

*Unchecked and Illegal:
How ANR is Failing to Protect
Vermont's Lakes and Streams*



Prepared by Kim L. Greenwood, CPESC

Executive Summary

Construction contractors and the Agency of Natural Resources (ANR) are failing to keep Vermont's surface waters free of polluting runoff from construction sites. An on-the-ground review by the Vermont Natural Resources Council (VNRC) in the summer of 2007 revealed that developers across Vermont who are constructing single family residences, residential subdivisions, and linear projects as well as commercial properties are routinely violating the federal Clean Water Act and that ANR is failing to bring enforcement actions for those violations. While ANR says it is placing more emphasis on cleaning up Lake Champlain, the results of VNRC's review strongly suggest otherwise as much of the unchecked runoff is making its way into waterways that lead to Lake Champlain, and the violators are not being enforced upon. Contractors who are following the law are being unfairly economically punished for doing a good job.

Last summer, VNRC visited construction sites around the state. The evidence demonstrated that nearly every project was in violation of its construction stormwater permit; many of the violations were serious. And yet, since 1999, ANR has brought enforcement actions under this permit program only twice.

Enforcement discretion has been abused by ANR for far too long especially when massive efforts are underway to reduce the amount of sediment entering Lake Champlain via the Clean and Clear program.

VNRC would like to thank the Kelsey Trust, Orchard Foundation and Patagonia for their generous support of this project.

The Problem

Many of Vermont's lakes and streams are polluted primarily because of runoff comprised of dirty water or sediment (dirt). This dirt is responsible for degrading fish habitat as well as enabling algae blooms in lakes and ponds. Construction activity, because it exposes soil, increases the risk that sediment will be washed into streams and rivers. State and federal laws, including the Clean Water Act, require that contractors take preventive measures to keep the sediment from their construction sites out of waterways. Vermont's so-called Construction General Permit, administered by the stormwater program at ANR, is designed to minimize sediment runoff from construction sites.

The methods to prevent erosion and control sediment pollution are widely available to contractors and engineers. Educational opportunities in Vermont are ample via courses held in this state and on-line resources that are plentiful and free. Each week, Erosion Control TV broadcasts from the web. Last year the Northeast Chapter of the International Erosion Control Association held a three-day stormwater course in Burlington. Vermont has almost 50 professionals involved in the national Certified Professional in Erosion and Sediment Control program. The technical requirements for preventing erosion and controlling sediment are generally quite simple and are not new. Lack of technical information is not a valid reason for these violations.

Too much sediment is being allowed to flow, unchecked, into surface waters for two overarching reasons: first, developers have a high degree of latitude to regulate

themselves under Vermont's current construction stormwater construction general permit, and second, ANR is failing to enforce the requirements of permits.

In the last three years, ANR's stormwater program has increased its full-time staff by eight. These eight people are charged with reviewing permit applications and doing inspections for enforcement purposes. Yet, ANR has only brought two enforcement actions since 1999 after issuing over 1,000 permits. In the meantime, permits are issued faster and with less review than ever.

Under a "general permit" system, applicants typically get authorization for their projects faster because there is less (often no) ANR staff review of each project. One of the alleged benefits of a general permit system is that more staff time is available to educate the regulated community and to visit more sites to ensure permit compliance and prevent discharges from happening in the first place. While permitting is faster and easier than ever, however, ANR is failing to uphold the other end of the bargain by enforcing against those breaking the law. The result are dirtier waters, a perception among the regulated community that environmental laws don't matter, and an uneven playing field: construction contractors who do not comply with the law enjoy an economic advantage over those who follow the laws that prevent eroded soil from flowing into our waters.

Meanwhile, this pollution makes its way to Lake Champlain and other water bodies in Vermont and Vermont taxpayers are left footing the bill via programs such as Clean and Clear and Total Maximum Daily Load (TMDL) clean-up plans. And all of this pollution could be drastically reduced if contractors would comply with their permits and if ANR would enforce the laws it has on the books.

Recommendations for Improvements

The following recommendations are offered as a result of the findings presented in this report:

- **ANR should visit all active development sites at least once during their construction.** Based on current ANR staffing and the number of projects, this would not be onerous for ANR. With eight active permitting staff for construction permits, this results in less than three site visits per week per staff person (assuming very conservatively that just over 1000 permitted construction sites will have active construction at the same time).
- **ANR staff should be instructed to enforce against any violations that are observed.** Fines for specific violations within the permit should be published and made available to all permittees and the public. And enforcement should be required for the vast majority of violations. The methods for controlling erosion are simple, tried and true.
- **ANR should immediately revise the Construction General Permit for stormwater to reduce the amount of self-regulation by developers.** The risk matrix should be revised so that there is a higher level of scrutiny and that the ability to “game the system” is minimized. Site conditions, not applicant promises, should dictate the level of attention paid to soil erosion.

Conclusion

Clearly, ANR is falling down on its job to enforce water quality laws. Construction stormwater permitting must serve both the regulated community as well as the environment and it is failing to do so today. By decreasing permitting times dramatically with almost no increase in enforcement against those who are breaking the law, ANR is catering to irresponsible developers, creating an economic disadvantage for those contractors who want to comply with the law, all the while neglecting its obligations and duties as the Agency of Natural Resources to protect those resources that belong to ALL Vermonters.

The Problem: Sediment

Excess sediment is bad for our streams and lakes. While some amount of sediment is necessary for the natural processes, very few streams in Vermont have too little sediment. More commonly, Vermont's streams have too much sediment, leading to a host of environmental, social and economic impacts. Sediment:

- Clogs up stream beds so that fish and the aquatic insects that fish eat can't use the habitat for breeding and feeding
- Carries nutrients such as phosphorus to streams and lakes which can contribute to algal blooms and force taxpayers to pay for clean-up plans
- Brings toxic pollutants such as heavy metals like Zinc and Cadmium into the aquatic food chain, meaning fish that human beings eat can contain toxic substances

- Clogs up culverts and bridges, resulting in costly repairs by municipalities and the Agency of Transportation
- Attacks the health of fish and other aquatic organisms by “sand blasting” gills and skin, increasing susceptibility to disease and mortality
- Suffocate fish eggs that are laid on the bottom of rivers and streams
- Eliminates recreational opportunities such as kayaking and swimming by filling up slow-moving areas of rivers with sediment, making these areas shallower
- Makes brooks, streams, lakes and ponds dirty, making them less pleasing places to be in or near.

Sediment is one of the biggest causes of water resource pollution across the country and Vermont is no exception. While the sources vary, one of the predominant sources is agriculture.¹

Rivers and Streams	Lakes, Ponds and Reservoirs	Estuaries
Sediments/siltation	Nutrients	Metals
Pathogens	Metals	Nutrients
Habitat alterations	Organic enrichment	Organic enrichment

Table 1. Leading Causes of Impairment in Assessed Rivers, Lakes and Estuaries in the United States.²

However, because construction sites can discharge significant amounts of sediment – typically 10 to 20 times greater than those of agricultural lands, it is imperative to focus efforts on controlling these types of discharges as well as agricultural sources.³

¹ The National Water Quality Inventory: Report to Congress for the 2002 Reporting Cycle – A Profile.
<http://www.epa.gov/305b/2002report/factsheet2002305b.pdf>

² Ibid.

