

**ATTACHMENT A  
LEGAL AND POLICY COMMENTS  
SECOND DRAFT ORDER (AUGUST 28, 2007)  
VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT  
(NPDES NO. CAS004002)  
FOR THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY  
OF VENTURA, AND THE INCORPORATED CITIES**

**Legality of Second Draft Order in General**

**I. Second Draft Order.**

**A. *The Second Draft Order Exceeds MS4 Stormwater Provisions as Mandated by Federal Law and is Therefore Subject to California Water Code Section 13241.***

Under federal law, municipal stormwater discharges must comply with section 402(p) of the Clean Water Act, which requires that cities reduce stormwater to the maximum extent practicable (MEP). (33 U.S.C. § 1342(p)(3)(B)(iii).) “Congress did not require municipal storm sewer discharges to comply strictly with [water quality standards].” (*Defenders of Wildlife v. Browner* (9<sup>th</sup> Cir. 1999) 191 F.3d 1159, 1166.) Whenever a Regional Water Board imposes pollutant restrictions in a wastewater discharge permit *more stringent* than what federal law requires, California law requires the board to take into account the public interest factors of Water Code section 13241, which includes economic factors and the cost of compliance. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4<sup>th</sup> 613, 627.) Thus, if the Regional Water Board seeks to impose any requirements that go beyond those set forth in section 402(p), the Regional Water Board must evaluate the public interest factors in Water Code section 13241 prior to permit adoption.

The Second Draft Order attempts to disregard this important legal requirement by making a generic finding that all provisions contained in the Second Draft Order are part of a federal mandate. (Second Draft Order at p. 12.) Through this finding, the Second Draft Order tries to conclude that because the requirements are federally mandated, the Second Draft Order does not require consideration of section 13241 factors, or constitute an unfunded local government mandate. Findings are required to “bridge the analytic gap between the raw evidence and ultimate decision or order.” (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515; see also *In Re Petition of the City and County of San Francisco, et al.*, SWRCB Order 95-4, 1995 WL576920 at pp. 4-5.) The blanket statements made in the Second Draft Order fail to rise to a level necessary to serve as a bridge between evidence and permit provisions.

In general, municipal stormwater programs are a combination of source controls and management practices that address targeted sources within a municipality’s jurisdictional area. (See NPDES Permit Writers’ Manual at p. 164.) Also, permit writers are instructed to rely on application requirements and management programs as proposed by the applicants when developing appropriate permit conditions. (See *id.* at p. 165.) Recent court decisions have also

declared that the Regional Water Board may adopt water pollution controls in addition to those that come from MEP in order to meet water quality standards. (See *Building Industry Association of San Diego v. State Water Resources Control Bd.* (2004) 124 Cal.App.4<sup>th</sup> 866, 883.) Notwithstanding the recent court decisions that allow for additional discretion, the provisions contained in the Second Draft Order exceed requirements associated with implementation of MEP and exceed requirements necessary to meet water quality standards. At the very least, the Second Draft Order fails to properly connect the provisions as contained in the Second Draft Order to federal requirements from the Clean Water Act (CWA) through its findings.

The Second Draft Order exceeds requirements associated with the implementation of MEP by requiring compliance with municipal action levels (MALs). As discussed at length below, the interpretation of MEP with a numeric standard extends beyond the legal understanding of the definition of MEP. Thus, the Second Draft Order's use of MALs to interpret the narrative MEP standard exceeds federal requirements.

Also, the Second Draft Order contains provisions that not only require various management programs as specified in federal regulations but also dictates in detail the what the Permittees are required to implement in the management programs. For example, the Second Draft Order requires treatment control best management practices (BMPs) for commercial facilities that discharge into ESAs or 303(d) listed waters. Such a requirement exceeds federal authority because the requirement applies to commercial facilities regardless of a facility's actual potential to discharge or discharge the constituent of concern. As another example, the Public Information and Participation Program (PIPP) contains requirements so specific that it dictates how many school children the Permittees are required to educate over two-years, despite the lack of legal authority for the Permittees to actually dictate educational curriculum in the schools. It also requires the Permittees to develop a protocol for testing student knowledge on the adverse impacts of stormwater pollution. In other words, the Second Draft Order goes beyond requiring the Permittees to develop a PIPP but spells out exactly what must be in the PIPP. In all cases, the Second Draft Order fails to state how these specific requirements control pollutants to the MEP, or how they are necessary in order to meet water quality standards. Thus, the Second Draft Order contains provisions, individually and collectively that exceed CWA requirements as they pertain to MS4s.

**B. *Because Provisions in the Second Draft Order Exceed MS4 Stormwater Provisions as Mandated by Federal Law, some of the Provisions may be Considered an Unfunded State Mandate.***

The Second Draft Order contains a finding that asserts that the Order "does not constitute an unfunded local government mandate subject to subvention under article XIII B, section (6) of the California Constitution" because the Order implements "federally mandated requirements" under section 402 of the CWA. (Second Draft Order at p. 12.) The Permittees object to this finding on several grounds.

First, the Regional Water Board's jurisdiction does not include decisions or determinations regarding what is, or what is not an unfunded mandate subject to subvention under the California

Constitution. The Regional Water Board's jurisdiction is limited to water quality and related functions. Decisions regarding what constitutes, or does not constitute, an unfunded mandate is for the Commission on State Mandates. (Gov. Code, §§ 17551 and 17552; see also *Lucia Mar Unified School District v. Honig* (1988) 44 Cal.3d 830, 837 [the question must be decided by the Commission on State Mandates "in the first instance."].) "Whether a particular cost incurred by a local government arises from carrying out a state mandate for which subvention is required under article XIII B, section 6, is a matter of the Commission to determine in the first instance." (*County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4<sup>th</sup> 898, 907.)

Second, the Permittees question the purpose and intent of this finding. As discussed above, findings are required to "bridge the analytic gap between the raw evidence and ultimate decision or order." (*Topanga Assn. for a Scenic Community, supra*, 11 Cal.3d at p. 515.) The Regional Water Board staff's purpose for including this finding is suspect as it raises an issue that has recently been unsuccessfully litigated in the recent *County of Los Angeles v. Commission on State Mandates*. In that case, the Court held that whether the permit obligation(s) in question constitutes a state or federal mandate is a question of fact which must be first addressed by the Commission on State Mandates. (*County of Los Angeles v. Commission on State Mandates, supra*, at pp. 917-918.) Thus, it is not appropriate for the Regional Water Board staff to propose a finding that attempts to make a conclusion of fact for the Commission on State Mandates.

Furthermore, even if a program is required in response to a federal mandate, a subvention of state funds may be in order. For example, Government Code section 17556(c) provides that if a requirement was mandated by federal law or regulation, but the state statute or executive order mandates costs that exceed the mandate in that federal law or regulation a subvention of funds is authorized. Also, even if the costs were mandated to implement a federal program, if the "state freely chose to impose the costs upon the local agency as a means of implementing" that federal program, "the costs are the result of a reimbursable state mandate regardless whether the costs were imposed upon the state by the federal government." (*Hayes v. Commission on State Mandates* (1992) 11 Cal.App.4<sup>th</sup> 1564, 1594.)

Finally, the finding in question asserts that provisions in the Second Draft Order to implement total maximum daily loads (TMDLs) are also federal mandates. While it is true that waste load allocations (WLAs) in TMDLs must be reflected in NPDES permits as applicable, the manner in which the TMDL is implemented in the NPDES permit is not a federal mandate, but is left up to the State. (See *Pronsolino v. Marcus* (9<sup>th</sup> Cir. 2002) 291 F.3d 1123, 1140.) As discussed *ante*, the TMDLs WLAs as incorporated into the Second Draft Order are in fact inconsistent with the adopted TMDL implementation plans and may therefore exceed federal mandates. Thus, as with the other aspects of the Second Draft Order, implementation of applicable TMDL WLAs is not necessarily a federal mandate, immune from subvention of state funds.

### **C. *The Second Draft Order may Violate the 10<sup>th</sup> Amendment of the U.S. Constitution.***

Besides inappropriately asserting that the Second Draft Order does not constitute an unfunded state mandate, the same finding asserts that the "authority exercised under this Order is not reserved state authority under the CWA's savings clause (...), but instead, is part of a federal

mandate to develop pollutant reduction requirements for municipal separate storm sewer systems.” (Second Draft Order at p. 12.) The apparent purpose of this provision is to support the Regional Water Board staff’s assertion that all of the permit conditions are mandated by the federal regulatory scheme and not exercised by the State under its independent authority.<sup>1</sup> Assuming that the Regional Water Board staff’s assertion is correct, then the provisions contained in the Second Draft Order are subject to constraints contained within the U.S. Constitution, including that in the 10<sup>th</sup> Amendment. The 10<sup>th</sup> Amendment states that, “the powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.” (U.S. Const., 10<sup>th</sup> Amend.) Tenth amendment protection extends to local governments including cities. (See *City of Abilene v. U.S. EPA* (5<sup>th</sup> Cir. 2003) 325 F.3d 657, 661, citing to *Printz v. United States* (1997) 521 U.S. 898, 931, fn. 15.)

Regional Water Board staff proposes to include a finding that states “[w]here a MS4 Permittee voluntarily chooses a BMP based stormwater management program as permit effluent limitations rather than end-of-pipe numeric effluent limits, there exists no compulsion of a specific regulatory scheme that would violate the U.S. Constitution’s 10<sup>th</sup> Amendment clause.” (Second Draft Order at p. 7.) The finding relies upon *City of Abilene v. U.S. EPA*, which found that because the cities voluntarily chose a BMP based permit over numeric “end-of-pipe” effluent limits that the cities had not been compelled to implement a federal regulatory scheme. (*City of Abilene v. U.S. EPA, supra*, 325 F.3d at p. 663.) Reliance on this case is misplaced because the Permittees are being forced to implement both a BMP based management permit as well as numeric “end-of-pipe” effluent limits. Thus, the Second Draft Order requires a specific regulatory scheme that would violate 10<sup>th</sup> Amendment because the Permittees do not have a choice.

The Permittees have made clear during the course of permit discussions that they prefer a BMP based stormwater program. However, despite the Permittees’ continued efforts, the Regional Water Board staff have proposed a regulatory scheme that forces the Permittees to implement both a BMP based program as well as comply with numeric “end-of-pipe” effluent limits through the application of MALs and TMDL waste load allocations. Because this permit requires both, we contend that Finding C.5 is in error. The Court’s analysis in *City of Abilene v. U.S. EPA* does not apply in this case and therefore the lack of a choice creates a permit that violates the 10<sup>th</sup> Amendment. “In order for their Tenth Amendment challenge to succeed, the Cities must demonstrate that they had no choice but to accept these conditions.” (*City of Abilene v. U.S. EPA, supra*, 325 F.3d at p. 663, fn. 5.)

