GENERAL COMMENTS

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Susan Gorin (County of Sonoma)	Sonoma-1	The time frame available for public review and comment of the Implementation Plan (August 21, 2015 to October 8, 2015) prior to hearing for consideration of adoption (November 19, 2015) is insufficient. Given the complexity and the enormity of potential impacts that the TMDL Implementation Plan will have on the High Priority Areas especially, and the County as a whole, additional time is warranted for proper review and comment. The County requests an extension of the review period before adoption.	The proposed adoption has been delayed by 3 years to allow for additional review and discussion with stakeholders, to negotiate responsibilities with the counties, and to pursue public funding support for community sanitary needs planning and OWTS replacement/upgrade. In addition, significant revisions to the project, particularly the Program of Implementation, have been made to address public comments and refine the focus of implementation efforts.
Thomas Lyons (Sonoma-Marin Area Rail Transit)	SMART-1	As previously stated, SMART believes its inclusion in Table 9.1 of the DRAFT Staff Report was in error and should be removed. If the Regional Board is unwilling to remove SMART from the Staff Report, SMART asserts its right to be given proper notice and the opportunity to adequately respond to the staff report prior to the hearing as provided by 40 C.F.R section 25.5.	SMART has been removed as a designated pathogen source for this TMDL. However, as explained in section 6.3.2.1 of the Staff Report, transportation corridors have been regulated by other regional water boards as non-traditional MS4s needing coverage under the Phase II MS4 Permit. Should information become available that activities in the SMART right-of-way are contributing to fecal pollution in waterways, the Regional Water Board may require that SMART obtain coverage under a municipal storm water permit.
Kerry Tinney (Hacienda Improvement Association)	HIA-1	Overall, it appears to us that there is a rush to adopt and implement a TMDL that has potentially severe ramifications, and which we are not confident will lead to the desired outcome. We urge the Regional Board to remove the TMDL from the November meeting calendar and to engage further with	Sonoma-1

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		the communities and the County to develop a TMDL that we all can support	
James Niskanen (Odd Fellows Recreation Club)	OFRC-1	However, we are troubled by a plan that, we believe, is predicated upon unclear science, is not equitable, is unlikely to achieve the desired bacterial count targets, and has not sufficiently engaged those who will bear the brunt of impending regulation	Sonoma-1
James Niskanen (Odd Fellows Recreation Club)	OFRC-2	We are concerned by the lack of notice of this plan to the communities affected by it and to the individual owners of OWTS most likely to be affected by it... Beyond the lack of noticing, it appears that NCRWQCB did not seek the participation of those likely to be most affected by the plan as it developed its implementation plan. The hearing calendar for plan development shows that the public was invited at the initial stages of plan development and then again only when the plan was ready to be submitted to State-level agencies for approval. Although stakeholders were invited to meetings to discuss implementation strategies, these stakeholders did not include the owners of OWTS, those who will be most impacted by the plan. It is unfortunate that OWTS owners were not included in this process. Their inclusion might have led to a plan that would have been more flexible, less costly, and more widely accepted.	See Sonoma-1. Multiple community, local, and state meetings have been held since the postponement of the November 2015 hearing. A Russian River Ombudsman has also been available to address questions and relay feedback, as needed.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Maria Alderete, Bill Atkinson, Doreen Atkinson, Christine Bensen, Bruce Bowen, Kyla Brooke, Patricia Clarkson, Keith Enders, Roberto Esteves, Robert Garber, Madi Good, Suzanne Gottschalk, Brian Holloway, Sharon Hustwit, Joseph Indano, Junona Jonas, Joy Lovinger, Richard Maisel, Grant McDougall, Erin McKinney, Frank Murray, Birgit Nielsen, Dennis O'Rorke, Tia Resleure, Jay Smith, Robert Smith, Tom Wackerman, Andrea Willis, Steven Willis	Alderete et al-1	Please consider removing the TMDL from the November meeting calendar and engage further with the communities and the County to develop a TMDL that we all can support.	Sonoma-1
Cindy Antoniazzi, Dino Antoniazzi, Rosemary Benz, Donna Bley, Phil Grosse, Stephen Luce, Charles Miller, Dennis O'Leary, Pam Vale, Anthony	Antoniazzi et al-1	It appears that there is a rush to adopt and implement a plan that has potentially severe ramifications and may not lead to the desired outcome. Please consider removing the TMDL from the November meeting calendar and engage further with the communities and County to develop a TMDL that we all can support. We request an extension time to the	Sonoma-1

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Vandersteen, Robina Vandersteen, Victoria Wikle		public review, so that the public have enough time to fully understand the implications of these new regulations.	
Dennis O'Leary	O'Leary-1	The draft document does not follow proper due process of notifying affected property owners and it does not provide adequate time for them to study the document. Property owners within these high and low priority areas should receive direct notification	Sonoma-1
Bill and Doreen Atkinson	Atkinson-1	The time provide for public comment is inadequate. We were given a two-week window to comment on the Draft Staff Report for the Action Plan which I find it difficult to comment since most of what was being said didn't make any sense and a lot of questions from the audience were not answered.	Sonoma-1
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-1	The TMDL Staff Report document is one of the most complex of those we have encountered on water quality issues addressed by your Board. The whole package is well over 600 pages and much of it is highly technical and not readily understood by a layperson. Yet, because of its vast determination to regulate ALL PATHOGENS in the Russian River watershed (including tributaries), its consequences will have a profound effect on our community and our lives.	Comment noted.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-2	We fully support the County of Sonoma in their comments on this Draft Action Plan and their concern about the impacts to our community from this TMDL. They made a strong case that notices announcing three public meetings to be held in late September, were not adequate and that most people affected by this endeavor heard nothing about it. Regional Board staff held two Sonoma County meetings; the first had almost 100 people attending and the second about 50. That is a miniscule percentage of the many thousands who will be affected by this TMDL proposal.	Sonoma-1
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-3	The subjects of this Action Plan need more assurance and more time to understand the vast implications within this process. These actions are detailed at great length on pages 9-17 through 9-22, but there is virtually no information on to whom they will apply. The 45-day comment period simply has not been enough for responders to absorb all this material and write/submit appropriate comments. Due to a lack of due diligence regarding notices to affected parties, most are unaware it is happening. RRWPC requests that you delay approval of this Draft Action Plan and adoption of the TMDL at this time and requests that the Regional Water Board add another two months to the public comment period and The 45 day time comment period, simply has not been enough for responders to absorb all of this material and write/submit	Sonoma-1

