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Rich Holmer (Holmer-1)	The requirement for inspection of systems every 5 years is a good method for achieving the goals of the TMDL study. In order to make this process effective, however, it needs to be user friendly to the property owners in the APMP area. The requirement for having a Qualified Professional (defined as a Registered Civil Engineer or Registered Environmental Health Specialist) perform the inspections is excessively costly for the basic inspection that is proposed. This language appears to derive from the State OWTS policy which sets minimum standards for the required registration for persons conducting analysis of soils and for design of systems, but the State OWTS policy is silent on the certification necessary for simple inspections.	In accordance with the OWTS Policy, the local agency may modify the minimum qualifications required for a Qualified Professional in an approved Local Agency Management Program (LAMP). This includes establishing alternative qualifications and/or certifications for individuals conducting routine OWTS inspections to comply with Action Plan requirements.
Holmer-2	The 5-year inspection could be performed by a licensed septic system contractor (C42, C36 or A license) or by a septic tank pumper who has received training and certification from a recognized body. The National Association of Wastewater Technicians has a rigorous training and certification program focused onto septic tank pumpers. In my experience, the pumpers generally have the ability to recognize and correct basic problems with septic systems and this is the process typically used to correct minor problems with systems. If the pumper is certified, the inspection could occur when the tank is pumped and would reduce cost to the property owner.	Comment Noted. In requiring a Qualified Professional for the 5-year basic operational inspection, the Action Plan affords the local agency the ability to modify the minimum requirements of individuals to perform that task. See response to Holmer-1.
Holmer-3	This broadening of the types of professionals that can perform the inspections will provide greater competition in the marketplace thus controlling costs to property owners. This will provide an incentive for property owners to have the inspection made without your Board having to resort to enforcement actions to gain compliance.	Regional Water Board staff agrees.
Holmer-4	The Action Plan is unclear on what use will be made of the results of the inspections or which agency will be providing follow up on systems where problems are noted during the inspection. The information from the inspections would be extremely useful for refining the areas that have unusual numbers of failing systems and which may require a community wide solution rather than individual upgrades. I suggest that the Regional Board establish a computerized data base in which to enter inspection results. This can be tied to a GIS based system to develop mapping of	As indicated in section V.D.5.b of the Action Plan, the results of the 5-year inspection will be used "to facilitate timely identification and resolution of maintenance and operational issues..." The results also serve as documentation that an OWTS is being maintained in good working condition and operating properly, as required by section 2.5 of the OWTS Policy. Finally, inspection results will also be used by the Regional Water Board determine compliance with the Corrective Action Criteria in section V.D.5.c of the Action Plan.

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	inspection results. This would clarify whether FIB exceedances are due to an individual system causing a discharge into a water body or the collective effect of systems in a given area. This tool could result in more effective use of funds for developing corrective measures.	Regional Water Board staff agrees that it would be helpful to maintain and track this information on a GIS-based system.
Holmer-5	Given the proposed inspection requirements and the need for further identification of which areas are having septic system issues within a watershed, governmental oversight of OWTS would be beneficial. The level of resources within the Regional Board staff and the County staff to provide this type of oversight is limited. Consequently, consideration should be given to formation of an Onsite Wastewater Management District similar to the one at The Sea Ranch. This district could provide the required inspections and could provide oversight of groundwater and surface water in the APMP area. The district responsibilities could include inspections of systems every 5 years, monitoring of ground water and surface water quality in the water shed and identification of systems or areas that are in particular need of upgrades. The district would also be helpful in facilitating the construction of small shared systems, maintaining common systems and providing sewer capacity to areas where onsite systems are poorly suited.	Regional Water Board staff strongly supports the creation of onsite wastewater management districts as a means to implement the APMP. As demonstrated by the operation of the Sea Ranch Sanitation Zone, onsite wastewater management districts can effectively manage costs to individual OWTS owners by facilitating or having staff conduct routine and emergency inspections, facilitating repairs and replacements, conducting monitoring and reporting to the permitting authority, operating and maintaining small clustered OWTS, and securing public funding for infrastructure improvements.
Holmer-5	The 2019 draft of the Action Plan contains a detailed analysis of potential funding sources for upgrades to systems and provision of community facilities. It fails, however, to address how access will be made to these funding sources for individual property owners and the timing of when (or if) these funds will be available. It is unconscionable to put the rigorous standards of the APMP in place without having financial assistance available to property owners. Implementation should be delayed until processes are in place to provide funding for required upgrades. AB 885 specifically mentions potential availability of low cost loans to property owners for system upgrades. These loans are not based upon the income of the property owner.	As discussed in the Staff Report, funding for improvements to water and wastewater infrastructure is available through the State's Clean Water State Revolving Fund, which offers low interest loans to assist with costs associated with complying with the OWTS Policy, including compliance with requirements of Tier 3 APMPs. Historically, grant funds have also been offered to small disadvantaged communities for technical assistance, project planning, and project construction. This funding source is only available to local agencies who can then make the funds available to private entities.
Holmer-6	The APMP requirements fall hardest onto low income and fixed income property owners. It is likely that people with limited income will be unable to afford loans for system upgrades. This could result in properties being sold at market rate values or rents being increased. Either of these actions will affect the availability	The Action Plan allows up to 15 years to complete corrective actions to comply with the APMP requirements and up to 20 years if the property owner is participating in a community compliance project. The time allowed to complete OWTS repair or replacement once an OWTS is identified as needing

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	of low cost housing. The Russian River watershed is one of the primary sources of low cost housing in Sonoma County. The implementation plan should allow delayed or phased in requirements to owners of low cost housing in order to preserve this vital housing stock.	corrective action is at the discretion of the local agency overseeing the corrective action, subject to the final compliance deadlines of 15 or 20 years.
Holmer-7	The APMP areas have been defined based upon contamination in watersheds rather than evidence of contamination of specific segments of the river and tributaries. In previous drafts of the TMDL, based upon the fecal coliform standard, tributaries to the river have been found to be exceeding water quality objectives but most segments of the mainstem were within acceptable standards. When the 2019 study was revised based upon the E. coli standard, there was no differentiation made as to contamination of the river versus the tributaries, all results were lumped into watershed areas. So, it is not evident whether the mainstem is exceeding the standards for E. coli. It is tenuous, therefore, to make the finding that septic systems along the mainstem are contributing to violation of water quality objectives when it has not been shown that the objectives are not being met.	The Russian River Watershed is a large watershed. It is impossible to characterize pathogen water quality conditions and the sources of identified pathogens by reach. Nor, is it necessary to obtain such detailed information to make rational decisions relevant to the protection of public health and the environment. The Russian River Pathogen TMDL is designed to assess by multiple lines of evidence the extent of pathogen contamination and the likely contributing sources. *E. coli* data, enterococci data, public health advisories, the OWTS Study, the Recreational Use Study, and the Land Use Study all contribute to an understanding of both 1) specific locations where fecal indicator bacteria exceed thresholds and 2) specific conditions that are associated with an elevated risk of fecal waste discharge. The Sonoma County Board of Supervisors in its comments also highlighted the PhyloChip Study as a pertinent line of evidence (See SCBS-3). The Staff Report congregates these data by HUC-12 subwatershed as the smallest reasonable unit for assessing the multiple lines of evidence, an approach which is a refinement to that of previous drafts. The suggestion that data be further divided by mainstem reach versus tributaries does not have merit, neither with respect to how the original studies were designed, nor to the goal of developing rational, protective public policy. The TMDL Action Plan takes the general approach of requiring all owners/managers of facilities/properties that manage and/or treat fecal waste material, to assess their own operations and make the necessary improvements to ensure for the benefit of all Russian River residents and visitors that their individual facility/property is not discharging fecal waste material to public waters. With respect to OWTS, the fecal indicator bacteria data have been used to define the HUC-12 subwatersheds where there is good evidence of impairment, as a means of identifying the highest priority areas for focused regulatory oversight. The TMDL makes no finding that septic systems

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		along the mainstem are contributing to violation of water quality objectives. In fact, the TMDL makes no finding associated with any specific OWTS, at all. The TMDL Action Plan only requires that OWTS owners within the areas of concern (i.e., APMP boundary) assess their own systems to confirm that they are fully functioning. If OWTS are cesspools, failing or overloaded, the OWTS owner must seek replacement or repair.
Holmer-8	The 2019 study also references postings of swimming areas by the Health Department as a rationale for increased regulatory requirements for OWTS. These postings were made based upon the old, advisory, fresh water bathing place standard for fecal coliforms. There does not appear to be any analysis of whether or not these postings would have been justified based upon the new E. coli standard. From this standpoint, the 2019 TMDL draft does not achieve its objective of being based upon the current water quality objectives. In addition, no differentiation was made of postings that were strictly advisory versus mandatory beach closures. Advisory postings may have resulted from sampling errors due to a sample being affected by suspended material that was not indicative of the water body as a whole.	The 2019 TMDL staff report was revised in 2019 to distinguish between public health data collected prior to 2012 versus that which has been collected since. This is because, beginning in 2013, the County no longer assessed enterococci data as the basis for public health advisories. It relied only on public health thresholds associated with total coliform and *E. coli* as the basis for alerts. The TMDL Staff Report, in an attempt to be responsive to previous public comments, restricted its assessment to public health data for the period excluding enterococci data. As a result of public comment in 2019, staff have been alerted to additional issues in the public health data as reported in the staff report. Sonoma County altered its posting protocol, beginning in 2016, to resample a location prior to posting. If two consecutive samples indicate exceedance, then the beach is posted until a sample comes back clean. Given that the data in Table 4.11 is misleading, it has been replaced by an alternate table. The public health thresholds are established for the purpose of rapidly identifying public health concerns. They are necessarily different than the ambient water quality objectives adopted by the State Water Board, which are designed to assess conditions over a longer term. The Sonoma County Department of Public Heath implements a QA/QC program to ensure their reported data is valid.
Holmer-9	Based on the conclusions of the 2014 PhyloChip analysis, the very strict standards proposed for OWTS in the APMP area are poorly justified. The high levels of E. coli noted in the watershed areas could be from homeless camps, urban runoff, recreational users and other identified sources. Given the lack of certainty of the actual sources of bacteria, the APMP area should include a plan for further study and identification of sources on a continuing	The primary objectives of the APMP are to identify OWTS that are failing, OWTS not allowed under the statewide OWTS Policy (e.g., cesspools), and OWTS that are a high threat to fail because they are being operated beyond their treatment and disposal capacity, and ensure that noncompliant OWTS are repaired of replaced with OWTS that provide treatment that adequately removes pathogens so as to make the OWTS a

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	basis. Proscriptive standards for OWTS upgrades should be delayed until further evidence of sources of contamination has been identified.	low threat to contribute pathogens to surface waters. Where site conditions are sufficient to support waste treatment and pathogen removal through soil processes, supplemental treatment to provide pretreatment of the wastewater is not required.
Holmer-10	The 2019 Action Plan draft extends the requirement for installation of pretreatment for OWTS from those within 100 feet of water ways to those within 600 feet. The rationale for this is a 1999 study by the State Health Department that showed 600 feet as a safe distance. This study has not been analyzed for the specific site and soil conditions in the Russian River drainage. In addition the study was done to establish effective source water protection for public water systems. There is nothing in the report that relates to achieving REC-1 standards. Assumptions made in the Health Department study may not apply to conditions in this area. The 1999 study should be reviewed with respect to the specific conditions in the APMP area to determine whether or not 600 feet is appropriate. In addition, as described in the 1999 CDPH report, various methods are proposed to develop a safe separation between sources of contamination and public drinking water intakes. A fixed 600 foot separation is only one method to achieve the goals of the Source Water Protection Program. The Action Plan for OWTS in the APMP area should have similar flexibility in establishing distances from water bodies where supplemental treatment is required for OWTS.	While Regional Water Board staff acknowledges that there are other methods to develop a safe separation between sources of contamination and public drinking water intakes, conducting site-specific studies to determine what the appropriate distance is for the almost 50,000 parcels in the APMP is impractical and beyond the scope of federal requirements for TMDLs. Instead, the Action Plan uses the 600-foot distance recommended by the 1999 CDPH report and that was established in the OWTS Policy as the minimum separation for OWTS near impaired water bodies. The Action Plan requirement for supplemental treatment was reduced to 200 feet for OWTS whose parcels are within the APMP only because of its proximity to a water body identified by the Sonoma County LIDAR dataset (i.e., for parcels that are within 200 feet of non-blueline streams).
Holmer-11	There has been no attempt to identify whether the perceived contamination from septic systems is attributable to individual failing systems which release high levels of contamination or to the composite of all systems in a watershed area. Thus, there is not justification for applying increased standards to all systems in the APMP area versus identifying specific systems which may be causing the contamination. This represents a broad brush condemnation of all systems when they may not actually be causing a problem. It would be a better approach to establish the APMP boundary and then proceed with specific studies to identify problem areas which need to be addressed. This would allow the most cost effective use of public and private capital for system upgrades and/or development of community based systems.	Regional Water Board staff estimates that there are 10,000 to 15,000 parcels within the APMP area that are served by existing OWTS. It would be impractical to investigate each OWTS to determine whether that particular OWTS is at all times properly functioning and providing adequate treatment such that the discharge is not contributing pathogens to surface waters and contributing to the impairment. See response to Holmer-9 for the more reasonable and feasible alternative to a parcel-by-parcel investigation and site specific requirements.