To the extent the Regional Water Board staff may argue that the provisions contained in the Second Draft Order are not numeric “end-of-pipe” effluent limitations compelled by federal

---

<sup>1</sup> The Permittees’ recognition of the statements contained in Finding E.10 in this argument does not concede that the Permittees agree with the Second Draft Order’s conclusions as contained in this Finding. As argued in previous arguments, and again identified in the body of this letter, the Permittees actually believe that the Second Draft Order contains permit conditions that well exceed the federal regulatory scheme as it relates to stormwater. Our primary point of contention here is that to the extent the Second Draft Order indicates that the provisions are mandated by federal law that the provisions are then subject to federal constraints under the 10<sup>th</sup> Amendment of the U.S. Constitution.

regulatory requirements but the Regional Water Board staff's interpretation of the federally mandated MEP standard, the Regional Water Board staff's interpretation exceeds federal requirements as applicable to municipal stormwater and the provisions are therefore subject to State statutory requirements, including section 13241 of the California Water Code. (See *ante*.) In other words, the Regional Water Board cannot on one hand claim that all requirements are derived from federal mandates and then on the other claim that the State is using its discretion to interpret a federal standard. This is particularly true in this case, where the Regional Water Board staff's interpretation far exceeds the normal understanding and application of the standard in question (i.e., use of numeric values to define MEP.)

## **II. Municipal Action Levels/Quantifiable Maximum Extent Practicable.**

The Second Draft Order contains revised provisions related to MALs as compared to the first Draft Order, which was circulated in December of 2006.<sup>2</sup> The Permittees have already expressed many concerns with regard to the use of MALs as a numeric standard to interpret the MEP standard. The Permittees do not repeat some of the arguments previously submitted with regard to the appropriateness of interpreting the MEP standard with a numeric MAL but incorporate the Permittees' previous comments herein. However, additional comments on this issue as well as additional concerns created by the revisions are provided here.

In particular, the Permittees object to the use of a numeric value to interpret the technology-based MEP standard. The Permittees also question the Regional Water Board staff's proposed action of defining MEP in a quasi-adjudicatory order versus conducting a rulemaking for such an action that has such broad policy implications. Next, the Permittees argue that the use of a presumption in a quasi-adjudicatory order is an invalid exercise of the agency's authority. Finally, the Permittees are concerned that the MALs as established in the permit create potential liability for the application of mandatory minimum penalties for violations of MALs.

### ***A. It is Inappropriate to use Numeric Values (i.e., MALs) to Interpret MEP.***

The use of numeric values or MALs in the Second Draft Order to define MEP conflicts with the CWA's requirement to reduce the discharge of pollutants in municipal stormwater to the MEP. It is important to recognize that neither federal nor State law specifically defines MEP in order to ensure that the standard remains flexible to meet the local needs and priorities associated with stormwater discharges while simultaneously protecting water quality. Moreover, the federal and state law and guidance clearly expresses a general preference to interpret and implement the MEP standard with the use of narrative rather than numeric values.

#### ***i. The Second Draft Order's Interpretation of MEP is Inconsistent with Congress' Intent Regarding MEP.***

Section 402(p) of the CWA requires regulated MS4s to achieve pollutant reductions to the MEP. (33 U.S.C. § 1342(p).) MEP is a technology-based standard. The legislative history of the CWA evinces that in establishing the standard, Congress recognized that MS4 permits must provide

---

<sup>2</sup> The First Draft Order refers to the Regional Water Board's December 28, 2006 Draft Order. The Permittees' comments on the First Draft Order were submitted on March 6, 2007.

flexibility to allow for permit controls that reflect site-specific conditions and the wide range of impacts associated with stormwater discharges. (See 133 Cong. Rec. 976, 1007 (Jan. 8, 1987); 55 Fed.Reg. 47990 (Nov. 16, 1990).) Congress determined that such a flexible approach would in fact protect water quality. (133 Cong. Rec. 985, 1007.)

Moreover, Congress expressed a preference for permitting agencies to interpret MEP as narrative standard, rather than a numeric standard. For example, CWA section 402(p) refers to MEP as “management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (33 U.S.C. § 1342(p)(3)(B)(iii); 64 Fed.Reg. 68722, 68753 (Dec. 8, 1999).) Legislative history also establishes that Congress understood that pollutant control strategies would generally vary from permit to permit and did not intend for MEP to be interpreted so as to require the incorporation of all of the control strategies of CWA section 402(p) into each permit issued. (132 Cong. Rec. 10532 (Oct. 15, 1986).)

*ii. MEP Standard is Intended to Allow for Flexibility to Account for Local Conditions.*

Federal and State law and guidance makes clear that MEP is a highly flexible standard that requires the balancing of numerous, location-specific factors. Consistent with Congress’ intent, the law and guidance also emphasize a strong preference for implementing the MEP standard with narrative limitations through an iterative process.

EPA declined to define MEP “to allow flexibility in MS4 permitting” so as to optimize reductions in stormwater pollutants on a location-by-location basis. (64 Fed.Reg. 68754.) Indeed, in a report to Congress, EPA explained that the MS4 program provides municipalities with flexibility to develop stormwater management programs that address local needs and priorities. (Report to Congress on the Phase I Storm Water Regulations, EPA 833-R-00-001 (Feb. 2000) p. 3-1.) EPA has also explained that MEP is part of an iterative process that accounts for various factors, including, but not limited to, receiving water conditions, local concerns, climate, watershed planning, implementation schedules, ability to finance a stormwater program, hydrology, geology, and capacity to perform operation and maintenance. (64 Fed.Reg. 68754; 55 Fed.Reg. 47990.) That is, MEP “should be applied in a site-specific, flexible manner, taking into account cost considerations as well as water quality effects.” (64 Fed.Reg. 68732.)

Moreover, federal regulations specify that “narrative effluent limitations requiring implementation of BMPs are generally the most appropriate form of effluent limitations” (40 C.F.R. § 122.34(a); 64 Fed.Reg. 68753.) Such regulations expressly state that BMPs implemented consistent with the stormwater management program constitute compliance with MEP. (40 C.F.R. § 122.34(a).) Guidance issued by EPA emphasizes that the “most appropriate” form of effluent limitations for MS4s are *narrative* effluent limitations that require the implementation of BMPs and the achievement of measurable goals. (Storm Water Phase II Compliance Assistance Guide, EPA 833-R-00-002 (March 2000) p. 4-17.) EPA envisions MEP as a standard that continually adapts to current conditions and BMP effectiveness. (64 Fed.Reg. 68754.)

Precedent set by California courts and the State Water Board also describe MEP as an iterative, highly flexible approach that depends on balancing numerous factors, such as technical feasibility, costs, public acceptance, regulatory compliance, and effectiveness. (See *City of Arcadia v. State Water Resources Control Bd.* (2006) 135 Cal.App.4<sup>th</sup> 1392, 1427, fn. 13; *Building Industry Assn. of San Diego County v. State Water Resources Control Bd.*, *supra*, 124 Cal.App.4<sup>th</sup> at p. 889; State Water Board Order No. WQ 2000-11 at 35; State Water Board Order No. WQ 91-04 at p. 24-25.) The SWRCB endorses the use of BMPs – not numeric effluent limitations – to satisfy MEP. (See State Water Board Order WQ 2001-15, p. 13; State Water Board Order No. WQ 2000-11 at p. 35.) The SWRCB explained that it “generally will not require ‘strict compliance’ with water quality standards through numeric effluent limitations” and “will continue to follow an iterative approach, which seeks compliance over time.” (State Water Board Order WQ 2001-15 at p. 13.)

Finally, guidance issued by the State Water Board’s Office of the Chief Counsel emphasizes the flexible, site-specific nature of the MEP standard. (See generally, Memorandum from E. Jennings, State Water Board Office of the Chief Counsel, to A. Matthews, State Water Board Division of Water Quality (Feb. 11, 1993) (1993 Memorandum).) The memorandum recommends consideration of the following site-specific factors to determine whether a municipality would achieve MEP in a given instance:

1. Effectiveness: Will the BMP address a pollutant of concern?
2. Regulatory Compliance: Is the BMP in compliance with stormwater regulations as well as other environmental regulations?
3. Public acceptance: Does the BMP have public support?
4. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
5. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.? (1993 Memorandum, pp. 4-5.)

*iii. No Other State or Municipality in the Entire United States Interprets MEP with a Numeric Value.*

The Second Draft Order represents an unprecedented attempt to define MEP with a numeric value. Other states decline to prescribe a numeric value to MEP in the stormwater context in order to preserve the standard’s flexible, site-specific nature necessary for MS4s to develop and implement effective stormwater programs. (See e.g., New York State, MS4 Permit No. GP-02-02.) That is, other states recognize MEP as part of an iterative process in which maximum flexibility is key to develop pollutant control strategies that adequately and appropriately reflect local conditions. (See e.g., North Dakota, MS4 Permit No. NDR04-0000 (Dec. 31, 2007), p. 18.) For example, under Michigan law, MEP is “the implementation of best management practices by a public body to comply with an approved storm water management program as required in a national permit for a municipal separate storm sewer system, in a matter

that is environmentally beneficial, technically feasible, and within the public body's legal authority." (Mich. Admin. Code § 323.2103(I).)

Likewise, municipalities that have incorporated MEP into local ordinances have maintained the narrative nature of MEP and have declined to prescribe or define MEP with a numeric value. For example, the City of Broomfield, Colorado, defines MEP as "a standard for implementation of stormwater management programs to reduce pollutants in stormwater. It is the maximum extent possible taking into account equitable consideration and competing facts, including but not limited to: the seriousness of the problem, public health risk, environmental benefits, pollutant removal effectiveness, regulatory compliance, ability to implement, cost, and technical feasibility." (Broomfield Municipal Code, § 13-40-020(N).)

While the actions of other states and municipalities are not controlling, they provide further evidence and understanding of Congress' intent with regard to what is meant by MEP. Thus, the Second Draft Order's proposed interpretation of MEP with a numeric value goes beyond the general understanding of MEP and its intended use in regulating municipal stormwater.

*iv. State's Blue Ribbon Panel of Experts has Determined that it is not Feasible to use Numeric Limitations for Municipal Stormwater at this Time.*

Consistent with our previous comments on the First Draft Order, we submit that the specific MALs contained in the Second Draft Order are not technically supported or valid. The technical validity of establishing numeric limits for outfalls was posed to a State Water Resources Board Control Board (State Water Board) convened group of experts referred to as the Blue Ribbon Panel (BRP). The results and conclusions of the BRP are highlighted in a June 2006 Blue Ribbon Panel Report (BRP Report)<sup>3</sup>. The BRP Report unequivocally states the position that numeric limits for municipal stormwater discharges are not possible at this time. However, the Panel did agree that "action levels" may be used to identify "bad actors" catchments. Specifically, the BRP Report states:

*It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges ... .*

*For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible. However, the approach of setting an 'upset' value, which is clearly above the normal observed variability, may be an interim approach which would allow "bad actor" catchments to receive additional attention. For the purposes of this document, we are calling this "upset" value an **Action Level** because the water quality discharge from such locations are enough of a concern that most all could agree that some action should be taken ... .*

(BRP Report at p. 8, emphasis added.)