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		appropriate comments. Due to a lack of due diligence regarding notices to affected parties, most are unaware it is happening.	
Bob Legge (Russian RiverKeeper)	RRK-1	Section 1.3.2. Page 1-13, Table 1.4, incorrectly lists Cloverdale as having a 0.0 Percent of Municipal Population within the Russian River Watershed.	Thank you. The correction has been made.
Bob Legge (Russian RiverKeeper)	RRK-2	In Section 1.3.2, Page 2-10, it states that "A TMDL is defined as the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background." Our concern/question is how can you promulgate a TMDL if you have yet to determine what natural background level is?	The description of the TMDL calculation has been updated to reflect that natural background is included in the load allocation term, unless estimated separately. Natural background is not estimated separately in this TMDL, as allowed by statute and guidance.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Bob Legge (Russian RiverKeeper)	RRK-3	In Section 3.4, Pages 3-18, it states that R1 staff states "These results demonstrate that human and domestic animal fecal wastes are present in amounts that indicate the bacteriological quality of the Russian River and its tributaries is degraded beyond minimally disturbed conditions exceeding the natural background narrative bacteria water quality objective…RRK is aware you are not using Bacteroides data in your determination of WLAs and LA but the fact remains, How can staff promulgate a TMDL when natural background has yet to be established for the Russian River Watershed?	The Pathogen TMDL is developed to identify the locations where there is evidence of pollution, the type of fecal waste associated with evidence of pollution (e.g., human, bovine, or other), and the fecal waste source categories found in the watershed that have the potential to discharge to public waters. The Program of Implementation is designed to control controllable sources of human and domestic animal fecal waste discharge, an approach which is independent of natural background sources. Further, the TMDL, waste load allocations, and load allocations are all given as concentrations and are equivalent to the statewide bacteria objective. This approach does not require an assessment of natural background conditions.
Bob Legge (Russian RiverKeeper)	RRK-4	RRK wishes to draw your attention to the "Staff Report for the Proposed WQO Update Amendment" released on Feb 25, 2015. In Chapter 2-Existing Conditions, Page 2-13, Section 2.1.9 we urge you to consider the fundamental relationship E. coli and Enterococci have upon "The surface water quality issues of most concern in the North Coast Region…excess sediment, elevated water temperatures and excess nutrients." When determining natural background (and the necessary revised implementation actions) these water quality issues must be considered as factors that influence the delivery (sediment carries bacteria with it, increases delivery of fecal matter to waterways), the growth and ability to persist in the	Staff agrees with your assessment that sediment, temperature, and nutrients are key issues in the Russian River and deserving assessment. Staff further agrees that: bacteria can associate with sediment, fecal waste is a source of nutrients, and water temperatures play a role in biostimulatory conditions. However, this TMDL takes a reasonable approach, which does not rely on a detailed understanding of the interactions of all factors, but more directly focuses on the control of controllable sources of human and domestic animal fecal waste discharge. This is a straightforward, responsible approach to public health protection.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		environment (directly related to temperature) and the effect that detectable levels of pathogens and their presence have upon nutrients (especially the combined effect of temperature and nutrients on water quality impairments such as Blue Green Algae).	
Bob Legge (Russian RiverKeeper)	RRK-5	In Section 2.2.2: For clarity and continuity, please list the waterbody-pollutant pairs in the Russian River Watershed in the order they appear (from Upstream-North to Downstream-South). Example-an unnamed stream near Healdsburg at Fitch Mountain, the Russian River at Veterans Memorial Beach, Santa Rosa Creek, Laguna de Santa Rosa, Green Valley Creek, Russian River between the confluences of Fife Creek in Guerneville and Dutch Bill Creek in Monte Rio, and Dutch Bill Creek…As it is presently written in the Draft, it is very confusing as it is void of geographical context.	Thank you for the suggestion. This revision has been made.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Bob Legge (Russian RiverKeeper)	RRK-6	In Section 2.2.3, Page 2-11, final paragraph: It states: "To ensure that this TMDL is protective, staff recommends that this TMDL not go before the State Board for adoption until after the state bacteria objective is adopted. An update of the TMDL may be necessary should they be inconsistent with the new statewide objectives." RRK recommendations removing these last two sentences from the Draft Staff Report. The Russian River is imperiled, we cannot waste any more time waiting for anything to come from State Board. Establish the correct load allocations (LAs) for nonpoint sources and natural background levels and move forward with promulgating this TMDL immediately using the criteria for E.coli/Enterococci calculated to result in no more than 32 illnesses/1000 people.	Thank you for the suggestion. Staff appreciate the RRK's clarity on the issue of impairment and its suggestion of the criteria most appropriately used to protect public health. While staff agree that the technical conclusions provided in the 2015 Draft Staff Report and Action Plan were sound, staff was moved by the tenor and volume of public input on the Program of Implementation to postpone proposed adoption. In the meantime, a statewide bacteria objective has been adopted, which is reasonably consistent with what is recommended here.
James Niskanen (Odd Fellows Recreation Club)	OFRC-3	Odd Fellows Recreation Club (OFRC) strongly supports the goal of cleaning up the Russian River. OFRC was built around river recreation and for generations our families and friends have recreated in and along the River. Moreover, our drinking water is influenced by the quality and flow of the river. The health of the river, and the health of those recreating in and otherwise depending upon the river, is therefore critical to us. Despite OFRC's support for clean water standards in general, and regulations to ensure the proper operation of OWTS specifically, we do not support NCRWQCB's Russian River Bacterial	Comment noted. See Sonoma-1