Pollutants Commonly Discharged From Construction Sites

Sediment	Pesticides
Solid and sanitary wastes	Concrete truck washout
Nitrogen (fertilizer)	Construction chemicals
Phosphorous (fertilizer)	Construction debris

Table 2. Pollutants commonly discharged from construction sites, both nationwide and in Vermont.

In Vermont, sediment remains one of the top causes of pollution of our waters. When it is understood that sediment is also the vehicle for pathogens, nutrients and some metals, the significance of sediment as a problem is ever greater: approximately 75% of Vermont's water quality impairments are related to sediment.⁴

EPA has consistently identified construction sites as a contributor to our nation's impaired waters:⁵

"Storm water runoff is one of the most significant sources of water pollution in the nation, comparable to contamination from industrial and sewage sources... Storm water requirements have been in place for a long time. Developers like [a large chain retailer] must share responsibility with their construction contractors to ensure compliance," said Assistant Attorney General Thomas L. Sansonetti of the Justice Department's Environment and Natural Resources Division.

"Runoff from construction sites is a primary contributor to the impairment of water quality in the nation..." said Thomas V. Skinner, acting Assistant Administrator of EPA's Office of Enforcement and Compliance Assurance...."

Approximately 75% of
Vermont's Water Quality
problems are related to
sediment.

³ Storm Water Phase II Proposed Rule Construction Site Runoff Control Minimum Control Measure
<http://www.epa.gov/owm/fact2-6.pdf>

⁴ 2004 Section 303(d) List Fact Sheet for Vermont
http://oaspub.epa.gov/waters/state_rept.control?p_state=VT

⁵ Wal-Mart II Storm Water Settlement.
<http://www.epa.gov/compliance/resources/cases/civil/cwa/walmart2.html>

Construction Stormwater Permitting in Vermont

Requirements to prevent erosion from construction sites are nothing new: the state of Vermont has been regulating discharges from large construction sites since 1997. Since that date, all construction projects that disturb five or more acres of soil have been required to install and maintain adequate erosion prevention and sediment control measures.⁶ Since September 2006, all construction projects disturbing one or more acres of soil must obtain authorization to discharge from their construction project and usually this authorization occurs under ANR's Stormwater Construction General Permit.

In 1987, Congress amended the Clean Water Act to require regulation of large construction projects – those disturbing five or more acres of soil. Vermont was required to adopt the same requirements and began regulating construction sites disturbing five or more acres of soil with the issuance of the first Construction General Permit in January of 1997.

Then, as a result of a successful challenge by the Natural Resources Defense Council to this five-acre threshold, the Environmental Protection Agency was forced to regulate smaller construction sites of one or more acres in disturbance by the year 2001. This deadline was later extended to 2003. Because Vermont has been delegated some authority by the Environmental Protection Agency, it was thus required to follow suit.

⁶ The terms erosion prevention (or erosion control) and sediment control are often incorrectly used interchangeably. Erosion prevention measures are those measures that prevent the soil from eroding in the first place, and are far more effective than sediment control measures. Sediment control measures try to capture soil that has already eroded. Examples of erosion prevention include mulching and erosion control blankets. Examples of sediment control are silt fence and stone check dams in ditches. Silt fence is the black fence that is commonly observed on construction sites.

*Vermont has required
erosion prevention
measures on large
construction sites since
1997.*

ANR's stormwater program has undergone significant changes in staff and requirements during the last decade. There have been improvements in both the implementation of the program and in increased awareness of the need for erosion prevention and sediment control on construction sites. However, the program still has significant shortcomings. The chief failing is discharges of sediment because of ANR's almost complete lack of enforcement against developers who are breaking the law.

Erosion Prevention and Sediment Control Permitting

Many of Vermont's water pollution laws apply to discharges in a general sense and do not specifically address erosion prevention and sediment control measures. However, the Clean Water Act, which is administered by ANR via construction stormwater permits in Vermont, has required such measures for years.

Since the program began tracking numbers of permits in 2002, over 1000 permits have been issued for construction stormwater as shown in Figure 1, authorizing over 6,000 acres of disturbed soils.⁷

⁷ The Clean and Clear Action Plan DRAFT 2007 Annual Report, Erosion Control at Construction Sites. Agency of Agriculture, Food and Markets Agency of Natural Resources Agency of Transportation February 2007.

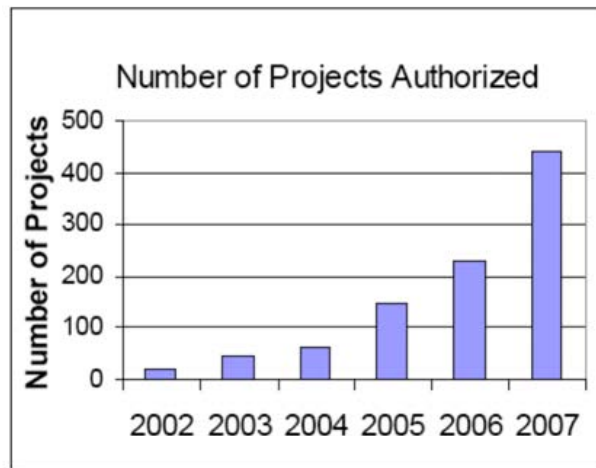


Figure 1. The number of permits issued for construction stormwater.

How General Permits Work

In an effort to make permitting faster and easier for applicants and to expediently issue a large number of permits, the stormwater program is dominated by the use of general permits. While general permits make permitting easier for permittees, they generally do little to increase environmental protection and arguably significantly weaken environmental protection. A drawback of general permits is that they can create the illusion that an activity is being overseen by a regulatory body, when often no review is occurring and the activity is self-regulated by the person undertaking the activity. This shortcoming is most exacerbated when no enforcement against violators occurs.

ANR's Stormwater Program remains the primary permitting avenue for preventing soil erosion from construction sites.

General permits are permits that are issued for a specific category of projects. Permit writers create a generic (or “general”) permit that could be written for any number of projects. For example, if it has been determined that a permit is necessary for constructing a driveway, then a general permit could be written to address the specific environmental concerns that come up during driveway construction. In this case, ANR has issued a general permit for most construction projects, assuming that most construction projects are similar. A person who is required to get a permit for their activity then applies to use the general permit (which is already written and adopted by ANR) as their permit. No permit is written specifically for that project but the applicant becomes authorized to use the general permit to meet their obligation to have a permit.