<sup>3</sup> The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial, and Construction Activities (June 19, 2006).



The Second Draft Order attempts to portray MALs as levels consistent with the BRP Report but a comprehensive reading of the Second Draft Order provides evidence to the contrary. In fact, MALs in the Second Draft Order are enforceable numeric limits not action levels as envisioned by the BRP. In order to implement the BRP approach for action levels as explained above, the Permittees provide strikeout/underline language in Attachment B, which uses action levels to identify bad actor catchments – not for permit compliance.

Furthermore, to develop an appropriate action level, the BRP suggested various options, which included: (1) consensus based approach; (2) ranked percentile distribution; and, (3) statistically based population parameters.

The Second Draft Order claims to use a statistical approach that uses the central tendency of the dataset and accounts for data variability. (Second Draft Order at p. 22.) In its actual calculation, the Second Draft Order took the median value of a national dataset and multiplied it by the coefficient of variation times two. There is no basis for this approach in establishing action levels. This calculation actually reflects the variability of the data (measured as the standard deviation) and does not account for central tendency of the dataset.<sup>4</sup> The Second Draft Order's approach is not consistent with the BRP suggestion for a statistically relevant calculation.

In addition, the Second Draft Order's use of the national database is not appropriate to generate the MALs. (Second Draft Order at p. 22.) As discussed *ante*, the use of the national dataset penalizes the dry or semiarid (low rainfall) regions of the country. As a result of this, the BRP noted that there is greater opportunity to use various datasets for establishing the MALs. Three options proposed in the BRP Report, in order of preference, are:

- Local urban stormwater monitoring data (the Panel even notes the existence of such datasets from Los Angeles County, Orange County and other California MS4 programs)
- Combine municipal permit monitoring datasets if there is a lack of data for specific constituents in any one location
- National database

In this case, the Second Draft Order selected the least preferred option to generate the MALs even though there are local stormwater datasets available. In fact, California MS4s have more comprehensive datasets than any MS4s in the country. Thus, there is ample opportunity to use local, regional and statewide datasets to establish action levels and no need to rely on a national dataset.

Instead of identifying “bad actors,” the MALs as calculated in the Second Draft Order may actually establish new water quality objectives for a waterbody. In the case of the nickel the proposed MAL is more stringent than the Basin Plan water quality objective that has been adopted in the Basin Plan. The Second Draft Order establishes a MAL for total nickel of 19.2 ug/L that must be complied with 80% of the time based on a running average. For

---

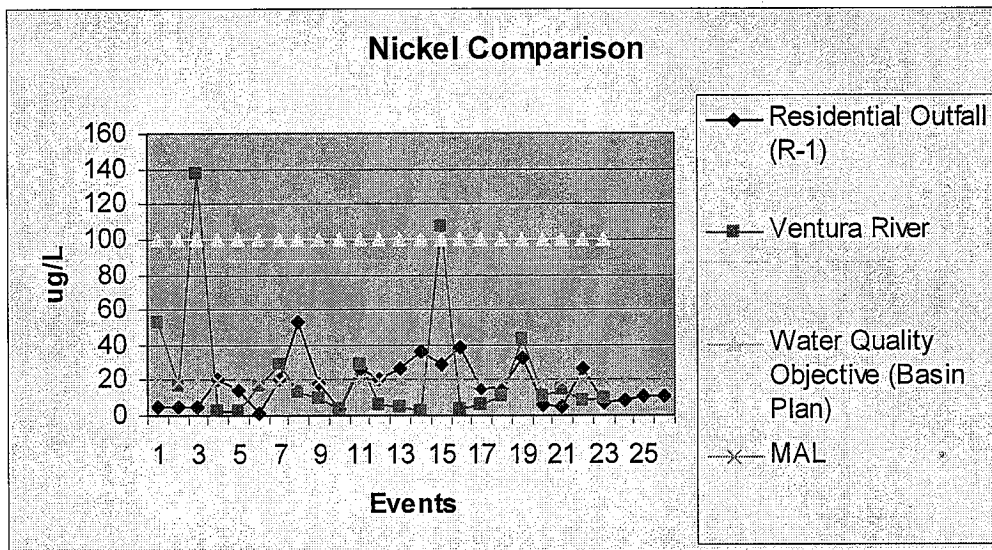
<sup>4</sup> See CASQA March 7, 2007 letter regarding the Ventura Draft permit at page 4.

waterbodies in Ventura County, the percentage of time the waterbody and representative outfalls are greater than the MAL are summarized below:

Waterbody/discharge	Percentage of time <sup>1</sup> > MAL
Calleguas Creek	59
Santa Clara River	70
Ventura River	26
Residential outfall	41
Industrial outfall	58

<sup>1</sup> Compliance is based on whether >20% of samples exceed MAL of 19.2 ug/L.

The Basin Plan surface water quality objective for nickel in Ventura County is 100 ug/L. Thus, the MAL is five times more restrictive than the water quality objective. The net result of this approach is all waterbodies in Ventura County are out of compliance with the MALs (see above Table), but not necessarily with the water quality objective. In sum, the waterbody (and by virtue of the Second Draft Order, the Permittees) are out of compliance with the MALs even though the waterbody complies with the applicable water quality objective and supports the beneficial uses. A plot of monitoring data for Ventura River (of which the watershed is only 3% developed), residential outfall, MAL, and the water quality objective is shown as follow.



A closer review of the plot shows the Ventura River is in compliance with the Basin Plan but not the MAL. Furthermore, discharges from residential storm drain outfalls are not causing or contributing to an exceedance of a water quality standard. Thus, the MS4 discharges and the waterbody are fully protective of the Basin Plan water quality standard but due to the application of the MAL the Permittees would be out of compliance with the Second Draft Order.

The Second Draft Order states the American Society of Civil Engineers—Best Management Practices (ASCE BMP) database was used to demonstrate the practicality of the municipalities to achieve the MALs. This position was also reiterated in the Regional Water Board staff

presentation at the September 20, 2007 workshop. However, in reviewing options for lowering the nickel concentrations to the MAL level, the Permittees were unable to verify that the BMPs purported to be practicable in the database could in fact reduce nickel to levels required for compliance. In other words, the ASCE BMP database had no supporting documentation demonstrating the effectiveness of treatment control BMPs to reduce nickel.

It is also worth noting the September 20, 2007 Regional Water Board staff presentation and the corresponding Heal-the-Bay presentation were presenting BMP performance data for treatment control BMPs and not for source control BMPs implemented through a stormwater management program. Thus, presumably compliance is only achievable through the implementation of treatment control BMPs. As a result, **the Second Draft Order is structured to effectively require Permittees to retrofit all outfalls with treatment control BMPs.** However, the staff's presentation and language in the Second Draft Order create an illusion the Permittees can comply with the MALs through a traditional stormwater management program. If it is the Regional Water Board's intent to structure compliance around the implementation of treatment control BMPs (and abandon source control), then the Second Draft Order must clearly state that all outfalls are to be retrofitted with treatment control BMPs. Obviously, the costs and ramifications on Permittees for such a requirement are huge and in some cases may not be possible without displacing existing development. The Permittees, in our March 6, 2007 comment letter, provided preliminary cost estimates for retrofitting all outfalls with treatment control BMPs; however, further refinement of that estimate may be necessary.

Finally, and as noted previously, the MALs as currently configured will penalize municipal programs in dry or semiarid climates. For example, in Montgomery County, Maryland, where rainfall exceeds 40" per year, their program would meet the MALs and therefore they would not be subject to retrofitting any of their outfalls with treatment control BMPs. (See Exhibit 1 to this Attachment for a *Comparison Between Montgomery County, MD and Ventura County, CA Stormwater Management Programs* (2007).) However, Ventura County's stormwater management program, which EPA judged to one of the best in the country, must retrofit all outfalls to comply with the MALs even when such a program would not result in a demonstrable improvement in water quality.

**B. *To the Extent that the Regional Water Board may Interpret or Define MEP, such an Action is a Quasi-Legislative Action and not a Quasi-Adjudicatory Action in a Permit.***

The Second Draft Order proposes to determine compliance with the MEP standard by evaluating discharges with respect to numeric MALs. Attachment C of the Second Draft Order establishes numeric limits for discharges of certain categories of conventional pollutants and metals that it claims are practicable standards for municipalities to achieve. By defining MEP in this manner, the Second Draft Order claims to be exercising discretion under 33 U.S.C. section 1342(3)(b)(B)(iii) to determine what pollution controls are necessary to reduce municipal discharges. Such a prospective rule of general applicability may not be established in a quasi-adjudicatory, permit proceeding.

An administrative agency is vested with both a quasi-legislative and a quasi-adjudicative authority. (*NLRB v. Wyman-Gordon Co.* (1969) 394 U.S. 759, 770.) When it adopts rules of general application on the basis of broad public policy, the agency acts in its quasi-legislative capacity. (*United States v. Florida East Coast R. Co.* (1973) 410 U.S. 224, 245-246; *Horn v. County of Ventura* (1979) 24 Cal.3d 605, 613.) Under this quasi-legislative authority, administrative agencies may interpret and implement the statute it is responsible to enforce. (*Chevron U.S.A., Inc. v. NRDC, Inc.* (1984) 467 U.S. 837, 843-844; *B.C. Cotton, Inc. v. Voss* (1995) 33 Cal.App.4<sup>th</sup> 929, 951.) In contrast, quasi-adjudicative acts “involve the determination and application of facts peculiar to an individual case.” (*Nasha LLC v. City of Los Angeles* (2004) 125 Cal.App.4<sup>th</sup> 470, 482; see *Morgan v. United States* (1936) 298 U.S. 468, 480.) “These ‘quasi-judicial’ proceedings determine the specific rights of particular individuals or entities.” (*Marathon Oil Co. v. EPA* (9<sup>th</sup> Cir. 1977) 564 F.2d 1253, 1261; *Beck Development Co. v. Southern Pacific Trans. Co.* (1996) 44 Cal.App.4<sup>th</sup> 1160, 1188.) “The exercise of discretion to grant or deny a license, permit or other type of application is a quasi-judicial function.” (*Sommerfield v. Helmick* (1997) 57 Cal.App.4<sup>th</sup> 315, 320; *Portland Audubon Soc. v. Endangered Species Comm.* (9<sup>th</sup> Cir. 1993) 984 F.2d 1534, 1540-1541.) Furthermore, the distinction between when an agency acts pursuant to its quasi-legislative and quasi-adjudicative authority depends on the nature of the proceeding, rather than how the agency chooses to label certain proceedings. (*Nasha LLC*, 125 Cal.App.4<sup>th</sup> at p. 482; *Marathon Oil*, 564 F.2d at p. 1264.)

