction plans are not currently reviewed with respect to pollution control needs.

Without any legal requirements, very few state agencies or institutions have established policies or procedures which specifically address the issue of nonpoint source pollution control on developed land. Three universities have developed comprehensive drainage plans and several others indicate that they carefully plan their drainage facilities to prevent off-site damage. However, the control of NPS pollution is generally not a primary consideration in these planning efforts.

The Highway Department has a drainage policy which stresses protection of public roads and rights-of-way. The highest priority is to design drainage structures with adequate capacity that will not fail in periods of high flow or require excessive maintenance. This philosophy is prudent considering the responsibility of the Highway Department, however, it often conflicts with pollution control objectives which call for

less efficient structures that slow the water down and allow pollutants to settle out and infiltrate into the soil. Stormwater detention practices for pollution control often creates maintenance requirements that are not acceptable to the Highway Department.

The VDH&T has expressed its willingness to consider stormwater management concerns in its project planning efforts. Their highway drainage design manual has been modified to include stormwater management criteria similar to those established by the Commission. In addition, the Department is studying pollution effects of highway construction on streams. They are also cooperating with the VSWCC under the Chesapeake Bay initiative to install and monitor a demonstration of porous asphalt pavement to reduce pollution from paved parking areas.

Another stormwater management issue involving the Highway Department concerns the installation and maintenance of stormwater detention structures in highway rights-of-way. Good sites for detention basins are often difficult to find. Road embankments crossing drainage-ways sometimes create the best available sites for such structures. Unfortunately, construction of detention basins creates potential safety problems and additional maintenance requirements which are often unacceptable to the Highway Department. Although the Highway Department has a policy that recognizes the need for detention basins, the construction of such structures in highway rights-of-way is usually discouraged unless maintenance responsibility is accepted by the the local government.

AGRICULTURAL LAND MANAGEMENT

Only 13 of 42 agencies represented of the land inventory managed cultivated land, and just four managed 91% of that land: Department of Corrections (10,178 acres), Commission of Game and Inland Fisheries (6,912 acres), VPI&SU (1,847 acres) and the Department of Conservation and Economic Development (1,458 acres). Of those four, VPI&SU appears to have the most comprehensive approach. Since Tech is a land-grant university actively engaged in water quality research, BMPs are installed and studied on both cropland and animal confinement areas. According to the responses received, Most agencies do not have specific policies requiring conservation plans or BMP implementation on their agricultural land. A few require the implementation of specific practices. The Department of Corrections, which manages about half of the state's cultivated land, has one staff member specifically responsible for all of its agricultural operations. Farm plans have been prepared for each farm and are checked annually by local soil and water conservation district officials.

TIMBER LAND MANAGEMENT

While nearly 70% of the agencies represented in the land inventory owned timber land, 84% of that land is owned by two agencies: The Commission of Game and Inland Fisheries (76,497 acres) and the Department of Conservation and Economic Development (29,189 acres). Another six agencies own an additional 13% (total of 97%). The Virginia Division of Forestry (VDF) has the role of managing much of the state-owned timber land and overseas implementation of BMPs of these lands. The "Forest Management of State-owned Lands Fund" established in the Code of Virginia (Chapter 4, Title 10, Article 1.2) authorizes the VDF to develop forest management plans for state agencies owning land with significant timber resources. The VDF was responsible for developing the State BMP Handbook for forested land and utilizes that handbook in its planning efforts. Most agencies depend on VDF to manage their timber land but have no written policies of their own. The Commission of Game and Inland Fisheries, which has responsibility for almost 61% of state-owned timber land, specifically requires BMPs during timber harvesting

operations.

MINERAL LAND MANAGEMENT

Pursuant to Section 2.1-512.1 of the Code of Virginia, the Department of Conservation and Economic Development has a Minerals Management Plan that details activities and responsibilities involved in extracting minerals from state-owned lands. All state-owned lands are subject to this plan. The Commission was able to identify only one such activity: A coal mine operated at Clinch Valley College. Although this mine was opened prior to the establishment of the Minerals Management Plan, it is properly permitted by both the Division of Mines and Quarries and the Division of Mined Land Reclamation. Regulations established under these permits provide for the proper stabilization and reclamation of lands disturbed by mineral exploration or extraction activities.