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Holmer-12	The draft plan provides for removal of the requirement for pretreatment for certain site specific conditions of percolation rates, depth to ground water and dispersal system size. This prescriptive standard should be supplemented with a potential for the property owner to use a performance standard which could be used to demonstrate that their particular system is not contributing to potential violation of water quality objectives. This could be done by constructing monitoring wells in the dispersal system area and performing routine tests of bacterial levels to show the impact of the system. The Sonoma County OWTS policy has set specific bacteriological standards for monitoring wells that could be used in the evaluation.	The requirements in section V.D.5.f of the Action Plan are established to ensure that wastewater generated from OWTS receives effective treatment and pathogen removal, either by filtration within appropriately-protective soil media or by chemical or mechanical means. In this way, groundwater monitoring, which is dependent on good sample collection and handling procedures and the establishment of an appropriate monitoring well network, will not be necessary. In addition, to accurately monitor OWTS effluent, one has to install a matrix of lysimeters. Because of this, and because of the low likelihood of intersecting the effluent plume, it is not feasible to use groundwater monitoring wells to monitor OWTS effluent plumes.
Dennis O'Leary (OLeary-1)	The 600-foot setback from blueline streams is an inappropriate "one size fits all" policy that is based on a 1999 DCPH study that doesn't apply because many soils in Sonoma County have high clay content, percolate relatively slowly, and do not have an elevated unsaturated zone that fosters the travel of pollutants beyond a safe 100-foot buffer zone.	See response to Holmer-10 and Holmer-11. Also, there is no evidence that Regional Water Board staff is aware of that has determined that 100 feet is a "safe" distance between a pollutant source and a source of drinking water.
OLeary-2	The 600-foot setback from blueline streams is also overkill and will saddle thousands of property owners with expensive unnecessary repairs and in many cases make properties unbuildable or uninhabitable.	The 1999 CDPH report and the OWTS Policy support the use of the 600-foot distance to establish the minimum horizontal setback to sources of drinking water. Regional Water Board staff acknowledge that in cases where a parcel's dispersal area does not have suitable separation between the OWTS effluent dispersal system and groundwater and the dispersal area does not have soil with appropriately-protective filtration capability, supplemental treatment components may be necessary and may be costly. Depending on the location of the parcel, a small community wastewater disposal system may be feasible as an alternative to an individual OWTS. In addition, the Action Plan authorizes the local agency to approve repairs in substantial compliance with the OWTS Policy and the APMP in accordance with an approved LAMP, which will also reduce the likelihood that properties would be rendered uninhabitable.
OLeary-3	The Regional Board's use of USGS blueline streams does not take into account that some "blueline" streams depicted on USGS topographic maps are intermittent and intermittent streams cannot be expected to deliver pollutants to the Russian River during the	The USGS blueline stream dataset was used as part of a desktop analysis to identify the area within which 1) evidence indicate elevated concentrations of fecal indicator bacteria and 2) on-the-ground assessment should be conducted to identify cesspools, failing OWTS, and overloaded OWTS that may be

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	summer recreation season, as opposed to winter months when there is little to no recreation occurring on the Russian River.	discharging fecal waste material. The USGS blueline stream dataset is well-regarded and provides a reasonable basis for establishing assessment boundaries. A functional, well-sited, well-maintained OWTS, whether located near an ephemeral or perennial stream is not at high risk of discharging fecal waste material to the stream. A cesspool or failing or overloaded OWTS located near an ephemeral or perennial stream, on the other hand, is at a high risk of discharging fecal waste material to the stream, particularly during winter months. While the most substantial recreational use of the Russian River occurs during the summer months, winter recreational uses also occur (e.g., fishing, kayaking).
OLeary-4	Treating all blueline streams, including intermittent streams, as a continuous source of pollutants delivered to the Russian River appears to inflict a high cost for property owners with a low benefit for the river in wintertime. Where is the cost benefit analysis?	See OLeary-3. See Oleary-5. The desktop analysis using the USGS blueline stream dataset does not require a cost-benefit analysis. It does not direct any specific expenditures. It simply establishes the boundaries within which further assessment is necessary.
OLeary-5	The apparent high cost/benefit to control discharges from OWTS during winter high flow periods is unreasonable compared to benefit that could be achieved by more effectively controlling sanitary sewer overflows, which tend to occur during winter high flow periods.	The Advanced Protection Management Program (APMP) is established to ensure that all OWTS within the APMP area are properly functioning and not discharging fecal waste material to surface waters at any time of the year. Regional Water Board staff would agree that more needs to be done to control discharges of municipal sewage from sanitary sewer systems, especially during wet weather and flood conditions.
Mike Treinen (Treinen-1)	The costs in the TMDL Staff Report are inaccurate. In Sonoma County, a standard system with design, permit, tank and dispersal field may run $13-17K or more. A pre-treatment unit alone may run $15-$20K and it is likely many systems will require further dispersal unit enhancements. All of this as a package may result in the need for a nonstandard system which can run $30-50K or more. Cost can vary widely county to county, with more urban county systems generally being more or much more expensive. There also would be initial costs to homeowners for an originating field inspection. Having done a few thousand of these in the last 18 years, I find some are routine while others are difficult and / or very intrusive, with tanks at great depth, full of roots, under decks and even under concrete patios or other structures. Dispersal fields may be in heavy brush, blackberries, poison oak, dense forest or also full of roots. Costs for a report, excavations and	Chapter 12 of the Staff Report includes estimates for potential compliance measures that are in line with the commenter's estimates.

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	possible pumping may run from $900 - $1500 or more depending on the desired scope. Expensive landscaping may be negatively impacted. System upgrades could reach costs as noted above. Making tanks easily accessible for all future 5-year inspections will add additional costs such as risers and surface lids.	
Treinen-2	I cannot think of any current or past regulations that have resulted in such large potential expenses for residential properties without first having established a dedicated, sustainable funding source to assist those whose septic systems do not meet the requested standards. In addition, the realistic amount available to our local counties is unlikely to be adequate for the scope of work that will be needed. My concern is that regulation will go into effect while funding amount and adequacy are functionally unclear, getting kicked down the road and even if found may not outlast the permanency of the regulations.	See response to Holmer-5.
Treinen-3	There is not a large enough number of qualified professionals to handle the thousands of OWTS in the project pool and for OWTS added to the TMDL listings in the future. The limited pool of qualified professionals will result in high fees for initial and five-year inspections and delays in OWTS owners obtaining inspections and replacing OWTS.	Regional Water Board staff agrees with commenter's assessment that there is currently an insufficient number of local qualified professionals to conduct all the inspections and design and install replacement OWTS, as required by the APMP and acknowledges that delays in these actions are possible. However, there are opportunities to optimize the availability of qualified professionals by having inspection services conducted by staff provided by a local regulatory agency or an Onsite Wastewater Management Authority and by expanding the types of individuals eligible to be qualified professionals. In addition, the Action Plan will be revised to allow the Regional Water Board or a local agency to reduce the minimum requirements of the 5-year basic operation inspection when the OWTS owner has initiated correction action with the local agency for a replacement OWTS.
Treinen-4	The precise number of septic systems in the Advanced Protection Management Program area or the number that will need replacement or upgrading is unknown, so the true scope of the project is not clear. A better estimate of the number of affected OWTS will allow for a better estimate of staffing and program costs. Even when the number of systems becomes known, the corrective action process will be much more complex, time-consuming and expensive program than initially assumed.	Section V.D.5.e of the Action Plan establishes an assessment program to determine the number of OWTS that will require corrective action. Regional Water Board staff shares the concern that the implementing the APMP may have a significant impact to the resources of the local agencies and the Regional Water Board. See also response to Treinen-3.

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Treinen-5	The 1999 CDPH study involves studies of the movement of hazardous chemicals through the soil to wells. I am not confident that comparing hazardous chemical movement in soils can be compared to the movement of wastewater bacteria and viruses. If still possible, this narrow issue should be looked at more critically. The literature generally suggests that 1-3 feet of reasonable soil removes most biological pathogens.	The 1999 CDPH report established that, for porous media aquifers, 600 feet is the recommended minimum distance for protection from microbial contaminants as well as chemical contaminants such as nitrate. This distance is believed by CDPH to be sufficient for protection from microbiological contaminants. The minimum allowable separation between the bottom of an effluent dispersal system and groundwater that can be authorized by a local agency under an approved LAMP is two feet, per the OWTS Policy.
Treinen-6	The methodology of determining the distance is also of concern. At 600 feet of linear distance from the river or creek banks, this measurement, as an example, could equal 850 feet (.2 miles) when the septic system is on a typical 45-degree hill above the river. These numbers seem excessive except in cases where feeder drainage or creeks are closely adjacent. It is counter-productive for the program to take actions that don't appear to homeowners to have a health benefit commensurate with the cost of the upgrade.	See response to Treinen-5.
Treinen-7	The 600-foot boundary should be reduced to 200 feet with possible treatment enhancement for OWTS close to the River or major tributaries, or establish a tiered procedure that evaluates OWTS based on the distance of the OWTS from the waterbody (or preferentially limiting the assessment area to known problem areas).	The 600-foot boundary is consistent with the OWTS Policy and appropriate for blueline streams. OWTS within this boundary that have appropriate soil and separation to groundwater may not require supplemental treatment under the APMP. For other mapped (LIDAR-derived) streams in the APMP area, the Action Plan will be revised to reduce the distance to 200 feet for requiring supplemental treatment for replacement OWTS.
Treinen-8	Like leaking public sewer systems, which are designed with an assumption of some percentage of sewage exfiltration into the soil and ultimately to surface water via subsurface flow, the inevitability of OWTS discharges to the subsurface and their impact to surface waters is an inescapable cost of an urban society. It is unreasonable to punitively saddle the individual septic system owner with potentially catastrophic costs.	The intent of the Action Plan is to establish controls on fecal waste sources that do not have adequate discharge requirements. Unlike public sewer systems, which are regulated under statewide general waste discharge requirements that require public agencies to properly operation, manage, and maintain it sanitary sewer system, to establish and implement spill response plans, capital improvement plans, and capacity assurance plans, conduct periodic audits to evaluate the effectiveness of their programs, and report spills and other information to the Regional and State Water Boards, OWTS rely on their owners to maintain the OWTS in good working order and ensure that the OWTS provides adequate treatment so that public health and water quality are protected. The APMP reasonably requires that

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		OWTS are consistent with the OWTS Policy and provide treatment that adequately removes pathogens so as to make the OWTS a low threat to contribute pathogens to surface waters.
Treinen-9	The APMP should be clear, simple, and affordable for those who must upgrade or replace their OWTS. Before relying on low interest loans, look to other funding sources like local visitor taxes and state and federal grants.	Regional Water Board staff has endeavored to make the APMP as clear and simple as possible. Replacement OWTS must adequately remove pathogens so as to make the OWTS a low threat to contribute pathogens to surface waters. The cost of repairs and upgrades will depend on site conditions, the proximity to a municipal sewer system, the feasibility of participating in a small community OWTS, and other factors that are out of the control for the Regional Water Board. Regional Water Board staff supports the pursuit of public and private grants, low interest loans, and other funding instruments to assist OWTS owners in complying with the APMP requirements.
Treinen-10	The five-year inspection program requirements should be more detailed and explain how the results will be used.	See response to Holmer-4.
Treinen-11	The APMP should allow for reasonable time for owners to upgrade/replace their OWTS and allow for best practical systems instead of requiring best available systems for replacement OWTS.	Replacement OWTS must adequately remove pathogens so as to make the OWTS a low threat to contribute pathogens to surface waters. The Action Plan allows up to 15 years to complete corrective actions to comply with the APMP requirements and up to 20 years if the property owner is participating in a community compliance project. In addition, the Action Plan authorizes the local agency to approve repairs in substantial compliance with the OWTS Policy and the APMP in accordance with an approved LAMP, which will also reduce the likelihood that properties would be rendered uninhabitable.
Treinen-12	The APMP should allow as an exclusion an engineer analysis of whether the system is adequately treating its onsite wastewater and establish criteria with the onsite wastewater consulting industry what that analysis and procedure would consist of.	See response to Holmer-11 and Treinen-3.
Treinen-13	Along with initial notifications to owners, a detailed FAQ site should be provided. By that time, a list of willing consultants, contractors and other related service providers could be also included. A training program for these vendors would be valuable.	Regional Water Board staff has created a FAQ and an APMP flow chart to assist OWTS owners in understanding and complying with the APMP. These tools will be made available after adoption of the Action Plan or concurrent with the initial notifications. The Regional Water Board does not develop or maintain lists of preferred consultants and service providers to comply with Regional Board requirements. However, the local