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		TMDL Implementation Plan in its current iteration.	
James Niskanen (Odd Fellows Recreation Club)	OFRC-4	However, we are troubled by a plan that, we believe, is predicated upon unclear science, is not equitable, is unlikely to achieve the desired bacterial count targets, and has not sufficiently engaged those who will bear the brunt of impending regulation.	Comment noted. See Sonoma-1
Brian Andriola, Cindy Antoniazzi, Dino Antoniazzi, Jim Christian, William Clark, Kris Clothier, Regina Costa, Jon Edwards, Kathy Luning, Loren Magruder, Maria Mana, Michael McLaughlin, Ronald Quidachay, Katharine Swan, Lessa Vivian, Sarah Yardley	Andriola et al-1	Supports the comments provided by the Hacienda Improvement Association.	Comment noted. See responses to HIA comments.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Grant Davis (Sonoma County Water Agency)	SCWA-1	(Chapter 1, Section 1.3.1) The fourth full paragraph on page 1-10 describes major water supply projects for the Russian River watershed and uses language that is out of date. SCWA suggests updated language.	Thank you for your suggestion. This section has been modified.
Grant Davis (Sonoma County Water Agency)	SCWA-2	The last paragraph on page 1-10 of the Draft Staff Report is a discussion of the Water Agency's inflatable dam in the Wohler Bridge area. It is unclear why this discussion is included since no discussion of the other seasonal dams/impoundments on the river is included. If this paragraph remains in the final version of the Draft Staff Report, please remove the third sentence which states the dam is deflated to allow for fish passage in the fall. The dam is equipped with fish ladders that allow for fish passage when the dam is in use. Typically, the dam is deflated in the fall or early winter due to projected high flows, which could damage the dam.	Thank you for your suggestion. This section has been modified.
Grant Davis (Sonoma County Water Agency)	SCWA-3	(Chapter 2, Section 2.2.3) The last paragraph of this section (page 2-11) of the Draft Staff Report states that "…this TMDL is established at levels expected to implement the applicable water quality standard. To ensure that this TMDL is protective, staff recommends that this TMDL not go before the State Board for adoption until after the state bacteria objective is adopted. An update of the TMDL may be necessary should they be inconsistent with the new statewide objectives." Please explain the process the North Coast Regional Water Quality Control Board would go through	The proposed Basin Plan Amendment now incorporates the newly adopted statewide bacteria objective. The cited recommendation in Section 2.2.3 of the 2015 Draft Staff Report has been removed.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		(including soliciting and considering stakeholder input) should an update of the TMDL be necessary.	
Grant Davis (Sonoma County Water Agency)	SCWA-4	(Chapter 4, Section 4.1.1.1 and 4.1.2.1) The proposed numeric targets in the Draft Basin Plan Amendment Action Plan do not specify if they are for fresh or marine waters or both. Please specify in the Draft Basin Plan Amendment Action Plan to which recreational waters (freshwater, marine, or both) the proposed numeric targets apply.	Thank you for your suggestion. The 2018 Proposed Basin Plan Amendment provides clarity on the locations in the watershed where each of the numeric targets apply. Wasteload and load allocations apply in a manner consistent with the newly adopted statewide bacteria objective, based on a salinity threshold. Enterococcus applies as a numeric target throughout the watershed, regardless of salinity--- in keeping with guidance from the scientific peer reviewers.
Grant Davis (Sonoma County Water Agency)	SCWA-5	(Chapter 5, Section 5.3.1.3) The last sentence of paragraph 2 on page 5-22 states: "Though any SSO is a violation of permit conditions, the reported levels shown in Table 5.4 indicate that SSOs are not a large source of bacterial contamination of the Russian River Watershed." The last sentence of this section (page 5-23) seems to contradict this statement. It states: "Although the number of SSOs per mile of sanitary sewer line is relatively low, SSOs are potentially a significant source of pathogenic indicator	There is no contradiction. The section states that, based on the low number of SSOs per mile of sewer line regulated under the Sanitary Sewer General Permit, publicly owned sanitary sewer systems do not appear to be a major source of bacterial contamination. However, the General Permit does not require reporting of spills from private sewer laterals and there is the possibility that small public sewer districts are not reporting all SSOs that reach surface waters. Because of this uncertainly, Regional Water Board staff have determined that SSOs are potentially a significant source of pathogens entering surface waters.

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		bacteria in surface waters within the Russian River Watershed." Please clarify.	
Grant Davis (Sonoma County Water Agency)	SCWA-6	(Chapter 6, Section 6.1.2 and Appendix C) The Draft Staff Report, in Section 6.1.2, page 6-4, footnote 10, and in Appendix C, Effect of Russian River Dry Season Stream Flow Management on E. coli Bacteria Concentrations, page 17-54, provide the following summary of Temporary Urgency Change Petitions to Decision 1610 filed by the Water Agency: Since 2002, the Water Agency has requested several temporary changes to the Decision 1610 minimum instream flow requirements from the State Water Resources Control Board. The Water Agency filed Temporary Urgency Change Petitions (TUCP) in 2002, 2004, 2007 and 2009 to request reductions in Russian River instream flows to address low storage levels in Lake Mendocino. TUCPs filed from 2010 through 2014 were required by the Biological Opinion to reduce instream flow conditions to improve habitat for threatened and endangered fish species.	Thank you for the comment. The relevant text has been updated in the 2019 documents.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Grant Davis (Sonoma County Water Agency)	SCWA-7	(Chapter 8, Table 8.2) Under the column "Facility Name," "SCWA Graton CSD" should be changed to "Graton CSD." The Water Agency transferred ownership of the Graton Sanitation Zone to the Graton CSD in 2004. In addition, for report consistency, "SCWA Russian River CSD" should be referred to as Russian River CSD. Although the Water Agency (SCWA) manages this sanitation district, Russian River CSD is a separate legal entity.	The revisions have been made as requested.
Grant Davis (Sonoma County Water Agency)	SCWA-8	(Chapter 9, Table 9.1) On page 9-5, please change "Geyserville CSD" to "Geyserville SZ" (two places).	The revisions have been made as requested.
Grant Davis (Sonoma County Water Agency)	SCWA-9	(Chapter 9, Table 9.1) In the Draft Staff Report and Draft Basin Plan Amendment, Occidental CSD is identified as a "Municipal Wastewater Discharge to Surface Waters" AND as a "Wastewater Holding Pond Discharge to Surface Waters." Occidental CSD discharges to Graham's Pond which is a Water of the U.S. As a result, Occidental CSD should be identified as a "Municipal Wastewater Discharge to Surface Waters," only. Please remove Occidental CSD from the list of dischargers in the "Wastewater Holding Pond Discharges to Surface Waters" in Table 9.1 and on page 9-10 of the Draft Staff Report, and from Table 1 of the Draft Basin Plan Amendment. TMDL implementation for Occidental CSD should consist of compliance with effluent limitation and disinfection specifications in its NPDES permit.	This revision has been made, as requested.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Grant Davis (Sonoma County Water Agency)	SCWA-10	(Chapter 9, Section 9.2.6) As stated above, Occidental CSD should not be identified under the Bacteria Source Category as "Percolation Pond and Irrigation Discharges" in the Draft Staff Report (Table 9.1) and the Draft Basin Plan Amendment (Table 1). Recent assessments demonstrate that recycled water from the Occidental CSD is applied below agronomic rates. As a result, Occidental CSD operations should be included under the "Recycled Water Irrigation Runoff" Bacteria Source Category and compliance will be determined through BMP implementation.	This revision has been made, as requested.
Grant Davis (Sonoma County Water Agency)	SCWA-11	(Chapter 9, Section 9.2.11) The Water Agency is not a Phase II MS4 Permittee in Region 1. Please remove the Water Agency from the list of small MS4s on page 9-25 of the Draft Staff Report.	This revision has been made, as requested.
Grant Davis (Sonoma County Water Agency)	SCWA-12	(Chapter 10, Section 10.1) The Draft Staff Report indicates that Regional Board staff will work to form a Russian River Watershed monitoring coalition to help coordinate and conduct required monitoring. Please affirm the Regional Board's commitment to assisting with development and implementation of a Russian River monitoring coalition through contribution of staff time and financial resources.	The Russian River Regional Monitoring Program (R3MP) is under development, beginning with a contract to Aquatic Science Center to help establish a Steering Committee, governance structure, financial structure, and monitoring questions. Matt St. John, Executive Officer of the Regional Water Board and Andy Rodgers, Director of the Russian River Watershed Association co-chair the Steering Committee, which includes representation by the Sonoma County Water Agency, among others. The Steering Committee began meeting in 2018.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Grant Davis (Sonoma County Water Agency)	SCWA-13	(Appendix C) The Draft Staff Report, Appendix C, page 17-53, cites the National Marine Fisheries Service (NMFS) Russian River Biological Opinion as NMFS (2005). The correct citation is NMFS (2008) as the Russian River Biological Opinion was issued in 2008.	Thank you for the comment. Appendix C is no longer included in the Staff Report. While important to factor of consequence to water quality in the Russian River, the information contained in Appendix C was not immediately relevant to the identification and control of sources of human and domestic animal fecal waste.
Grant Davis (Sonoma County Water Agency)	SCWA-14	(Appendix C) The Draft Staff Report, Appendix C, page 17-54, summarizes NMFS' recommendations in the Russian River Biological Opinion. The summary is not fully accurate and should be updated.	See SCWA-13.
David Guhin (City of Santa Rosa)	Santa Rosa-1	The Department would like to request that "recreational beaches" be clearly defined to provide clarity that this section is intended to apply to the main steam of the Russian River and not to its numerous upstream tributaries. Implementing the type of program described in this section along all of the creeks in the City would be very difficult and would provide very limited water quality benefit.	Section 6.5.2 of the Staff Report clearly refers to public swimming beaches along the mainstem Russian River and lists those beaches in Table 6.10. Section 9.2.9 of the Staff Report could apply to areas other than the mainstem Russian River where recreation is occurring. However, the implementation actions listed in this section are only recommendations for actions that Sonoma and Mendocino Counties could take to address fecal waste pollution from this source.
Kerry Tinney (Hacienda Improvement Association)	HIA-2	The draft Basin Plan Amendment text includes a Fecal Waste Discharge Prohibition, which is unnecessarily broad for the stated purpose of protecting the Russian River against PIB. We request that the language be amended as follows: "Discharges of waste containing fecal waste material from humans or domestic animals to waters of the state within the Russian River Watershed that cause or contribute to an exceedance of the TMDL fecal indicator bacteria water quality objectives in	The Fecal Waste Discharge Prohibition is intended to address to all sources of fecal waste in the Watershed that contribute to exceedances of the bacteria water quality objectives. The prohibition was expanded to clarify the means of compliance with the prohibition for the fecal waste sources identified in the Action Plan. Control of these fecal waste sources will improve water quality and promote attainment of water quality standards.