FERTILIZER AND CHEMICAL USE

With the exception of the VDH&T there do not appear to be any written agency policies or standards that govern procedures for handling and storing chemicals, but the following state and federal regulations do apply:

1. Virginia Pesticide Law and Regulations.
2. Federal Insecticide, Fungicide and Rodenticide Act and Regulations
3. Clean Water Act
4. Resource Conservation and Recovery Act
5. Toxic Substances Control Act

These laws and regulations govern the sale, use, storage and disposal of pesticides and other toxic substances. In addition, they require applicators who use restricted-use pesticides to be trained and certified to handle these chemicals in a safe and proper manner. Most agencies indicate that they require these regulations to be met and that manufacturers' recommendations for applications be followed. A number of agencies rely on soil tests as a basis of fertilizer formulations and application rates.

In considering NPS pollution potential from chemicals, VDH&T must receive special attention due to the amount of chemicals handled and stored statewide. The Department has a vegetation control manual which contains standards for the application of lime, fertilizer and pesticides. The District Environmentalists have the authority to implement changes where they are considered necessary. Also, each construction district has a lab where soil tests can be performed if necessary. Where pesticides and herbicides are concerned, all state and federal regulations are followed carefully. Finally, VDH&T has published criteria establishing rates of application for chemicals used in snow and ice removal. Employees involved in applying these chemicals are trained extensively, but there was no indication in the department's response as to whether any monitoring is ever done to check how effectively the operators comply with the criteria. Finally, VDH&T began several years ago to build chemical storage buildings and work pads to store deicing chemicals and load them in a controlled manner.

CONCLUSIONS AND RECOMMENDATIONS

1. The magnitude of potential nonpoint source pollution from state-owned lands in general appears to be low compared with other potential pollution sources. However, the benefit derived through demonstration of proper land management practices justifies agency efforts in this area. Most agencies are making a legitimate effort to manage their lands in a way that will minimize NPS pollution potential.
2. Agency efforts to monitor erosion and sediment control on capital outlay construction projects could be improved by the establishment of specific agency policies and procedures in this regard. Such policies should assign appropriate internal responsibility for inspection and require agency construction inspectors to have training in the field of erosion and sediment control. Such training is available from the Virginia Soil and Water Conservation Commission.
3. Erosion and sediment control on highway construction should continue to receive a high priority considering the amount of land disturbance involved. While the VDH&T has taken positive steps to make its program effective, additional improvements are needed. The strategy of having internal roving construction inspectors in each construction district, responsible only for pollution control compliance, appears to be especially effective. In addition, there is a need to increase the capability of external environmental agencies to monitor highway construction more closely.
4. There are currently no requirements that water quality considerations be addressed in plans for state capital outlay construction projects. The VSWCC could make water quality recommendations in its review of erosion sediment control plans, however, such recommendations would be beyond the scope of the current Erosion and Sediment Control Law and would not be binding upon the agencies. A change in the Law or a Governor's Executive Order would be required to make such recommendations binding.
5. The VDH&T has adopted the state minimum stormwater management criteria relating to the control of off-site erosion. They should also consider the adoption of a policy relating to the control of nonpoint source pollution from highway rights-of-way. Such a policy should encourage the design of highway drainage systems to maximize infiltration and detention of stormwater where feasible. The VDH&T should also cooperate fully with local governments to establish needed pollution control measures in highway rights-of-way where conditions warrant.
6. The few agencies and institutions that manage the major portion of state-owned agricultural land indicate that they are following adequate conservation practices on their operations. The adequacy of these measures, however, with respect to pollution control objectives could not be verified for this report. An inventory of state-owned agricultural land would help determine if modifications or additional measures are needed. In addition, none of the agencies indicated the existence of any written policies concerning the use of BMPs on agricultural land. There should be consideration of a state policy requiring state-owned agricultural lands to have pollution control plans that are approved by local soil and water conservation districts or the VSWCC.

