



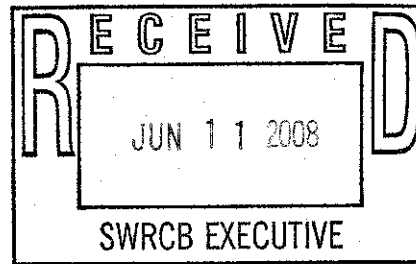
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June 11, 2008

Ms. Tam Doduc, Chair and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
Via Email commentletters@waterboards.ca.gov



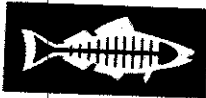
Re: Draft NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities

Dear Chair Doduc and State Board Members:

On behalf of Heal the Bay, we submit the following comments on the March 18, 2008, Draft National Pollutant Discharge Elimination system (NPDES) General Permit for Storm Water Discharges Associated Construction and Land Disturbance Activities NPDES Permit No. CAR000002. The importance of this permit cannot be underestimated. For 16 years, the construction industry has operated under inadequate General Construction permits that have largely failed to stem the sedimentation, erosion and pollution impacts caused by development without adequate stormwater management and BMPs. We submit these comments to address important areas in which the Permit must be strengthened or revised to finally begin to address stormwater pollution from construction sites.

We appreciate the Board's efforts to significantly overhaul the existing out-dated permit. Renewal of the permit is long overdue. In particular, we support the runoff reduction requirements to maintain the pre-project water balance, and the inclusion of the Rain Event Action Plan (REAP) requirement. In addition, we applaud the Regional Board for introducing numeric limits into the permit, however, we strongly object to the high value of the turbidity limit and the wide allowable pH range: neither is set at a level protective of the state's receiving waters, nor are they based on achievable BMP performance. Heal the Bay's Stream Team has monitored the Malibu Creek watershed for a decade and we've documented numerous circumstances where hillside development and development with inadequate BMPs have caused devastating sedimentation and erosion impacts to the watershed resulting in loss of stream banks and smothering of riparian habitat. In fact, the watershed was added to the S.303d list of impaired waters for the state because of sedimentation impacts on riparian habitat. The Stream Team rarely found creek turbidity levels above 10 NTUs, and there's no question that turbidity levels in the hundreds of NTUs, let alone the preposterous level of 1,000 NTUs, would cause devastating impacts to the Malibu Creek watershed and smother the cobble habitat so critical for endangered Southern steelhead population success.

Heal the Bay's primary concern is that the permit is overly complex and will be extremely difficult, if not impossible, to administer in a manner which is protective of receiving water quality. Because of the permit's reliance on numeric action levels (NALs), this permit is largely unenforceable and will be ineffective unless an significant amount of regional board resources



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are redirected to construction stormwater. In lieu of that, the ultimate result of this permit will be continuation of a largely self-regulating scheme that is based on risk levels and turbidity NALs calculated by dischargers themselves, and on actions triggered by a NAL exceedance which could be minimal. Enforceable action is only required once the numeric effluent limit (NEL) for turbidity or pH is exceeded. But, the turbidity NEL is not set to be protective of water quality (as acknowledged by the permit) and the pH range is too wide. In summary, for this permit to be effective, each regional board staff will need to review risk level and NAL calculations for hundreds of sites annually, and to promptly follow-up on every reported NAL exceedance to ensure BMP implementation and performance is improved. Consistent and comprehensive regional board staff engagement will be the *only* incentive to motivate dischargers to spend money to reduce stormwater pollution from their sites. Currently, the regional boards don't have adequate resources to administer and provide compliance assurance for the existing construction stormwater permit program. If the regional board can't administer the existing program adequately, and the state budget crisis has eliminated any chance of gaining additional resources to regulate polluted runoff, how does the state board envision that this permit will be implemented effectively?

Heal the Bay urges the SWRCB to simplify this permit by removing the NALs, and replacing the current turbidity NEL with a meaningful, performance-based NEL. As you know, the SWRCB tasked a Blue Ribbon Panel to consider the feasibility of adding numeric effluent limits in stormwater permit. Some of the nation's foremost stormwater experts participated in writing the final report. Despite the high profile efforts of the panel, the draft permit fails to incorporate their most critical recommendations for regulating construction stormwater runoff. Specifically, as discussed further below, we recommend that the board incorporate the Blue Ribbon Panel's conclusion to set a turbidity NEL for large sites, based on active treatment systems performance. Additionally, we urge the Board to set an additional NEL for small construction sites and include seasonal incentives to focus land-disturbing activities to the drier summer months.

