

Erosion Control at Construction Sites

The Problem

Construction activities that involve earth disturbance expose soil to rainfall and runoff, making it much more vulnerable to erosion. As a result, improperly managed stormwater runoff from construction sites can be a significant source of phosphorus-laden sediment reaching receiving waters. To minimize erosion and associated sediment transport by stormwater runoff from construction activities, construction site operators must implement and maintain a suitable suite of Best Management Practices (BMPs).

The Program

The Stormwater Section of the Water Quality Division issues federally mandated construction stormwater discharge permits for projects involving one or more acres of earth disturbance. The goal of the construction stormwater permitting program is to protect Vermont's waters by preventing the pollution of construction site stormwater runoff with sediment and phosphorus.

Accomplishing this aim requires equipping contractors with well developed Erosion Prevention and Sediment Control (EPSC) Plans, training them in the proper installation and maintenance of BMPs, and providing clear direction on their obligations as well as the motivation to fulfill them. In short, the program strives for meaningful water quality protection by thorough and efficient permitting, effective education and outreach, and fair and equitable compliance and enforcement.

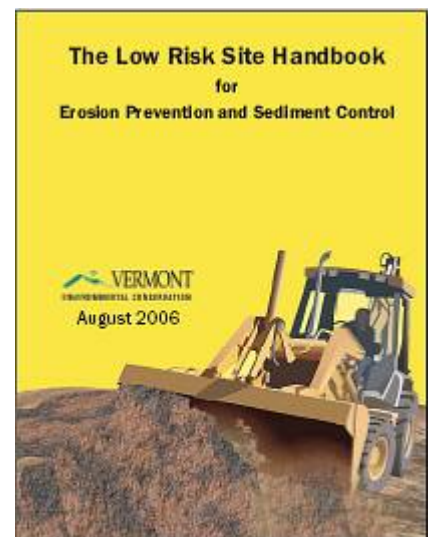
In September, 2006, the Construction General Permit (CGP) was reissued with a drop in the regulatory threshold from five acres to one acre of earth disturbance. In conjunction with this new permit, the program has made important strides in the three core areas: permitting, outreach and education, and compliance.

Permitting

The new CGP employs a novel, risk-based permitting system. Projects that qualify as Low Risk, based on the project location, site conditions, and volunteered limits on earth disturbance, are obliged to implement the practices in a BMP manual designed for use by the layperson. Because these projects do not pose a significant risk to water quality, permitting for Low Risk projects is expedited, allowing technical staff to devote more of their resources to the review of more complex projects that pose a higher risk of discharging sediment to waters of the state. These types of projects, which either qualify as Moderate Risk or require a customized Individual Permit, must submit a professional quality, site-specific EPSC Plan for review by technical staff.

Outreach and Education

Historically, site visits were focused in areas of the state with the largest number and size of projects, mostly in Chittenden County and ski area developments. In late 2006, the construction and post-construction stormwater technical staff were cross-trained and assigned responsibility for permitting



and compliance in regional districts. This change, coupled with the move to a risk-based permitting system for construction stormwater permits allowed for a strong construction season field presence in 2007 and 2008. This included a record number of site visits with a much broader geographic range. In their district roles, technical staff members have become familiar to the local regulated and consulting communities, thereby improving knowledge of the construction stormwater program and its requirements.

Compliance

The increased field presence in 2007 and 2008 allowed for the most thorough assessment of program compliance to date. Compliance rates, though not yet at a satisfactory level, improved substantially. Historically, projects permitted under Individual Permits tended to be the only ones in general compliance with the terms of their permits. In 2008, the compliance rates for projects authorized under the new CGP improved substantially, with significant non-compliance observed in less than 17% of inspections. While many projects did have significant or minor non-compliance issues upon first inspection, once informed of the problems on their site, most permittees brought their project into compliance prior to a follow-up inspection. In many cases, these permittees and their contractors were first-time permittees.