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		agency may maintain lists for this purpose. It's unclear what a vendor training program would entail, but Regional Water Board staff will consider the feasibility of such a program.
Russian River Watershed Association (RRWA-1)	Section 6, page 6-52: Sources of human fecal waste material are listed on page 6-52 and again on page 9-2. This list on 6-52 omits runoff from sites that receive discharges of waste to land. This source is identified on the list found on page 9-2. We recommend these lists be consistent and identify the same sources of human fecal waste material.	The list on page 6-52 of the staff report will be revised to include the discharges of waste to land source that was inadvertently omitted.
RRWA-2	Section 7.3 Wasteload and Load Allocations, Table 7.1: The wasteload allocation (WLA) prescribed to municipal storm water is the six-week rolling geometric mean (GM) and the statistical threshold value (STV) for E. coli and enterococci depending on salinity. We have concerns with the appropriateness of calculating the GM and STV using storm water runoff data.	The WLA and monitoring requirements will be incorporated into the next renewal of the MS4 permit. An opportunity for discussion of the specific monitoring protocols and compliance interpretation will occur during the permitting process. In addition, a discussion of these issues at a technical advisory committee meeting of the Russian River Regional Monitoring Program (R3MP) could also be valuable.
RRWA-3	The TMDL states the applicable STV shall not be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner. It is not feasible to collect a sufficient sample set of storm water runoff on a monthly basis to apply the STV. In months with less frequent rain, a discharger may have a relatively small sample set. We have concerns with how a 10 percent threshold will be interpreted with a small data set. We request the Regional Board provide clarification on the applicability of the STV on storm water runoff data.	See RRWA-2.
RRWA-4	Section 9.1, page 9-1: The waste discharge prohibition states “Discharges of waste containing fecal material from humans or domestic animals to waters of the state within the Russian River Watershed are prohibited.” The definition of “fecal material” in this prohibition is not clear. In an undefined context, it is not clear what measurement the discharge will be measured against for compliance determination. We recommend the TMDL be revised to include a definition of “fecal material” so there is a clear way to determine if the prohibition is being met.	In this prohibition, "fecal material" means material or pollutants contained or derived from the feces of humans or domestic animals. The metric for determining the presence of fecal material is fecal indicator bacteria (FIB), such as E. coli, enterococci, Bacteroides, coliform bacteria, or other appropriate FIB.
RRWA-5	Section 9.1, page 9-2: The waste discharge prohibition also states that “Compliance with this prohibition can be achieved in the following manner.” Following the prohibition is a list of six actions that can be taken to comply with the prohibition. As currently written, there is no qualifier that compliance can be	No change is needed. The sentence in the Fecal Waste Discharge Prohibition should be interpreted to mean that that any fecal waste source should use the appropriate or applicable option for compliance with the prohibition. The implementation action for each fecal waste sources identified

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	achieved with one of the six actions. We recommend adding qualifying language to clarify only one action is needed for achieving compliance.	by the TMDL are specified in Table 4 and Table 5 of the Action Plan.
RRWA-6	Section 9.1, page 9-2: The first action for compliance with the discharge prohibition states "Implement adequate treatment and best management practices…" As written, this action implies best management practices alone are not adequate to prevent the discharge of fecal waste material in storm water and only dischargers of storm water that are also treated will be effective at meeting compliance requirements. In most cases the treatment of storm water prior to discharge is not feasible and leaves this action not practicable. Additionally, structural treatment devices are by definition a best management practice. We recommend this be revised to "Implement adequate treatment and best management practices.	The Staff Report Addendum reflects the recommended revision.
RRWA-7	Section 9.1, page 9-2: The second action states "Comply with all fecal waste/pathogen-related provisions of an applicable NPDES permit." However, as refenced in section 9.2.11, MS4 permittees will be required to submit a Pathogen Reduction Plan under the authority of section 13267 (b) of the Water Code. It is our understanding the Regional Board Executive Officer will likely issue a separate 13267 Order to request the plan. In this event, the compliance actions associated with the discharge prohibition is not recognized. We recommend revising action 2 to state: "Comply with all fecal waste/pathogen-related provisions of an applicable NPDES permit and other relevant regulatory Orders."	In compliance with requirements of the Phase I MS4 permit, the City of Santa Rosa and the County of Sonoma have already submitted work plans for controlling the discharge of pathogen to the MS4. The other Phase I MS4 permittees are not required under the current permit to submit this work plan. To obtain this work plan from the other Phase I permittees, the Regional Water Board Executive Officer will require submission of a similar work plan, or Pathogen Reduction Plan, under authority of section 13267(b) of the Water Code. The 13267 Order will specify what information is required from the MS4 permittees, but it can be expected that the work plan tasks will be similar to the tasks set forth in Phase I MS4 permit.
RRWA-8	Section 9.2.11, page 9-21: This section of the staff report states "Phase I and Phase II MS4 Permittees without approved Pathogen Reduction Plans on the effective date of the TMDL action plan (excluding the Sonoma Water, who does not have land use authority), the Regional Board will require submission of the Pathogen Reduction plans under authority of section 13267 subdivision (b) of the Water Code." This section of the staff report exempts the Sonoma Water from the requirement to develop, submit and implement a Pathogen Reduction Plan. However, Table 4 of the Action Plan does not clearly identify this exemption.	Table 4 of the Action Plan, which omits the Sonoma County Water Agency exclusion, is correct. Section 9.2.11, page 9-21 will be revised to remove the following text, " (excluding the Sonoma Water, who does not have land use authority)", which Staff inadvertently failed to remove from the 2019 Draft Staff Report.

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	Please update Table 4 of the Action Plan to clearly identify the Sonoma Water is exempt from this requirement.	
RRWA-9	Section 7.4, page 7-3: The Proposed TMDL should consider and align with the State Water Board's statewide bacteria water quality objectives, as those bacteria provisions form the basis for the proposed TMDL. Within the implementation section of this draft plan, provisions exist for high flow and seasonal suspensions of the water contact recreation (REC-1) beneficial use. Additionally, a provision for limited water contact recreation (LREC-1) designation is provided. Such action would also be consistent with U.S. EPA's Protocol for Developing Pathogen TMDLs (2001) ("TMDLs must consider temporal (e.g. seasonal or interannual) variations in discharge rates, receiving water flows, and designated use impacts. These considerations are especially important for stream pathogen TMDLs because both point and nonpoint pathogen sources can discharge at different rates during different time periods, causing the critical conditions for a pathogen TMDL to vary").	The commenter is correct that the statewide objective's implementation plan allows for designation of limited water contact recreation and high flow and seasonal suspensions of water contact recreation. Revision of the REC-1 beneficial use is a basin planning activity, requiring a use attainability analysis. Staff have not conducted a use attainability analysis and are not recommending amendment of the REC-1 beneficial use for the Russian River Watershed, at this time. If in balance the commenter believes that conducting a use attainability analysis is a worthwhile endeavor, staff encourage the commenter to make its recommendation during the triennial review of the Basin Plan, during which time the Regional Water Board will identify the highest priority planning projects given the available staff. The Action Plan for the Russian River Pathogen TMDL considers seasonal variations, discharge rates, receiving water flows, and designated use impacts. The TMDL studies collected both wet and dry season data so as to distinguish seasonal impacts. The TMDL assigns wasteload and load allocations based on bacteria concentration, not load. Thus, the factors of discharge rate and receiving water flow are equilibrated across seasons. And, while summer recreation is far more substantial than is winter recreation, winter recreational activities do indeed occur in the Russian River (e.g., fishing, kayaking).The control of all controllable sources of fecal waste discharge to the Russian River is a reasonable public health protection goal.
RRWA-10	The assertion on page 7-3 of the staff report that "[t]he use of concentration limits as the waste load and load allocation intrinsically accounts for seasonality" is misleading. As explained in Section 3.1.2 of the staff report, the TMDL standard of 100 and 320 cfu/100 mL is E. coli density expected to result in 32 gastrointestinal illnesses per 1,000 recreators (which is based on based on the national criteria for E. coli). Since the number of Russian River basin aquatic recreators in winter is vastly lower than in summer (as recognized on page 7-3), the allowable E. coli density in winter would and should be higher than in the summer to be equally protective against gastrointestinal illness.	The commenter is reminded that the statewide bacteria objectives are set as a rolling six-week geometric mean and a statistical threshold value to be calculated on a monthly basis. The ambient water quality objectives do not include an instantaneous maximum value, such is used by public health agencies as a beach action value. The standards are intentionally established to evaluate long term conditions. Further, according to the probabilities calculated by U.S. EPA, were the Russian River and its tributaries to consistently attain the bacteria objectives set as a geometric mean and a statistical threshold value, then a recreator who has contact

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		with the water, whether during the summer or winter, alone or with others, would be risking a 3.2% chance of contracting a gastrointestinal illness. During those times of year when ambient water quality conditions exceed the standards, that recreator runs a higher risk. Lastly, the PhyloChip Microbial Community Analysis (2014) conducted in the Russian River identified, among other things, specific illness causing pathogens present in the both the Russian River and its tributaries. Some of these pathogens are ones that do not cause gastrointestinal illness, but other illnesses such as urinary tract infection, pneumonia, meningitis, dermal infections, and the plague. The statewide bacteria objectives are one line of evidence for concern. But, neither *E. coli* nor enterococci measurements provide a full assessment of the risk associated with water contact in the Russian River. Implementation actions taken to reduce the risk of exposure to gastrointestinal illness-causing pathogens vis a vis attainment of the statewide objectives, will also reduce exposure to other illness-causing pathogens associated with the discharge of fecal waste materials. This should be a high priority for all relevant public agencies.
RRWA-11	Wet season compliance will be difficult and expensive while it will have the least benefit to the community. We request the TMDL be modified to recognize reduced REC-1 activity and therefore potential for gastrointestinal illness, during the winter by establishing a threshold weather (e.g. 24-hour rainfall greater than 0.5 inches) or flow condition in which compliance with bacteria density requirement would be suspended	See RRWA-9 and RRWA-10. Please note that the primary purpose of the Russian River Pathogen TMDL Action Plan is to control all controllable sources of fecal waste discharge. MS4 permittees are encouraged to assess all controllable sources of fecal waste discharge within the footprint of the MS4 and establish meaningful programs and implement effective BMPs to control those sources. To the degree that homeless encampments are a source of fecal waste discharge within the MS4 footprint, a multi-agency effort to address that source is appropriate and the Regional Water Board is a willing partner. To the degree that control of all controllable fecal waste sources continues to result in winter time exceedances of the statewide bacteria standards, a monitoring study to identify the causes of exceedance may be necessary to demonstrate substantive compliance.
North Bay Association	What is the rationale for including parcels where OWTS are located beyond the 600-foot area? Section D4 of the Draft Action Plan states: “The Action Plan defines the Russian River	Establishing the APMP area to include all parcels that have some portion of the parcel within 600 feet of a blueline stream resolves two potential issues: 1) it avoids having to

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of Realtors (NOBAR-1)	Watershed APMP boundary" as consisting of parcels that are at least partially within 600 linear feet from the centerline in the horizontal (map) direction on either side of blueline steams depicted on the USGS 1:100,000 scale topographic map and parcels that are at least within 200 linear feet of the centerline of waterways derived using LIDAR datasets in the following HUC-12 subwatersheds." The way this is written, means that an OWTS on a parcel that touches the 600 foot or 200 foot boundary is subject to the APMP requirements even though the actual OWTS may be hundreds or thousands of feet away from the APMP boundaries. This is unsupported by the TMDL study and presents an inequitable hardship to property owners. This section should be rewritten to state that the APMP requirements only apply to OWTS that are within the 600 foot / 200 foot setbacks from waterways.	predetermine the exact location of the OWTS on each of the estimated 10,000 to 15,000 parcels in the APMP area that are served by existing OWTS, and 2) it includes parcels in the APMP that could have a new or replacement OWTS within 600 feet of a blueline stream, even though the existing OWTS is not. Furthermore, for parcels where an existing OWTS is greater than 600 feet from a blueline stream, the APMP does not mandate supplement treatment components of enhanced effluent dispersal systems for new and replacement OWTS. Still prohibited and subject to repair or replacement, however, are failing OWTS, OWTS not authorized by the statewide OWTS Policy (e.g. cesspools), and OWTS that are operating beyond the capacity of the OWTS to treat and dispose of the wastewater in a manner that meets the objectives of the Action Plan.
NOBAR-2	It is not evident whether the mainstem is exceeding the standards for E. coli and no evidence that OWTS along the mainstem Russian River are contributing to violation of water quality objectives when it has not been shown that the objectives are not being met. The APMP is defined based upon contamination in watersheds, rather than evidence of contamination of specific segments of the River and tributaries. In previous drafts, tributaries have been found to be exceeding water quality objectives, but most segments of the mainstem were within acceptable standards. When the 2019 study was revised based upon the E. coli standard, no differentiation was made as to contamination of the River versus the tributaries – all results were lumped into watershed areas.	There are two substantive differences between the 2017 and 2019 draft Russian River Pathogen TMDL Action Plan with respect to conclusions regarding impairment and the APMP boundary. First, the 2017 TMDL Action Plan recognized the entire Russian River Watershed as pathogen impaired through direct water quality monitoring and extrapolation of findings from special studies. The 2019 TMDL Action Plan, on the other hand, recognizes 13 HUC-12 subwatersheds as impaired based on direct water quality monitoring, only (i.e., exceedances of statewide bacteria objectives or exceedances of national criteria for enterococci and public health advisories). See response to Holmer 7. Second, the 2017 APMP boundary included parcels along the entire length of the Russian River mainstem. The 2019 APMP boundary includes only parcels along the Russian River mainstem that are within impaired HUC-12 subwatersheds and where there is a human fecal waste signal. Finally, while the Regional Water Board is obligated to use the statewide bacteria standards when developing a pathogen TMDL, there are multiple other lines of evidence of a) potential exposure to illness-causing pathogens, b) discharge of fecal waste, and c) risk of discharge of fecal waste that are valuable to establishing reasonable protections for public health and the environment. The Russian River Pathogen TMDL Action Plan is reasonably and responsibly

