

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
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PUBLIC COMMENTS AND STAFF RESPONSE

Water Board staff received comments from:

1. John Ricker, Water Resources Program Coordinator, County of Santa Cruz in a letter dated February 1, 2006
2. Robert Ketley, City of Watsonville in a letter dated January 31, 2005
3. Matt Bissell, President, Santa Cruz County Farm Bureau in a letter dated February 1, 2006
4. Cheryl McGovern, United States Environmental Protection Agency, in a letter dated January 18, 2006

Below are staff responses to these comments. All comments are direct transcriptions from the letters unless shown in *italics*.

Comments and Responses – County of Santa Cruz

Comment 1

The County contends there is a substantial flaw in the assumption used as a basis with which to develop the TMDL and Implementation Plan. We do not believe that the target for implementation should be the standard for Water Contact Recreation (REC-1). We do not believe that the slough system supports the use of water for recreational activity involving body contact with water, where ingestion of water is reasonably possible. Given the documentation of widespread land reclamation in the late 1800s and early 1900s for agriculture, including hydromodifications that severed the exchange of fresh and tidal waters from the river mouth and estuary up into the freshwater channel, there is no evidence that the Watsonville Sloughs were historically used for water contact recreation. Further, there is historical documentation of the watershed's usage by huge numbers of a variety of bird species which would support the premise that the sloughs never could have met REC-1 standards. County staff reviewed historical documents related to the assignment of the REC-1 beneficial use to the Watsonville Sloughs and could only find a generic assignment to all identified surface waters within Santa Cruz County based on "a potential" for such use. There was no specific identification of water contact use in the Watsonville Slough System. The single siting (sic) by Regional Board staff of fishing at Harkins Slough at the closed Harkins Slough Road and the use of walking trails along the slough system would tend to support a designation for non contact recreation (REC-2). The fecal coliform standard for REC-2 would also be more appropriate in this water body, which is heavily used by birds and wildlife.

Response to Comment 1

Water Board staff concurs that the REC-1 beneficial use is not currently attained, i.e., the sloughs are not meeting water quality objectives that support a REC-1 use. However, we believe there is insufficient information to conclude that there is no future potential for REC-1 to be attained. The County's assertion that there is no historical evidence that REC-1 was ever supported is not in and of itself a basis for removing, or, de-designating the use.

Section 303(c) of the CWA requires that each state designate uses for all water bodies within the state. In California these are termed beneficial uses. Beneficial uses can be either existing uses, or, higher quality “designated” uses that do not currently exist.¹ (Emphasis added by staff.) Designated uses must include, at a minimum, “protection and propagation of fish, shellfish, and wildlife, and...recreation in and on the water,” (33 U.S.C. Section 1251(a)(2)). This goal is often called “fishable/swimmable.” While USEPA has not identified specific uses that California may adopt to meet the fishable/swimmable goal, the State has created a range of uses (REC-1, REC-2, COLD, WARM, etc.) that satisfy this goal.

For California to demonstrate that attaining “fishable/swimmable” uses on Watsonville Sloughs is not feasible, it must prepare and/or review and approve a Use Attainability Analysis (UAA) to demonstrate through a comprehensive assessment of physical, biological, chemical, and economic information that one or more of six conditions outlined in 40 CFR 131.10(g) exist.¹ Ultimately the USEPA would determine whether the State could remove or otherwise modify the beneficial use. This is the step that Water Board staff took relative to the designated use of Commercial Shellfish Harvesting (SHELL), which we thought was inappropriately assigned to the slough system. The UAA for SHELL supports our proposal to remove SHELL as a beneficial use in Watsonville Sloughs.

However, the circumstances surrounding the potential for REC-1 are markedly different than those for SHELL. Staff considers observations of people fishing on the shore of the Harkins Slough to strongly support their contention that a potential for REC-1 exists there. Furthermore, there exists real potential for future hydrological improvements to result from implementing elements of the proposed Watershed Conservation & Enhancement Plan and/or other plans such as bridge replacements (two now underway on Harkins Slough Road). Such hydrological improvements could potentially render the sloughs more inviting for contact recreationists, and improve circulation and reduce background bacteria loads.