7. It appears that the control of NPS pollution potential from timber harvesting and mining operations is adequately addressed in current state law and through the policies and procedures of the Department of Conservation and Economic Development. No changes are recommended at this time.
8. The use of hazardous chemicals is adequately addressed in current state and federal law. Most responding agencies indicate that they comply with the requirements of law. There are no laws, however, regarding the application of fertilizers or deicing salts. Agencies and institutions with significant landscape maintenance operations should be encouraged to adopt policies which require the use of soil testing procedures in determining fertilizer application rates. The VDH&T should consider monitoring procedures to assure that the deicing chemicals are being applied according to published criteria.

GENERAL ASSEMBLY OF VIRGINIA -- 1984 SESSION

HOUSE RESOLUTION NO. 11

Requesting the Governor to assign the appropriate secretariat to supervise institutional programs for implementing Best Management Practices.

Agreed to by the House of Delegates, February 6, 1984

WHEREAS, large amounts of land are owned by federal, state and local governments which include forests, highways, open space and agricultural lands; and

WHEREAS, some federal, state and local agencies and institutions have instituted various programs aimed at achieving effective sediment and water pollution control practices on these lands; and

WHEREAS, those federal, state and local agencies and institutions which have not instituted such programs should make an effort to do so; and

WHEREAS, the organization, supervision and monitoring of these programs can result in their being more effective; and

WHEREAS, state efforts should be coordinated at the state executive level; now, therefore, be it

RESOLVED by the House of Delegates, That the Governor is requested to assign the appropriate secretariat to coordinate state agency and institutional programs and the implementation of Best Management Practices for sediment and water pollution controls on lands owned by state agencies; and, be it

RESOLVED FURTHER, That the secretariat so assigned is requested to report back to the General Assembly by December 1, 1984, to review the implementation of these Best Management Practices.