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		based on all of the evidence developed during monitoring, not only the *E. coli* data.
NOBAR-3	The 2019 study also references postings of swimming areas by the Health Department as a rationale for increased regulatory requirements for OWTS. These postings were made based upon the old advisory standard for fecal coliforms. There does not appear to be any analysis of whether or not these postings would have been justified based upon the new E. coli standard. From this standpoint, the 2019 Draft does not achieve its objective of being based upon the current water quality objectives. Furthermore, no differentiation was made of postings that were strictly advisory versus mandatory beach closures. Advisory postings may have resulted from sampling errors due to suspended material that was not indicative of the waterbody as a whole.	See response to Holmer-8
NOBAR-4	The 1999 study should be reviewed with respect to the specific conditions in the APMP area to determine whether or not 600-feet is appropriate. The 2019 Draft extends the requirement for pretreatment from systems within 100-feet of waterways to those within 600-feet. The rationale for this is a 1999 study by the State Health Department that showed 600-feet as a safe distance. However, this study has not been analyzed for the specific site and soil conditions in the Russian River drainage. Assumptions made in the Health Department study may not apply to conditions in this area.	See response to Holmer-10 and Treinen-5.
NOBAR-5	There has been no attempt to identify whether the perceived contamination from OWTS is attributable to specific systems, or to the composite of all systems in a watershed. Thus, there is not justification for elevating standards for all OWTS in the APMP versus identifying specific OWTS that may be causing the contamination. This represents a broad-brush condemnation of all OWTS when they may not actually be a problem. A better approach would be to establish the APMP boundary, then proceed with specific studies to identify problem areas that need to be addressed. This would allow the most cost-effective use of public and private capital for system upgrades, the development of community systems, and avoiding an unnecessary onslaught of inspection costs and permit resources. Over-prescribing mandates will undoubtedly lead to avoidable consequences for	See Holmer-7. Please note that the TMDL Action Plan is essentially designed to do exactly as the commenter suggests. The APMP boundary describes the area within which additional information must be collected before it is clear which OWTS require upgrade or replacement. The TMDL Action Plan does not with a broad brush require specific OWTS to be upgraded or replaced. What the TMDL Action Plan does do is require OWTS owners to assess their own systems and confirm that they are properly functioning and are not cesspools, failing, or overloaded. Once OWTS owners within the APMP boundary have produced this information, then the specific OWTS requiring upgrade or replacement will be known. OWTS owners with cesspools, failing systems, or overloaded systems will decide if they want to 1) participate in

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	the thousands or homeowners in the APMP area. Our water quality goals can be met with a refined process for determining sources of contamination.	the planning and development of a community system as appropriate or 2) upgrade or replace their individual system to provide functioning onsite waste treatment. Cesspools, failing systems, and overloaded systems present a public health risk that requires attention. For those OWTS owners that choose to upgrade or replace their individual system, they may have available to them public funding, should the County succeed in establishing a new low-interest loan program. OWTS owners also have the ability to work with the County to establish OWTS Management Districts or Zones to assist with regular maintenance and inspection.
NOBAR-6	The Draft plan provides for removal of the requirement for pretreatment for certain site-specific conditions of percolation rates, depth to groundwater and dispersal system size. This prescriptive standard does not recognize that specific OWTS may be adequate even though they do not meet the standard. The prescriptive standard should be supplemented with a potential for the property owner to use a performance standard that could be used to demonstrate that their particular system is not contributing to violation of water quality objectives. This could be done by constructing monitoring wells in the dispersal system area and performing routine tests of bacterial levels to show the impact of the system. The local OWTS Manual has set specific standards for monitoring wells that could be used in the evaluation.	See response to Holmer-12.
NOBAR-7	Requiring a Qualified Professional (Registered Civil Engineer or Registered Environmental Health Specialist) is excessive and costly for the basic inspection proposed. The State OWTS Policy sets minimum standards for the required registration for conducting soils analysis and OWTS design but does not mandate this threshold for simple inspections. Inspections could easily be performed by a licensed contractor (C42, C36, A license), or by a pumper who has received certification from the National Association of Wastewater Technicians. NAWT offers a rigorous training and certification program focused on septic tank pumpers.1 In our experience, pumpers are well qualified to recognize and correct basic OWTS problems. This process is typically used to correct minor problems that pumpers encounter. Additionally, if the pumper is certified, inspections could occur	See response to Holmer-2.

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	when the tank is pumped, streamlining project timeline and reducing costs to the property owner.	
NOBAR-8	Implementation should be delayed until prescribed assistance is in place. The 2019 Draft contains a detailed analysis of potential funding sources for OWTS upgrades and community facilities. It fails, however, to address how access will be made to these sources for individual owners, or the timing of when (or if) these funds will be available. It is unconscionable to put the rigorous standards of the APMP in place without ensuring financial assistance is available to property owners. AB 885 (2000) specifically calls for the provision of low-cost, low-interest loans to property owners of all income levels – whose cost of compliance exceeds one-half of 1% of the assessed value of the property (not based on income level).	See response to Holmer-5 and Holmer-9.
NOBAR-9	The APMP requirements fall hardest on low and fixed-income property owners. It is likely that people with limited resources will be unable to afford costs/loans for system upgrades. This could result in properties being sold at below market rate, rent increases, and an overall loss of availability. The Russian River Area is one of the primary sources of low-cost housing in Sonoma County. This Plan should allow delayed or phased-in requirements to homeowners in order to preserve our vital housing stock	See response to Holmer-6.
NOBAR-10	Consideration should be given to formation of an Onsite Wastewater Management District similar to the one in place at The Sea Ranch. The district could assume the functions of inspections of systems every 5 years, monitoring of groundwater and surface water quality, and identification of systems of areas that are in particular need of upgrades. The district could also be helpful in facilitating the construction of small, shared systems, maintaining common	See response to Holmer-5.
Michael Nicholls (LRRMAC-1)	The commenters note that numerous property owners do not have the financial means to make the changes the state will be requiring in the coming years	Funding for improvements to water and wastewater infrastructure is available through the State's Clean Water State Revolving Fund. Local agencies may apply to the State Water Resources Control Board for low interest loans that can be passed along to private entities to assist with costs associated with complying with the OWTS Policy, including compliance with requirements of Tier 3 APMPs. (Holmer-5)

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LRRMAC-2	The commenters recommend adoption of a phased approach for implementation of the TMDL regulation. In particular, until improved monitoring data is available, the commenters recommend a focus on properties within 600 feet of the Russian River and phase in actions on tributaries at a later date.	A phased implementation was considered by Regional Water Board staff, but it was determined that phased options, including the approach recommended by the commenter would result in too much regulatory uncertainty for OWTS owners in later phases. Also a phased approach that focuses on the distance of an OWTS to the Russian River ignores monitoring data that indicates bacterial pollution in the tributaries. Finally, a phased approach that focuses solely on the distance of an OWTS to a waterbody is not conducive to implementation of a community solution, such as connection to existing sanitary sewer system or cluster systems.
LRRMAC-3	the commenters suggest we consider alternatives to minimize or reduce inspection costs to assist the lower Russian River community in supporting the Regional Water Board in its effort to bolster the health of the Russian River.	There are a number of alternatives for reducing the homeowner's cost of inspections including expanding the number and types of professionals qualified to conduct routine inspections, establishing an onsite wastewater management zone whose staff or contractors conduct the inspections, or empowering the local regulatory agency staff to conduct the inspections. Other alternatives may also exist.
Dennis O'Rorke (O'Rorke-1)	The septic system upgrades required are impossible for senior citizens and others on a fixed income to afford. If the State or County is going to place demands on homeowners with regard to wastewater issues, then the State or County should fund the changes they are requiring. The commenter notes that people in their community have been paying state taxes and property taxes for many, many years.	Consistent with Legislative intent, the State Water Board has established a financial assistance program to allow local agencies to provide homeowners who incur costs associated with implementation of the Policy with low interest loans. The State is not obligated to fund improvements to wastewater treatment and disposal systems of private parties. Consequently, where OWTS are improved through upgrades, the individuals benefitting from the improvements are responsible for the cost.
O'Rorke-2	The commenter requests that the Regional Water Board make assurances that no senior citizens, handicapped, or financially challenged people will be forced from their homes due to lack of compliance with regulations imposed many years after we purchased our homes.	All individuals that generate and dispose of wastewater via onsite wastewater treatment systems have an obligation to ensure that the waste is disposed of in a manner that does create a threat to public health and water quality. Often that obligation requires an expenditure of funds to operate and maintain the OWTS in good working order or upgrade old disposal systems so that waste is properly treated. While it is not the intent of the Regional Water Board to cause financial hardship to owners of OWTS, Regional Water Board staff cannot provide a guarantee that all OWTS owners will be able to fully comply with the APMP, given site constraints, financial challenges, or other reasons.

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Audry Ritzer (Ritzer-1)	The commenter agrees with Dennis O'Rorke	Comment noted.
Pat Abercrombie (Abercrombie-1)	The commenter notes that REC-1 users need sanitary facilities along the course of the Russian River from Alexander Valley to the ocean.	Comment noted. The Regional Water Board has entered into a Memorandum of Understanding (MOU) with the County of Sonoma that obligates the County and the Regional Water Board to coordinate efforts to address water quality impacts from homeless encampments within the Russian River Watershed and recreational use of the Russian River. The Regional Water Board supports the installation of portable restrooms for use by Russian River recreators.
Abercrombie-2	The commenter recommends that the Regional Water Board offer OWTS owners a longer period of time for replacement of cesspools if they can demonstrate zero water usage for more than 6 months per year or a monthly average of less than 250 gallons as reflected on their water bills. For example, there are a number of small seasonal cabins used a few weekends a year on Fitch Mountain.	The Action Plan allows up to 15 years to complete corrective actions to comply with the APMP requirements and up to 20 years if the property owner is participating in a community compliance project. The time allowed is reasonable to complete OWTS repair or replacement once an OWTS is identified as needing corrective action. The local agency will have flexibility establishing corrective action schedules within the APMP schedule.
Esa Day (Day-1)	The commenter voices support for the waste discharge prohibition.	Comment noted.
Day-2	The commenter voices concern about Sanitary Sewer Overflows, with a particular concern about the malfunctioning of the lift station at Vacation Beach and raw sewage spills on public streets. There was a main line bread at Vacation Beach in 2014. Hundreds of thousands of gallons of raw sewage were spilled in February 2019 during the floods. The commenter asks how the Regional Water Board will ensure immediate compliance with the permits that apply to sanitary sewers systems. Discussion with the Sonoma County Water Agency suggests that SSOs are inevitable with flooding and that flooding may become more regular with more regular atmospheric river rain events.	All public sanitary sewer systems greater than one mile in length are regulated under the statewide General Permit for Sanitary Sewer Systems (SWRCB Order No. 2006-0003-DWQ). Where the sanitary sewer system is owned by a publicly-owned treatment works (POTW) that also treats and discharges municipal wastewater to waters of the United States, the POTW's collection system is also regulated under a National Pollutant Discharge Elimination System (NPDES) permit. These permits include prohibitions against sanitary sewer overflows (SSOs), requirements for public notification of SSOs, and requirement for reporting details of the SSO to the State and Regional Water Boards. The Action Plan requires that owners and operators of sanitary sewer systems comply with all conditions and requirements of the applicable order(s). Owners of sanitary sewer systems failing to comply with permit requirements are subject to Regional Water Board enforcement for permit noncompliance.
Day-3	The commenter notes that homeless and REC-1 users need sanitary facilities along the course of the Russian River. In	See response to Abercrombie-1.

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	particular, all day Floating events with 30-100+ have become more popular.	
Day-4	The commenter asks for the Russian River Sanitation District to comply with the TMDL including prohibition against raw sewage disposal, OWTS to be closely monitored and upgraded, more restroom facilities and pet waste disposal stations placed along the river, lots of educational and outreach material provided to residences and tourists, and effective signage educating the public about the Russian River watershed.	Comments are noted. Many of these suggestions are or are anticipated to be components of the Action Plan's program of implementation for addressing fecal waste discharges from homeless encampments, illegal camping, and recreational users. The Regional Water Board and the County of Sonoma, in a Memorandum of Understanding, committed to work together to address these pollutant sources.
Mark and Rita O'Flynn (O'Flynn-1)	The commenters commend the Water Board and staff for identifying the sources of fecal waste bacteria in the watershed and developing an action plan to address them.	Comment noted.
O'Flynn-2	The commenters are concerned that not all sources are being addressed equally. In particular, the MOU with Sonoma County only provides a broad approach to addressing REC-1 and homeless encampment contributions, while the OWTS Policy requires very stringent and expensive fixes.	The pathogen sources identified in the TMDL fall into three general categories: 1) Sources adequately regulated under state-issued waste discharge requirements (WDRs), 2) Sources regulated under WDRs or local programs, but where the requirements are not adequate to ensure attainment of bacteria water quality objectives, and 3) Sources that are not currently regulated under permits, waivers, or programs. Sources that are not currently well-regulated will have more detailed Action Plan requirements, in most cases. Differences between the level of detail for Action Plan requirements for recreational users and homeless encampments compared to those for OWTS are driven by external factors, such as Regional Water Board authority to control the discharge, which is limited for recreational users and homeless encampments but strong for OWTS under the statewide OWTS Policy. Moreover, the statewide OWTS Policy requires development of an Advanced Protection Management Program (APMP) to regulate existing, new, and replacement OWTS that are near impaired water bodies. The APMP must be detailed enough to ensure that OWTS in the APMP area will not contribute to the impairment.
O'Flynn-3	The MOU does not address recreational uses of land under the control or ownership of the County and its Districts. For example, there is unregulated public access to the river on and through property of the Sweetwater Springs Water District with plenty of evidence of fecal waste, including a drainage ditch which carries waste to the river during rains.	Although it is correct that the MOU does not outline an explicit strategy for addressing fecal waste discharges resulting from unregulated public access to the river, the MOU does commit the Regional Water Board and the County to use their available permitting and enforcement tools to reduce the contamination from this source.