Finally, the standard for evidence and arguments for removal of a “swimmable” use is a high standard—one that ensures continued protection and allows for enhancement and restoration of waters of the State.

Comment 2

The Draft Final Project Report recognizes in several instances that significant pathogen loading could come from “uncontrollable sources”. It is stated on page 38, “*E. coli* from bird sources alone exceed 400 MPN/100ml in all samples. Thus, Basin Plan water quality objectives for contact recreational use of these waterbodies are not met due to natural sources.” The Executive Summary for the Genetic Source Identification Report also states “In reality, birds cannot be controlled.” Documentation of the extent, location and types of bird species utilizing the Watsonville Sloughs Watershed can be found in the Watsonville Slough Resource Enhancement Plan, 2003, Technical Appendix G: A Review of the Bird Resources of Watsonville Sloughs Watershed, Santa Cruz County California. Based on the documentation of the avian source of bacteria and the large number of resident as well as migratory birds (with the Sloughs location on the Pacific Flyway), even the achievement of the less stringent REC-2 standards could be questionable.

Response to Comment 2

¹ U.S. Bureau of Land Management, National Science & Technology Center, Water Quality Law Summary on-line at <http://www.blm.gov/nstc/WaterLaws/Chap3.html>

The context of the above excerpted text from page 38 of the Project Report follows:

“*E. coli* from bird sources alone exceed 400 MPN/100ml in all samples. Thus, Basin Plan water quality objectives for contact recreation use of these waterbodies are not met due to natural sources (assuming bird sources do not include chickens, emus, or other domesticated bird species). During the wet season, *E. coli* from dog and cow sources individually lead to an exceedance in all samples. *E. coli* from human sources exceeds 400 MPN/100ml only during the rainy season at STR-CHE (two replicated samples). *E. coli* from rabbit sources is well below 400 MPN/100ml.”

Staff contends that the paragraph leads to the conclusion that while natural sources could have caused the exceedance, there are also instances where controllable sources caused exceedances (dogs, humans). Staff agrees that birds and other uncontrollable sources are a significant contribution to the impairment in the sloughs. However, the limited genetic analysis does not support the contention that uncontrollable sources are the only problem. The presence of human-source *E. coli* is the critical finding from the limited genetic analysis. In this case, the occurrence of relatively large contributions from natural sources in no way diminishes the significance of human sources.

Comment 3

Given this recognition of “uncontrollable natural sources”, the level of implementation and cost of continued monitoring seems somewhat excessive. Given current limits on public and private funds, it is suggested that the implementation of this TMDL be delayed until existing, yet relatively recent programs are more fully implemented. These include the City of Watsonville and County of Santa Cruz Phase II Stormwater Programs, and the development of Nonpoint Source Pollution Control Implementation Programs required under the Waiver of WDRs for Discharges from Irrigated Agricultural Lands. For example, the County already intends to address the issue of pet waste in its stormwater ordinance and related education programs. The Resource Conservation District also has programs for education and technical assistance to livestock owners in the Harkins Slough area.

Response to Comment 3

The “level of implementation” proposed by staff corresponds well with the County’s suggestions, including Phase II Stormwater Programs and NPS Pollution Control Implementation Programs. These two programs are at the core of staff’s proposed implementation plan. Furthermore, the proposed adoption of the Livestock Waste Discharge Prohibition is necessary to generate the NPS Pollution Control Implementation Programs. The existing Nonpoint Source Pollution Control Implementation Program required under the Waiver of WDRs for Discharges from Irrigated Agricultural Lands does not require management practices to control bacteria, nor does it include requirements to meet bacteria water quality objectives. Monitoring will be the only way to establish that these programs are having the effect that the County suggests they will have. Staff made a concerted effort to limit the burden of monitoring, and we built flexibility into the plan to allow us, and the parties conducting monitoring, to adapt monitoring for optimal financial and informational value.