*General Permits are
used to save time for
ANR and developers.*

The Construction General Permit works very similarly, but has different requirements depending on what the developer or landowner determines is the level of risk of the project.⁸ Those projects that do not qualify to use the Construction General Permit must obtain authorization under more specific and more stringent Individual Permits. A very small number of individual permits are issued by ANR.

Applicants who seek coverage under the Construction General Permit are asked assess the risk to nearby waterways of their own project. The choices are “low”, “moderate”, or high (“individual permit”) risk.

⁸ ANR does not define the word “risk”. For the sake of this document it is assumed to mean the level of risk of soil eroding from the construction site and discharging into waters of the state.

The applicant walks him or herself through a risk matrix and arrives at a “risk score”. (See Appendix B). In theory, this approach rightly allows a small number of truly “Low Risk” (i.e. flat and very far from water resources) to be permitted quickly.

The majority of construction sites are permitted on the “honor system” in that the information is not reviewed by ANR.

This matrix is submitted to ANR on the “honor system ” (in that the information within is generally not confirmed by ANR as being accurate or truthful) as a part of the permit application and is generally not reviewed by the technical staff of ANR.

Most projects are required to submit a basic application. This form is called a Notice of Intent, or NOI. Once the applicant determines that the project is “Low Risk,” generally no ANR review of the application is performed and the application is automatically issued after 10 days if no public comments are filed.

The Risks of Projects

The Vermont Natural Resources Council reviewed almost 500 recent construction permit applications. The vast majority (90%) had been determined by the applicants to be “Low Risk.” “Low Risk” projects require the least amount of erosion prevention effort on the part of the applicant and are permitted much quicker than “Moderate Risk” or

Individual Permits. Figure 2 shows the percentage of applications received in each category.

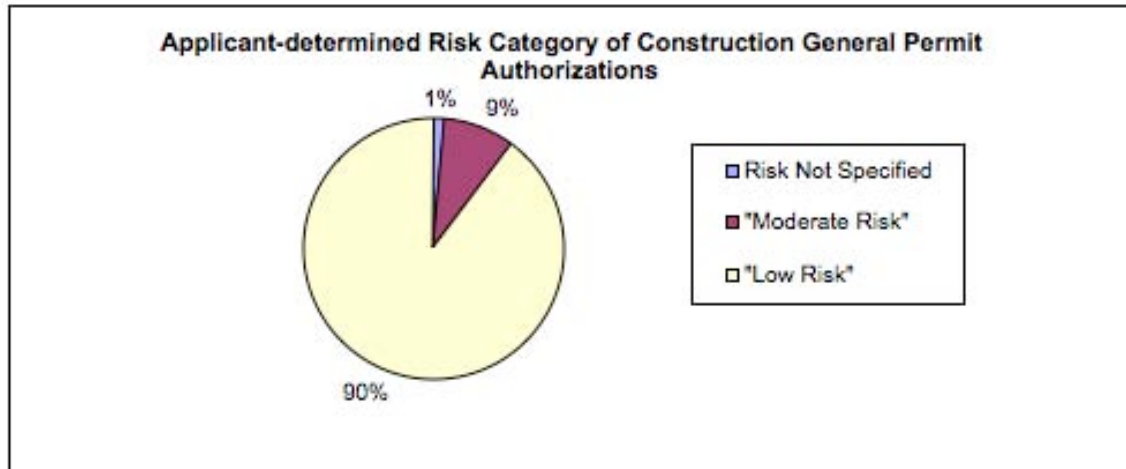


Figure 2. Despite little expertise in erosion prevention and sediment control practices, most permit applicants determined that their construction projects were “Low Risk”.⁹

Why Enforcement Matters

Compliance inspections by ANR staff serve several important functions. First, these inspections provide valuable educational opportunities and offer a way for ANR to communicate with the regulated community about erosion prevention and sediment control methods.

In addition, for those projects that are breaking the law, ANR staff can compel swift action to prevent or minimize sediment discharges before they occur. These inspections provide a solid foundation for appropriate enforcement actions against those who are breaking the law and result in powerful deterrents to other would-be

⁹ ANR does not track the number of projects in each risk category. To create the graph shown in Figure 2, VNRC analyzed electronic notices that it had received. These electronic notices are not required by law and are voluntarily provided by the Agency at the request of the interested public.

lawbreakers. Conversely, a lack of inspections and enforcement fines against those who break the law quickly sends the message to permittees throughout the state that compliance with permit conditions is not only unimportant, but is unlikely to result in enforcement action. Because permit compliance usually involves an expense for supplemental erosion prevention and sediment control measures that have not been installed according to a project's permit requirements, those permittees who do not comply with their permits not only add to the already significant sediment loads in our streams, but also experience a financial gain over those permittees who take the appropriate measures as required in their permits.

Examining Construction Stormwater Permitting

Effective administration of any permitting program involves three aspects: permitting, enforcement of the permits, and education about the permits and their requirements. This approach is often touted as ANR's "three-legged stool" approach.

Previous versions of the Construction General Permit did not contain the risk matrix. Instead, ANR staff reviewed each application. While this resulted in a much higher level of review, it was time consuming and developers wanted permits to be issued faster. When the Construction General Permit was revised in 2006, the risk matrix was incorporated with the intention of weeding out those very few projects that were indeed "Low Risk". It was believed at that time that a very small number of permits would be able to qualify as "Low Risk" and those that did would truly be those where the risk of a

sediment discharge was very minimal. This approach, it was believed, would free up permitting time to focus on:

- a) Those projects that presented the greatest environmental risk;
- b) More enforcement actions against those breaking the law and site visits; and
- c) Education in the field of erosion prevention and sediment control.

ANR has seen a steady increase in the number of staff, thanks to increases by the Vermont State Legislature as well as a steady decrease in permitting times. While permits are being churned out faster than ever, no one is following up and punishing those who are violating the law, despite eight more staff to do so.