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O'Flynn-4	The commenters urge the Regional Water Board to require that the County and its Districts not allow access on their property until there are adequate restroom facilities.	The Regional Water Board lacks the land use authority to prohibit public access to these properties. However, the Regional Water Board staff will work with the County of Sonoma to investigate and control fecal waste discharges from these locations.
Chester Locke (Locke-1)	The commenter makes note of the importance of fertilizer, pesticide, and herbicide discharges from vineyards, orchards and marijuana farms to water quality impairment. He makes particular note of the floodplain vineyards and vineyards in the Laguna de Santa Rosa, Mark West Creek, Santa Rosa Creek, and many other smaller creeks.	Comment noted.
Locke-2	The commenter makes note of the problem with blue green algae and dog deaths. He wonders how long before a person is similarly affected.	The Regional Water Board is actively involved in monitoring cyanobacteria blooms in the Russian River and works closely with the Sonoma County Environmental Health and Safety to alert the public when conditions present health risks.
Locke-3	The commenter specifically recommends turning to the Sonoma County General Plan as a start in reconciling agricultural uses and water quality protection: AR-1e and AR-4.	The Regional Water Board does not see a conflict between agricultural uses and water quality protection if agricultural operation implement best management practices and meet other requirements established consistent with the federal Clean Water Action and the Porter-Cologne Water Quality Control Act.
Grant Davis (Sonoma Water-1)	In the Draft Action Plan (DAP), under Sources of Human Fecal Waste on page 5: Treated Municipal Wastewater to Surface Waters, including discharges from holding ponds. DAP Comment 1) Sonoma Water staff recommends clarifying this item since this activity is allowed under a NPDES or WDR and should not be listed as a source. Sonoma Water staff suggests changing to: "Unapproved discharges from Municipal Wastewater to Surface Waters, including discharges from holding ponds;"	The Action Plan identifies and establishes implementation actions for all point and nonpoint sources of that may be contributing pathogens to waterbodies in the Russian River Watershed. Monitoring data from municipal wastewater holding ponds indicates that these holding ponds when discharging to surface waters may be contributing to the impairment. Chapter 6.3 of the Staff Report describes this source in more detail.
Sonoma Water-2	In the Draft Action Plan (DAP), under Sources of Human Fecal Waste on page 5: Wastewater from Percolation Ponds and through Spray Irrigation. DAP Comment 2) Recommend separating into two (2) bullets: 1) Wastewater from Percolation Pond: 2) Over Irrigation through Spray Irrigation.	These two sources are combined in Action Plan because they are commonly associated with POTWs, are similarly regulated under non-NPDES permits, have the same WLA/LA of zero, and have the same implementation action.
Sonoma Water-3	In the Draft Action Plan (DAP), under Sources of Human Fecal Waste on page 5: Runoff from Water Recycling Projects. DAP Comment 3) This activity is allowed under the statewide permit. To clarify, Sonoma Water suggests rewording to “unapproved runoff of recycled water.”	See response Sonoma Water-1.

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Sonoma Water-4	In the Draft Action Plan (DAP), under Sources of Human Fecal Waste on page 5: Storm Water to Municipal Separate Storm Sewer System (MS4s) and Areas Outside MS4 Boundaries. DAP Comment 4) The bulleted source category is confusing. Sonoma Water staff suggests "Storm water runoff within and outside MS4."	The applicable sections of the Staff Report and the Action Plan were revised in response to this comment.
Sonoma Water-5	In the Draft Action Plan (DAP) on page 15, Table 4. Implementation Actions for Source Categories – Load/Wasteload Allocation = Statewide E. coli Objective; Row titled Wastewater Holding Pond Discharges to Surface Water, under the column Implementation Actions and Compliance Date(s): DAP Comment 5) Sonoma Water staff is concerned with its sanitation facilities and the potential impacts of their ability to use recycled water. A potential solution would be to only focus on human waste concerning this RPA.	The Fecal Waste Discharge Prohibition prohibits the discharge of fecal waste material (or contaminants derived from fecal waste) from humans or domestic animals to waters of the state. Methods of complying with the prohibition relevant to the discharges from wastewater holding ponds include implementation of adequate treatment to control this source and compliance with an applicable NPDES permit. Regional Water Board staff agrees that focusing on ensuring adequate treatment of human waste would seem to be appropriate, assuming that domestic animal waste is not present in the POTWs wastewater holding ponds.
Sonoma Water-6	In the Draft Action Plan (DAP) on page 15, Table 4. Implementation Actions for Source Categories – Load/Wasteload Allocation = Statewide E. coli Objective; Row titled Wastewater Holding Pond Discharges to Surface Water, under the column Implementation Actions and Compliance Date(s): DAP Comment 6) In addition, we are concerned about the potential impacts to a POTW if it is not able to discharge recycled water that contains regrowth. Please provide, if available, an analysis on the impacts to a POTW if it has to re-treat.	Section 12.2.1 of the Staff Report describes potential cost impacts for treatment plant upgrades that may be considered by a POTW if upgrades are needed to comply with the WLA. However, the detailed impact analysis for the range of options that a POTW might consider was not conducted as part of the TMDL development.
Sonoma Water-7	In the Draft Action Plan (DAP) on page 15, Table 4. Implementation Actions for Source Categories – Load/Wasteload Allocation = Statewide E. coli Objective; Row titled Wastewater Holding Pond Discharges to Surface Water, under the column Implementation Actions and Compliance Date(s): Row titled Municipal Storm Water Runoff, under the column Implementation Actions and Compliance Date(s). DAP Comment 7) Sonoma Water is not a land use authority under the MS4 nor does it have facilities to which a Pathogen Reduction Plan (PRP) would apply. Therefore, Sonoma Water should not be required to prepare nor participate in the development of a PRP. Please update Table 4 of the Action Plan to clarify that Sonoma Water is exempt from this requirement.	It is the Regional Water Board's understanding that Sonoma Water owns and is responsible for land that is adjacent to creeks throughout the watershed. To the extent that there are fecal waste sources occupying these areas, Sonoma Water is responsible for ensuring that these areas are not contributing pathogen contamination to surface waters. Preparation of a Pathogen Reduction Plan is appropriate and justified.

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Sonoma Water-8	In the Staff Report, Under Hydrology, page 2-4, first paragraph: The current capacity for Lake Mendocino is 166,500 acre-feet.	Correction incorporated.
Sonoma Water-9	In the Staff Report, Under 3.3 Summary, page 3-14, the second to the last sentence: “It should be noted that evidence of beach closures alone is sufficient to identify a given reach as impaired or polluted.”	Correction incorporated.
Sonoma Water-10	In the Staff Report, Under 6.3.1.2 Recycled Water Holding Ponds, page 6-11, second paragraph: “The point at which disinfection is complete, for example, at the end of a chlorine contact chamber, may be separated from the surface water discharge by both distance and time.”	Correction incorporated.
Sonoma Water-11	In the Staff Report, Under 6.3.2.1 Municipal Storm Water, page 6-23, second full paragraph, under Pathogens in Urban Storm Water Systems, states: “Storm water samples are collected as a requirement of the MS4 permit for the City of Santa Rosa, County of Sonoma, and Sonoma County Water Agency.” This statement is incorrect as Sonoma Water is not required to collect such samples per the current MS4 permit. Please revise.	Correction incorporated.
Sonoma Water-12	In the Staff Report, Under 6.3.3 Point Source Conclusions, page 6-27, first full paragraph: Sonoma Water suggests retaining the word "human" to clearly describe the impacts to health from human fecal bacteria.	Correction incorporated.
Sonoma Water-13	In the Staff Report, Please note that the TMDL action plan identifies sources of domestic animal and farm animal waste. Monitoring a holding pond after the wastewater has been treated, would be nearly impossible to achieve or cost prohibitive. Therefore, monitoring holding ponds should focus on human pathogens.	To the extent that monitoring of holding ponds or their effluent is necessary to characterized the waste discharge or comply with permit requirements, the monitoring should focus on the constituents of concern relevant to the source.
Sonoma Water-14	In the Staff Report, Under 6.4.1 Municipal Wastewater Discharges to Land, page 6-28, last paragraph, second sentence: “Municipal wastewater discharged to percolation ponds that are proximate to surface waters have the potential to contribute to bacterial pathogenic loading in surface waters via shallow groundwater connection to surface water as do unpermitted releases, depending on site specific conditions.” The word “proximate” is unclear. Sonoma Water suggests defining a distance from surface waters.	The connection between a storage pond to groundwater and groundwater to surface water is dependent on many site specific factors. The term "proximate" is used simply to acknowledge the importance of groundwater monitoring in specific locations where the potential risk of connection between a pond, groundwater, and surface water is apparent.

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Sonoma Water-15	In the Staff Report, On page 6-30, Table 6.6 Municipal WDR Wastewater Treatment Facilities in the Russian River: Please update Geyserville Sanitation Zone's Permit number.	Correction incorporated.
Sonoma Water-16	In the Staff Report on page 6-52, please consider these revisions. Sonoma Water staff suggests that the first bulleted source of human fecal waste material read "Unauthorized municipal wastewater discharges to....." If discharges meet NPDES/WDR requirements or are de minimis sources, such as recycled water discharges from landscape irrigation, then they should not be identified as sources of human fecal waste.	Staff do not agree with the recommended revision. A TMDL is typically required because existing waste control mechanisms are not fully succeeding in attaining ambient water quality standards. A permit may need to be updated to include more stringent requirements, for example. In the case of municipal wastewater to surface water, including discharges from holding ponds, consideration must be given to the potential for holding ponds to regrow fecal indicator bacteria prior to discharge, which may exceed standards.
Sonoma Water-17	In the Staff Report on page 6-52, Sonoma Water staff recommend changing the bullet that now reads "Runoff from Water Recycling Projects" to read "Runoff from Water Recycling Irrigation" instead.	Revision incorporated.
Sonoma Water-18	In the Staff Report Under 10-7 Special Studies, page 10-6. Sonoma Water staff suggests the following edits: The Russian River Estuary may close throughout the year as a result of a barrier beach (closed sandbar) forming across the mouth of the Russian River at Goat Rock State Beach. Such closures usually occur during the spring, summer, and fall. Closures result in ponding of the Russian River behind the barrier beach creating lagoon conditions and, as water surface levels rise in the Estuary, flooding may occur. The barrier beach has been artificially breached by various parties for decades, mostly recently by Sonoma County Water Agency (Sonoma Water) for the purpose of alleviating potential flooding of low-lying properties along the Estuary. ~~The Sonoma County Water Agency mechanically breaches the sand bar that forms at the mouth of the Russian River in the spring/summer months if there is threat of flooding of low lying housing in the estuary.~~ However, the National Marine Fisheries Service's (NMFS) Russian River Biological Opinion ~~Service (NMFS)~~ has concluded that the freshwater lagoon conditions that form behind the sand bar from May 15 to October 15 are beneficial to the growth of young steelhead and should be preserved, as possible. In order to comply with the requirements of the Russian River Biological Opinion, the Sonoma Water implements the Russian River Estuary Management Project	Revisions incorporated.