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		the Russian River not authorized by waste discharge requirements or other order or action of the Regional or State Water Board are prohibited."	
Kerry Tinney (Hacienda Improvement Association)	HIA-3	Wastewater utilities that discharge to the Russian River and irrigate with recycled water are currently being required to reduce concentrations of nutrients in their discharges. We request a clear indication from Regional Board staff whether further limitations might be placed on owners of OWTS within the lifetime of systems that would be required under the TMDL. For example, if we are going to be required in the near future to add nutrient removal to our systems (whether individual or community), that information would affect our decision on what system to select at this time. As we discuss below, the proposed TMDL requirements will be extremely onerous for residents of the lower Russian River; we do not want to invest in systems that will meet the pathogen TMDL only to be required subsequently to meet other limits.	The concerns of the commenter are understandable. The objective of the Pathogen TMDL and associated Action Plan is to ensure that septage generated on a site are treated on site. The Advanced Protection Management Program (APMP) as described in the 2019 Proposed Action Plan is designed to support that outcome. Homeowners will be required to meet the requirements of the APMP and the County's Local Area Management Plan (LAMP) as they exist at the time of OWTS replacement or upgrade.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Kerry Tinney (Hacienda Improvement Association)	HIA-4	The Regional Board has indicated that it intends to adopt a future TMDL based upon "natural background" levels of PIB. Staff stated in the September 24, 2015, public meeting, that staff has identified several streams in watersheds with no known human habitation or livestock operations. Staff intends to use sampling data from these streams to develop a definition of "natural background" conditions in the Russian River. The selection of these streams seems to imply that "natural background" existed only before the arrival of Euro-Americans or even before the arrival of Native American forebears. At the public meeting, a staff member referred to the Russian River as sewage. This comment reveals a lack of understanding of the processes of wastewater treatment and natural attenuation, as well as implying a "mission" to remove human influence from the watershed. It appears that the goal of the Regional Board is to force residents of the Russian River watershed to adopt extreme measures in order to create conditions in the Russian River which may be pristine in respect to PIB. We are concerned that this approach will lead to future imposition of a limitation that cannot be met, not only by owners of homes with OWTS, but by virtually any human activity within the watershed. We suggest that there are other water quality measures which would be more appropriate to address rather than an unattainable limit on this single	These comments suggest the need for several points of clarification. 1) A reference stream study has been conducted to assess *E. coli* and enterococci concentrations in minimally impacted streams. These are not streams completely void of human signature. But, impact from human and domestic animal fecal waste is anticipated to be minimal. 2) The bacteria objective contained in the Basin Plan requires that the bacteriological quality of the North Coast Region not be degraded beyond natural background levels. This is not a staff preference; it is water quality regulation for the North Coast Region. 3) The findings of the Russian River Pathogen TMDL indicate there is evidence of fecal waste discharge in locations throughout the watershed. Evidence of fecal waste discharge appears to have been misconstrued to mean "sewage," which is not the case. 4) The Program of Implementation designed to implement the Pathogen TMDL essentially requires the control of controllable sources of fecal waste. This is good public policy. 5) The issues of temperature, nutrients, and flow are also very important water quality issues relevant in the Russian River Watershed. The Regional Water Board implements numerous programs to address these issues because of their importance.

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		criterion. We believe that staff time would better be focused on criteria such as temperature, nutrients, and flows, and request that the effort to develop a "natural background" TMDL be tabled.	

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Dennis O'Leary	O'Leary-2	The Draft Basin Plan Amendment contains a document titled "Effect of Russian River Dry Season Stream Flow Management On E-Coli Bacteria". Page 2 of this document states: "The Biological Opinion requires (from the State Board) that the minimal flow requirements be changed to 70 cfs, May 1 to October 15 in Guerneville". I ask, where in the Biological Opinion does it say this? It is my understanding the Biological Opinion did not mandate any specific low flow. Instead, the Biological Opinion called for experimenting with various flows between 70 cfs and 125 cfs and studying the results these lower flows have compared to the current flows called for in Decision 1610.	See SCWA-13.