Comment 4

The contribution of potential sources from the Freedom Sanitation District are likely minor given the small portion of the District that falls within the watershed and the distance from the waterbodies. Limited District funds would be better spent on future, planned capital improvements to this infrastructure, rather than speculative monitoring. Furthermore, there are many more septic systems located in the Harkins Slough watershed than sewer parcels.

Response to Comment 4

In the proposed monitoring plan, the Freedom Sanitation District monitoring requirement includes a single location on Harkins Slough where portions of their collection system are located. Five samples would be collected over a 30-day period in three seasons per year. While Water Board staff does not view this requirement as burdensome for an entity of this size, staff would consider information from the District to support an alternative to the proposed monitoring requirement. As stated in the proposed Resolution R3-2006-0025, within six months following adoption of the TMDL by the Office of Administrative Law, the Executive Officer will issue a letter requiring a technical report that describes a monitoring plan and schedule that includes sampling sites in receiving waters. This report would be the District's opportunity to present its alternative.

Comment 5

Fecal contamination from homeless encampment sources results from larger societal issues which are difficult to control through typical water quality management approaches. We have explored the potential for homeless education with County homeless resources staff and they are not optimistic about the likely success. A large proportion of the homeless population suffer from mental illness or substance abuse and may not be expected to respond well to education on proper sanitation methods. Providing proper sanitation facilities is problematic where homeless encampments are typically located illegally on public or private property. Nevertheless, county staff will continue to work with law enforcement agencies as needed to address the presence of homeless encampments which are likely to be contributing to contamination in riparian areas.

Response to Comment 5

Noted.

Comment 6

The use of a target of 200 MPN/100ml for all sources seems inappropriate, given that there is no analysis of actual loading from the various classes of sources, there is no allocation for the substantial background contributions, and the target should be set at the REC-2 standard. Our monitoring has shown that most relatively clean storm drains and creeks will generally exceed 400 MPN/100ml during storm events.

Response to Comment 6

Staff does not agree that the target should be the REC-2 standard (see response to comment 1). Where numeric water quality objectives are available, they are the preferred numeric targets for TMDLs. In practice, the inherent nature of pathogens in the aquatic environment, the fact that the water quality objectives are applied to indicator organisms rather than to actual pathogenic organisms, and the lack of sufficient information on flow, all contribute to staff's recommendation of concentration-based, rather than mass load-based TMDLs for pathogens. This is emerging as the conventional approach nationwide for pathogen TMDLs, and it is consistent with 40 CFR 130.2(i). The water quality objective of 200 MPN/100 mL is applied as a geometric mean of five samples collected in a 30-day period. This is intended to account for fluxes from storm events.

Comment 7

The methodology for allocating the amount of pathogen loading from individual sources was not clear, even after reviewing the background report. For example, at HAR-HAR, adding up the *E. coli* contributions from the biggest sources (Table 5-1): dogs and birds gives a wet season average of 3400 MPN, but the geometric mean for the winter for that site was 1513.

Response to Comment 7

Staff allocated pathogen loads equally to all sources as concentration-based objectives. The genetic analysis did not dictate an allocated "amount of pathogen loading from individual sources," but rather identified whether a source should have an allocation at all.

The genetic analysis, which identified the dog and bird *E. coli* component in the wet season, was conducted on a split sample taken at one location on one day—December 9, 2003. The results of three splits were averaged. The geometric mean of fecal coliform grab samples for the same site, HAR-HAR, is calculated from five samples collected the previous wet season from February 18 to March 20, 2003. These five samples ranged from 900 to 5,000 MPN/100mL fecal coliform.

We are cautious with comparisons between analytes (*E. coli* versus fecal coliform), or between single samples and samples taken over a time span (30 days, previous season). Nevertheless, taking these factors into consideration, we find the results to be within the likely range of natural variability. Refer to Appendix B: Genetic Source Identification Report, Figures 1a, 1b, and 1c with accompanying text for a discussion of confidence intervals and the MPN method.

Comment 8

How much loading comes from other sources for which there was no genetic testing? Our recent study using ribotyping in coastal lagoons and waters indicated 62% of the *E. coli* came from birds and only 7.5% came from dogs. The proposed contribution from dogs to Watsonville sloughs seems unexplainably high.