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	(Estuary Project), which adaptively manages the Estuary with the dual objectives of enhancing rearing habitat for juvenile salmonids, particularly steelhead, and managing Estuary water levels to minimize flood hazard. From May 15 to October 15 ("lagoon management period"), a barrier beach/river mouth closure is managed to reduce tidal influence and to increase freshwater habitat available for salmon and steelhead, while minimizing flood risk and, avoiding historic artificial breaching practices. Artificial breaching outside of the lagoon management period is implemented consistent with historical practices. Water quality monitoring during the lagoon management period includes weekly grab sampling at multiple locations for pathogens, including total coliforms, E. coli and enterococcus. The TMDL analyses did not specifically include assessment of the degree to which the presence of the sand bar and freshwater lagoon at the mouth of the river affect upstream ambient water quality conditions. But, the Estuary Project's Environmental Impact Report ~~for NMFS's Biological Opinion~~ concluded that there is a large variation in indicator bacteria levels observed through the different sections of the Estuary, that these variations were observed to occur under both open and closed mouth conditions and may be seasonal as well, and that there might be water quality impacts that are not mitigatable. Further assessment of the effects of these phenomena on water quality conditions and implementation of the pathogen TMDL is warranted.	
Sonoma Water-19	In the Staff Report, Under 12.2.1.2 Expansion of Collection, Treatment, and Disposal or Recycled Water Systems, page 12-6, middle of the first paragraph: Current cost estimates for sewer construction are approximately $50-55k.	Correction incorporated.
Sonoma Water-20	In the Staff Report, Last paragraph on page 12-6, please update the last sentence to, "More recently, the Sonoma Valley County Sanitation District (Sonoma, CA) is proposing to constructed a 37-million gallon recycled water storage reservoir <u>to increase recycled water,</u> reduce its discharge to Schell Slough and San Pablo Bay and provide recycled water for irrigation purposes.	Revision incorporated.
Frost Pauli (MCFB-1)	The Mendocino County Farm Bureau (MCFB) is concerned that the Regional Board is moving forward with the action plan without having sufficient data to define areas of concern in the Upper Russian River in Mendocino County. Without defining the	Section VI of the Action Plan describes the general monitoring strategy to assess the effectiveness of the TMDL's Program of Implementation. Future monitoring activities will include ambient monitoring, special studies and project monitoring

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	potential pathogen impairments and having additional baseline data, the ability to show improvement or to develop numeric targets for reaching water quality standards is not feasible. MCFB asks the Board to consider this lack of data for the Upper Russian River when discussing the approval of the action plan.	throughout the Watershed, including in water bodies in the upper Russian River Watershed in Mendocino County. Over time, these monitoring activities will afford a clearer picture of the areas of concern and trends toward water quality improvement and attainment of bacteria water quality objectives.
MCFB-2	MCFB is concerned that agricultural recycled water ponds will be required to adhere to some standard of monitoring for human-source bacteria and pathogens similar to the requirements listed for wastewater holding ponds or percolation ponds. MCFB requires clarification on this issue. Any water quality monitoring requirements should remain with the municipality, not with the user.	Holding ponds that contain recycled water are not included in the Russian River TMDL as sources of fecal material unless there is a direct discharge of recycled water from the holding pond to surface waters. Agricultural ponds that contain recycled water are not authorized to discharge to surface water so will not have similar standards to the wastewater holding ponds fecal waste source category. Agricultural users of recycled water for irrigation may be required to prepare a Recycled Water Best Management Program (BMP) Plan if they are not already operating under a Recycled Water BMP Plan, or equivalent plan, prepared by a recycled water producer.
MCFB-3	The MCFB is against having language included in the TMDL Action Plan or associated documents that mandates that private property owners are responsible for mitigating fecal pathogen sources related to homeless encampments.	Comment noted.
MCFB-4	MCFB encourages the Board to move forward with the County of Mendocino and the City of Ukiah to look for joint solutions to homeless encampments and illegal camping in the Upper Russian River, as was done with Sonoma County vis a vis the MOU.	Comment noted and the Regional Water Board looks forward to working with the County of Mendocino and the City of Ukiah on this important and challenging issue.
MCFB-5	No implementation actions are mentioned for dealing with urban domestic animals (dogs primarily) or for separating out fecal impacts related to wildlife in the Russian River watershed.	Section 6.3.2.1.1 of the Staff Report discusses pet waste and its management under provisions of NPDES Municipal Separate Storm Sewer System (MS4) permits.
MCFB-6	The lack of data related to bovines in the upper watershed will create a moving target for measuring water quality improvement as relates to cattle and other non-dairy livestock. How can there be a load allocation for this source, when the impairment in the upper watershed has not yet been defined? There needs to be documentation that an impairment exists.	Section 6.2 of the Staff Report discusses a Land Cover study that assessed the relationship between different land use types and exceedance of fecal indicator bacteria. "Shrubland", which includes rangeland and "Agriculture" land use types are associated with exceedances of *E. coli*, enterococci during the wet season and show the highest concentrations of bovine-source *Bacteroides* of any of the land use types. Further, the bovine-source *Bacteroides* concentrations exceed in shrubland and agriculture land use types the human-sourced *Bacteroides* concentrations that are measured in the developed land use

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		type. The study clearly points to rangeland and agricultural lands as a source of fecal waste material, especially during winter months.
MCFB-7	MCFB encourages the Board to engage with Dr. Ken Tate, Professor and Cooperative Extension Specialist at UC Davis regarding alternate methodologies for assessing water quality conditions related to livestock.	Comment noted.
Tawni Tesconi (SCFB-1)	The regulations imposed in the Russian River TMDL Action Plan need to be affordable for homeowners and land users and effective to a level that ensures the benefit from improved water quality exceeds the financial burden imposed on landowners. The Staff Report offers little user-friendly practices to align with the hypotheses driving the report.	Regional Water Board staff agrees that establishing requirements that are too costly to implement is counterproductive to the goal of protecting water quality. To address affordability, the Action Plan prescribes common-sense requirements to control pathogens such as best management practices or upgrades to ensure that waste is appropriately treated to reduce the threat of discharge to surface waters. However, the effort to make implementation actions affordable should not suggest that actions must undergo a cost-benefit analysis to justify their application. A cost-benefit analysis is not a requirement of CEQA.
SCFB-2	The SCFB is concerned that bovine-source Bacteroides bacteria do not distinguish between beef cattle and dairy cows. There is not defining science to support a pointed finger at the dairy industry as a probably source of fecal waste discharge. Actions required by landowners should reflect the uncertainty admitted by Regional Water Board staff.	The TMDL does not point a finger at the dairy industry. The TMDL findings are summarized above; see MCFB-6. The TMDL Action Plan includes a fecal waste discharge prohibition, which applies equally across all land uses.
SCFB-3	The dairy industry ought not be required to implement immediate actions when other livestock producers will have many years to adopt the practices required of the plan. This places an unfair biased fee structure on an industry already subject to water quality permits and associated escalating monitoring and testing costs.	Dairy operations are regulated under existing waste discharge requirements (WDRs) or waivers of WDRs and dairies' full and continuous compliance with these orders is required. The Action Plan includes no new requirements for dairies covered by existing WDRs or waivers.
SCFB-4	The requirements for Quality Professionals to conduct inspections of OWTS imposes undue financial pressures on homeowners, including low-income, poverty level citizens living within the APMP boundary. Inspections could easily be performed by a licensed contract or a pumper who has received certification from the national Association of Wastewater Technicians.	See response to Holmer-1 and Holmer-2.
SCFB-5	The SCFB is concerned about the use of 600 feet to define the APMP boundary. Depending on the location and type of septic or waste systems on these included parcels, it is likely that some if	See response to Holmer-10 and Treinen-5.

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	not many of the identified parcels have no potential to contaminate the Russian River. The 600 foot distance was established to protect source water for public water systems, not private onsite wastewater systems. It is not fair to impose the same processes on private citizens as one does on public systems.	
Shaila Chowdhury (CalTrans-1)	The requirements in this TMDL for Caltrans are inconsistent with those for the same pollutant in other regions of the state and in Attachment IV of the Caltrans NPDES Permit. For example, a TMDL established by the San Francisco Bay Regional Water Board for Pathogens in Richardson Bay acknowledges that "the source of bacteria in highway runoff is wildlife" and that "the Water Board will not hold discharging entities responsible for uncontrollable coliform discharges originating from wildlife/natural background sources." CalTrans requests that the Regional Water Board maintain a consistent statewide stormwater program to effectively use resources towards implementing stormwater strategies for priority pollutants and waterbodies. Varying monitoring and implementation requirements for bacteria TMDLs in the Russian River watershed with those identified within Attachment IV TMDLs restricts CalTrans' ability to use a comprehensive statewide approach. CalTrans requests that the TMDL Action Plan be made consistent with the requirements of Attachment IV of the Caltrans NPDES Permit.	The proposed implementation action for Caltrans is to immediately comply with its existing NPDES permit. The specific TMDL requirements to comply with the TMDL waste load allocations (WLAs) will be developed to be consistent with the statewide stormwater program.
CalTrans-2	The Basin Plan Amendment assigns a wet weather waste load allocations (WLAs) and requirements directly for point sources, including Caltrans. The WLAs are based on the statewide bacteria objectives and expressed as receiving water concentrations for E. coli in freshwater and enterococci bacteria in saline waters. Caltrans is required to achieve the WLAs through meeting the six-week geometric mean and not exceeding more than 10 percent of the statistical threshold value for E. coli and enterococci for this TMDL. However, it is anticipated that any pathogen loads from Caltrans highways located in Russian River Watershed are from natural background sources, such as wildlife and birds.	Regional Water Board staff has concluded that homeless encampments may be present, currently or in the future, in areas within the Caltrans right-of-way, and that management measures to control discharges of fecal waste from these encampments may be necessary.
CalTrans-4	Caltrans operates an estimated 213 miles of roadway and approximately 2,215 acres of right-of-way in the Russian River watershed. This is approximately 0.23 percent of the total	The statistics regarding CalTrans highway system are relevant and important. Other important considerations, relative to CalTrans responsibilities, are the effect of the road network on

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	watershed area (the total watershed area is approximately 949,982 acres). Caltrans highway system is unique, as it is a linear municipal separate storm sewer system (MS4) agency with a relatively small footprint scattered throughout the state, with limited impacts in a watershed. In addition, the majority of the Caltrans highway system is more than 0.25 miles away from the Russian River. Therefore, implementing runoff treatment from various parts of Caltrans highway within this TMDL watershed would have negligible impacts to the overall load reductions within Russian River.	1) the alteration of surface water and groundwater hydrology, 2) the propensity for the road drainage system to collect and transport waste materials, and 3) the association of highway structures (e.g., bridges) with homeless encampments. See CalTrans-1.
CalTrans-5	Caltrans requests that the Regional Water Board clarifies the difference between regional monitoring requirements and individual monitoring requirements. The TMDL should also clearly indicate if Caltrans opts to participate in the R3MP, then they are relieved of the individual monitoring and reporting requirements for the TMDL. Caltrans anticipates that it would be most effective and beneficial to collaboratively complete the monitoring requirements with other stakeholders for the Russian River Pathogens TMDL.	Staff agrees with the comment.
OWTS Residents of the Russian River (ORRR-1)	The only State-sanctioned freshwater indicator bacterium is E. coli. The Water Board's own data have shown that the mainstem is not impaired for E. coli at any sampled location. The only water bodies in the Russian River basin that are impaired for E. coli are tributaries. Yet the TMDL Staff Report persists in finding the main stem impaired.	See Holmer-7. Please keep in mind that *E. coli* is a fecal indicator bacteria. There are other lines of evidence that help assess whether human fecal waste is the likely source of any exceedances.
ORRR-2	Attempting to treat enterococci plus beach alerts as the equivalent of E. coli impairment is not defensible. The unreliability of enterococci in nature-heavy freshwaters has led the State Water Board to outlaw them as a basin plan numeric goal. The North Coast Board staff itself has likewise criticized enterococci as a FIB. Beach alerts may be advisory only, may be posted for any number of reasons and are short-term (usually a day or two). Impairment under the Clean Water Act and the Porter-Cologne Water Quality Control Act is carefully defined to be associated with on-going water conditions, not occasional, short-lived conditions. And, still, the TMDL Staff Report relies on enterococci to justify categorizing the mainstream as impaired.	The State Water Board did not outlaw the use of enterococci. They chose to establish a statewide bacteria objective using enterococci in saline waters, only--- not in freshwater. As the commenter notes, the decision to not use enterococci to measure health risk in freshwater was based on the conclusion that enterococci measurements can result in false positives under certain circumstances. To be clear, *E. coli* can also result in false positives under certain circumstances. The project's scientific peer reviewer pointed to enterococci as having stronger epidemiological evidence from which to define health risk than does *E. coli*, which was the basis for his recommendation to use enterococci. The fact is that neither *E. coli* nor enterococci are fecal indicator bacteria that work perfectly. For this reason, Regional Water Board staff have

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		used multiple lines of evidence to identify water quality impairment. Public health advisories are one of the lines of evidence of impairment. Regional Water Board staff focused on public health advisories posted from 2013 to 2018, which relied on total coliform and *E. coli* threshold exceedances. Staff could have indicated beneficial use impairment based on public health advisories alone, since the REC-1 beneficial use is indeed impaired when water quality is poor enough to warrant a public health advisory. But, coupling enterococci data results with public health advisories allowed consideration of both the instantaneous health risks associated with public health advisories and longer term health risks associated with exceedance of a rolling 6-week geomean or statistical threshold value measured monthly. See Holmer-8.
ORRR-3	Unless and until E. coli impairment is shown on a specific stretch of the mainstem, AND it is established through source analysis that septage is a significant contributor to that impairment, there is no REC-1 justification for requiring expensive pretreatment or advanced dispersal for septic systems or seepage pits along the mainstem, or for outlawing seepage pits altogether. County regulations already include a 100' setback from the Russian River. REC-1 provides no basis to require more along the mainstem.	See Holmer-7.
ORRR-4	Including the unimpaired mainstem in the APMP area is a clear regulatory overreach. By any reasonable logic, the APMP area should be limited to waterbodies that are in fact impaired—the tributaries—and the mainstem should not be included.	See Holmer-7.
ORRR-5	If the mainstem is included in the APMP, the only reasonable requirement would be for reasonable, affordable inspections of existing OWTS every 5 years, with improvement required only if the OWTS are failing under current loads. The current draft requires that "basic operational inspection" must be carried out by a sanitary engineer or a soil scientist. This is simply unaffordable and is clearly unnecessary given that no soil analysis is involved. The recognized inspectors need to include OWTS-qualified contractors (C-42, C-36 and general engineering) and NAWT-certified pumpers. The latter inclusion is especially important for affordability, because pumpers will already be doing pump-outs of many OWTS approximately every five years. Note: the	The five-year basic operation inspection must be conducted by an individual with the education, training, and experience to assess whether the OWTS is in good working order and is not resulting in conditions that require corrective action by the local agency. Rather than establishing the minimum education, training, and expertise qualifications in the Action Plan, the Action Plan requires a Qualified Professional, as defined by the OWTS Policy, to satisfy the minimum requirements. The local agency may modify the definition of Qualified Professional as part of its approved LAMP and may include, for example, other technical or professional certifications. Also, see response to Holmer-1 and Holmer-2.