INVENTORY OF STATE LANDS BY AGENCY

AGENCY (AGENCY NO.)	GROSS ACRES	RANKING:							PARKING SPACES	LEASED ACRES
		GROSS ACRES	DEVELOPED ACRES	CULTIVATED ACRES	POND ACRES	FLOOD PLAIN	TIMBER ACRES			
1. Alcoholic Beverage Commission (999)	36.04	38	35.2	.0	.0	.0	.0	1,090	.0	
2. Associated Research Campus-W&M (265)	341.09	22	37.0	.0	.0	.0	311.0	100	.0	
3. Christopher Newport College (242)	73.67	33	30.0	.0	.0	.0	10.0	1,420	.0	
4. Clinch Valley-U.VA.	348.13	21	188.0	.0	5.0	.0	144.0	687	.0	
5. College of William & Mary (204)	1,823.63	10	228.0	.0	45.0	.0	993.8	4,365	48.0	
6. Community College System (261)	4,159.47	6	1,980.5	257.0	75.5	72.0	1,553.7	27,287	158.9	
7. Comm. of Game & Inland Fisheries (403)	184,377.23	1	10,970.8	6,912.0	2,143.1	19,093.0	76,497.6	1,743	213.7	
8. Dept. of Agri. & Consumer Services (301)	15.51	41	10.3	.0	.0	.0	.0	220	.0	
9. Dept. of Conserv. & Econ. Dev. (401)	99,509.62	2	3,596.8	1,457.9	9,712.1	5,309.8	29,188.7	5,844	7,297.8	
10. Dept. of Corrections (701)	18,893.40	3	4,597.8	10,178.5	184.0	30.0	6,167.1	1,999	.0	
11. Dept. of General Services (203)	2,345.19	9	125.7	.0	.0	.5	2,220.0	2,591	2.4	
12. Dept. of Highways & Transportation (501)	4,330.62	5	1,796.0	.0	1.7	35.7	1,368.0	6,747	.0	
13. Dept. of Military Affairs (123)	1,253.45	11	802.0	3.0	.0	24.1	305.2	3,468	453.3	
14. Dept. of State Police (156)	190.83	26	144.6	.0	.0	.4	20.0	1,433	.0	
15. Dept. of Ment. Health & Ment. Ret. (720)	3,866.46	7	2,386.7	500.0	17.0	75.0	2,277.5	11,357	351.8	
16. Division of Motor Vehicles (154)	52.57	36	49.8	.0	.0	.0	.0	2,174	.0	
17. George Mason University (247)	576.40	15	114.9	.0	2.0	.0	440.0	3,997	.0	
18. Gunston Hall (417)	554.55	16	18.0	3.0	.7	.0	458.9	240	.0	
19. James Madison University (216)	380.66	20	273.8	.0	7.0	.0	95.8	3,210	7.7	
20. Jamestown Foundation (425)	46.80	37	46.8	.0	.0	.0	4.6	960	.0	
21. Longwood College (214)	159.86	27	129.0	.0	.0	1.0	30.8	1,196	.0	
22. Mary Washington College (215)	389.48	19	167.9	.0	.0	.0	238.1	870	.0	
23. Norfolk State University (213)	102.64	31	23.4	.0	.0	.0	.0	1,272	.0	
24. Old Dominion University (221)	123.49	29	124.0	.0	.0	.0	.0	4,548	.8	
25. Radford University (217)	133.49	28	87.3	.0	.0	36.0	.0	1,501	.0	
26. Richard Bland College-W&M (241)	695.0	13	50.0	.0	.0	.0	565.0	700	.0	
27. State Office of Emerg. Serv. (127)	460.0	18	234.0	.0	6.0	.0	220.0	.0	.0	
28. U. VA. (207)	2,946.91	8	752.0	595.0	18.0	150.0	675.0	10,283	686.1	
29. U. VA.-Hospital Division (209)	285.80	23	120.0	162.6	.5	10.0	147.0	160	.0	
30. Va. Comm. for Visually Handicapped (702)	35.10	39	19.5	.0	.1	.0	.0	207	.0	
31. V.C.U.-Academic Division (236)	31.49	40	22.0	.0	.0	.0	.0	1,693	.0	
32. V.C.U.-Hospitals (206)	119.76	30	31.5	.0	1.0	.0	.0	3,723	.0	
33. Va. Historic Landmarks Comm. (436)	15.00	42	.0	.0	.0	.0	.0	.0	15.0	
34. Va. Inst. of Marine Science-W&M (268)	67.14	35	57.1	.0	.0	47.9	.0	199	.3	
35. V.M.I. (211)	482.74	17	36.9	.0	.0	14.5	91.9	764	.0	
36. Va. Port Authority (407)	927.39	12	721.1	.0	.0	1,031.6	.0	870	898.2	
37. Va. School at Hampton (219)	74.71	32	40.3	.0	.0	.0	4.0	150	.3	
38. Va. School for Deaf and Blind (218)	72.85	34	37.0	.0	.0	.0	.0	193	.0	
39. Va. State University (212)	621.37	14	291.5	187.5	2.0	40.0	129.0	1,472	3.9	
40. Va. Truck & Ornamentals Res. Station (210)	237.10	24	6.0	186.5	14.5	.0	78.0	80	58.8	
41. VPI&SU (208)	6,036.11	4	1,845.3	1,847.8	38.4	120.0	1,563.4	14,484	.0	
42. Woodrow Wilson Rehab. Center (203)	233.95	25	50.0	10.0	2.8	.0	78.0	500	.0	
TOTAL	337,416.70		32,078.3	22,300.8	12,276.4	26,091.7	125,877.1	125,997	10,196.2	

Note: This listing does not include six agencies owning a total of 18.26 acres (maximum holding = 6.64 acres).

QUESTIONNAIRE CONCERNING
NON-POINT SOURCE POLLUTION CONTROL POLICIES OF STATE AGENCIES
10/2/84

1. Section 21-89.6 (f) of the State Erosion and Sediment Control Law, makes state agencies responsible to insure compliance with erosion and sediment control plans or specifications approved by the Virginia Soil and Water Conservation Commission. Does your agency currently have any established policies or procedures to enforce compliance and to monitor effectiveness? Please explain.
2. Does your agency currently have any policies or projects regarding the management of stormwater from developed areas to reduce off-site pollution potential? Please explain.
3. Do you follow any established policies or regulations concerning the use of fertilizers, pesticides or other chemicals for land management to minimize the potential for off-site water pollution? Please explain.
4. If your agency currently manages land under an agricultural use, such as cropland, pastureland, or animal confinements, do you have conservation plans of these lands which are aimed at controlling soil erosion and/or water pollution? If yes, please explain how these plans are prepared and how implementation is managed and monitored.
5. If your agency owns land with natural resources such as timber, coal, gas, oil, etc., do you follow any policies or regulations to minimize off-site pollution resulting from the harvest or mining of those resources?