The process by which the Regional Water Board approves state-issued NPDES permits is quasi-adjudicative in nature. (*City of Rancho Cucamonga v. Regional Water Quality Control Bd. – Santa Ana Region* (2006) 135 Cal.App.4<sup>th</sup> 1377, 1385.) Interpreting the MEP standard to include numeric MALs represents the promulgation of a new rule and policy shift affecting the rights and obligations of all current and future stormwater applicants. Such an action is beyond the Regional Water Board’s authority in this quasi-adjudicative proceeding because it is unquestionably an action that is quasi-legislative in nature.

Thus, Permittees request the Regional Water Board staff remove the numeric MALs as a method for defining MEP. Instead, the Regional Water Board should define MEP as it has in previous permits, or as interpreted in previous State Water Board guidance documents and orders. (Discussed above.) At the very least, should the Regional Water Board staff desire to define MEP with the use of MALs, the Regional Water Board staff should undertake a rulemaking pursuant to its appropriate rulemaking authority—not create a new definition of MEP in a specific stormwater permit.

### C. *It is Inappropriate to use a Presumption in a Quasi-Adjudicatory Order.*

The use of a presumption to determine compliance in an adjudicatory order is of questionable validity. A presumption is defined as “an assumption of fact that *the law requires to be made* from another fact or group of facts found or otherwise established in the action.” (Evid. Code, § 600(a), emphasis added.) In this case, the Second Draft Order sets out a presumption that “a running average of twenty percent or greater of exceedences of any MAL” means the Permittees have not complied with MEP. The presumption, as established here, is clearly not mandated by law. Thus, the use of a presumption in this instance is not legal, and must be removed from the permit.

Furthermore, the presumption as used here could constitute a denial of due process or a denial of equal protection of the law because there is no rational connection between the fact proved (i.e. a running average of 20% or greater of exceedences of any MAL), and the ultimate fact presumed (i.e. non-compliance with MEP). "That a legislative presumption of one fact from evidence of another may not constitute a denial of due process of law or a denial of the equal protection of the law it is only essential that there shall be some rational connection between the fact proved and the ultimate fact presumed, and that the inference of one fact from proof of another shall not be so unreasonable as to be a purely arbitrary mandate." (*Mobile, Jackson & Kansas City Railroad Company v. Turnipseed* (1910) 219 U.S. 35, 43.) The Second Draft Order provides no rational explanation as to why 20% of exceedences of MALs constitutes non-compliance with the MEP standard.

**D. *When Establishing a Technology-Based Standard, the CWA Mandates the Consideration of a Number of Different Factors, None of which have been Applied in the Development of MALs.***

MEP is considered to be a technology-based standard. (See 40 C.F.R. § 122.34 and *Building Industry Assn. of San Diego v. State Water Resources Control Bd.*, *supra*, 124 Cal.App.4<sup>th</sup> at p. 889.) The development of numeric values that are intended to interpret MEP must therefore incorporate consideration of factors required when technology-based limits (TBLs) are being developed to implement other technology-based standards contained in the CWA.

Section 304(b) of the CWA establishes three types of technology-based standards, Best Practicable Technology (BPT), Best Conventional Technology (BCT), and Best Available Technology (BAT), all of which must include a consideration to some degree of six factors set out in the CWA. When establishing TBLs to implement these standards, the CWA requires consideration of the following factors: (1) the age of the equipment and facilities involved; (2) the process employed; (3) the engineering aspects of the application of various types of control techniques; (4) process changes; (5) non-water quality environmental impacts (including energy requirements); and (6) such other factors as the Administrator deems appropriate. (33 U.S.C. § 1314(b).) Additionally, and more importantly in terms of subsequent case law interpreting section 304(b), EPA must also consider cost in establishing technology based standards. However, the degree of emphasis that it places on cost differs among the three types of technology-based standards. Of these three categories of standards, BCT and BAT are applicable to industrial stormwater. (Evans, et al., *The Clean Water Act Handbook* (1994) pp. 61-66 (CWA Handbook).)

To implement TBLs, EPA promulgates effluent guidelines for specific industries and types of facilities. (CWA Handbook at p. 22.) In developing effluent guidelines, EPA typically considers certain factors and procedures. For example, EPA gathers extensive information on the industry (through questionnaires, wastewater sampling, literature reviews, and other methods) and performs detailed statistical analyses of this information. It develops a set of proposed control options for the industry, and then projects the effluent reductions, cost, economic impacts, and environmental effects of those options. It then shapes the options into a proposed set of limits, and explains the proposed limits in a Federal Register publication and additional supporting

documents. Finally, EPA reviews comments on the proposal and incorporates those comments into a final regulation. (CWA Handbook at pp. 21-22.)

When U.S. EPA has not developed effluent guidelines for facilities, TBLs are to be developed through the permit writers "best professional judgement" (BPJ). (CWA Handbook at p. 22.) When establishing limits using BPJ, the authorizing agency must consider the relevant statutory factors as articulated above. *Ibid.* Arguably, the authorizing agency should also use the extensive guidance developed by U.S. EPA for the development of effluent guidelines and TBLs.

According to U.S. EPA's extensive guidance, TBLs should be based on demonstrated performance of a reasonable level of treatment that is within the economic means of the discharger. (NPDES Permit Writers' Manual at pp. 49-50). In addition, the development of TBLs for industrial stormwater also includes consideration of the following parameters:

- Data collection – Sufficient technical and economic data must be available and should be obtained from various sources with respect to trends, environmental impacts, BMPs, and economics.
- Discharger and site profile. Discharger specific information should be obtained through surveys, site visits, etc. to develop a profile. The profile should include:
  - General description/definition and NAICS and/or SIC codes
  - Industry practices and trends
  - Manufacturing processes used
  - General facility information (age of equipment and facilities involved)
  - Discharge characteristics
  - Based on the data gaps identified as a part of the existing data collection efforts, additional field sampling and statistical analyses may be necessary
  - **Local climatological data** (emphasis added)
- Technology Assessment - The technology assessment should determine the depth and breadth of effectiveness of data for various industry-related source and treatment control BMPs and identify the quantity and quality of data available to describe the performance of all currently used and innovative practices, the ability of each to effectively control impacts due to runoff and the design criteria or standards currently used to size each practice to ensure effective control of runoff.

For each source and treatment BMP, the assessment should include:

- General Description of the BMP
- Applicability
- Design and installation criteria
- Design and/or siting considerations and/or variations
- Effectiveness
- Limitations
- Maintenance
- Cost

- Regulatory Options - Once the Data Collection, Industry Profile and Technology Assessment have been completed, the State should identify the regulatory options that are available. This effort should identify industry impacts, which pollutants to address as well as other non-water quality related impacts (such as energy requirements).
- Economic analysis<sup>5</sup> - Once the regulatory options are identified (see above), the State should evaluate the costs and environmental benefits and determine the appropriate option based on factors such as:
  - Total Costs
  - Monetized and non-monetized environmental benefits<sup>6</sup>
  - Ease of implementation
  - Industry financial impacts
  - Industry acceptance

As demonstrated above, the development of TBLs for industrial stormwater dischargers must be comprehensive and consider many factors. Thus, although the BRP Report concludes numeric effluent limits are not appropriate for municipal stormwater discharges, an equivalent process in the development of TBLs as accorded industrial stormwater would be appropriate for municipal stormwater. The Regional Water Board staff's default to a national dataset to arbitrarily calculate a TBL clearly fails to consider any of the pertinent factors contained in EPA guidance and is therefore an inappropriate exercise of BPJ.

By way of example, we examined two comprehensive stormwater management programs, one on the east coast and one on the west coast to explain the difficulty of developing numeric effluent limits for municipal stormwater to define MEP. (See Exhibit 1.) The east coast program was for Montgomery County, Maryland, and the west coast program was for Ventura County. The general demographics of the two programs are summarized in the Table below.

**Montgomery County, MD**

County population in 2005: 927,583  
 Population distribution: 97% urban,  
 3% rural  
 Population density: 1872 people per  
 square mile  
 Land area: 496 sq. mi.  
 Water area: 11.6 sq. mi.  
 Forested area: 19%

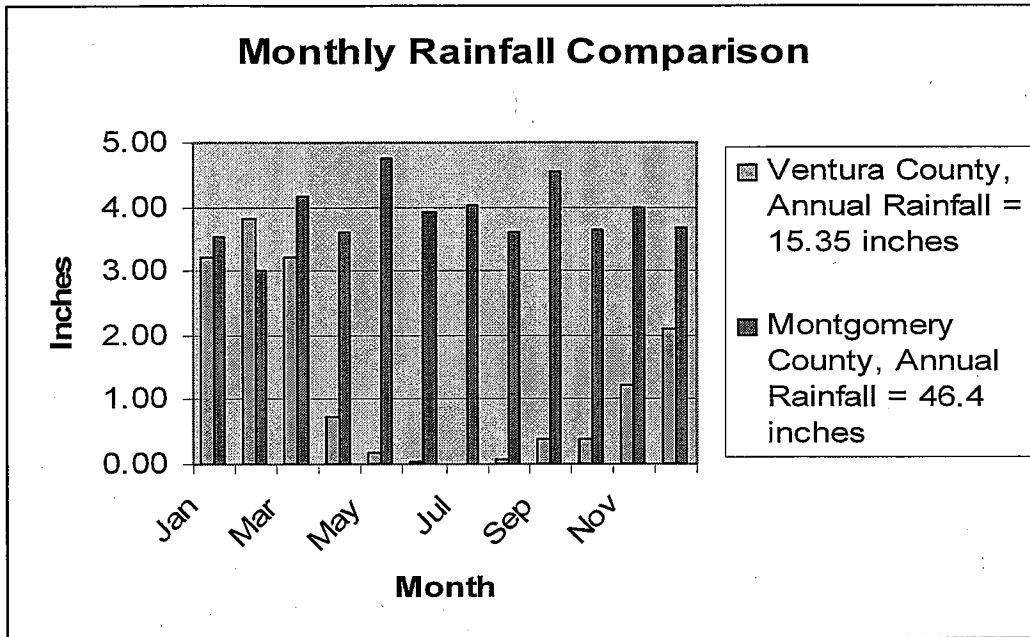
**Ventura County, CA**

County population in 2006: 817,346  
 Population distribution: 97% urban,  
 3% rural  
 Population density: 431 people per  
 square mile  
 Land area: 1845 sq. mi.  
 Water area: 362.9 sq. mi.  
 Forested Area: 46%