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	recognition of these additional inspectors can be done by action of PRMD itself.	
ORRR-6	Any required upgrade to existing cesspools or septic systems MUST be conditioned on public funding being available whenever the cost of the upgrade exceeds ½% of the home's assessed value, as stated in AB885.	See response to Holmer-5 and Holmer-9.
Jennifer Burke (Santa Rosa-1)	Additional detail should be included in the Action Plan to make clear that type of study necessary for appropriate evaluation, and how the reasonable potential analysis will be conducted to ensure that wildlife or other natural sources do not become the basis for additional permit restriction, based on sources that Santa Rosa should not be charged with controlling and will be quickly mimicked in the ambient environmental upon discharge as the same wildlife influences exist there. Without such detail, Santa Rosa will be facing an uncertain and potential unreasonable future that has not been accounted for the Action Plan, contrary to Water Code section 13000's "reasonableness" requirement.	Entities discharging municipal wastewater from holding ponds to surface water, per se, have no requirements established by the Action Plan. Instead, the Action Plan states that the Regional Water Board will assess reasonable potential of these discharges to cause or contribute to exceedances of the WLAs at the time of the first renewal of an entity's NPDES permit after the effective date of the Action Plan. The information needed to make this assessment will be developed by Regional Water Board staff and will be based on the specifics of the wastewater discharge. It is expected that Regional Water Board permitting staff and the discharging entities will coordinate in this effort so that the requirements are sufficient to make a determination of reasonable potential and are reasonable.
Santa Rosa-2	The statewide water quality objectives for bacteria provide for high flow and seasonal suspension of requirements related to the water contact recreation (REC-1) beneficial use. Additionally, a provision for limited water contact recreation (LREC-1) designation is provided, as well as the provision to seek and obtain a variance. The Regional Water Board applies the same standard to discharges year-round, denying flexibility for the factual use variability that exists and likely unnecessarily increasing costs and compliance efforts. Santa Rosa requests the Regional Water Board consider these allowances.	See RRWA-9.
Santa Rosa-3	The assertion on page 7-3 of the Staff Report that the use of concentration limits as the waste load and load allocation intrinsically accounts for seasonality is inaccurate. Since the number of Russian River basin aquatic recreators in winter is vastly lower than in summer, the allowable e. coli density in winter would and should be higher than in summer to be equally protective against potential gastrointestinal illness.	See RRWA-10
Santa Rosa-5	The Action Plan should consider and align with a report titled "Cost-Benefit Analysis San Diego Region Bacteria Total	See RRWA-11

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	Maximum Daily Loads, July 2017" to ensure appropriate cost benefit analysis is applied and incorporated into the Action Plan for regulatory effectiveness. For example, the San Diego Bacteria TMDL established an earlier timeline to achieve compliance during dry weather conditions, while a longer compliance timeline for wet weather was authorized to reflect the higher cost and increased complexity of mitigating pollution impacts following rain events.	
David Rabbit (SCBS-1)	The County is concerned that large parts of the affected community have not been given direct notice of this action, particularly in the Russian River tributaries.	Comment noted. Regional Water Board staff has endeavored to widely publicize and promote participation in the development of the TMDL Staff Report and Action Plan by holding public workshops in the affected communities and by participating in community meetings and advisory groups. The general public also has the opportunity to subscribe to the Russian River Watershed TMDL email list to receive updates about Regional Water Board actions and announcements. Local organizations and news media have also broadly distributed information about the TMDL to members of the general public. This effort has exceeded the requirements of state law. Moreover, repeated individual notices of Regional Water Board actions provided to the large number of parcel owners in the Watershed was not feasible.
SCBS-2	The County requests that the staff report discuss in greater detail any attempts to identify the causes and sources of the pathogens, which would then inform the actions that would be required to be taken under the TMDL Action Plan.	Staff believe that the Staff Report describes in adequate detail all of the TMDL studies conducted to assess locations of pollution and sources of pollution within the Russian River Watershed. Under the TMDL Action Plan, identified owners/operators of properties/facilities with *potential* sources of fecal waste discharge will assess the *actual* sources of fecal waste discharge on their properties/facilities that are reasonably controlled.
SCBS-3	A robust discussion of the PhyloChip Report (May 1, 2014) by the Lawrence Berkeley National Laboratory (LBNL) is warranted because the LBNL findings suggest if there is a pathogen problem in the Russian River and its tributaries, it is much more geographically constrained than the expansive area identified in the APMP map. SCBS summarizes the findings presented in Table 2-3 in the appendix of the LBNL report to say that 4 of 11 samples stations on the Russian River and 4 of 5 tributaries showed exceedances of fecal indicator bacteria, while only 2	The commenter raises a very good point. The PhyloChip Report (May 2014) is a valuable piece of work, which is not used to its fullest in the context of the draft TMDL Staff Report and TMDL Action Plan. This was largely because there was no formerly established threshold against which to assess PhyloChip data, as was also the case with the *Bacteroides* data. Both *Bacteroides* and PhyloChip data were reported in the draft TMDL Staff Report, but not used as the basis for impairment decisions. They were largely used to prioritize

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	mainstem stations showed elevated levels of fecal bacterial taxa (Johnson's Beach, Monte Rio) and these stations were ones that did not show elevated levels of fecal indicators.	areas of interest, particularly for future monitoring. But, based on this comment, staff have re-evaluated the PhyloChip Report and interviewed the Lawrence Berkeley National Laboratory researcher responsible for the study, Eric Dubinsky. The Addendum to the draft Staff Report includes added language summarizing staff's application of the PhyloChip Report's findings. Also, revisions to the APMP boundary contained within the draft TMDL Action Plan were made to reflect application of the PhyloChip Report's findings, personal communication with Eric Dubinsky (7/8/2019), and the findings as subsequently published in peer reviewed journal. As a result of personal communication with Eric Dubinsky (7/8/2019), staff concluded that a DNA match of 10% or greater provides moderately certain evidence of human fecal waste, whereas a DNA match of 20% provides strong evidence. Eric Dubinsky, Steve Butkus, and Gary Andersen published a paper in the journal Water Research (105) in 2016 titled *Microbial source tracking in impaired watersheds using PhyloChip and machine-learning classification.* This paper refined its assessment of the data collected in the Russian River PhyloChip Report (2014), using a likelihood ratio to define moderate to strong human signals.
SCBS-4	Also, a robust discussion of the PhyloChip Report (May 1, 2014) by the Lawrence Berkeley National Laboratory (LBNL) is warranted because LBNL's finding that a refined source analysis is advisable since landscape signatures are likely unavailable, undermines the Staff Report's approach to identifying causes and sources.	See SCBS-2. Th Land Cover Study and the OWTS Study did establish correlations between FIB data and various landscape characteristics studied. The PhyloChip Report did not find a correlation between the DNA data collected and those same landscape characteristics, however. There are numerous possible explanations for these differing results, none of which override the logic of using multiple lines of evidence to establish the areas of specific concern to public health. And, as the commenter suggests, additional assessment of fecal waste sources is necessary prior to investment in specific controls, which is exactly what the TMDL Action Plan calls for as part of the Assessment Program.
SCBS-5	The Regional Water Board is not relieved from identifying actual sources of fecal waste discharge versus categories of sources. This is especially the case where the underlying studies do not find a correlation between land use type and septic system	A determination by the Regional Water Board that a water body is impaired for nitrogen or pathogens and that OWTS generally are a contributing source is sufficient for the purpose of placing OWTS near the water bodies in Tier 3 of the OWTS Policy and Tier 3 OWTS require the establishment of an

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	density and the presence of fecal bacteria taxa, as opposed to just indicators.	APMP, which is the minimum management program for OWTS near impaired water bodies. Whether an individual OWTS is contributing to the impairment is a question that can be addressed by the local agency during the corrective action process, and may affect the type of corrective action this is authorized, but a determination that an individual OWTS is not contributing to the impairment will not relieve the OWTS owner of their need to comply with the OWTS Policy, which requires corrective actions to repair or replace a failing OWTS or other OWTS not authorized by the Policy.
SCBS-6	A robust discussion of the PhyloChip Report (May 1, 2014) by the Lawrence Berkeley National Laboratory (LBNL) is warranted because the LBNL finding that the enterococcus and coliforms are likely naturally occurring in the Russian River watershed is, to say the least, a consequential observation for the Staff Report's approach.	The commenter raises a very good point. The PhyloChip Report did not discover a correlation between instantaneous DNA measurements and instantaneous E. coli, enterococci or Bacteroides measurements. The LBNL researcher, Mr. Dubinsky, confirmed this finding in a personal communication on July 8, 2019 and clarified that other similar studies have also failed to establish a correlation. He acknowledged that where there were few data collected at a specific location, the findings are less certain than where there were more samples collected. He also acknowledged that exceedances of instantaneous beach action values for E. coli and enterococci often appeared to be associated with increases in non-fecal related taxonomic families, but not always. Nonetheless, when staff assembles the multiple lines of evidence including geomean and statistical threshold value calculations for E. coli and enterococci, public health advisories, Bacteroides data, and PhyloChip DNA results into HUC-12 subwatersheds, the assembled data provides a relatively clear picture. Of the 12 HUC-12 subwatersheds identified as impaired in the draft BPA (including change sheet) based on E. coli exceedances, enterococci exceedances, and public health advisories, 8 of them are associated with PhyloChip DNA evidence of human fecal waste. An additional 1 HUC-12 subwatershed is associated with Bacteroides evidence of human fecal waste, though the 2 PhyloChip data points did not identify human fecal waste-related bacteria. The remaining 3 HUC-12 subwatersheds, though impaired based on E. coli and enterococci results, should not be in the APMP geographic

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		area due to poor evidence of human fecal waste-related bacteria and have been removed.
SCBS-7	The call in the LBNL report for a more developed source analysis should be addressed.	See SCBS-4.
SCBS-8	Regional Water Board staff Steve Butkus wrote a technical memo in 2014 hypothesizing why there are inconsistencies between the PhyloChip report and the Regional Water Board's own data analysis. These hypotheses should be tested.	See SCBS-4. The Russian River Pathogen TMDL studies provide adequate data upon which to base reasonable water quality protection decisions. Additional, long-term study is unnecessary at this time. The TMDL Action Plan is designed to result in site specific assessment of individual sources of fecal waste discharge that are reasonably controlled, which is for OWTS, focused on areas with evidence of public health risk and human-based fecal waste discharge. The data is sufficient to initiate this phase of implementation. Staff anticipate that the Russian River Regional Monitoring Program (R3MP) will help establish both baseline monitoring in the Russian River Watershed and identify the need for special studies, including additional pathogen-related study, as necessary. R3MP is forum for the Regional Water Board, Sonoma County and others to collaborate on the question of science needs in the basin.
SCBS-9	It is completely unsupported that the Staff Report continues to use enterococcus as a line of evidence for determining pathogen impairment in fresh water. The State Water Board has jettisoned this approach. The PhyloChip report conclusions buttresses the position taken by the State Water Board. And, the Staff Report's approach of linking enterococcus presence with beach closures and public advisories is simply a made up standard with no scientific basis. Mr. Butkus' 2013 memo, cited in the Staff Report, says: "Enterococcus bacteria are not appropriate indicators of sewage and pathogens in freshwater because they can come from non-fecal sources, can regrow in the stream environment, and because there is a likelihood of false positives results in freshwater using current analytical methods." The Regional Water Board should exclude enterococcus from its weight-of-evidence approach and revisit its conclusions in Table 4.12 regarding impairment. At a minimum, this would reduce the number of impaired watersheds from 13 to 8.	See ORRR-2.