Response to Comment 8

The opinion of the researcher conducting the genetic analysis (Betty Olson, PhD., UC Irvine) is that the major sources were captured in her analysis that screened for humans, birds, dogs, cows, and rabbits. However, the question and comment are valid, and resolving the issue is part of the focus of the implementation and monitoring efforts for the TMDL.

Comment 9

There is no confirmation that horses are a significant source, although a significant amount of implementation would be directed at horse owners. Would it be possible to do more complete microbial source tracking before adoption of the TMDL?

Response to Comment 9

We cannot eliminate horses as a potential source simply because the genetic analysis did not include a horse biomarker. Horse operations are common throughout Larkin Valley and staff has observed horses in the creek bed in some of these operations.

Staff compiled and evaluated ample evidence to support the implementation strategy and we do not recommend additional source tracking prior to TMDL adoption. Genetic analysis was but

one of the assessment tools we employed and we did not design the analysis as a comprehensive source assessment. The current information supports the specific actions required in the implementation strategy. An important feature of the implementation strategy is its reliance on the results of future monitoring to inform the selection of future implementation actions.

Comment 10

It is stated in the Report that "Farmers in the Harkins Slough subwatershed apply manure to their lands (Bradford, 2005). This is a misquote. The email was dated January 3, 2005 not January 7, 2005 and referred to a single agricultural operation along Struve Slough, not Harkins Slough. As those agricultural lands are now included in the annexation into the City of Watsonville for industrial development as approved in concept by the Santa Cruz Local Agency Formation Commission, this information is dated and no longer relevant.

Response to Comment 10

Staff changed the text on page 45 in the Project Report to reflect the correct location and date. The email was brief and is presented here:

"Last Wednesday 12/29, I walked the City of Watsonville's Slough Trail System. While walking downstream along Struve Slough, (Harkins Slough Road – Hwy 1) the unmistakable odor of steer manure was heavy in the air. Sure enough, we eventually saw the bare agricultural fields all freshly top dressed with steer manure. They must have been able to get into the fields before the rains started just after Christmas. It's a 26 acre parcel. I'm wondering if rather than trying to identify where small herds of cattle are grazing in the watershed, one should be trying to identify the sources of ag soil amendment providers."

Staff accepts that a conversion of this parcel to industrial development would eliminate it as a potential source of pathogens from manure spreading. However, to our knowledge the conversion from agriculture to industrial use has not taken place. Furthermore, we understand that the practice of manure spreading is not uncommon in surrounding agricultural lands (see Comment 19 below).

Comment 11

The estimated cost of compliance with the Phase II Stormwater program is severely underestimated. The cost information cited in the Report (\$4.31 per capita annual cost) was provided by the City of Watsonville many years ago during the early stages of developing the City's stormwater pollution prevention plan. Estimates provided by a scientific peer reviewer estimate the cost in the range of \$18 to \$46 per household. Regional Board staff's use of a \$3.00 cost per household is not supported by the discussion and may be an error in calculation.

Response to Comment 11

Staff kept the Project Report text as is, since we amended the text earlier and made it available for public review to qualify our cost estimates. We included the \$18 to \$46 per household figure, which we obtained (not the peer reviewer) from a 2003 survey of 16 California cities. Costs incurred for stormwater management are pursuant to the Phase II NPDES regulations, which pertain regardless of TMDL adoption. The TMDL implementation and monitoring plan would impose an incremental increase over other program costs. Staff has endeavored to limit requirements to the minimum necessary to achieve water quality results.

Comment 12

The amount of fees that might be expected to be paid to the Water Board by agencies and private landowners for review and approval of monitoring plans or management plans should also be mentioned.

Response to Comment 12

Fees are not required for review and approval of monitoring plans and management plans as proposed in this TMDL. An important advantage to the regulated community of the proposed discharge prohibition over waste discharge requirements (WDRs), or waivers of WDRs, is that the Water Board does not require fees for parties seeking to comply with the prohibition. Staff considered the financial aspect from the perspective of limiting the burden on dischargers.