Other concerns and comments we outline below focus strengthening the permit to overcome the problems associated with the NAL strategy. In particular, the permit language should be clarified and strengthened to ensure NAL exceedances are reported in a timely manner; that the action triggered by an exceedance includes improving BMP performance to reduce polluted discharges; and that all risk level and NAL calculations are reviewed by regional board staff. Additionally, since the NAL/NELs are not based on levels shown to be protective of aquatic resources, the receiving water monitoring requirements of the permit must be strengthened.

- 1. The existing NAL/NEL strategy is too complex and resource-intensive to be effective. The turbidity NEL is set far too high to be protective of receiving waters and will not promote the use of effective BMPs. The range of the pH NELs is too great.**

The site-specific NAL feedback strategy employed in the permit is prohibitively resource-intensive, making it extremely difficult to administer or enforce. We appreciate what the Board was trying to accomplish with this strategy and, in an ideal world with unlimited regional board



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staff and resources, this may be an effective scheme for protecting waters from construction runoff. However, the site-specific NAL calculation, which will be completed by the discharger, is lengthy and complex. Errors in calculation and judgment (i.e., using inappropriate default values) will be easy to make. Moreover, the permit contains no incentive for dischargers to use resources to correctly calculate NALs. The only way to ensure the site-specific NALs were accurately calculated will be through individual and prompt review by board staff. Given the sheer number of construction sites and their transitory nature, individual and timely review appears to be virtually unattainable by current regional board staff.

Moreover, to reduce stormwater pollution beyond the unprotective turbidity NEL, the NAL strategy relies exclusively on dischargers taking appropriate action when the NAL is exceeded. However, the permit includes no specific enforcement mechanism to ensure this follow-up occurs. In fact, as currently drafted, the permit requires an "evaluation" of the site's conditions in which the discharger can determine no action is needed¹. There appears to be no incentive for dischargers to do anything other than paperwork when an NAL is exceeded. The only way to make this NAL feedback loop effective is if the regional boards are prepared to develop a prompt and comprehensive program to follow-up reported NAL exceedances with site inspections.

Finally, the backstop in this NAL permitting scheme is the enforceable NEL, however, as stated in the permit, the turbidity NEL is not set to be protective of receiving water quality. As presented at the June 4th, 2008 hearing, many of the state's streams, creeks, and lakes have turbidity levels much lower than 1000 NTUs, more typically around 20 NTU. Discharges with levels of turbidity orders of magnitude above the quality of the receiving water will likely cause harmful impacts to aquatic life and habitat. Studies have clearly shown that, for many water bodies, turbidity levels around 1000 NTU can impact species by causing altered behavior, effecting reproduction and even causing death². Heal the Bay's Stream Team monitored streams throughout the Malibu area for years, and found background levels of turbidity in these streams was typically lower than 5 NTUs, and rarely, if ever, over 10 NTUs. A discharge with NTUs readings in the hundreds will cause significant impact to these streams.

Moreover, there is ample data available that shows that common BMPs can easily achieve turbidity levels much lower than 1000 NTUs. As several presenters noted during the June 4, 2008 hearing in Sacramento, there are many technologies available that can ensure turbidity levels in discharges at or below 20 NTUs (or 10 NTUs as a daily flow-weighted average). Even the construction industry itself has advocated for a turbidity NEL of 500 NTUs in comments to the State Board on the March 2007 draft permit³.

¹ Draft permit VIII A3.

² See http://duluthstreams.org/understanding/param_turbidity.html. Schematic adapted from "Turbidity: A Water Quality Measure", Water Action Volunteers, Monitoring Factsheet Series, UW-Extension, Environmental Resources Center. It is a generic, un-calibrated impact assessment model based on Newcombe, C. P., and J. O. T. Jensen. 1996. Channel suspended sediment and fisheries: a synthesis for quantitative assessment of risk and impact. North American Journal of Fisheries Management. 16: 693-727.