DATA AND TECHNICAL ANALYSIS

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Overall comment	Overall-1	Some commenters suggested that a better understanding of natural background conditions was necessary prior to establishing a pathogen TMDL. In addition, some raised concerns about the interconnected issues of flow, temperature, sediment discharges, and biostimulatory conditions. The suggestion was made that these interconnected issues should be fully evaluated prior to establishing a pathogen TMDL.	Scientific peer reviewers recommended that an assessment of natural background concentrations of fecal indicator bacteria was necessary to adequately implement the natural background bacteria objective contained in the Basin Plan. As a result, staff has initiated an assessment of natural background concentrations of fecal indicator bacteria in relatively undisturbed locations throughout the North Coast Region, as a separate project. Data collection for that assessment is expected to be completed approximately by 2017, with results calculated and reported sometime thereafter. In the absence of a statistical analysis of natural background concentrations of fecal indicator bacteria in the Russian River, the 2016 draft Action Plan is based on protection of the REC-1 beneficial use, only. Staff anticipate that the Program of Implementation spelled out in the draft Action Plan will adequately address exceedances of both REC-1 and natural background standards. This is because the cornerstone of the draft Program of Implementation is a prohibition against the discharge of human or domestic animal fecal waste into the Russian River Watershed.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Overall comment	Overall-2	There were several commenters who voiced concern that the data collected to determine the extent of pathogenic impairment in the Russian River Watershed was either not collected widely enough, over a long enough period of time, or using the correct indicators. Some recommended that individual reaches of the watershed be excluded as impaired because data were not available specific to those reaches. Others recommended that impairment only be based on a limited set of indicator metrics, rather than using multiple lines of evidence as was included in the Problem Statement of the TMDL.	The size of the Russian River Watershed required a focused data collection effort, designed to test a given set of hypotheses regarding pathogenic waste discharge to the watershed. The following is a summary of the studies conducted and their purpose. 1. *Russian River Pathogen Pilot Project* was a study conducted by UC Davis researchers that provided advice on the development of the Russian River Pathogen Indicator TMDL. 2. *Bacteria Monitoring Variability* study was conducted in response to UC Davis recommendations, by collecting samples in triplicate to evaluate sample variability. 3. *Spatial and Temporal Variability* study was conducted in response to UC Davis recommendations, by expanding the number of samples collected during the dry season and expanding the number of locations to include locations at some distance from public beaches. From this data, staff were able to develop a trend analysis of fecal indicator bacteria concentrations, evaluate the averaging period for application of fecal indicator bacteria criteria, assess the seasonality of fecal indicator bacteria loads, determine the fecal indicator bacteria concentration reductions needed to meet water quality criteria, establish evidence of water contract recreation impairment, and determine the effect of dry season stream flow management on *E. coli* bacteria concentrations. 4. *Land Cover Variability* study was conducted in response to UC Davis recommendations to assess

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
			the relative magnitude and variability of indicator bacteria in waters draining from each of the major land uses in the watershed: forest land, rangeland, agriculture, urban and residential sewered areas, and residential non-sewered areas. 5. *Onsite Wastewater Treatment System Impact* study was conducted to further refine the findings of the Land Cover Variability study, with respect to developed areas. Wet-weather water samples were collected from selected unsewered catchments based on parcel density, soil depth and hill slope. A primary finding of this study was that elevated fecal indicator bacteria concentrations are positively correlated with parcel density. 6. *Recreational Use Impacts* study was conducted to assess the relative magnitude and variability of indicator bacteria levels that may be associated with increased recreational use on weekends. The primary finding of this study was that the fecal indicator bacteria concentrations are at risk of being exceeded on holiday weekends, when large numbers of people recreate in and around the Russian River. 7. *Bacteria Concentrations in Upper Russian River Watershed* study was conducted to assess bacteria concentrations in the upper watershed. 8. *Source and Potential Pathogen Assessment* was conducted to apply newer PhyloChip™ technology methods to help identify fecal waste sources of bacteria and measure the presence of potential human pathogens in surface waters. The intention of this wide array of studies was to use fecal indicator bacteria concentration data to

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
			evaluate the landscape and social factors most likely to be associated with fecal waste discharge in amounts that pose a risk to human health. From the results, the Regional Water Board can establish a program of implementation designed to 1) reduce the risk of fecal waste discharge and 2) reduce the risk to human health.
Bob Legge (Russian RiverKeeper)	RRK-7	The Russian Riverkeeper argued that the fate and transport of pathogenic indicator bacteria is influenced by sediment discharge and temperature conditions. Further, the discharge of fecal waste has an impact on biostimulatory conditions, such as the presence and toxicity of blue green algae. The Russian Riverkeeper argued for consideration of these factors when estimating natural background concentrations for pathogenic indicator bacteria.	See Response above. The intent of the TMDL Action Plan is to address the specific issue of fecal waste material entering the waters of the Russian River watershed; a phenomenon that must be addressed and controlled. While staff agree that there are multiple factors influencing the fate and transport of fecal waste material and associated pathogens, staff disagree that additional information is necessary prior to finalizing the TMDL. There is no legitimate reason to continue to allow the discharge of fecal waste material to this public water. Staff believes the technical analysis adequately demonstrates that fecal waste material is entering the waters of the Russian River Watershed in a manner that results in concentrations of pathogen indicator bacteria at concentrations that periodically exceed water quality objectives and national criteria and poses a risk of pathogen exposure. Staff does not agree that additional analysis is necessary prior to establishing a TMDL Action.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-4	In the section on "Linkage analysis" it states (page 7-1) that E. coli and enterococci, but not fecal coliform bacteria, are good indicators of fecal contamination. There are a number of statements in the Staff Report that appear to contradict that statement. Please explain.	Fecal coliform bacteria were first recommended by the U.S. EPA in 1976 as an indicator bacteria for protection of human health. Subsequent studies showed that E. coli and enterococci bacteria were better bacteria indicators for assessing the likelihood of gastrointestinal illness in recreational swimmers. The U.S EPA in 1984, and again in 2012, recommended that E. coli and enterococci bacteria be used as an indicator instead of fecal coliform bacteria.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-5	The graphs on pages 6-5 to 6-7 need to reference the data and especially the time period covered. Are you working with 5 or 50 years of data in these charts?	The graphs were prepared using *E. coli* bacteria concentration measurements collected at these beaches from 2001 through 2012. The date range is described in the first paragraph of Section 6.1.1 that precedes the graphs.
Carmel Angelo (County of Mendocino)	Mendocino-1	In the assessments of bacteria data presented in this chapter, the only samples collected in Mendocino County that exceeded the threshold levels for E. coli bacteria were collected from the Russian River at Commisky Station Road (1 of 18 samples collected there). Six other sampling stations in Mendocino County failed to exceed the statistical threshold. Of the samples collected in Mendocino County to test for enterococci bacteria, those collected from the Russian River at Vichy Springs Road and at Talmage Road were below the statistical threshold level. The identification of Low Priority Areas subject to an Advanced Management Protection Plan should be supported by clear demonstration of threshold exceedance.	Chapter 4 of the 2019 Staff Report describes the methodology for determining which HUC-12 sub-watersheds in the Russian River Watershed are not achieving REC-1 water quality standards for bacteria. They are sub-watersheds that exceed water quality standards for *E. coli* and sub-watersheds that exceed the federal water quality standards for enterococcus and for which there are other lines of evidence that indicate fecal waste pollution. As described in Chapter 9 of the 2019 Staff Report, the geographic areas subject to the Advanced Protection Management Program are the HUC-12 sub-watersheds not achieving water quality standards for bacteria for which there is evidence of human fecal waste. The concept of high and low priority areas for OWTS was not carried forward in subsequent drafts for the TMDL Staff Report and TMDL Action Plan.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Carmel Angelo (County of Mendocino)	Mendocino-2	This chapter acknowledges that "The U.S. EPA has recommended E. coli and enterococci bacteria concentration [be used] as an indicator of health risk from water contact recreation." Hence these two pollutants, and not Bacteroides rRNA, will be used to set the Total Maximum Daily Load values. These two measures alone should be considered for the determination of which areas shall be included in High Priority and Low Priority Areas.	See Mendocino-1. Since 2015, the State Water Resources Control Board has adopted statewide water quality objectives for bacteria, which are used as the basis for the TMDL, wasteload allocations, load allocations, and numeric targets in the 2019 TMDL Action. *Bacteroides* and PhyloChip™ measurements are acknowledged as tools to assess evidence of human or domestic animal fecal waste, but are not used to establish the TMDL, itself.
James Niskanen (Odd Fellows Recreation Club)	OFRC-5	It must be acknowledged that the plan's load standard for the Russian River is not based upon a large body of Russian River bacterial count data.	The Staff Report summarizes the bacteria concentration measurements collected over time by several entities and those measurements specifically collected to provide advice on TMDL development. The amount of data used to develop this TMDL is large compared to other bacteria TMDLs conducted in California. All these data are provided in the monitoring reports and technical memoranda posted on the Regional Water Board website, as well as in the State database CEDEN. Regional Water Board staff considers the amount of data used in the TMDL development to be adequate for decision making.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Bob Legge (Russian RiverKeeper)	RRK-8	In Section 8.4, page 8-7, it states that "*Substantial reductions in the discharge of fecal waste in the Middle and Lower Russian River hydrologic areas are particularly necessary to attain the TMDLs and protect the full-body contact recreational beneficial use*." RRK fully concurs with this statement, however we disagree with how staff is choosing to go about reducing it, the science you are basing your conclusions upon and the monitoring program that was implemented to arrive at the TMDLs. As an example, most of your of your TMDL "concentrations" are derived from samples collected along the Russian River at Public Beach sites (on a Tuesday) and furthermore only 179 Bacteroides Samples were collected at 52 sites over a three year period in a watershed that drains almost 1500 sq. miles. This begs the question, are these TMDLs based upon sound science?	The Staff Report summarizes the bacteria concentration measurements collected over time by several entities and those measurements specifically collected to advise TMDL development. The amount of data used to develop this TMDL is large compared to other bacteria TMDLs conducted in California. Regional Water Board staff considers the amount of data used in the TMDL development to be adequate for decision making.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Candace Healy (Northwood Property Owners Association)	NPOA-1	The main stem of the Russian River running through the Northwood area does not exceed the EPA criteria for pathogens. This indicates the OWTS systems for this local area is not creating any related problems for the river.	The commenter is correct that water samples have not specifically been collected from the mainstem Russian River in the Northwood area for analysis of bacteria concentrations. However, the Staff Report shows that E. coli bacteria concentrations have exceeded the criteria downstream of Northwood at Monte Rio Beach. In addition, enterococci bacteria concentrations exceed the criteria both upstream at Johnson's beach and downstream at Monte Rio Beach. The TMDL study (July 2013) that evaluated the impacts of OWTS on surface waters observed very high level of bacteria from a catchment that drains into the Northwood area (Table 5, Page 16, Site 4). Based on these data, Regional Water Board staff consider that the Russian River in the Northwood area is likely also impaired for REC-1.
Jim Christian, Dan Fein, Bart Deamer, Candace Healy, Dave Henderson, Richard Holmer, Sarah Yardley, Pam Rianda	Christian et al-1	TMDL data show that the main stem of the Russian River does not exceed EPA criteria for pathogens from human waste, though there are hotspots in the tributaries.	The Staff Report identifies many locations in the mainstem of the Russian River where measured concentrations of pathogen indicator bacteria exceed the U.S. EPA recreational criteria (Tables 3.1 and 3.2).
Jim Christian et. al.	Christian et al-2	The main stem, where primary human recreation in the river occurs, is not in violation of State Water Board REC-1 criteria.	The Staff Report identifies many locations in the mainstem of the Russian River where measured concentrations of pathogen indicator bacteria exceed the U.S. EPA recreational criteria (Tables 3.1 and 3.2).