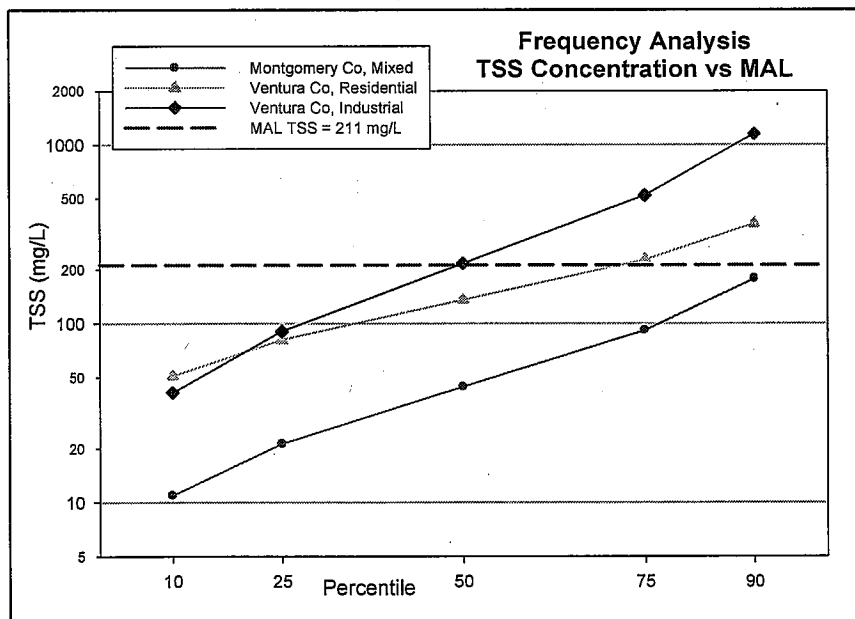
The two counties have similar stormwater management programs (see Exhibit 1), and as shown by the Table above similar demographics. The significant difference between the two programs is the annual rainfall amount and precipitation pattern. This is shown in the Figure that follows.

<sup>5</sup> Similar guidance is identified in U.S. EPA's *Economic Analysis of Proposed Effluent Guidelines and Standards for the Construction and Development Category* (May 2002).

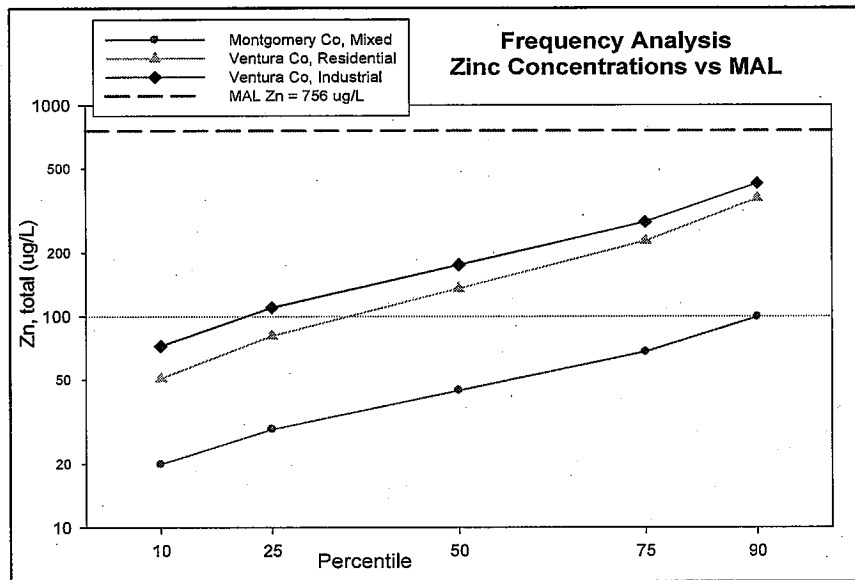
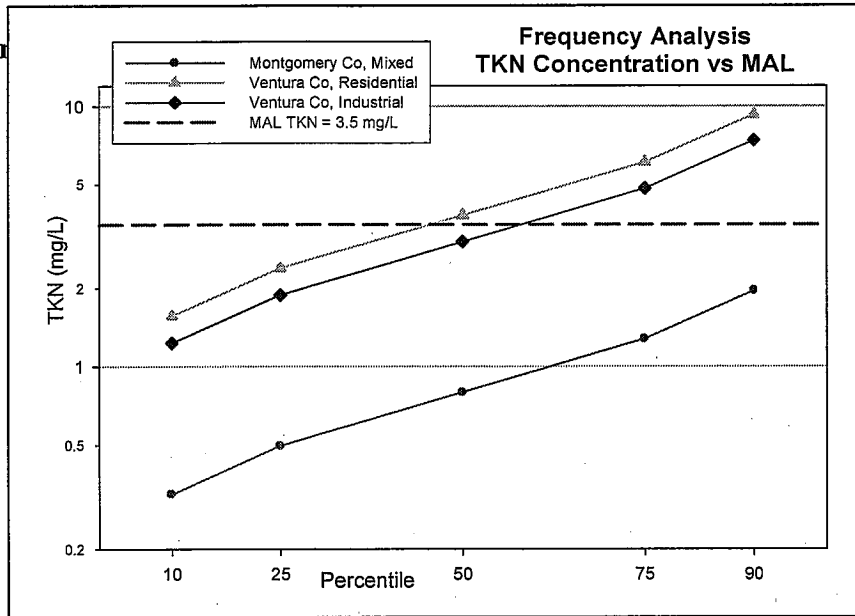
<sup>6</sup> Similar guidance is identified in U.S. EPA's *Environmental Assessment for Proposed Effluent Guidelines and Standards for the Construction and Development Category* (June 2002).



Both programs have long-term monitoring programs including characterization of discharges. A side-by-side comparison of the monitoring results of selected constituents common to both programs is shown in the following frequency distribution graphs. The proposed MALs are also included in the graphs.







A review of the graphs clearly shows that the runoff from the Montgomery area is of better quality than the runoff from Ventura County. The reason for this difference is not due to the difference in stormwater management program implementation but rather it is due to the difference in rainfall amounts. Both programs have similar implementation efforts and the outfalls examined in each program are similar in characteristics. The year-round distribution of rainfall on the east coast mitigates the build-up and wash-off of pollutants. This may be shown another way by calculating the differences in the runoff means and comparing that difference with the inverse difference in rainfall; in other words, the pollutant concentration is inversely related to the amount of rainfall. This is shown in the following Table.

Constituent	Units	Runoff means		Ratio (Mont/Ven)
		Montgomery	Ventura (R-1)	
TSS	mg/L	44	135	.33
TKN	mg/L	0.8	3.8	.21
Total P	mg/L	0.13	0.40	.33
Cadmium	ug/L	0.22	.81	.27
Copper	ug/L	28.5	23.2	1.23
Lead	ug/L	7.5	15.1	.50
Zinc	ug/L	44	135	.33
Annual Rainfall	inches	46.4	15.35	.33 (Ven/Mont)

Such a conclusion is consistent with the results of the national dataset (used by the Regional Water Board staff to establish the MALs). The following finding is taken from the most recent Progress Report regarding the National Stormwater Quality Database:

*5. Residential area data were also analyzed across the different EPA rain zones for the country. The wettest areas of the country (Southeast and Northwest) may have the lowest EMCs for some stormwater pollutants. This may be due to the reduced inter-event times for pollutant buildup and greater runoff for dilution.*  
(Page 6.)<sup>7</sup>

The point to be made here with the tables and graphs is that the use of any dataset to establish TBLs (i.e. to establish MEP) must be done in the context of U.S. EPA guidance for developing such limits. A full range of issues must be considered and not the least being local climatological data. As presented in the previous paragraphs, the Ventura Program, even though implementing as comprehensive of a stormwater management program as Montgomery County, would be out of compliance with the MALs while Montgomery County would be in compliance. Compliance is driven more by the amount of rainfall than by the different levels of BMP implementation of the two stormwater programs. This is fundamentally inconsistent with the definition of MEP (see earlier discussion), and inherently unfair to dry and semi-arid climate stormwater programs.

**E. *MALs are Numeric Effluent Limits that may Subject the Permittees to Mandatory Minimum Penalties.***

The Second Draft Order establishes MALs for selected pollutants and states that “[p]ermittees shall implement timely, comprehensive, cost-effective storm water pollution control programs to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the MALs.” (Second Draft Order at p. 22.) Attachment C establishes MALs for 13 different pollutants: pH, Total Suspended Solids, Chemical Oxygen Demand, Kjeldahl Nitrogen (TKN), Nitrate & Nitrite, Phosphorous, cadmium, chromium, copper, lead, nickel, zinc and mercury. (Second Draft Order at p. C-1.)

<sup>7</sup> [http://www.cwp.org/NPDES\\_research\\_report.pdf](http://www.cwp.org/NPDES_research_report.pdf)

Part 2 of the Second Draft Order establishes “Municipal Storm Water Discharge Limitations,” that would require compliance with the MALs. (Second Draft Order at p. 29.) To determine if violation of MALs would be subject to mandatory minimum penalties, one must compare the “Municipal Storm Water Discharge Limitation” provisions to the types of activities that may be subject to mandatory minimum penalties pursuant to Water Code section 13385. Under State law, a mandatory \$3,000 minimum penalty must be assessed for serious violations of waste discharge effluent limitations for Group I or Group II pollutants.<sup>8</sup> (Wat. Code, § 13385(h)(1).) Total suspended solids, chemical oxygen demand, TKN, nitrate & nitrite, and phosphorous are Group I pollutants; cadmium, chromium, copper, lead, nickel, zinc and mercury are all Group II pollutants. (40 C.F.R. § 123.45, Appen. A.) Also, a mandatory \$3,000 minimum penalty must be assessed whenever there is a violation of a waste discharge requirement effluent limitation four or more times in any period of six consecutive months. (Wat. Code, § 13385(i)(1).) In both cases, it is the violation of effluent limitations that may trigger the mandatory minimum penalty assessment.

The definition of “effluent limitation” for the purposes of assessing mandatory minimum penalties means “[a] numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a pollutant or pollutants that may be discharged from an authorized location.” (Wat. Code, § 13385.1(c).) The MALs, as used in the Second Draft Order, would appear to fit within the definition of “effluent limitation” as a numeric restriction. The MALs establish numeric concentration limits for 13 different pollutants with an “end-of-pipe” compliance point. (Second Draft Order at p. 29.) Failure to comply with the MALs creates a violation of the municipal stormwater discharge limitations. The “end-of-pipe” compliance point is defined by the Second Draft Order to mean “[t]he compliance and monitoring point for effluent limits from Major Outfalls.” (Second Draft Order at p. 96.) Thus, there is a clear intent that the MALs are intended to be numeric restrictions that are effluent limits for the purposes of assessing mandatory minimum penalties.