Comment 13

The number of stormwater outfalls that would have to be monitored is not specified. There is no indication of how this is to be determined in order to gain approval by the Executive Officer of the Central Coast Water Board.

Response to Comment 13

As stated in Table 10-1, Possible Monitoring Locations for Determining Attainment of TMDL, the City and County will propose outfall locations for monitoring, which are then subject to approval by the Executive Officer. We suggest in the text that representativeness and relative discharge (loading potential) are two criteria among others that could be considered in determining which stormdrains to monitor. However, by assigning the selection to City and County staff we acknowledge their intimate knowledge of the system and expect a better outcome. We hope this conveys staff's interest in collaborating with stormwater entities to develop an appropriate monitoring plan, rather than assigning arbitrary requirements.

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Comments and Responses – City of Watsonville

Comment 14

Board staff provides no evidence that the water quality in Watsonville, Struve, Hanson, Harkins and Gallighan sloughs has historically met REC-1 standards. Indeed, it seems improbable that a wetland system with such large avian populations could ever have consistently met this objective. It is inappropriate to suggest water quality can be "restored" when no supporting data of such a pre-existing condition is available.

Response to Comment 14

See response to Comment 1. The TMDL and implementation plan are not predicated on controlling birds. Importantly, human pathogens are found in Watsonville, Harkins, and Struve Sloughs necessitating actions to identify and control their source. The implementation plan has provisions for adjusting water quality goals should natural sources be confirmed to be the source of exceedance of water quality objectives.

Comment 15

Based on the data produced by CSUMB and others, it is clear that even with all non-natural sources removed, the bacterial water quality in the sloughs will not achieve the required REC-1 [fix the rest of these pls] standard. As such, the choice of the REC-1 standard for a wetland with

large numbers of resident and migratory bird species is simply inappropriate. Indeed, avian sources of bacteria make achieving the less stringent REC- 2 standard questionable.

Response to Comment 15

The principal value of the limited genetic analysis (six samples; three in wet season, three in dry) was to confirm the presence of controllable sources of pathogens (humans, cows, dogs). The concentrations identified of the various constituents do indeed confirm that for those few samples, birds could explain the exceedance of the Basin Plan fecal coliform standard. But it is unsupportable to extend these results so broadly as to state, "it is clear that even with non-natural sources removed, the bacterial water quality in the sloughs will not achieve the required REC-1 standard." Also, please see response to Comment 2 above.

Comment 16

The REC standards are concentration-based standards instead of mass-based standards, which are more appropriate for addressing actual pollutant loadings. Unless the results of sampling are carefully evaluated in this context, considerable effort could be expended addressing sources of high MPN levels that are actually small or insignificant bacterial loading sources. This is counter to the TMDL concept.

Response to Comment 16

See responses to Comment 6 and Comment 13 above.

Comment 17

*The monitoring plan states, "All dischargers have the option of presenting discharge monitoring data or other evidence to the Water Board in lieu of conducting receiving water monitoring."
The City's comment follows:*

It is unclear what other evidence could be presented instead of receiving water monitoring data. The City sees no reasonable scientifically valid alternative to genetic type testing methods to address this pathogen TMDL.

Response to Comment 17

The City may be correct in that no other evidence would verify their loading of pathogens. However, other landowners or livestock operators may demonstrate that site design or other physical attributes of their operation effectively eliminate pathogen loads in their discharge. For example, operators of horse facilities could include as evidence photos of berms around areas containing manure.

Comment 18

The monitoring plan states, "Operators and owners of livestock and livestock facilities must choose receiving water monitoring or the second option of providing the Water Board with acceptable discharge data or other evidence." The City's comment follows:

It is not clear what constitutes "other evidence". Given that these facilities are likely to have some of the highest pathogen loads, this would seem to represent a fundamental flaw in the monitoring program. Absent equivalent data from all sources, the ability to properly define and address pathogen-loading sources will be compromised, perhaps significantly. It may also cause the board to require extra years of sampling by the County and City, since collected data could be

considered inconclusive. This is both scientifically invalid and puts an unfair burden on the municipalities.