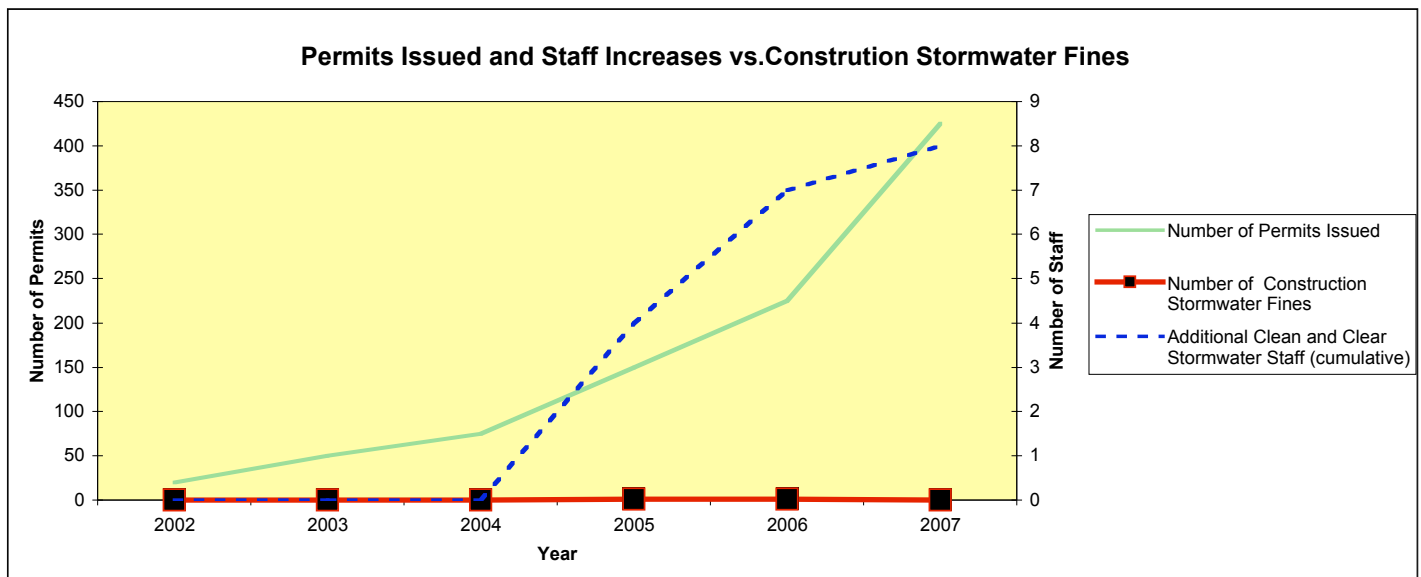


Figure 3. Despite increases in both staffing and in site visits, the number of enforcement actions by the Program against construction sites breaking the law still approximates zero cases per year.¹⁰

¹⁰ Agency of Natural Resources Enforcement Division Website (<http://www.anr.state.vt.us/enforcement/index.htm>)

ANR has fined only two construction stormwater permittees since the Water Quality Division took over the program in 2002: Jay Peak Resort and Stratton Gardens. Indeed, the 2006 Lake Champlain Clean and Clear Annual Report states, “The improvement of compliance over the past year has largely focused upon the development of the new permit and technical documents described above. Although limited in scope during 2006, field compliance efforts did result in a number of enforcement cases against those breaking the law, **including the first penalty imposed since the program began in 1999** [emphasis added].”¹¹ During this period, several hundred permits have been issued as shown in Figure 1.¹² The lack of enforcement by ANR goes back as long as the permit requirements have been in place.

ANR has fined only two
construction stormwater
permittees since 2002:
Jay Peak and Stratton
Gardens.

VNRC Analysis of Construction Sites in Vermont

During the summer of 2008 VNRC visited 29 active construction sites in Vermont and found that almost every site that was visited was in violation of the Clean Water Act. Some sites had evidence of significant pollution into waters, even when it was not

¹¹ The Clean and Clear Action Plan 2006 Annual Report. Agency of Agriculture, Food and Markets
Agency of Natural Resources Agency of Transportation February 2007.

¹² Ibid

raining. Some were in minor violation of the law, but even minor violations can add up to significant impacts on our streams. And some sites had egregious violations.¹³

***Violations were
found at almost every
construction site
observed.***

Findings in the Field

VNRC reviewed over 120 random files for projects that had been permitted in 2006 to the present before randomly selecting construction sites to visit within the state. The sites were chosen from projects that had been permitted by ANR. Then, VNRC visited a total of 67 randomly selected construction sites; 29 of these sites had active construction underway.

Among the requirements for these sites is that each install and maintain erosion prevention and sediment control measures of the most basic kind. The methodology for the study is set forth in Appendix C. Below are some examples of what VNRC found.

Single Family Residence

The soil at a residential construction site in central Vermont was left open for several months, through thunderstorms and rain, leaving the soil exposed and creating a serious risk of polluting a nearby stream. Finally, a neighbor went out during one of these thunderstorms to try to prevent sediment from running off the site. The neighbor

¹³ Because site access was limited to the public right away or public waters, it was impossible to determine the actual number of violations on some sites.

installed silt fences and diverted water.¹⁴ Later and unrelated, VNRC investigated the site as part of this analysis. VNRC found evidence of discharges into the stream downhill from the project.

VNRC notified ANR which issued a Notice of Alleged Violation, and (presumably after the landowner was contacted by ANR) additional measures were installed.¹⁵ It was determined that landowner is a staff member of the stormwater section that issued the construction permit. No fines resulted, despite evidence of sediment having been deposited into the stream, hundreds of feet downhill of the project. Figures 4 and 5 and Appendix A present the site as observed by VNRC.



Figure 4. Soil from this construction site has eroded into this roadside ditch, making its way to a nearby stream. An undetermined party installed silt fence in this ditch in an attempt to control it. Given the volume of sediment or stormwater runoff, it failed. Silt fence in ditches is not a method approved under the Construction General Permit for use on this construction site. Once sediment enters a roadside ditch, it is very hard to remove and keep from flowing down hill. This is one reason why the construction authorization requires multiple measures to be installed on a construction site.

¹⁴ VNRC Telephone conversation with anonymous source, December 12, 2007.

¹⁵ Memo To: Padraic Monks, Interim Section Chief, Stormwater Section From: Kevin Burke, Stormwater Section Date: September 25, 2007 Subject: VNRC Letter, Construction Site Visits – Washington County September 4, 2007.



Figure 5. Sediment from the project ran down this roadside ditch and towards the stream. Evidence of sediment in the stream was found (see Appendix A).

Residential Subdivision

At another project in central Vermont, VNRC observed sediment runoff. At the request of VNRC, ANR visited the site and observed several instances of non-compliance with the permit and issued a Notice of Alleged Violation.¹⁶ No fines resulted. Figures 6 and 7 and Appendix A document the site.

¹⁶ Memo To: Padraic Monks, Interim Section Chief, Stormwater Section From: Kevin Burke, Stormwater Section Date: September 25, 2007 Subject: VNRC Letter, Construction Site Visits – Washington County September 4, 2007.



Figure 6. Lack of fifty foot required buffer along length of project. Riparian buffers are critical for water quality protection, especially on construction sites. This project was required to keep earth disturbance at least fifty feet from the stream.



Figure 7. Sediment laden stream in violation of the Vermont Water Quality Standards. ANR did not fine this construction site despite violations of its permit.

Linear Project

This summer, a municipal crew was replacing infrastructure along and within a roadway in southern Vermont. While eight men stood nearby, sediment ran into the catch basin within sight of the crew. No one took any action to prevent the discharge or to stop it from occurring.



Figure 8. Eight men perform municipal infrastructure work. Water ran across the project, through the exposed soil and discharges into the storm drain shown in Figure 9.



Figure 9. Sediment laden water ran directly off the construction site and into an unprotected catch basin. These catch basins often discharge directly to streams (the discharge point of this storm drain was not investigated). The eight men were a few feet away on the right just outside of the photograph. Note the sediment on the roadway – a major safety hazard for motorcycles and bicyclists as well as a pending discharge into waters of the state.