³ Fact sheet, page 12.



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To put the NEL of 1000 NTUs into some perspective, we used a recent Geosyntec analysis of the ASCE/EPA stormwater BMP database of effluent quality. (Summary tables are included as Exhibit 1). This analysis summarizes effluent total suspended solids (TSS) concentrations for various types of BMPs by percentile (of the number of BMPs tested) measured mg/l. To loosely compare these result to the proposed NEL, we used a rough rule-of-thumb conversion of 1.5 NTU for 1 mg/l of TSS⁴. Using this conservative conversion, we find that 95% of all the different types of BMPs tested achieved turbidity levels far below 500 NTUs. At the 50th percentile, the different BMPs achieved turbidity levels ranging from 43 NTUs (hydrodynamic devices) down to 7 NTUs (wetland basins). Obviously, some of these BMPs may not be appropriate for a construction site, however, the point of this comparison is to reinforce information presented to the State Board by Dr. Horner and others that the NEL of 1000 NTUs is far too high, and with reasonably simple BMPs, a much lower turbidity level is achievable.

The pH NELs are also inappropriately set. The range of 6.0 to 9.0 for pH is too great, and again, is not set to be protective of receiving waters. We urge the board to revise the NEL pH range to 6.5 – 8.5, which is consistent with Region IV's Basin Plan.

In summary, there is no incentive for dischargers to improve water quality below the unreasonably high NEL of 1000 NTUs. Instead, the current permit continues to promote a largely self-regulating scheme in which little-to- no action will be taken to improve water quality, except in cases of the most egregious polluters.

2. We recommend greatly simplifying the permit by removing the NALs and setting performance-based turbidity NELs for large and small sites.

One of the most significant shortcomings in previous stormwater management programs is the lack of performance-based criteria for BMPs. This permit could be considerably strengthened and simplified by setting performance-based limits which can be strictly enforced. Setting a strict limit will provide transparency to the public, provide dischargers with a clear path toward compliance, and greatly reduce the amount of necessary board staff intervention. Specifically, we urge the board to:

a. Set a performance-based NEL for large construction sites (> 5acres) based on the conclusion of the State's Blue Ribbon task force that active treatment systems can be economical at large sites to achieve turbidity levels of 10 NTU or less.

⁴ http://duluthstreams.org/understanding/param_turbidity.html. It is important to note that this conversion is only a rough estimate since turbidity measurement in NTUs is measuring the amount of scattered light from the solids present in the sample, while the total suspended solids in mg/l is a mass per volume measurement. The conversion we used of 1.5 NTU/1 mg/l of TSS is at the high end of the scale. If we used the 1:1 conversion, the achievable quality in NTUs would be even lower.



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The Blue Ribbon panel, a panel of storm water experts convened by the State Board to examine the feasibility of developing numeric limits for storm water permits, reached a consensus that "active treatment technologies make Numeric Limits technically feasible for pollutants commonly associated with stormwater discharges from construction sites (i.e. TSS and turbidity) for larger construction sites."⁵ The draft permit acknowledges this conclusion of the Blue Ribbon task force by stating "The panel also concluded that numeric effluent limitations (NELs) are feasible for discharges from construction sites that utilize an Active Treatment System (ATS)."⁶ Additionally, the blue ribbon task force concluded the ATS is economically feasible for large construction sites "The cost-effectiveness of active treatment systems is greatly enhanced for large drainage areas, at which construction occurs for an extended period to time, over one or more wet season."⁷ Indeed, the permit already includes a turbidity NEL of 20 NTUs for sites in which ATS are employed. What incentive will construction sites have to install an ATS, if these sites are singled out for a much stricter (yet appropriate) NEL? We urge the board to simplify the permit and extend this turbidity NEL to all construction sites over 5 acres.

At an absolute minimum, we urge the State Board to extend the turbidity NEL of 20 NTUs to all sites over 1 acre which discharge to a receiving water impaired due to sediment, unless the adopted wasteload allocation is less than 20 NTU. Heal the Bay is making this recommendation despite our belief that any NEL above zero is illegal in sediment impaired waters.

b. Set a performance-based NEL for small construction sites (<5 acres) based on the performance of commonly-used sediment control BMPs.