Even if it were argued that the MALs are not effluent limitations as “numeric restrictions,” the MALs would still be considered effluent limits as numeric expressions of a narrative restriction. Under this scenario, the narrative restriction in the Second Draft Order is “[e]ach Permittee shall[] comply with the requirements of 40 C.F.R. § 122.26(d)(2) and implement programs and control measures so as to reduce the discharges of pollutants in storm water to the MEP and achieve water quality objectives.” (Second Draft Order at p. 30.) MALs are therefore being used to numerically interpret compliance with the narrative MEP standard. (Second Draft Order at p. 29.)

From a practical standpoint, the Permittees may be subject to large mandatory minimum penalties for failing to comply with the proposed MALs even though the actual threat to water quality is minimal. For example, by evaluating compliance with the nickel MAL alone, the Permittees collectively would face significant fines in the way of mandatory minimum penalties. This would occur even though the nickel water quality objective is actually only exceeded twice

---

<sup>8</sup> Serious violations are defined to mean any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for Group II pollutants by 20% or more, or for a Group I pollutant by 40% or more. (Wat. Code, § 13385(h)(1).)

in a four-year period because the MALs for nickel are set below the water quality objective for the Ventura River as established by the California Toxics Rule.

### III. Total Maximum Daily Loads.

Where the Regional Water Board has adopted, and the State Water Board and EPA have approved, TMDLs for section 303(d) listed impaired waterbodies, NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the wasteload allocations in the adopted TMDLs. (See Memorandum from Robert H. Wayland, III, and James A. Hanlon to Water Division Directors (Nov. 22, 2002) regarding *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs* (Memo Re: WLAs for Stormwater).) Currently, nine TMDLs have been adopted and are effective for waterbodies within Ventura County. The effective TMDLs are as follows:

- i. TMDL for Nitrogen Compounds for the Santa Clara River - (Effective date: March 23, 2004).
- ii. TMDL for Toxicity, Chlorpyrifos and Diazinon in the Calleguas Creek, its Tributaries and Mugu Lagoon - (Effective date: March 24, 2006).
- iii. TMDL for Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation in Calleguas Creek, its Tributaries and Mugu Lagoon - (Effective date: March 24, 2006).
- iv. TMDL for Nitrogen Compounds and Related Effects for the Calleguas Creek Watershed - (Effective date: July 16, 2003).
- v. TMDL for Bacteria in Malibu Creek and Lagoon - (Effective date: January 26, 2006).
- vi. TMDL for Metals and Selenium in the Calleguas Creek, its Tributaries and Mugu Lagoon (Effective date: March 26, 2007).
- vii. TMDL for Chloride in the Santa Clara River Reach 3 (EPA established June 18, 2003).
- viii. TMDL for Chloride in Calleguas Creek Watershed (EPA established March 22, 2002).
- ix. TMDL for Nutrients in Malibu Creek Watershed (EPA established March 22, 2002).

The TMDLs for Nitrogen Compounds and Related Effects for the Calleguas Creek Watershed, Chloride in Calleguas Creek and Santa Clara Watersheds, and Nutrients in Malibu Creek Watershed do not contain WLAs for Ventura County urban runoff and therefore should not be incorporated into the NPDES permit. The remaining TMDLs should be incorporated into the NPDES permit in a manner that is consistent with the assumptions and requirements of the WLAs as adopted in the TMDLs.

**A. *NPDES Permit Conditions must be Consistent with the Assumptions and Requirements of WLAs in Adopted TMDLs but do not need to be Expressed as “End-of-Pipe” Effluent Limitations.***

Contrary to the statement, “WLAs must be translated into ‘end-of-pipe’ effluent limitations,” (Second Draft Order at p. 11), NPDES permit conditions in MS4 stormwater permits are not required to be translated into “end-of-pipe” effluent limitations. In fact the memorandum referenced to support this statement in the Second Draft Order actually advises the opposite.

Effluent limitations to control the discharge of pollutants generally are expressed in numerical form. However, in light of 33 U.S.C. § 1342(p)(3)(B)(iii), EPA recommends that for NPDES-regulated municipal and small construction storm water discharges effluent limits should be expressed as best management practices (BMPs) or other similar requirements, rather than as numeric effluent limits. [Cite omitted.] The Interim Permitting Approach Policy recognizes the need for an iterative approach to control pollutants in storm water discharges. ... EPA’s policy recognizes that because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction storm water discharges.

(Memo Re: WLAs for Stormwater at p. 4.) Furthermore, courts have interpreted federal regulations that define “effluent limitations” to include BMPs as an appropriate type of water quality based effluent limits (WQBELs) to control stormwater discharges. (See *Divers’ Environmental Conservation Organization v. State Water Resources Control Bd.* (2006) 145 Cal.App.4<sup>th</sup> 246.)

**B. *The Adopted TMDLs in Ventura County Specifically Direct the Regional Water Board to use BMPs to Implement the TMDLs in NPDES Permits.***

The TMDLs applicable in Ventura County expect the Regional Water Board to use BMP-based WQBELs to implement the WLAs versus numeric “end-of-pipe” effluent limits in MS4 permits. The Calleguas Creek TMDLs for Toxicity, Organochlorine pesticides and PCB, and Metals and Selenium all include nearly identical language that expressly states stormwater WLAs should be expressed as BMPs.

Stormwater WLAs will be incorporated into the NPDES permit as receiving water limits measured at the downstream points of each subwatershed and will be achieved through the implementation of BMPs as outlined in the implementation plan.

(Calleguas Creek TMDL for Toxicity at p. 7; Calleguas Creek TMDL for Organochlorine Pesticides & PCB at p. 10; Calleguas Creek TMDL for Metals & Selenium at p. 17.)

In the Santa Clara River Nitrogen TMDL, the Basin Plan Amendment is more forceful and requires reductions from MS4 permit holders to achieve reductions through BMPs. “Ammonia,

nitrite, and nitrate reductions will be regulated through effluent limits prescribed in POTW and minor point source NPDES Permits, **Best Management Practices required in NPDES MS4 Permits ...**” (Santa Clara River Nitrogen TMDL at p. 8, emphasis added.)

Additionally, the implementation plans for all of the TMDLs include a discussion regarding BMPs that could be implemented to meet the MS4 allocation requirements. The intent of the TMDLs is to ensure that receiving water objectives are achieved. The TMDL analysis includes a determination of the assimilative capacity of the stream and the load that can be discharged from each source to meet the objectives in the stream. The TMDL analysis recognizes that discharge from a single stormwater outfall could exceed water quality objectives and not cause the receiving water to exceed the objectives. As a result, the TMDL assigns WLAs to MS4 dischargers as a group, not to individual outfall discharges. Correspondingly, numeric WQBELs assigned to individual outfall discharges are not required because the allocation is assigned to the group. “In accordance with current practice, a group concentration-based WLA has been developed for all permitted stormwater discharges, including municipal separate storm sewer systems (MS4s).” (Calleguas Creek Metals and Selenium TMDL at p. 17.) Therefore, the intent of the TMDLs is to assign receiving water limitations that are implemented through BMPs in the NPDES permit. The intent is not to issue the WLAs at the end of each major outfall and require whatever controls are necessary to achieve the limits.

Because the TMDL implementation plans expressly direct the use of BMP based effluent limitations in MS4 permits, the Second Draft Order must be revised to eliminate the numeric WQBELs. The Permittees provide suggested alternative language for Parts 6 and 7 to ensure that the Second Draft Order properly incorporates TMDL provisions that are consistent with adopted and applicable TMDLs. (See Attachment B.)

**C. *TMDL Wasteload Allocations Expressed as Numeric Effluent Limitations are Subject to State’s Mandatory Minimum Penalty Provisions and Other Enforcement Provisions.***

Like the MALs discussed above, the numeric effluent limits contained in the Second Draft Order to implement TMDL WLAs may subject the Permittees to mandatory minimum penalties if it is deemed a “serious violation” as defined by the Water Code, or if there are four or more violations in any six-month period. Furthermore, the violation of numeric limits may subject the Permittees to additional enforcement activity through administrative civil liability and/or third party lawsuits. The threat or potential jeopardy of such liability is unreasonable in light of the fact that the TMDL implementation plans expressly provide for the use of BMP based effluent limits to implement WLAs.

**EXHIBIT TO ATTACHMENT A  
LARRY WALKER ASSOCIATES MEMO:  
COMPARISON BETWEEN MONTGOMERY COUNTY (MD) AND  
VENTURA COUNTY (CA) STORMWATER PROGRAMS**

# Memorandum

LARRY  
WALKER



ASSOCIATES

DATE: October 11, 2007

TO: Gerhardt Hubner

SUBJECT: Comparison between Montgomery  
County (MD) and Ventura County (CA)  
Stormwater Management Programs

MALCOLM WALKER, P.E.

707 4th Street  
Davis, CA 95616  
530.753.6400  
530.753.7030 fax  
mackw@lwa.com

---

The purpose of this memorandum is to summarize and compare the Stormwater Management Programs currently being implemented in Montgomery County (MD) and Ventura County (CA). Each program is in response to Federal regulations and subject to NPDES permits. This memorandum includes two sections: one is the side by side comparison between the two management programs and the other is a comparison between the runoff quality for comparable outfalls within each county.

## Stormwater Management Program Comparison

The structure of both programs follows the format of the stormwater regulations (40 CFR 122.26). As such the programs are organized around the following program elements:

- Public Outreach
- Industrial/Commercial Businesses
- Illicit Discharge and Illegal Connection
- New Development and Land Use Planning
- Construction
- Municipal Operations

The 2005/06 Annual Report for each county was reviewed and summarized in the following table.