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SCBS-10	The Regional Water Board should also consider giving more weight to actual measures of fecal bacteria versus the use of indicator taxa.	See SCBS-3 and SCBS-8.
SCBS-11	The hydrologic unit approach is not grounded in the data and is overly expansive. Impairment on the Russian River mainstem should be based on exceedances on the mainstem and not on nearby tributaries; likewise, an exceedance at one lower tributary location should not be arbitrarily extended to the entire tributary HUC-12.	See Holmer-7.
SCBS-12	The Staff Report should address the full scope of economic impacts that the Regional Water Board needs to consider. The Regional Water Board should be informed on the total cost to the community prior to making such an important decision.	Regional Water Board staff appreciate the cost estimates provided by the County. The information that the County has provided (see SCBS-14) will be included in the Staff Report as an estimated potential cost to the County OWTS owners to implement the APMP.
SCBS-13	Implementation decisions regarding OWTS owners should be guided by an assessment of the number of OWTS-owners affected, including timelines, types of financing, and whether clustered septic or sewer lines could be a cost-effective option.	The Action Plan was revised to authorize the local agency to approve repairs in substantial compliance with the OWTS Policy and the APMP in accordance with an approved LAMP. The criteria that must be considered before exercising this discretion could include the factors that the commenter suggests.
SCBS-14	The County has collected information relevant to a cost analysis. The County estimates 2,100 residents will need to upgrade their OWTS within the County. Another 1,400 residents will need to construct new systems. 8,700 residents will need to inspect their systems once every five years. The County estimates that upgrades will cost between $31.5 million and $42 million, new systems will cost between $49 million and $70 million, and inspections will cost between $870,000 and $1.74 million, for a total of $81 million and $114 million for OWTS compliance.	Comments noted; Regional Water Board staff appreciate the cost estimates provided by the County.
SCBS-15	The APMP requirements should be phased based on funding availability, and based on further monitoring. The Action Plan should identify a narrower APMP, with further APMP designations being provisional until further investigations are undertaken. For example, non-perennial streams should only be included in the APMP area at a later date if subsequent investigations confirm inclusion is warranted.	See SCBS-6. As stated in the revised Action Plan, the Regional Water Board may implement the Assessment Program in phases by geographic area or other appropriate mechanism. Regional Water Board staff considered a phased implementation of the APMP requirements but concluded that doing so would create an unreasonable level of uncertainty about what requirements are or will be in place for existing, new, and replacement OWTS. Uncertainty about what standards an existing or prospective OWTS owner must comply with has been a common complaint from the public

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		during the development of the TMDL Action Plan. To phase the program of implementation would only exacerbate the public concern. Secondly, the primary objectives of the APMP are to identify OWTS that are failing, OWTS not allowed under the statewide OWTS Policy (e.g., cesspools), and OWTS that are a high threat to fail because they are being operated beyond their treatment and disposal capacity, and ensure that noncompliant OWTS are repaired of replaced with OWTS that provide treatment that adequately removes pathogens so as to make the OWTS a low threat to contribute pathogens to groundwater and surface waters. The objectives should be part of any comprehensive OWTS management program.
SCBS-16	The County agrees that funding from the California Water State Revolving Fund is critical. The County looks forward to continued coordination and joint-advocacy by the Regional Water Board and County to identify funding for both community-based and alternative solutions as outlined in the MOU.	Comment noted; Regonal Water Board staff also looks forward to continued coordination and joint-advocacy with the County with regard to funding and financing for TMDL implementation.
Brenda Adelman (RRWPC-1)	RRWPC states that sanitary sewer overflows, which tend to occur during winter high flow periods, are of significant concern to water quality of the Russian River and are not adequately addressed in this TMDL.	Regional Water Board staff agrees that proper operation and maintenance (O&M) of wastewater treatment plants and collection system is critical to ensure compliance with effluent limitations and to prevent spills and overflows that could impact water quality. Accordingly, discharge permits for POTWs in the North Coast Region typically include and enforceable requirement to properly operate and maintain the treatment system and to keep an updated O&M manual. The statewide General Order for Sanitary Sewer Systems, under which coverage is required for all public entities with sewer systems greater than a mile in length, requires enrollees to prepare and implement a Sewer System Management Plan (SSMP) to minimize sanitary sewer overflows reaching surface waters. All POTWs in the Russian River Watershed are enrolled under this statewide General Order. Enforcement of this and other orders relevant to fecal waste discharge control will be a high priority, as a result of the TMDL Action Plan.
RRWPC-2	RRWPC states that they believe that homelessness and summer recreation are the most pressing concerns to pathogen impairment in the Russian River.	Staff also believe that these sources are important and must be addressed. An MOU between the Regional Water Board and Sonoma County has been signed to identify responsibilities relative to these sources of fecal waste discharge. The Regional Water Board has also begun

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		discussion with Mendocino County to establish similar understandings.
RRWPC-3	The commenters are concerned that not all sources are being addressed equally. In particular, the MOU with Sonoma County only provides a broad approach to addressing REC-1 and homeless encampment contributions, while the OWTS implementation requires very stringent and expensive fixes.	The pathogen sources identified in the TMDL fall into three general categories: 1) Sources adequately regulated under state-issued waste discharge requirements (WDRs), 2) Sources regulated under WDRs or local programs, but where the requirements are not adequate to ensure attainment of bacteria water quality objectives, and 3) Sources that are not currently regulated under permits, waivers, or programs. Sources that are not currently well-regulated will have more detailed Action Plan requirements, in most cases. Differences between the level of detail for Action Plan requirements for recreational users and homeless encampments compared to those for OWTS are driven by external factors, such as Regional Water Board authority to control the discharge, which is limited for recreational users and homeless encampments but strong for OWTS under the statewide OWTS Policy. Moreover, the statewide OWTS Policy requires development of an Advanced Protection Management Program (APMP) to regulate existing, new, and replacement OWTS that are near impaired water bodies. The APMP must be detailed enough to ensure that OWTS in the APMP area will not contribute to the impairment. Finally, the objective of the APMP is to identity OWTS that are failing, not authorized by the statewide OWTS Policy (e.g. cesspools), and that are operating beyond the capacity of the OWTS to treat and dispose of the wastewater in a manner that meets the objectives of the Action Plan. These OWTS would require corrective action in accordance with the OWTS Policy even in the absence of a TMDL.
RRWPC-4	RRWPC made numerous statements regarding the inappropriateness of using of fecal coliform to determine impairment in the Russian River. The commenter states that "the new E. coli standard has not been approved as yet for specific 303(d) listings."	Staff believes that the commenter is misunderstanding the information presented in the staff report. The Russian River Pathogen TMDL is designed to assess by multiple lines of evidence the extent of pathogen contamination and the likely contributing sources. E. coli data, enterococci data, public health advisories, the OWTS Study, the Recreational Use Study, and the Land use Study all contribute to an understanding of both 1) specific locations where fecal indicator bacteria exceed thresholds and 2) specific conditions that are associated with an elevated risk of fecal waste

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		discharge. Fecal coliform data is not used in determining impairment or designation of the APMP. The staff report states that the reanalysis of data through the lens of the new statewide objective eliminated the consideration of fecal coliform data. Additionally, the State Water Board adopted statewide bacteria water quality objectives and implementation options to protect water contact recreational users from the effects of pathogens in California water bodies in 2018 which included the use of E. coli as the fecal indicator bacteria (FIB) for freshwater.
RRWPC-5	RRWPC asks the question if approving this TMDL prior to the approval of the upcoming 303(d) determination before the Regional Water Quality Board later this year is appropriate considering they use the same analytical method.	The 2019 TMDL Action Plan recognizes individual HUC-12 subwatersheds as impaired based on direct water quality monitoring, only (i.e., exceedances of statewide bacteria objectives or exceedances of national criteria for enterococci and public health advisories). Staff have applied the Water Quality Control Policy For Developing California's Clean Water Act Section 303(d) List (2015) (303(d) Listing Policy) exceedance frequency recommendations to guide the assessment of pollution and impairment to ensure harmony with the upcoming update to the 303(d) list, which will also be presented to the Regional Water Board in 2019. The determination of impairment in this TMDL is a separate action from the upcoming update to the 303d list but was done with the same methodology to ensure regulatory consistency.
RRWPC-6	Commenter notes that lower river flows likely has an impact upon bacterial pollution and that this TMDL does not address those issues.	RRWPC-7 2017 comment when finished. OR: The commenter is correct. The TMDL does not address the flow requirements now set for the Russian River, as those requirements are the purview of another agency. The TMDL did not exhaustively study all potential influences over the fate and transport of pathogens throughout the Russian River Watershed. It did, however, assess locations where fecal indicator bacteria and other lines of evidence suggest a risk to human health via exposure to illness-causing pathogens. And, it evaluated the most likely sources of fecal waste discharge. Staff have proposed a program of implementation by which individual dischargers with the potential to discharge fecal waste to public waters assess the status of their discharge controls (e.g., treatment systems or best management practices, as appropriate given the source) and upgrade systems as

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		necessary to ensure proper control. This approach is reasonable and will protect public health in the long-term. The fact that there are numerous OWTS with potential to discharge fecal waste to the Russian River and its tributaries is a fact that requires attention, regardless of the TMDL.
RRWPC-7	Commenter identified a number of maps and formatting concerns that they state make the information difficult to read.	Comment noted. Staff have endeavored to make all documents as easily accessible and clear as possible.
RRWPC-8	Commenter asks how the TMDL determines appropriate responsibility for each source group since they are all human pollution sources. Also, the commenter states that "there has been little attempt to discriminate between pathogens from septics and other sources, such as recreational activities and homeless (and illegal) encampments."	Chapter 6 of the staff report goes extensively into how each source was assessed and determined. Chapter 7 includes a description of each sources Waste Load Allocation or Load Allocation and Chapter 9 describes the responsibilities for and implementation measures of each source category. The Program of Implementation is designed to put the burden of individual system assessment on the owners/operators of those individual systems. The Regional Water Board is working with Sonoma County and other stakeholders to make public funding available to owners of OWTS who can not afford corrective actions to replace cesspools, failing systems, or overloaded systems on their own.
RRWPC-9	RRWPC made numerous statements regarding their concern for the high cost of the requirements on OWTS owners.	The Regional Water Board is working with Sonoma County and other stakeholders to make public funding available to owners of OWTS who can not afford corrective actions to replace cesspools, failing systems, or overloaded systems on their own.
RRWPC-10	Commenter states that it is "a little silly to insist that you have to protect REC-1 swimmers from bacterial pollution in the dead of winter and in the middle of storms."	The REC-1 beneficial use is designated as a year round use and requires year round protection. Though summer recreation is far more substantial than is winter recreation, winter recreational activities do indeed occur in the Russian River (e.g., fishing, kayaking). Further, to the degree that cesspools, failing OWTS, or overloaded OWTS pose a risk of fecal waste discharge to public waters, whether during the summer or winter season, they must be addressed.
RRWPC-11	Commenter noted that bold font in Tables 4.2 and 4.3 of the Staff Report was hard to see.	Comment noted. Staff have endeavored to make all documents as easily accessible and clear as possible.
RRWPC-12	Commenter noted that some of the Dutch Bill Creek HUC-12 sampling locations identified in Table 4.1 of the staff report are nowhere near Dutch Bill Creek. Also asks if Driver Road is a misspelling.	The commenter is correct in that Driver Dr. is misspelled and should be listed as River Dr. Regarding the sampling locations, the Dutch Bill Creek HUC-12 should have been listed as Dutch Bill Creek-Russian River HUC-12 and includes tributaries to and the mainstem Russian River within the HUC-12

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		boundaries. The sampling locations therefore may be a distance away from the actual Dutch Bill Creek. Both the misspelling and the HUC-12s missing the words "Russian River" in their names will be corrected.
RRWPC-13	Commenter questioned the number, locations, and timing of sampling done to determine pathogen impairments in the Russian River, particularly the lower river.	Chapter 4 of the staff report goes into detail regarding the monitoring studies, analyses, and assessments used to identify the evidence of pollution in the Russian River watershed.
RRWPC-14	The commenter makes numerous statements about the use of Bacteroides sampling and that it appears the TMDL analysis uses Bacteroides in place of E. coli or as equivalents.	Bacteroides data was not used in the TMDL analysis to determine impairment. It was used as one of the metrics to determine presence of fecal waste, the source of that fecal waste, and the potential for exposure to illness causing pathogens. More on the use of Bacteroides data can be found in Chapter 4 of the staff report.
RRWPC-15	Commenter stated that beach advisories are sometimes posted for reasons not related to pathogens.	All public health advisories used in this TMDL analysis were based exceedances of either total coliform or *E. coli.*
RRWPC-16	Commenter noted that the following language on Page 6-5 of the staff report "E. coli, enterococci, and Bacteroides bacteria concentrations are statistically the same for wet and dry period runoff draining from developed sewered areas and developed areas with OWTS," does not seem to be supported by the following graphs.	The commenter is correct. The words "wet and dry period runoff draining from" are incorrect. The statement should read "E. coli, enterococci, and Bacteroides bacteria concentrations are statistically the same for developed sewered areas and developed areas with OWTS." This text will be corrected.
RRWPC-17	Commenter states "I strongly support monitoring discharges from wastewater holding ponds before discharge. Thank you!'	Comment noted.
RRWPC-18	The commenter states they are unclear as to if septic systems fall under point or non-point programs and what the monitoring requirements for septic system owners will be.	Individual small septic systems are regulated as non-point sources. The requirements for monitoring of these systems are described in the Action Plan under Section D.5.b Basic Operational Inspection.
RRWPC-19	Commenter stated that on Page 12-6, the "estimate given for storage expansion project planned ten year ago. No information on how costs have risen in the ten year period and how today's dollar compares to 2009." They also noted that when estimates are given for 10 year old projects they should be presented in current dollar values.	Staff have used the best available data to generate a list of costs associated with actions that may be reasonably expected as a result of the TMDL Action Plan. Actual costs, in current dollars, will be estimated by the project proponent when a specific implementation approach and/or design is selected.