Response to Comment 18

See response to previous comment regarding other evidence. To clarify staff's intent: should livestock facility operators choose not to monitor receiving waters, they must submit evidence that they are not discharging, or submit discharge monitoring data. Water Board staff will not approve a monitoring plan that we expected to produce inconclusive data. However, inconclusive data are a potential outcome, particularly in the context of nonpoint source discharges. Should the results of the first three years of monitoring yield inconclusive data, this would suggest a different monitoring strategy should be employed. The adaptive management approach is predicated on learning from the monitoring and making appropriate management responses.

Comment 19

Considerable amounts of manure (chicken and steer) are used as soil amendments on ag land surrounding the sloughs. The resolution does not appear to require sampling of flows and runoff directly from these sources. In addition, wind dispersal of manure dust is not uncommon in this area and significant loadings of pathogens could occur from aerial deposition of this dust both inside the City and directly onto wetland areas.

Response to Comment 19

The implementation plan requires operators or owners of irrigated lands where manure is applied to submit reports that demonstrate that they do not discharge pathogens, or explain how pathogen discharges are being addressed. Staff considers aerial deposition of fecal dust to be a potential secondary source of pathogens in waterbodies. Should farmers demonstrate that their use of manure on agricultural lands results in pathogen-free discharges, and, should water quality monitoring data reveal a persistence of manure-source pathogens in receiving waters, staff anticipates that an investigation of the potential secondary source of aerially deposited fecal matter would be appropriate.

Comment 20

The Resolution states that among factors considered in developing the livestock waste discharge prohibition, staff concluded that improved water quality conditions can reasonable be achieved through the coordinated control of all factors that affect water quality in the area, as provided in the Implementation Plan." The City's comment follows:

While improved water conditions may well be achievable, natural conditions preclude attaining the proposed REC-1 standards.

Response to Comment 20

See response to Comment 1. The prohibition is directed at eliminating one class of sources. It does not specifically require attainment of REC-1 water quality objectives for fecal coliform. However, employed in concert with other elements of the implementation plan, including evaluating data after an initial period of implementation to determine if REC-1 is attainable absent controllable sources, staff contends that the REC-1 standard remains a reasonable goal.

Comment 21

The Resolution states that among factors considered in developing the livestock waste discharge prohibition, staff concluded that costs to achieve compliance with the prohibition are reasonable relative to the benefit of improved water quality." The City's comment follows:

It is not clear how costs to achieve an unachievable prohibition can be reasonable relative to the benefit?

Response to Comment 21

Staff believes the prohibition would be achievable as it affects the management of individual livestock operations for which there are various affordable options to control and/or treat runoff. By contrast, a requirement for the City to control bird contributions would be unachievable. Even if REC-1 standards are not attained, the prohibition will reduce loading and therefore improve water quality to a degree that justifies the cost of compliance.

Comment 22

The City of Watsonville has no urban areas draining to Harkins, Gallighan or Hanson Sloughs. These drainages are outside of the City limit line.

Response to Comment 22

To respond to this comment Water Board staff obtained a shape file from the City GIS staff. We asked City staff to superimpose city limits over watershed boundaries to confirm Dr. Ketley's assertion, since the data we relied on in preparing the Project Report are inconsistent with his assertion. City staff had no watershed files at the necessary level of detail, so we relied again on subwatershed boundaries as defined by Swanson Hydrology and Geomorphology in their January 2003 Watsonville Slough Watershed Resource Conservation & Enhancement Plan.

- 1) We found that only a small portion of Lower Harkins Slough near Rampart Road at its terminus with Airport Blvd. is within City limits. The Upper Harkins Slough subwatershed includes a larger portion adjacent to the airport, north of the runway extending to the un-named tributary that flows to the mainstem of Harkins Slough.
- 2) The very upland portion of Hanson Slough subwatershed is also within City Limits.
- 3) The City operates a landfill in Gallighan Slough.