We urge the Board to implement the recommendation of Dr. Richard Horner's in his letter to the State Board dated May 4, 2007 which summarizes studies that could be used to develop NELs based on best conventional technology (BCT) for turbidity from construction sites. His summary indicates that blanket products and mulch can achieve effluent turbidity levels much lower than 500 NTU. Dr. Horner states his own research shows that blanket materials and mulch greatly reduce influent turbidity and achieve effluent turbidity with mean and maximum turbidity levels of 21 and of 73 NTUs, respectively. Dr. Horner also states that studies completed by Caltrans and the Texas Transportation Institute can be used to evaluate BCT and set a NEL based on this evaluation. We urge the State Board to set a performance-based turbidity NEL for small construction sites based on existing studies on BMP effluent quality. At a minimum, the State Board should set a NEL that is no greater

⁵ The Feasibility of Number Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities, Storm Water Panel Recommendations to the California State Water Resources control Board, June 19, 2006, page 15.

⁶ Draft permit I 11.

⁷ The Feasibility of Number Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities, Storm Water Panel Recommendations to the California State Water Resources control Board, June 19, 2006, page 16.



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than 73 NTUs.

- c. **Apply a seasonal incentive to the NELs for small sites to promote completion of land disturbance activities during the dry season.**

A low tech, but highly effective BMP is to encourage operators, particularly at small sites, to complete grading and other land disturbance activities during the dry season. The State's Blue Ribbon Task Force recommended a seasonal component to numeric limits: "Allowing summer only construction sites to comply with action levels would discourage winter construction activities" when numeric limits could apply⁸. We urge the Board to incorporate into the permit this simple and effective recommendation of the Blue Ribbon task force, and to explore other ways to encourage operators of all construction sites to complete as much land disturbance activities as possible during the dry season.

- d. **Set a design storm component to ensure adequate flow volumes are treated by BMPs from all construction sites. We recommend using the Standard Urban Stormwater Mitigation Plan's (SUSMP's) volume and flow treatment requirements from the Los Angeles municipal stormwater permit.**

The performance-based NELs should be accompanied by a design storm component in order to provide certainty to the regulated community on how to apply the performance criteria. We recommend the SUSMP volume and flow treatment requirement, originally used in the Los Angeles municipal stormwater permit and subsequently implemented in other parts of the State, as a basis. This volume or flow-based control design requirement has been used for a decade in Region IV. This requirement would basically ensure that the equivalent of the 85th percentile 24-hour runoff event is treated by the BMPs at the site⁹.

3. **If the NAL/NEL system is maintained in the permit, dischargers should be required to report NAL violations within 2 days (just like NEL violations).**

The purpose of the NAL scheme is to provide feedback to the discharger that will result in action to reduce pollution from the site¹⁰, thus it is imperative that quick action is taken if a NAL is violated. This is particularly important during the raining season, when multiple storm events can occur or rain occurs on consecutive days. Clearly, to allow the discharger 10 days just to report the NAL exceedance does not provide any incentive for the discharger to quickly implement corrective action. Instead, NAL exceedances must be elevated to a similar level of concern as a NEL violation; otherwise, there is little motivation for the discharger to promptly improve BMP implementation and performance. Since these measurements are typically taken

⁸ The Feasibility of Number Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities, Storm Water Panel Recommendations to the California State Water Resources Control Board, June 19, 2006, page 17.

⁹ See the LA County Municipal Permit, page 36, at http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/stormwater/municipal/ms4_permits/los_angeles/01-182_LosAngelesMS4Permit.pdf

¹⁰ Draft permit I 14.



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with in-the-field equipment, reporting within two days is possible. Thus, NAL violations should be reported to the State Board within 2 days.