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Jim Christian et. al.	Christian et al-3	In the supposedly "impaired" reach from Fife Creek to Dutch Bill Creek, the E. coli and enterococci measurements are already both below the target levels, using the normal sampling periods and frequencies and using the worst-case assumptions on their sources and freshness.	The Section 303(d) list of impaired waters used older data to list the mainstem Russian River as impaired and identify the requirement of the State to establish a TMDL. As part of the TMDL development, Regional Water Board staff conducted additional monitoring to verify the impairment, assess the spatial and temporal variability of bacteria concentrations, and assess possible sources of bacteria. The impairment for this reach of the river was verified by assessment of bacteria at Monte Rio beach. The bacteria data collected at Monte Rio beach show that both E. coli and enterococci bacteria concentrations exceed the U.S. EPA (2012) recreational criteria (Tables 3.1 and 3.2).

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Jim Christian et. al.	Christian et al-4	The Section 303(d) listing of the main stem was based solely on samples of fecal coliform bacteria, which were proven by the EPA's epidemiological studies in the 1980's to have no statistical relationship with swimmer health risk. This legacy evidence for impairment is weak at best. The entire main stem meets EPA E. coli standards. As to enterococci, even if all the enterococci sampled in the main stem were human-specific, which is highly unlikely1, the sampled levels do not indicate impairment as impairment is to be measured scientifically (geometric mean or STV of a time-related group of samples), as opposed to the TMDL's isolated, individual grab samples.	The Section 303(d) list of impaired waters used both fecal coliform and *E. coli* bacteria concentration measurements to list the mainstem Russian River as impaired and identify the requirement of the State to establish a TMDL. The Section 303(d) list used evaluation guidelines from the "Draft Guidance for Fresh Water Beaches" (DHS 2006). The validation of impairment conducted using measurements collected for the TDMDL development originally was conducted using to the U.S EPA (2012) recreational criteria. Using these criteria, the bacteria data showed that both *E. coli* and enterococci bacteria concentrations exceed the U.S. EPA (2012) recreational criteria (Tables 3.1 and 3.2) at many locations in the Russian River. A re-evaluation of the *E. coli* data using objectives adopted by the State Board in 2018 confirm these findings. Enterococci and *E. coli* data were regularly associated with *Bacteroides* data and phylochip data indicating the presence of human sources of fecal waste.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-7	Fecal Coliform Bacteria used to assess whether Russian River beaches support Rec-1, even though fecal coliform had been discredited by EPA since there is no way to know whether it’s from a human or animal source.	See Christian et al-4