This re-analysis of the City's boundaries with respect to subwatersheds confirms Water Board staff's Waste Load Allocations for the City of Watsonville. While we recognize these landscapes are for the most part upland, and are small portions of their subwatersheds, statutory requirements for preparing TMDLs and allocations dictate that we include these areas in the allocations, irrespective of size. We propose no changes to the allocations. See Figure 5-3 of the Project Report.

Comment 23

The Implementation Plan identifies the following requirements for the City- and County-managed collection systems: "... improve maintenance of their sewage collection systems, including identification, correction, and prevention of sewage leaks, in portions of the collection systems that run through, or adjacent to, tributaries to Watsonville Slough (Action 1B, Table 1). [Submit] a technical report that describes how and when they will conduct improved system maintenance in portions of the system most likely to affect the Sloughs. ...Water Board staff will evaluate proposed sewer system maintenance ... as described in the technical report and determine

whether appropriate changes to the maintenance have been made or whether any changes to the Waste Discharge Requirements are warranted. The City's comment follows:

This section implies that the City sanitary sewer collection system is poorly maintained and subject to leaks. The City has an effective and comprehensive sanitary sewer system maintenance program that other board staff has commented on favorably in the past.

Response to Comment 23

Staff intended no such implication in our requirements for the City and County. The location of infrastructure that can transport fecal material to adjacent waterbodies that are impaired by fecal coliform suggests the importance of maintaining operational safeguards for that infrastructure. Existing WDRs for the collection systems require management plans for maintaining optimal function. The above requirement of the TMDL implementation plan is intended to highlight the importance of completing these plans on time, given the impaired conditions of adjacent waterbodies.

Comment 24

The Implementation and Monitoring plan requires the City and County to revise their Stormwater Management Plans to indicate measures they will take to reduce urban stormwater pathogen loading. The City's comment follows:

The regional board has yet to approve a Phase II stormwater management plan for either the City or the County.

Response to Comment 24

Water Board staff acknowledges City staff's efforts to work with Water Board staff in reviewing compliance with the Phase II requirements, and both City's and County's timely submittal of draft stormwater management plans. We anticipate the Water Board's approval of the City's and County's Stormwater Management Plans. Regardless of the status of approval of those plans however, revisions of those plans will be required per this TMDL.

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Comments and Responses – Santa Cruz County Farm Bureau

Comment 25

The data from the CSUMB research shows that the natural sources of pathogens in the wetlands exceed the required standards...As such, requiring TMDL compliance with these non-managed contributors is almost certainly destined to fail.

Response to Comment 25

See Comment 1 above.

Comment 26

A further concern is the potential for third-party lawsuits for failure to meet this unattainable standard against the property owners who are down stream when many uses up stream are out of the control of those landowners.

Response to Comment 26

The TMDL does not change existing water quality objectives or provide an additional basis for a third-party lawsuit alleging contribution to violations of water quality

objectives. A more likely basis for a third party lawsuit would be for violating the prohibition. Staff acknowledges that possibility and encourages all affected dischargers to comply. Furthermore, staff does not consider the REC-1 standard to be unattainable (see responses to Comments 1 and 14 above). The requirement to demonstrate that their discharges are not contributing pathogen loads would be an important defense for landowners to use in opposing lawsuits.

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Comments and Responses – USEPA (comments are paraphrased)

Comment 27

We find the draft TMDLs and UAA in general meet the requirements of the Clean Water Act (CWA) and anticipate they will be approved upon consideration of the enclosed comments and submittal to USEPA. The supporting documentation clearly explains the basis for the approach and the analysis supports the allocation decisions.

Response to Comment 27

Noted.

Comment 28

Buena Vista Landfill NPDES monitoring does not include pathogens. All permitted facilities will need to include limits and monitoring for pathogens. It would be helpful to show the location of all point source dischargers in the watershed.