Commercial Expansion

VNRC visited a construction site where an industrial park was expanding in central Vermont. The one sediment control measure VNRC saw was not installed correctly, leaving the site with no erosion prevention or sediment control. The site lacked the required and more effective erosion prevention measures and had failed to install even one of the basic requirements of the construction stormwater permit. VNRC notified ANR who issued a Notice of Alleged Violation to the permittee who then, and only then, installed the required measures. ANR did not fine the project developer or contractor.



Figure 10. This project had excessively steep slopes, calling into question it's ability to qualify as "Low Risk". Not one of the required erosion prevention or sediment control measures required by the Construction General Permit was installed.

Additional Construction Site Findings

Across the state, at almost every single construction site VNRC visited, we observed violations.



Figure 11. Concrete washout within 10 feet of a stream. Liquid concrete is as toxic to aquatic organisms as ammonia. Discharges of concrete from construction sites have been illegal under every version of the Construction General Permit, including the current version.



Figure 12. Concrete washout on a different construction project than shown in Figure 11. This site also lacked any of the required erosion prevention or sediment control measures.



Figure 13. Ditches are primary conveyors of water and sediment to waters. It is impossible to remove sediment from this ditch, except to wash it downstream to waters of the state. This photograph demonstrates the importance of keeping soil in place with good erosion prevention methods to begin with.

Effectiveness of Construction General Permit

Based on the review of the number of applicants that are qualifying themselves as “low-risk”, it appears that the Construction General Permit is failing. Results of random site inspections this summer reinforce VNRC’s belief that not only is ANR failing to do its job by providing significant and meaningful deterrents to permit violations, it is failing

in its responsibility to provide stewardship of our waters. Contractors, too, are failing on construction sites across the state by not meeting the requirements of their permits.

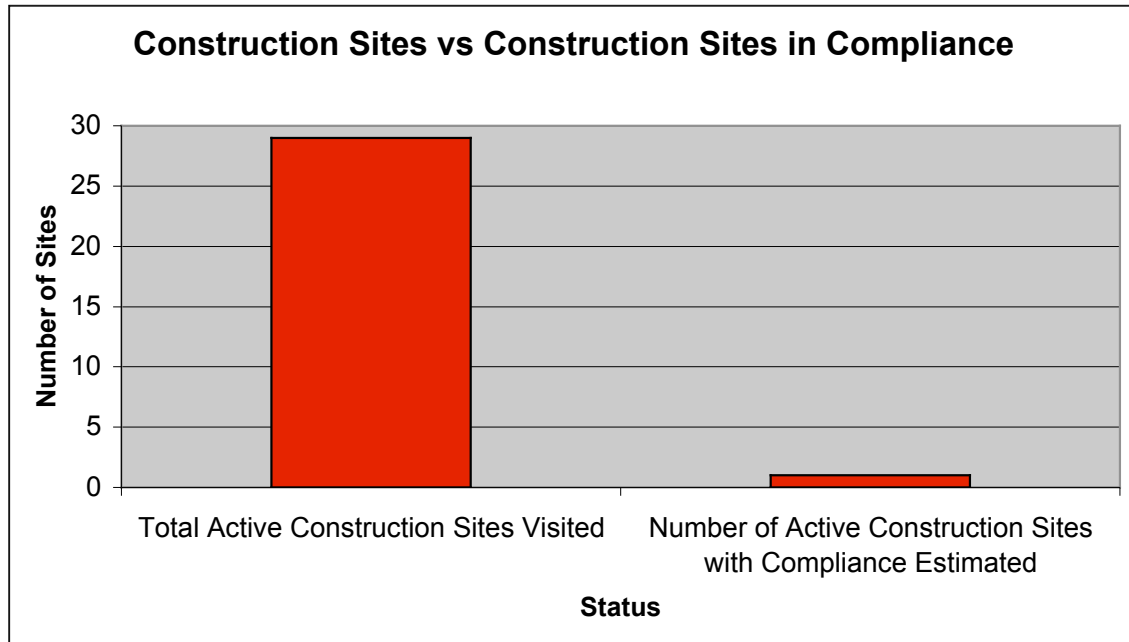


Figure 14. Only one of 29 construction sites appeared to be in compliance with any conditions of the construction stormwater permit. The other 28 allegedly had violations of at least one permit condition. Many of the violations were significant.

An evaluation of the violations showed that no matter which violation is evaluated, construction sites are violating their requirements at an alarming frequency. Sadly, it appears that a construction site that is not breaking the law is the norm. Some construction sites had minor violations while the majority had major violations. Most construction sites that had no active construction had been well stabilized with mulch, erosion control blankets or vegetation upon completion, an encouraging trend.

Posting of Notice of Authorization

VNRC observed construction stormwater permit violations of all kinds during its study of Vermont projects. One of the most basic and easiest requirements of the Construction General Permit is to post a Notice of Authorization at the entrance of the construction site or at a nearby public building such as the town office. This notice is mailed to each applicant upon the authorization of his or her project. It serves as the mechanism for which the public can contact a permittee and resolve immediate problems, such as discharges during precipitation or melt events, and is one of the easiest and most minor permit violations to identify.

The Notice of Authorization is required to state where the Erosion Prevention and Sediment Control Plan (if any has been developed) can be found. In one instance where the notice was posted, the Erosion Prevention and Sediment Control Plan was noted to be over 70 miles away from the construction site, making it virtually impossible for a member of the public to view the plan (operators are required to have a copy of the Erosion Prevention and Sediment Control Plan on-site). Only two of the active construction sites had the required Notice of Authorization posted as required by the permit. Permittees are allowed to post this NOI nearby at a local town building and these locations were not searched for this document as a part of this evaluation.