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Bart Deamer	Deamer-1	A review of the enterococci bacteria concentrations measured at Monte Rio Beach show there are fewer 30-day samples in which at least 5 samples were taken than presented in Table 3.2.	The assessment for impairment using *E. coli* and enterococci bacteria concentrations did not apply the minimum samples size required by the Section 303(d) listing policy (CSWRCB 2004). The listing policy is applied appropriately during Section 303(d) listing. However, the TMDL need not rely on the listing policy as the guide for how to analyze data, once listing is complete. In fact, application of the listing policy using 30-day assessment periods leads to many locations that could not be assessed for impairment with available measurements. *E. coli* data has been re-evaluated using the new statewide objective adopted by the State Board in 2018, however. This objective specifies a rolling 6-week period for calculating the geomean, ensuring that weekly samples can be used to assess compliance.
Bart Deamer	Deamer-2	A review of the enterococci bacteria concentrations measured at Monte Rio Beach show that four exceedances were based on double-counting where both the geometric mean and the STV criteria were exceeded.	The U.S. EPA (2012) present two recreational criteria for evaluation of bacteria concentrations; the geometric mean and the Statistical Threshold Value (STV). Both criteria are to be applied independently. If either criterion is exceeded, the water is considered impaired. If both criteria are exceeded, the water is also considered impaired. *E. coli* data was re-evaluated using the new statewide objective adopted by the State Board in 2018 using the same principle, as allowed.
Lee Torr	Torr-1	Does the draft EIR for the TMDL quantify a loading factor for any specific interval of the Russian River, which is then added to the remaining sections of the River?	The TMDL is calculated based on concentrations of fecal indicator bacteria, rather than loads. This is allowable under TMDL guidance and typical for pathogen TMDLs. The same fecal indicator bacteria concentrations apply throughout the watershed, both mainstem and tributaries.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
David Wallace	Wallace-1	Pathogen indicator bacteria testing was conducted in numerous creeks tributary to the Russian River. The testing showed that some creeks contained evidence of human waste contributions. Small side streams, small minor tributaries that flow only seasonally (3 to 6 months of the year) may be a contributing factor as well. In the event the testing that showed human contamination was conducted during the wintertime while small, seasonal side streams were flowing, then properties along the side streams should be reviewed as a part of this Plan also. If the contamination is a wintertime event, then properties along those wintertime side streams should be included in the study area as well. Or, the small seasonal side streams could be individually tested to demonstrate they are not a contributing factor to the main creek's human sourced contamination. If found to be contaminant free they would be exempted from individual site review and monitoring.	See Overall-2. Because the Russian River Watershed is large, not every stream or every reach could be sampled as part of this pathogen assessment. The studies conducted were designed to assess various hypotheses and illuminate the factors representing the greatest risk of fecal waste discharge. As a result of comments such as this and the State Board's adoption of statewide *E. coli* bacteria objectives, staff have re-evaluated the data and binned them based on subwatershed. This has allowed for a more refined assessment of impairment and risk of impairment. Future pathogen monitoring can be directed to those subwatersheds for which there is little ambient water quality data, but which nonetheless have characteristics that indicate an elevated risk of fecal waste discharge (e.g., high proportion in agriculture or residential, high concentration of OWTS, etc.) Further, properties within the Advanced Protection Management Plan (APMP) boundary will have specific requirements ensuring control of all fecal waste discharges.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-8	A basic premise pervades most of this document and we are concerned that in many instances the data used to provide the evidence does not necessarily verify the need. Data interpretation in the TMDL staff report appears to present things in a way to draw conclusions to fit the goal, (rather than the other way around) even if that is not necessarily the case.	See Wallace-1