Response to Comment 28

Staff added landfill stormwater monitoring to the monitoring plan. The landfill is operated under both NPDES Industrial Stormwater General Permit and Waste Discharge Requirements. Landfill material does not runoff into adjacent surface waters due to controls required by these permits. However, birds attracted to landfills may increase pathogen loading in stormwater from the site. Staff is requiring monitoring to establish the pathogen levels in stormwater. These requirements will be included in the monitoring and reporting program for the Landfill's WDRs and if appropriate, consider modifications to the WDRs that require measures to reduce the attractiveness to birds.

Comment 29

Table 5-7 doesn't include the Buena Vista Landfill although it is a permitted facility. All permitted facilities need to be documented with the associated permit number.

Response to Comment 29

The landfill is included under "Stormwater Entities." The industrial stormwater general permit is the only NPDES permit for this facility. The entities identified under the industrial stormwater NPDES row of Table 5-7 are not sources of pathogens, with the possible exception of the landfill because of bird sources (see response to previous comment).

Comment 30

Does the area covered within a stormwater management program under the County or City jurisdiction represent 100% of the urban areas in Watsonville Slough?

Response to Comment 30

Yes, all urban areas are included in City or County stormwater programs.

Comment 31

The statement on page 53 reads: "Bacteria contamination from existing permitted facilities was not documented by this analysis." This needs clarification because it is unclear whether permitted facilities have limits for pathogens and if they monitor for compliance.

Response Comment 31

Staff reviewed all existing permitted facilities and ruled them out as potential sources of pathogens based on the type of facility and nature of discharge.

Comment 32

Waste load allocations need to be included in every permit in the watershed and each permit needs to be listed in the table. Monitoring is also a requirement of each permittee to ensure the waste load allocation is being met.

Response to Comment 32

Staff concurs that waste load allocations need to be included in permits for facilities or entities which are known or suspected sources of pathogen discharges. Staff developed the TMDL and allocations accordingly. The USEPA comments suggest, without basis, that we have missed loads from permitted facilities. Staff considered all permitted facilities, examined the files of those facilities viewed as potential sources of pathogens, or organic substrates for pathogens in their stormwater, and interviewed Water Board stormwater staff who have inspected the facilities. Our conclusion was that these facilities are not sources of pathogens.

Comment 33

It is highly unlikely and extremely unrealistic that an education program to the homeless and agricultural field workers on the impact of their actions on water quality will change behaviors. An effective pollution control approach is needed i.e. physical barriers and alternative sanitation systems to address these needs.

Response to Comment 33

Staff does not agree with the assumption in the first sentence. Without information concerning the effectiveness of education efforts, there is no basis for describing them as "highly unlikely and extremely unrealistic." Staff does not think physical barriers would be the most effective for a variety of reasons, including the transience of homeless encampments and individuals. Alternative sanitation systems such as portable toilets are routinely available for agricultural field workers. Staff concurs with County staff and others that the use of portable toilets for homeless encampments is problematic because encampments are typically located illegally on public or private property (see comment 5). They are also a target of vandalism and can thus potentially exacerbate water quality and public health problems. Staff believes the education and outreach measure is appropriate at this stage of implementation.

Comment 34

The Table of Implementation Actions of Responsible Parties (See Resolution, Attachment 1 to the Staff Report) needs to be expanded to include all permits and responsible parties.

Response to Comment 34

See response to Comment 32.

Comment 35

There appears to be no monitoring to determine whether a facility or operation meets the conditions of the Livestock Waste Discharge Prohibition or the Land Disturbance Prohibition.

Response to Comment 35

There is no Land Disturbance Prohibition. Staff changed the text to clarify this. The implementation plan clearly states the means of compliance with the Livestock Waste Discharge Prohibition. These include submission of a Nonpoint Source Pollution Control Implementation Program. Key Element 4 of the Program requires sufficient feedback mechanisms that enable the Water Board to determine if the Program is achieving its stated purpose (see p. 61 of Project Report). Additionally, livestock operators and manure applicators are identified in the Project Report in Table 10-1 Possible Monitoring Locations for Determining Attainment of the TMDL. Finally, the Resolution (Attachment 1 of the Staff Report) states that responsible parties must submit monitoring data or other evidence that demonstrates compliance with the Prohibition (p. 8).