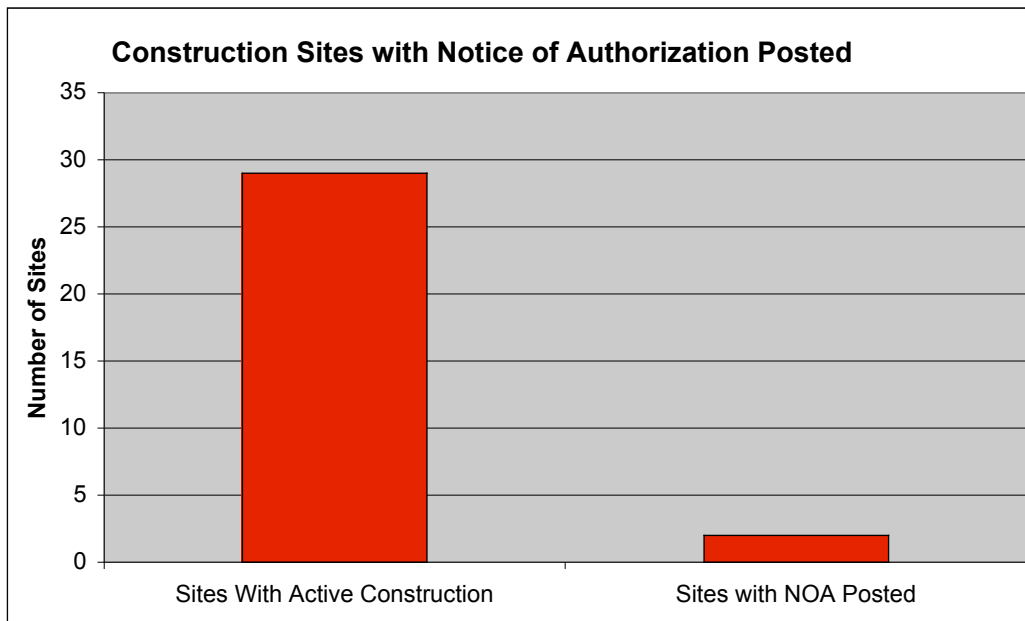


Figure 15. The vast majority of projects visited did not have the required Notice of Authorization posted at the entrance of the construction site, making it impossible for the public to know whom to contact in case of a discharge.

Basic Erosion Prevention and Sediment Control

Every site is required to undertake basic erosion prevention measures, such as seeding and mulching, limiting the amount of earth disturbed, and stabilizing the site on a regular basis. 67% of the sites visited did not have a single erosion prevention measure in place.



Figure 16. Only one third of construction projects had any erosion prevention measures installed on the site, and almost all of these were ineffective or in violation of permit requirements.

At site after site, the vast majority of projects did not have the required measures installed as shown in Figure 17.

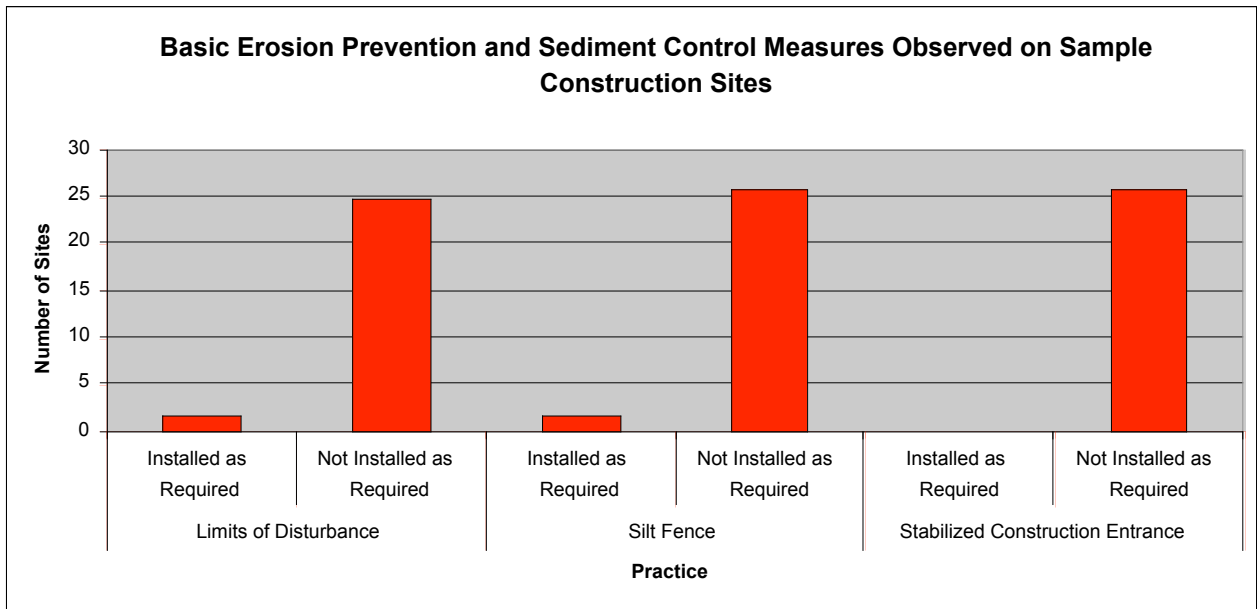


Figure 17. No construction site had a properly installed and maintained stabilized construction entrance, and almost no site had properly installed limits of disturbance or silt fence as required by their construction authorizations and permits.

Due to the lack of rain on scheduled days in the field, no water quality samples were taken. Discharges generally do not occur in fair weather.

Recommendations

Drastic changes are required of the program to make it effective and to prevent tons of sediment from being needlessly and illegally dumped into our waters year after year. The use of general permits by the ANR was implemented specifically to free up staff time to visit construction sites for both compliance and enforcement and to provide training in erosion prevention and sediment control methods. ANR has more staff than ever to perform the three prongs of its construction stormwater program: education, permitting, and enforcement. With a staff of 15, the stormwater section has grown, permit processing times are down, yet there has been no increase in enforcement against

those who are breaking State and Federal law. The following recommendations are offered as a result of the findings presented in this report:

- To address the lack of deterrent offered by the current approach, ANR staff should visit a minimum of 100% of active construction sites. With eight active permitting staff for construction permits, this results in less than three site visits per week per staff person (assuming very conservatively that all 1000 construction sites will have active construction at the same time, a highly unlikely scenario). Multiple sites could be visited in a day, resulting in just one day per month being spent in the field with the other approximately 19 days spent issuing permits.
- Coupled with the mandatory sites visits, mandatory enforcement should be required of any violations that are observed. Fines for specific violations within the permit should be published and made available to all permittees and the public. ANR staff would then visit every site under active construction and issue the corresponding fines **without exception**. Enforcement discretion has been abused by ANR for far too long given the massive efforts to reduce the amount of sediment entering Lake Champlain via Clean and Clear. It is time that Vermont Citizens stop footing the bill for developers and contractors who refuse to obey Vermont's laws and the Clean Water Act.

- The Construction General Permit should be immediately revised to eliminate the risk mitigation factors. Instead, the evidence of compliance with the requirements of the permit must be provided prior to the issuance of a permit or authorization, not in the form of the applicant “choosing” his or her level of regulation. Project risk must be determined based on the actual risk to water quality and not on promises made by developers and contractors.

- ANR must reprioritize this program to focus on enforcing state law and the Clean Water Act. By decreasing permitting times dramatically with almost no increase in enforcement against those who are breaking the law, ANR is catering to development while neglecting its obligations and duties to protect those resources.

- The legislature should require ANR reporting on the number of enforcement cases it pursues against those who are breaking the law of construction stormwater, especially in light of the sizeable sums it has allocated to the program in the name of Clean and Clear. This annual report should include the following:
 - The number of active construction sites for the calendar year.
 - The number of active sites visited (100% of those permitted).
 - The number of violations observed.
 - The number of mandatory enforcement cases resulting from the violations observed.

- The number of educational opportunities provided to the regulated and general public in the topic of erosion prevention and sediment control and construction stormwater permitting.