Table 1. Comparison of Stormwater Management Programs

Stormwater Management Program Elements	Ventura County FY05-06 Reported Activities	Montgomery County 2005 Reported Activities
<b>a. Public outreach</b> Presentations at community groups; participation in county-wide events	<ul style="list-style-type: none"> <li>• Participation in Coastal Clean-up Day (2000 volunteers, 47 mi of shoreline)</li> <li>• Participation at Mobile Satellite City Hall Events (direct residents / program staff interactions)</li> </ul>	<ul style="list-style-type: none"> <li>• Mentoring partnership with local schools (assistance with environmental projects, distribution of outreach materials)</li> <li>• Participation in two Volunteers in Planting events (approx. 600 native trees and shrubs planted in riparian forested buffers for stream restoration)</li> </ul>
<b>Outreach materials</b>	<ul style="list-style-type: none"> <li>• Multimedia, bi-lingual materials (print, video, web) on water conservation, pet waste, illegal dumping, incident reporting; utility bill inserts; newsletters</li> </ul>	<ul style="list-style-type: none"> <li>• Multimedia materials (print, video, web) on water conservation, pet waste, illegal dumping, incident reporting; utility bill inserts.</li> </ul>
<b>Media advertisements</b>	<ul style="list-style-type: none"> <li>• Print, Radio, TV, Outdoor</li> <li>• 10.2M total impressions</li> </ul>	<ul style="list-style-type: none"> <li>• not reported</li> </ul>
<b>Other / Special programs</b>	<ul style="list-style-type: none"> <li>• Pet Waste Program (educate pet owners on proper disposal of pet waste; installation and stocking of 75 dispensers for pet waste bags in public areas)</li> </ul>	<ul style="list-style-type: none"> <li>• Rainscapes Program (community workshops on using native plants and creation of backyard wildlife habitat; distribution of 75 rain barrels)</li> </ul>
<b>b. Industrial / commercial businesses</b> Site Education / Inspection	<ul style="list-style-type: none"> <li>• Inspections at approx. 775 automotive facilities and 1100 food service establishments.</li> </ul>	<ul style="list-style-type: none"> <li>• 1,145 total inspections of sites with stormwater management equipment (oil/grit separators, ponds, etc.); 959 privately owned and 186 publicly-owned</li> </ul>
<b>Targeted Businesses / POCs</b>	<ul style="list-style-type: none"> <li>• Focus of food service establishments, automotive, car washes, equestrian stable facilities, agricultural-related facilities, and mobile businesses (e.g. concrete pumping).</li> </ul>	<ul style="list-style-type: none"> <li>• not reported</li> </ul>
<b>General Industrial Permit Facility Visits</b>	<ul style="list-style-type: none"> <li>• Approx. 275 outreach contacts at facilities identified as potentially subject to General Industrial Permitting</li> <li>• Conducted several joint inspections with RWQCB inspection staff to promote consistency in inspection procedures</li> <li>• 58 inspection staff trained</li> </ul>	<ul style="list-style-type: none"> <li>• not reported</li> <li>• 196 water quality complaints</li> <li>• 55 hazardous materials incidents</li> <li>• 22 NOVs, \$1,750 fines</li> </ul>
<b>Stormwater Quality Staff Training Enforcement</b>	<ul style="list-style-type: none"> <li>• not reported</li> </ul>	<ul style="list-style-type: none"> <li>• not reported</li> </ul>

Table 1. continue

Stormwater Management Program Elements	VENTURA COUNTY, CA FY05-06 Reported Activities	MONTGOMERY COUNTY, MD 2005 Reported Activities
<p><b>c. Illicit discharge and illegal connection Incident Response</b></p>	<ul style="list-style-type: none"> <li>• Approx. 900 reported incidents, 15% determined to be illicit discharges</li> <li>• 548 warnings, 226 NOVs</li> <li>• 15 illegal connections identified and eliminated</li> </ul>	<ul style="list-style-type: none"> <li>• 387 complaints of illegal dumping</li> <li>• 18 NOVs, \$4,500 fines</li> <li>• no illegal connections reported</li> </ul>
<p>Education</p>	<p>Part of outreach for elements a. and e.</p>	<p>Part of element a not reported</p>
<p>Illicit Discharges / Illegal Connections Staff Training</p>	<ul style="list-style-type: none"> <li>• 58 drainage, roadway, landscape and facilities, industrial inspection, and code enforcement staff trained</li> </ul>	<ul style="list-style-type: none"> <li>• 100 outfalls selected from targeted watersheds (based on history of water quality complaints &amp; results of biological monitoring)</li> <li>• 37 with dry weather flow, out of which 9 identified with dry-weather flow from other than pipe streams</li> <li>• 5 had one or more of the five indicator parameters (Cu, Pb, Detergents, Total Phenols, Chlorine) above MDLs - source tracking unsuccessful</li> </ul>
<p>Outfall Screening</p>	<p>not reported.</p>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Inspect outfalls for evidence of illicit discharges or illegal connections</p>	<p>not reported.</p>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p><b>d. New development and land use planning</b></p>	<ul style="list-style-type: none"> <li>• Approx. 650 projects reviewed for stormwater requirements</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Land Use Planning and Environmental Review</p>	<ul style="list-style-type: none"> <li>• Approx. 175 projects with Stormwater Quality Urban Impact Mitigation Plan (SQUIMP) technical requirements</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Development Standards - Technical Manual</p>	<ul style="list-style-type: none"> <li>• Approx. 3500 contacts made through meetings, public communication efforts, and educational materials</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Development Community Outreach</p>	<ul style="list-style-type: none"> <li>• 34 development / planning staff trained</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Stormwater Quality Staff Training</p>	<ul style="list-style-type: none"> <li>• 110 projects w/ SWPCP requirements; all inspected at least once</li> <li>• 100% projects satisfied NOI requirement</li> <li>• All sites inspected at least once during the wet season; 807 enforcement actions taken (job memoranda, NOVs, CDOs)</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p><b>e. Construction</b></p>	<ul style="list-style-type: none"> <li>• 200 construction inspection staff trained</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>SWPCP Preparation, Certification, and Implementation (with incorporated BMPs)</p>	<ul style="list-style-type: none"> <li>• 110 projects w/ SWPCP requirements; all inspected at least once</li> <li>• 100% projects satisfied NOI requirement</li> <li>• All sites inspected at least once during the wet season; 807 enforcement actions taken (job memoranda, NOVs, CDOs)</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Notice of Intent Requirement</p>	<ul style="list-style-type: none"> <li>• 200 construction inspection staff trained</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Construction Site Inspection Program</p>	<ul style="list-style-type: none"> <li>• 200 construction inspection staff trained</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>
<p>Stormwater Quality Staff Training</p>	<ul style="list-style-type: none"> <li>• 200 construction inspection staff trained</li> </ul>	<p>Sediment and Erosion Control Program Program purpose is "to prevent excessive erosion and stormwater flow from land disturbing activities from causing siltation and degradation of streams and waterways."</p> <ul style="list-style-type: none"> <li>• 779 Sediment Control Permits issued (for activities disturbing 5000 sq. ft. of land or more)</li> <li>• 167 projects with area of disturbance greater than one-acre (reported on a quarterly basis to the MD Dept of Env't)</li> <li>• 84 'responsible personnel' (construction site operators) trained</li> </ul>

Table 1. continue

Stormwater Management Program Elements		VENTURA COUNTY, CA FY05-06 Reported Activities	MONTGOMERY COUNTY, MD 2005 Reported Activities
f. Municipal operations Corporation Yards		<ul style="list-style-type: none"> <li>• SWPCP developed and implemented at all 20 corporation yards; 100% compliance w/ SWPCP requirements</li> </ul>	<ul style="list-style-type: none"> <li>• SWPCP developed and implemented at all 9 corporation yards; 4 Plans need revisions</li> <li>• no indoor vehicle washing facility at 3 yards</li> </ul>
Other Facilities			
Drainage System Operation and Maintenance		<ul style="list-style-type: none"> <li>• Inspected catch basins and other drainage facilities at least once before the wet season</li> <li>• Approx. 28,500 tons of debris removed from catch basins, channels / ditches, and detention / retention basins</li> </ul>	<ul style="list-style-type: none"> <li>• Program is complaint-driven to remove clogged inlets or drainage problems</li> <li>• 5.72M ft total storm drains; 11,460ft cleaned</li> <li>• Pilot program to estimate effectiveness of storm drain inlet cleaning in source control</li> </ul>
Roadway Operation and Maintenance		<ul style="list-style-type: none"> <li>• Approx. 112,000 curb miles swept; over 100% of roadways (most streets swept more than once)</li> </ul>	<ul style="list-style-type: none"> <li>• All streets swept at least once between March and June (soon after wet season when sand and salt are applied).</li> <li>• Contractor required to keep track of amount of debris swept by route, so that areas with high amount of debris can be targeted for priority street sweeping.</li> </ul>
Pesticide, Herbicide, and Fertilizer Application and Use		<ul style="list-style-type: none"> <li>• No application during rain events, or within one day of an event forecasted to be greater than 0.25 in., or at anytime when water is leaching or running from the application area</li> <li>• Implement effective BMPs and focus on Integrated Pest Management approach</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated Pest Management (IPM) plan</li> <li>• No fertilizer used at County facilities in 2005</li> <li>• Limited pesticides usage, only when all other control measures failed</li> </ul>
Stormwater Quality Staff Training		<ul style="list-style-type: none"> <li>• 834 stormwater maintenance, drainage and flood control systems, street and roads, parks and public landscaping, and corporation yards staff trained</li> </ul>	<ul style="list-style-type: none"> <li>• Conducted for yard personnel</li> </ul>
Other / Special programs		not reported	<p>Montgomery County Environmental Policy - "to increase environmental awareness of all County agencies, departments, and employees"</p> <ul style="list-style-type: none"> <li>• Develop and implement Env'tl Action Plans for all departments (focus on energy conservation, pollution prevention, green purchasing, and green buildings).</li> <li>• Best Env'tl Practices part of County budget</li> <li>• "Going Green at Home" initiative to encourage green building techniques in employees' home renovations / purchases.</li> </ul>

A review of Table 1 shows basically similar programs and commitments. The following observations are provided based on the review of Table 1

- Ventura County outreach focused on beach clean up and control of pest waste, while Montgomery County Outreach focused on rainscapes (including rain barrels)
- Similar effort with the industrial and commercial businesses with Ventura County providing significant inspections and Montgomery providing comprehensive enforcement.
- Enforcement of ID/IC program appears more aggressive in Ventura County although Montgomery County has an extensive outfall screening program.
- Both programs appear well situated to deal with construction sites.
- Ventura County has a well defined post construction program (probably due to its NPDES permit requirements). Unclear from the Annual Report the extent of the post construction program in Montgomery County.
- Similar efforts for municipal operations.

Although this comparison was limited to a review of the Annual Report the two programs appear very similar and comprehensive. A through audit of the two programs would likely distinguish significant differences (if any) but from our review the two programs are equivalent. This is not surprising since both programs are considered exemplary for their respective regions of the country.