4. **If the NALs are maintained in the permit, the permit should be revised to include an enforceable requirement for the discharger to immediately improve BMP implementation and performance when a NAL is exceeded.**

Clearly, the NAL strategy, which is the foundation of this permit, depends on the action a discharger takes when a NAL is exceeded. However, as currently drafted, the permit does not necessarily require the discharger to improve BMPs when a NAL is exceeded. Instead, the permit requires an "evaluation" to determine whether the site's construction activities caused or contributed to the NAL exceedance, and the discharger is required to implement corrective actions "if they are needed"¹¹. Since the exceedance would be measured in the effluent discharged from the site, it is difficult to understand what sources other than activity from the site could cause the NAL exceedance. (Run-on could be a source, but the permit requires dischargers to manage run-on¹².) So, if a NAL is exceeded, the obvious conclusion is that BMPs at the site are not sufficient, and immediate action should clearly be required by the permit. We recommend changing the draft permit language at VIII 3 as follows:

"Whenever analytical effluent monitoring indicates that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the discharger shall conduct a construction site and run on evaluation to determine ~~whether~~ *which* pollutant sources (s) associated with the site's construction activity may have caused or contributed to the NAL exceedance and immediately implement corrective actions to improve existing BMP performance and/or implement new BMPs ~~if they are needed.~~"

5. **Receiving water monitoring should be required for all sites, as this is the only measure of the permit's effectiveness.**

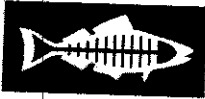
The draft permit acknowledges that the NEL of 1000 NTUs may not result in meeting receiving water limits or meeting narrative limit requirements. Clearly, given the fact that the permit does not contain protective numeric limits, it is imperative that receiving waters for all construction sites are monitored to ensure that pollutant discharges are not resulting in, or contributing to, exceedances of water quality standards. The draft permit requires receiving water monitoring for Risk 3 sites. We urge the board to extend this to all sites.

We recommend revising the monitoring component of the permit to require:

- a. Receiving water monitoring at all sites, regardless of risk level, if a NAL/NEL is exceeded. These risk levels are relative, so risk level 1 does not indicate there is no risk of receiving water impacts.

¹¹ Draft permit VIII A 3.

¹² Draft permit VIII C 1.



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- b. Receiving water monitoring at all risk level 2 and 3 sites.
- c. Photographs of receiving waters and discharges from every discharge event for all sites.

6. The permit should clearly state that the Regional Water Boards may direct the discharger to reevaluate the site-specific turbidity NAL.

The permit already states that the Regional Water Boards may direct the discharger to reevaluate the Risk Level(s) for their projects¹³. Clearly, the permit should explicitly state that regional boards can also require a discharger to recalculate a NAL if the value of the original NAL appears to be in error.

7. The permit does not appear to require Regional Board approval of submitted plans prior to the permittee receiving coverage under the permit.

Again, since the permit does not have protective numeric limits, and instead relies on self-calculated NALs, review of the SWPPPs and other required documents is critical to the success of this permit. No coverage should be granted until all required documents have been reviewed and approved by regional board staff. The permit Fact Sheet discusses recent court findings related to self-regulating permits. With the proposed NAL strategy, we have not come far from this problem of self-regulating, because dischargers calculated their own NAL and their sites risk category, and the permit requires no check or review of these calculations by the regional boards.

8. A REAP should be required from all construction sites including Risk 1 sites.

The REAP requirement should motivate site operators to inspect their sites, considering stormwater pollution sources, and implement and improve BMPs before the rain event actually occurs. This type of proactive evaluation and implementation is critical to the success of BMPs at construction sites because of the dynamic nature of construction, *regardless of the risk level of the site*. We urge the board to extend the REAP requirement to Risk 1 sites, which still have the capacity to negatively impact receiving waters if poor sediment management practices prevail at these "low" risk sites.

Polluted runoff continues to be the largest source of pollution to California's receiving waters. The lack of success of the state's polluted runoff abatement programs has been well documented, and implementation of the General Construction Permit has not resulted in the elimination of construction caused runoff pollution problems. Although board staff has spent considerable time and effort in developing a new regulatory scheme to reduce construction site runoff, the scheme poses implementation hurdles that will result in no appreciable improvement to an already ineffective program. In addition, the draft permit fails to move California beyond the self-regulating problems of the previous permits. The courts have clearly ruled that stormwater programs cannot be self-regulating and this permit fails to meet that requirement. In

¹³ Draft permit XII 10



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conclusion, Heal the Bay strongly urges the board to simplify the permit and to set performance based NELs that are protective of receiving waters.

If you have any questions, please contact us at 310-451-1500.

Sincerely,

Mitzy Taggart, D. Env.
Senior Scientist

Mark Gold, D. Env.
President

Kirsten James
Director of Water Quality