These actions must be undertaken immediately to reverse the irresponsible trend of ANR of Natural Resources to allow sediment discharges to our waters from construction sites without consequence.

Summary

Based on VNRC's review of the ANR program and an on-the-ground review, it is clear that Vermont's waterways are imperiled by lax enforcement of the federal Clean Water Act, which is administered by the state. The Agency of Natural Resources, the state body charged with the stewardship of our natural resources, is issuing stormwater permits for construction sites at a brisk pace, but is failing to enforce those permits. The result? Continued, unchecked and illegal sediment pollution streaming into our waterways from construction sites. ANR needs to get serious about its responsibility toward protecting Vermont's waters from pollution. Diligent and fair enforcement would go a long way toward fulfilling that obligation.

APPENDIX A: ADDITIONAL PHOTOGRAPHS FROM SITE VISITS



Single-family residence roadway, construction completed. The ditch running along the right side of the road is one source of sediment that came off the construction site. With proper erosion prevention and sediment control measures as required in the construction authorization, this erosion might have been prevented.



Roadside runoff. The sediment coming off the construction site runs into this ditch. The sediment runs down this roadside ditch towards the stream



Erosion on side slope of embankment. The sediment that eroded from this fill slope also ran down the ditch and into the stream located downhill of this project.



Sediment from the construction site ran downhill and deposited along stream edge and presumably in the stream.



"Low Risk" and "Moderate Risk" projects require a fifty-foot buffer be maintained along streams. Given the new grass that is growing in this photograph, it is obvious that work occurred within fifty feet of the stream and possibly in the stream, an illegal act.



Sediment-laden stream adjacent to construction site. Sediment discharges in violation of the Vermont Water Quality Standards can be seen with the naked eye. This project is in violation of the Vermont Water Quality Standards. Despite this and the fact that the project constructed right up to the stream and eliminated the 50-foot buffer, no fines resulted.



Water running from the left towards the storm drain, just a few feet away from the construction crew.



Water runoff during construction. Water is running from right to left in the roadway and from left to right in the foreground. This sediment-laden water is dangerously close to running directly into the unprotected storm drain inlet in the photograph.



Example of a project that the applicant determined to be "Low Risk". Silt fence is required to be installed at the toe, or base, or a slope to "catch" the water coming off the construction site and ponding the water long enough to let the sediment settle out. Silt fence installed along the perimeter

of the construction site cannot “catch” water that is running downhill and therefore provides no treatment for the stormwater runoff and hence is not an approved method.



Silt fence must be installed at the toe, or base, of the slope. Its function is to slow down the movement of water by ponding it behind the fence, allowing sediment to drop out of suspension. Silt fence at the top of a slope performs no sediment control.



Construction site with no erosion prevention or sediment control present. This exposed ditch will erode and transport sediment with every rain event.



Lack of stabilized construction entrance allows sediment to be tracked onto paved road surfaces, presenting a danger to motor vehicles such as motorcycles. Sediment on road surfaces is easily washed into storm systems and into aquatic resources. A proper stabilized construction entrance is required and must have at least six inches of crushed stone extending at least 50 feet from the road back into the construction site to minimize soil being tracked onto roadways.



Lack of stabilized construction entrance. This project is located on a busy road and sediment tracking onto the roadway can present major motorcycle hazards as well as liabilities for the developer.



Large-scale development that VNRC alleges is in violation of every condition of its permit.



From the road, this project appeared to have the stone lined ditches to slow runoff velocity. However, as shown in the next photo, the stone lining only continued a short way up a long and steep road.



Stone lining stopped a short way up the hill and did not continue the length of the road so no measures to slow concentrated runoff were in place.



Open ditches such as this one are direct sources of sediment into our waters.



The exposed backslope is open to erosion, while the contractor works on grading of the site.



Stockpiles are required to be temporarily stabilized. This large stockpile has not been and is prone to erosion.



Catch basins inlets are required to have sediment control measures installed because they are direct conveyors of sediment. This one has no such measures.



Catch basins inlets are required to have sediment control measures installed because they are direct conveyors of sediment. This one has no such measures.

APPENDIX B: CONSTRUCTION GENERAL PERMIT RISK MATRIX

APPENDIX A - RISK EVALUATION

Accurately answering the questions in this appendix will allow you to determine whether a proposed construction project is considered a Low Risk or Moderate Risk project, which defines the application and permit requirements that are applicable to your project.

The risk evaluation procedure consists of two parts. Part I is a Basic Risk Evaluation, which determines if a project is automatically categorized as Low Risk based upon the answers to a few basic questions.

If a project is not automatically categorized as Low Risk based upon the Basic Risk Evaluation, you must complete Part II, Detailed Risk Evaluation, to determine the risk category for your project. This part includes questions on more detailed aspects of the project.

Once the appropriate risk category has been determined, refer to Part III for the application requirements.

You should be aware that each completed Appendix A is incorporated by reference and included in the terms of this general permit, and each permittee shall undertake its construction activities in accordance with the completed Appendix A, as a condition of this permit. Failure to comply with the completed Appendix A shall be deemed a violation of this permit and subject to enforcement action.

APPENDIX A

Part I – Basic Risk Evaluation

A project may automatically be categorized as Low Risk based on a few basic project characteristics. Answer each question below to determine if a project is automatically categorized as Low Risk. For definitions of terms used in the following questions (e.g. disturbance, vegetated buffer) refer to Appendix C.

Basic Risk Evaluation				
	Criteria	Answer	Score Direction	Enter Score
1.	Will the proposed independent project alone disturb more than 2 acres of land?	YES / NO	If YES, enter 1, if NO enter 0	_____
2.	Is the project within a watershed impaired due to stormwater or sediment as specified on Part A of the Vermont 303(d) list?	YES / NO	If YES, enter 1, if NO enter 0	_____
3.	Will the project have any stormwater discharges from the construction site to receiving water(s) that do not first pass through a 50 ft vegetated buffer area?	YES / NO	If YES, enter 1, if NO enter 0	_____
4.	Will the project have disturbed earth in any one location for more than 14 consecutive calendar days without temporary or final stabilization?	YES / NO	If YES, enter 1, if NO enter 0	_____
5.	Will the project have more than five acres of disturbed earth at any one time?	YES / NO	If YES, enter 1, if NO enter 0	_____
Total Score for Low Risk Screen 2 (add score from questions 1-5)				_____

If the Total Score for Basic Risk Evaluation is 0, the proposed project is eligible for coverage under this permit as a Low Risk project. Proceed to Part IV of Appendix A for a summary of the application requirements for Low Risk Projects. If not, proceed to Part II.

Criterion 1: Only include the disturbance planned for an independent project. For example, if a lot owner is only building on a single house lot in a residential subdivision, only consider the disturbance associated with that lot, not the entire common plan. Refer to Appendix C for definitions of independent project and disturbance.