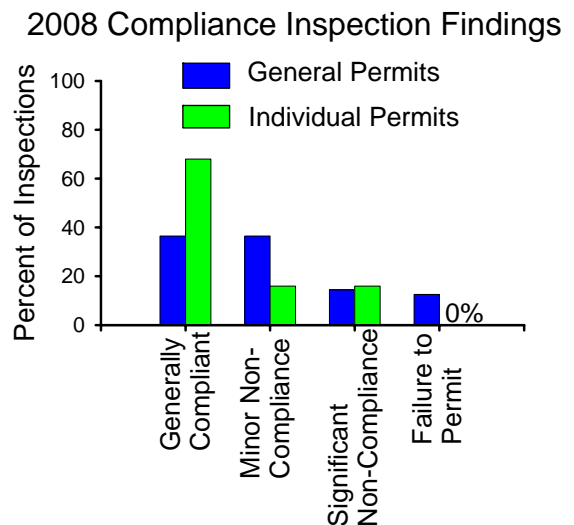
This two acre project, adjacent to Lake Champlain in Grand Isle Co., was referred to enforcement for failure to permit. In 2007, Stormwater staff expanded inspections in more rural areas across the state.

In accordance with Act 191 (2007-2008), the Agency of Natural Resources submitted a report to the Vermont Legislature in January 2009 on Implementation of Stormwater General Permits. The Stormwater Management Program conducted a total of 398 site visits during 2008, including 159 projects authorized under the Construction General Permit (others were operational projects). In response to instances of significant non-compliance, the Stormwater Program participated in the issuance of approximately 35 Notices of Alleged Violation (NOAV) during 2008, and was involved in several formal enforcement actions.

Indicators of Progress

Permitting

The total acreage of planned disturbance permitted in 2008 (1,900 acres) was substantial, despite a decrease in new housing starts. It may be presumed that an increase in number and size of regulated construction activity translates into more widespread implementation of proper erosion prevention and sediment control practices.



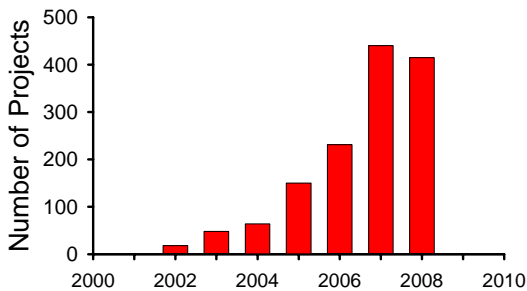
Compliance

In 2006, compliance data collection was suspended during the overhaul of the program. In 2007 and 2008, with the cross-trained and regionalized staff, the number of sites visits averaged about 200 per year, far exceeding any previous efforts. This included inspections in regions where the Stormwater Section has not previously had a presence, and anecdotal evidence suggests that knowledge of the program in more rural areas of the state is spreading.

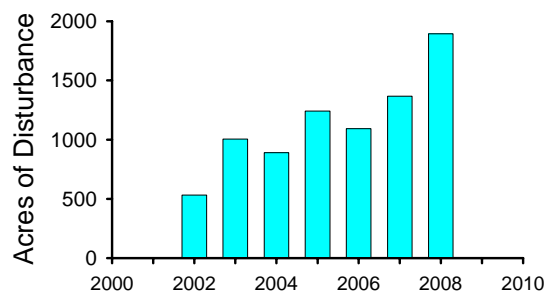
Nonetheless, compliance remains an area in need of additional focus. Over 15 sites were identified in 2008 that did not obtain the required permit before beginning construction, and some permittees did not take sufficient steps to address identified non-compliance issues. Increased compliance assurance, including additional enforcement penalties and a sustained program of site inspections, are needed to help improve overall awareness of the permit program and deter intentional noncompliance.

The combined effects of clearer regulations in permits, distribution of technical guidance materials, and the concerted effort to expand our field presence has produced the most substantial improvement in compliance rates since the program's inception. These efforts will continue.

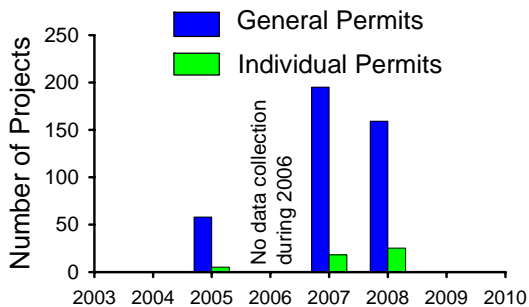
Number of Projects Authorized



Area of Disturbance Authorized



Number of Projects Inspected



Percent of Inspected Projects in Substantial Compliance