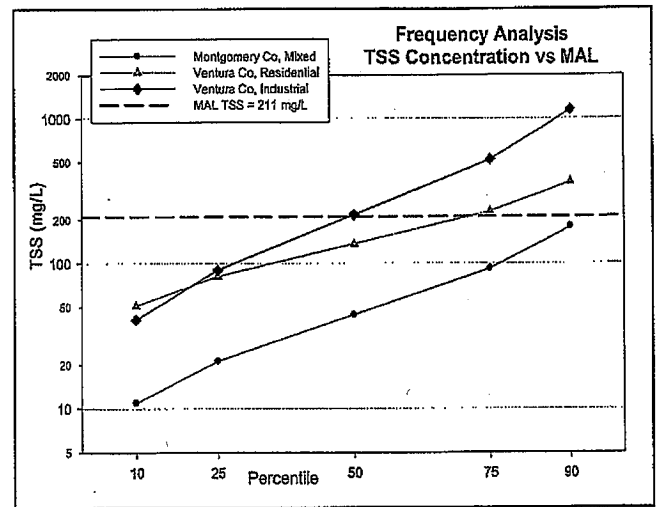
#### Runoff Characteristics

Each Program has an ongoing monitoring program that includes among other effort the characterization of runoff as determined through outfall monitoring. Each program has at least on land use outfall where sample are collected as flow weighted event mean concentrations: The side by side comparison between the outfall characteristics are shown below:

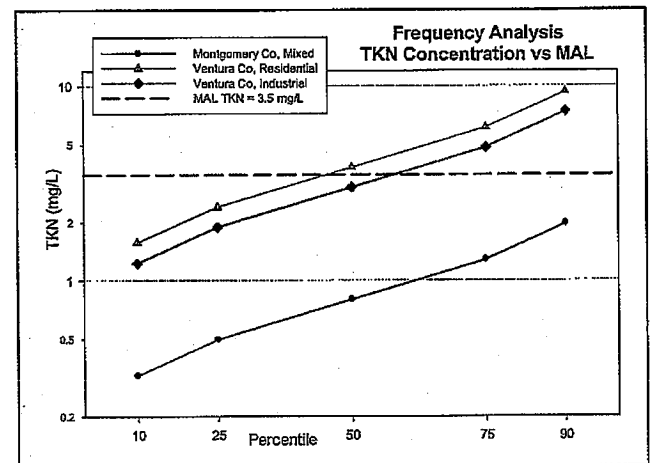
Characteristics	Montgomery County: Stewart-April Lane	Ventura County: Ortega Street (I-2)	Ventura County: Swan Street (R-1)
Dominant Land Use	Mixed	Industrial	Residential
Drainage Area, ac.	223	189	65
Monitoring record	2002-2006	1993-1998, 2000, 2004	1993-1998, 2000, 2004
Number of sample events	~45	~25	~25
Annual Precipitation, inches	46.4	15.35	15.35

The frequency distribution of the monitoring results for selected constituents are summarized and graphically shown in the following pages:

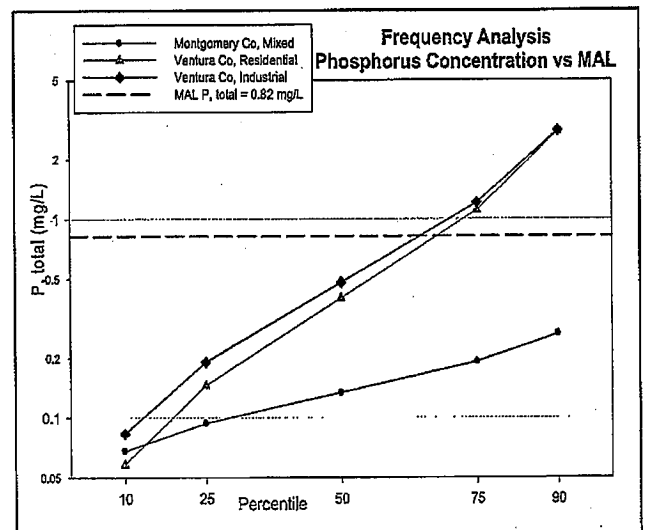
	TSS (mg/L)		
	Montgomery	Ventura R-1	Ventura I-2
min	5	26	5
10	11	51	41
25	21	81	90
50	44	135	217
75	92	227	520
90	177	361	1144
max	450	444	2796



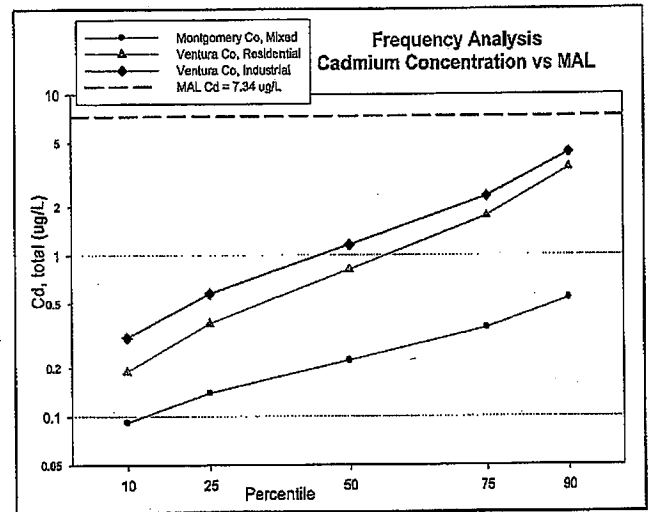
	TKN (mg/L)		
	Montgomery	Ventura R-1	Ventura I-2
min	0.1	1.2	1.1
10	0.3	1.6	1.2
25	0.5	2.4	1.9
50	0.8	3.8	3.0
75	1.3	6.1	4.8
90	1.9	9.3	7.4
max	4.3	23.4	8.1



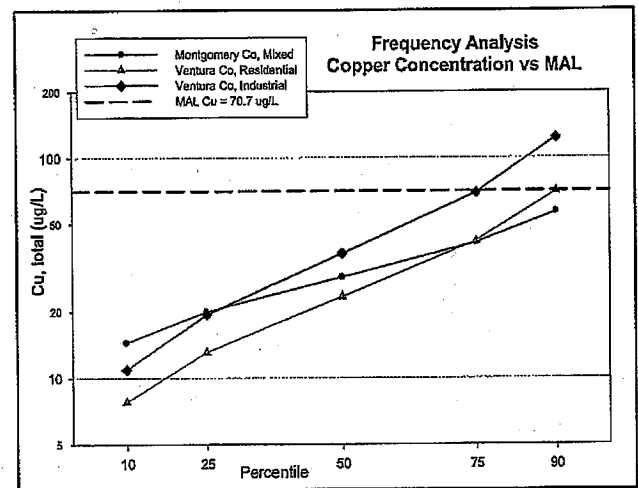
	Phosphorus, total (mg/L)		
	Montgomery	Ventura R-1	Ventura I-2
min	0.05	0.001	0.001
10	0.07	0.06	0.08
25	0.09	0.14	0.19
50	0.13	0.40	0.48
75	0.19	1.10	1.20
90	0.26	2.74	2.77
max	1.09	2.85	11.40



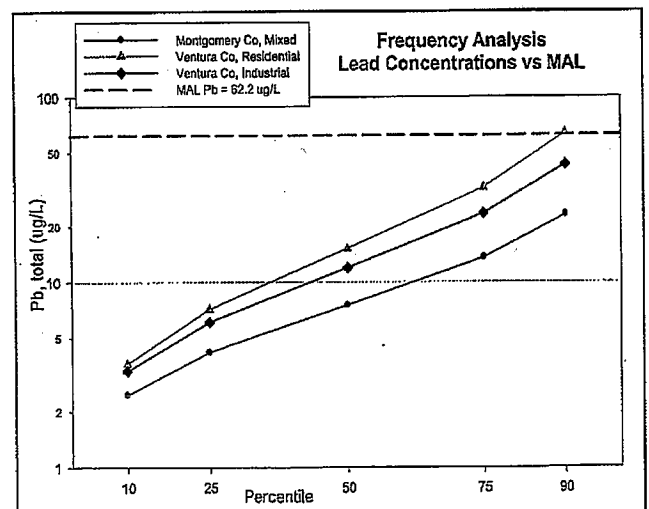
Cadmium, total (ug/L)			
	Montgomery	Ventura R-1	Ventura I-2
min	0.05	0.20	0.30
10	0.09	0.19	0.31
25	0.14	0.38	0.58
50	0.22	0.81	1.15
75	0.35	1.74	2.31
90	0.54	3.47	4.33
max	2.20	5.70	7.00



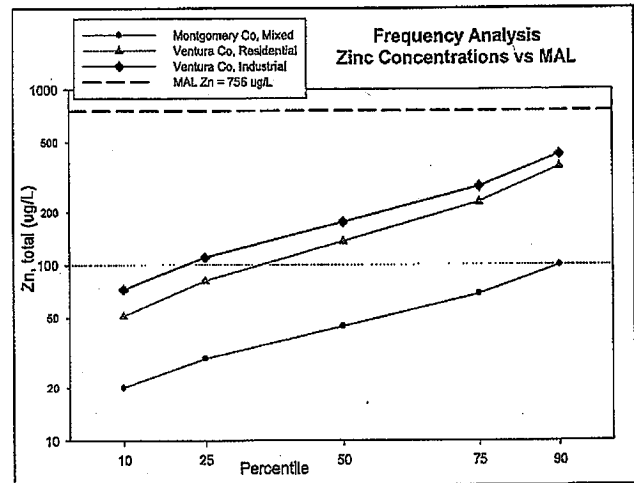
Copper, total (ug/L)			
	Montgomery	Ventura R-1	Ventura I-2
min	10.8	5.0	6.0
10	14.4	7.7	10.9
25	19.9	13.0	19.3
50	28.5	23.2	36.6
75	40.8	41.4	69.1
90	56.3	69.7	122.6
max	169.2	84.1	254.5



Lead, total (ug/L)			
	Montgomery	Ventura R-1	Ventura I-2
min	1.6	2.0	3.0
10	2.5	3.6	3.3
25	4.2	7.1	6.1
50	7.5	15.1	11.9
75	13.4	32.0	23.3
90	22.8	63.1	42.8
max	60.7	61.0	72.0



	Zinc, total (ug/L)		
	Montgomery	Ventura R-1	Ventura I-2
min	15	26	67
10	20	51	72
25	29	81	110
50	44	135	175
75	68	227	279
90	99	361	425
max	275	444	660



A closer review of the distribution plots shows that the runoff from the Stewart Apple Lane site is consistently cleaner than the runoff from either the Ortega Street or Swan Street sites. There are various reasons why this may be the case including

- Difference in annual rainfall amounts
- Difference in impervious area
- Difference in stormwater management programs

To assess the relationship in rainfall and runoff concentrations the arithmetic means of the constituents shown above were compared between Montgomery and R-1. The hypothesis is that the runoff concentrations are inversely related to the amount of annual rainfall. This hypothesis is consistent with the theory that pollutants build up between rain events and wash off during the event. On an annual basis if all things being equal the load from the two counties would be similar. The comparison is shown below:

Constituent	Units	Runoff means		Ratio (Mont/Ven)
		Montgomery	Ventura (R-1)	
TSS	mg/L	44	135	.33
TKN	mg/L	0.8	3.8	.21
Total P	mg/L	0.13	0.40	.33
Cadmium	ug/L	0.22	.81	.27
Copper	ug/L	28.5	23.2	1.23
Lead	ug/L	7.5	15.1	.50
Zinc	ug/L	44	135	.33
Annual Rainfall	inches	46.4	15.35	.33 (Ven/Mont)

Although this comparison is relatively elementary a review of the ratio would suggest that the rainfall concentrations are related to the annual rainfall amount. A more sophisticated analysis is necessary to conclusively validate this hypothesis but for the purposes of this level of comparison the hypothesis appears valid.