Criterion 2: Refer to the following web page for a list of waters in these categories:
http://www.vtwaterquality.org/stormwater/htm/sw_cgpeeligibility.htm

Criterion 3: Refer to the Appendix C for the definition of vegetated buffer area.

Criterion 4: Refer to Appendix C for definitions of temporary and final stabilization.

Criterion 5: Refer to Appendix C for the definition of disturbed earth.

Part II Continued – Detailed Risk Mitigation Factor Evaluation

Detailed Risk Evaluation – Identify Risk Mitigation Factors				
	Criteria	Answer	Score Direction	Enter Score
H.	Will stormwater leaving the construction site pass through at least 50 feet of established vegetated buffer before entering a receiving water?	YES / NO	If YES, enter 1, if NO enter 0	—
I.	Will the project be limited to two acres or less of disturbed earth at any one time?	YES / NO	If YES, enter 1, if NO enter 0	—
J.	Will the project have a maximum of 7 consecutive days of disturbed earth exposure in any location before temporary or final stabilization is implemented?	YES/ NO	If YES, enter 1, if NO enter 0	—
K.	Will the project disturb less than two acres of soil with an erodibility higher than K=0.17?	YES/ NO	If YES, enter 1, if NO enter 0	—
L.	Will the project include less than two acres of disturbance on soil that is greater than 5% slope?	YES/ NO	If YES, enter 1, if NO enter 0	—
M.	Total Score for Risk Mitigation Factors (add H through L.)			—

Criterion H: Refer to Appendix C for a definition of vegetated buffer.

Criterion I: Refer to Appendix C for a definition of earth disturbance.

Criterion J: Refer to Appendix C for definitions of temporary and final stabilization.

Criterion K: Include disturbance for the duration of the project, not at any one point in time. The Erosion Factor K, is a measure of the inherent erodibility of a soil type. Refer to NRCS soil maps available at USDA-NRCS District Offices. If soils data are not available (e.g. if the site is built on assorted fill material), contact DEC for directions on evaluating soil erodibility.

Criterion L: Include disturbance for the duration of the project, not at any one point in time. Slope determinations should be based on a site survey of the proposed disturbance area.

Total Risk Score		
N.	Moderate Risk Base Score	2
O.	Enter Score from Line G above (Risk Factor Total)	—
P.	Add lines N and O	—
Q.	Enter Score from Line M above (Risk Mitigation Factor Total)	—
R.	OVERALL RISK SCORE: Subtract line Q from line P	—

Part III– Interpreting the Detailed Risk Evaluation

OVERALL SCORE	Risk Category	Directions for Filing for Permits
<1	Low Risk	<p>The proposed project is eligible for the Construction General Permit as a Low Risk project provided that the requirements of Subpart 2 are met. If these requirements cannot be met, contact DEC to determine if the project should seek coverage as a Moderate Risk project or under an Individual Discharge Permit.</p> <p>Refer to Part IV of Appendix A for a summary of the application requirements for Low Risk projects.</p>
1-2	Moderate Risk	<p>The proposed project is eligible for the Construction General Permit as a Moderate Risk project provided that the requirements of Subpart 3 are met. If these requirements cannot be met, contact DEC to determine if the project should seek coverage as a Moderate Risk project or under an Individual Discharge Permit.</p> <p>Refer to Part IV of Appendix A for a summary of the application requirements for Moderate Risk projects.</p>
>2	Requires Individual Permit	<p>The proposed project is not eligible for coverage under the Construction General Permit, and therefore requires coverage under an Individual Discharge Permit. Please refer to Stormwater Section on the Water Quality Division website for more information: www.vtwaterquality.org/stormwater.htm</p>

APPENDIX C: STUDY METHODOLOGY

The evaluation followed the following methodology:

- I. Several pieces of information were informally requested from ANR. When a response was not received several months later, a Freedom of Information Act request dated April 20, 2007 was submitted. Information requested included:
 - a. Information regarding the number of construction stormwater permits issued for discharges to impaired waters since 2003;
 - b. Information regarding the number of operational stormwater permits issued for discharges to impaired since 2002;
 - c. Information regarding the number of “low-risk” “moderate-risk,” and “individual” construction permits authorized since 2006.
 - d. Information regarding the designation of a project’s risk category.
 - e. A list of active authorized construction projects that have obtained construction stormwater permits.

On June 6, ANR provided the following information:

- a. The number of construction permits issued in sediment and stormwater impaired waters since 2003: 40
- b. The number of operational permits issued in sediment and stormwater impaired waters since 2002: 56
- c. The number of “Low Risk”, “Moderate Risk”, and Individual permits issued under the 2006 Construction General Permit: 341

On August 1, 2007 ANR responded with a list of all construction projects.

The remaining information requested in the FOIA was not received.

II. After the information was received, it was organized and sorted extensively.

- a. Authorizations / Permits that had an issue date prior to 2006 were removed from the list with the assumption that they had been completed.¹⁷
- b. Authorizations / Permits locations were pulled out of the data and corresponding counties were assigned.
- c. Authorizations / Permits were sorted by town and county. A total of 523 sites were on the list at this time.
- d. A request was made to review the permit application to ANR for projects within a county. Files were made available to review. The location of the project, the receiving water, extent of duration, winter construction and completion date were noted from the file. (There are no plans filed for “Low Risk” projects, only basic project information and the matrix are filed). Scant other information was available in the files. A total of 120 project files were reviewed.¹⁸
- e. Project locations were plotted on a map and the most efficient route was planned.
- f. Sites were visited during the months of August, September and October and photographs were taken on sites where the project could be observed

¹⁷ Permitted of completed projects are required to file a Notice of Termination upon final stabilization of project. Failure to do so is a violation of the permit.

¹⁸ A total of 164 files were requested for review; 120 were made available by the Agency. No explanation was provided for this discrepancy. The missing files were requested on several occasions and were never ultimately provided.

from public roads and waterways. Sites were evaluated for the minimum required measures:

1. Limits of Disturbance
 2. Limit Disturbance Area
 3. Stabilize Construction Entrance
 4. Install Silt Fence
 5. Divert Upland Runoff
 6. Slow Down Channelized Runoff
 7. Construct Permanent Controls
 8. Stabilize Exposed Soil
 9. Winter Stabilization
 10. Stabilize Soil at Final Grade
 11. Dewatering
 12. Inspect the Construction Site
 13. Notice of Authorization posted at the construction entrance
- g. A follow-up letter was mailed to ANR describing the findings and asking for a written response.
- h. Requested additional information via a November 28, 2007 FOIA Request. This request asked for the
1. Information regarding the Permit Expediting Process (PEP) times for 2003 through 2007
 2. Information regarding the number of program referrals to the Enforcement Division for 2003 through 2007

3. Information regarding the number of construction site visits performed for 2003 through 2007
4. Information regarding the number of erosion prevention and sediment control trainings held in 2003-2007
5. Information regarding the number of construction sites that have been fined for 2003 through 2007

ANR responded on January 9, 2008, January 14, 2008 and January 16, 2008.