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-9	The current fear is much stronger regarding toxic algae which is not even being considered by staff at this time.	Regional Water Board staff also are concerned about cyanobacteria concentrations in the Russian River. We have a staff assigned to coordinate the agency's efforts with respect to cyanobacteria, as well as a robust monitoring program. Please see our website and associated links for additional information on our monitoring program as it relates to cyanobacteria. https://www.waterboards.ca.gov/northcoast/water_issues/programs/swamp/.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPA-10	Regarding the Problem Statement of Draft Basin Plan Amendment (Sources of Bacteria): Didn't EPA disqualify fecal coliform as an indicator because it often represents animal sourced coliform? Isn't it true you are relying on old data in many cases because E. coli and enterococcus data is not always available, even though EPA's standard changed in 1986? In reviewing bacteria data, I have found inconsistencies in what gets measured, especially with Public Health Dept. data. Even their recent data report fecal coliform rather than enterococcus.	The commenter is correct that the U.S. EPA recommends that fecal coliform not be used in assessment of impairment to recreation. The Section 303(d) list of impaired waters used older fecal coliform data to list the mainstem Russian River as impaired and identify the requirement of the State to establish a TMDL. As part of the TMDL development, Regional Water Board staff conducted additional monitoring using other indicator bacteria to verify the impairment, assess the spatial and temporal variability of bacteria concentrations, and assess possible sources of bacteria. As a result of the State Board's adoption of new *E. coli* bacteria objectives in 2018 and preparations for the 2018 Integrated Report, staff have re-evaluated the pathogen data available for the Russian River Watershed, discarding the fecal coliform data.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-11	There is a lot of mixing up of bacteria levels and pathogen levels. The title of this study is Action Plan for Russian River Watershed PATHOGEN Indicator Bacteria Total Daily Maximum Load and NOT Russian River Watershed BACTERIA Indicator. Isn't it true that Bacteroides bacteria are not necessarily pathogens? What is the likelihood of their being pathogenic? While Bacteroides indicates bacteria, it doesn't always indicate pathogens and it has a longer 'shelf' time than I realized (as long as a week in cool weather) which makes it harder to determine where it came from. The TMDL Staff Report document provides evidence to prove the case of impairment using Bacteroides data. Yet consultants said there was no direct nexus between Bacteroides and E. coli and enterococcus levels, with the latter representing actual pathogens.	The intent of the Pathogen TMDL is to reduce the discharge of human and domestic animal fecal waste, to reduce the public's risk of pathogen exposure. Pathogens include bacteria, viruses, and protozoans (see Chapters 3 and 4). Fecal indicator bacteria are used to indicate the presence of fecal waste, in lieu of measuring every possible bacteria, virus, or protozoan that may be present. *E. coli*, enterococci, and *Bacteroides* are all useful fecal indicator bacteria by which to assess the likelihood that fecal waste has been discharged. Use of multiple fecal indicator bacteria for this assessment is a conservative approach, appropriate to the goal of human health protection. The presence of human or domestic animal fecal waste in surface waters increases the risk of exposure to the wide array of possible pathogens. Human and bovine-sourced *Bacteroides* bacteria primarily have been used to help assess the likelihood that exceedances of national criteria for enterococci represent a potential exposure to human or bovine-sourced pathogens.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-12	Table 3.9 on page 3-22 doesn't seem to jive with data on exceedances put out by Department of Public Health weekly monitoring reports. These postings should be coordinated with data they distribute showing days of bacterial problems. I went on their website and couldn't find data.	The data in Table 3.9 was provided by James Tyler, Supervising Environmental Health Specialist with the County of Sonoma Department of Health Services to Regional Water Board staff on October 4, 2013. Regional Water Board staff do not know why the County does not post the data on their website.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-13	Because there were many beach postings in 2009, it would be important to separate 2009 and uncover what factors made it such a bad year for contamination. Hacienda flows got down to 47 cubic feet per second (cfs) in August 2009; it could be very low flows were the reason. It was also a bad year for nutrients and algae, and we were told that some algae we identified at the time was toxic. If 2009 was an anomaly, it should be dealt with separately and not used to bring all the other numbers up in order to justify your conclusions about bacterial contamination on beaches.	As a result of the State Board's adoption of statewide *E. coli* objectives in 2018, staff have re-assessed the fecal indicator bacteria data in the Russian River Watershed, and other lines of evidence of pathogen pollution. *E. coli* exceedances of statewide objectives are used as the primary metric for assessing impairment/pollution. Enterococci exceedances of national criteria are used as a secondary metric for assessing impairment/pollution, but only when accompanied by other lines of evidence of pollution. Beach closure data are employed as a line of evidence with which to interpret enterococci exceedances of national criteria. They are not used independently to assess impairment/pollution. Staff believe this is a sound approach. Further, the TMDL identifies recreational beach use itself as a source of pathogens, which must be addressed through improved sanitation for beach users. This conclusion is supported by the given evidence and does not require additional study or assessment.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-14	Sonoma County Public Health Department beach postings data for Steelhead/Forestville access, Johnson's Beach and Monte Rio Beach was reviewed for years 2011 through 2015. In years 2011 and 2012 they included enterococcus in monitoring, and in 2013 through 2015 they did not. They included total coliform in all years. This is not supposed to be an accepted indicator according to EPA. Why are they still using it?	Currently, Sonoma County Public Health implements county-derived public health criteria for total coliform and *E. coli.* These criteria are the bases for beach advisories from 2012 to the present. The TMDL simply records the number of beach advisories issued by Sonoma County Public Health as a line of evidence of pollution.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-15	Based on the way data has been presented, it can be assumed that the main body of evidence justifying this REC-1 goal should indicate vast amounts of pollution during the high river use months of May through October, especially since REC-1 specifically applies to body contact recreation. Furthermore, we would assume that most of the test samples indicating bacteriological problems would have been taken in summer.	Because of the primary sources of pathogen pollution in the Russian River (e.g., leaking sewer lines, leaking or substandard septic systems, poorly managed dairy ponds, urban stormwater system, etc.), the predominant pathway for discharge is through stormwater flow, which generally occurs during winter rain events. The exceptions to this rule include but are not limited to recreational beach use itself, homeless encampments, recycled water use, and septic systems or cesspools, which overflow due to overuse. These sources have the potential to discharge without the influence of rain events. The Regional Water Board is obligated to protect the Russian River Watershed for recreational use, year-round. While it is certainly the case that use of public beaches for swimming occurs primarily during the summertime, no one should suffer risk of pathogen exposure at any time of the year. Data were collected both during the wet and dry season with results indicating potential risk of pathogen exposure during both periods depending on the location.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-16	Charts provided data that had been merged over extensive time periods. Over the last five years, there have been a miniscule number of summer bacteria exceedances on lower river beaches, yet when merged with all the other data, this is hidden and therefore unaddressed. Why have we seen such a long period of almost no problem (except at Jenner Boat Ramp where there may be a failing septic at Visitor's Center), if failing septics are a serious issue? That question has not been	Staff have re-evaluated the fecal indicator bacteria data and other lines of evidence since the State Board's adoption in 2018 of new statewide E. coli bacteria objectives. The re-assessment results in a revised understanding of the areas of impairment/pollution. Please keep in mind that both dry and wet-season data have been used to characterize impairment/pollution status, since the REC-1 beneficial use is identified as a year-round use in the Russian River Watershed.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		raised or addressed. Finally, much of the data was irregularly collected and therefore not valid.	
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-17	Figures 3.1 and 3.2 highlight beaches that were considered excessive. The standard for an exceedance was zero. So, of the 14 beaches, 9 had at least one exceedance in 30 days over a 12 years period. (3 beaches had 1, 3 had 2, 2 had 4, and 1 had 5 (Monte Rio) for E.coli. For enterococcus, of 13 beaches studied over 12 years, 2 had 0 exceedances, 1 had 1, 3 had 2, 1 had 3, 1 had 4, 1 had 5, 1 had 6, 1 had 8 (Steelhead Beach), and 1 had 9 (Monte Rio). In both cases Monte Rio was the worst and may provide the impetus to receive the most attention.	Staff have re-evaluated the fecal indicator bacteria data and other lines of evidence since the State Board's adoption in 2018 of new statewide *E. coli* bacteria objectives. The re-assessment results in a revised understanding of the areas of impairment/pollution. Please keep in mind that both dry and wet-season data have been used to characterize impairment/pollution status, since the REC-1 beneficial use is identified as a year-round use in the Russian River Watershed. Staff considered any exceedances of the statewide *E. coli* or national enterococci thresholds when assessing impairment/pollution. But, when the number of exceedances of a given threshold in a subwatershed was less than would have been required under the 303(d)-listing policy, staff only considered the subwatershed to be impaired/polluted if there were other lines of evidence that supported the conclusion.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-18	Have there been any beach postings since 2009? There were No E. coli postings for Steelhead/Forestville in all years, Johnson's Beach had one E. coli posting in five years, and Monte Rio had 2 postings in 2013 and none the other years. In 2011 Monte Rio had 2 postings in 2011 for Enterococcus and one posting in 2013 for total coliform. Johnson's Beach had one posting in 2012 for enterococcus, and one posting each in 2013 and 2015 for total coliform.	Yes, there have been beach postings since 2009. Please see Chapter 4. For additional information, please see the Sonoma County Public Health website. http://sonomacounty.ca.gov/Health/Environmental-Health/Water-Quality/Fresh-Water-Quality/

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-19	On P 3-2, first it said not enough fecal coliform samples were taken to provide complete assessment of impairment, but then stated that four beaches showed one 30-day period of exceedances and from that, determined that 37% of the measurements exceeded water quality objectives. How was this arrived at?	The Staff Report describes that of the available fecal coliform bacteria concentration measurements collected in the past, only 15 percent could be used with the Basin Plan Water Quality Objective, since a minimum of 5 samples are needed to be collected within a 30-day period. Most of the fecal coliform bacteria concentration measurements did not meet this requirement. However, the data that did meet the requirement was compared to the Basin Plan Water Quality Objective. Of those measurements, 37 percent exceeded the Basin Plan Water Quality Objective for fecal coliform bacteria concentration. This section has been revised to eliminate consideration of fecal coliform data, as a result of the new statewide *E. coli* objective adopted by the State Board in 2018.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-20	Santa Rosa Creek showed very high loads at times, especially during storms. This doesn't indicate whether wastewater discharges were going on at the Subregional Treatment Plant (Delta Pond discharges take place on Santa Rosa creek just upstream of Laguna de Santa Rosa) at the time and whether samples were upstream or downstream of discharge point.	No water samples were collected during discharges from the Santa Rosa Subregional Water Reclamation System's wastewater treatment facilities shown in Table 5.2 of the Staff Report for measurement of bacteria concentrations for the development of the TMDL.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-21	On p. 3-12: Table 3.3: Five beaches were tested in the lower river. Almost all creeks/tributaries had high incidences of Bacteroides but often only two samples taken. Is this adequate? Shouldn't some of these tests be backed up with pathogen testing? Also, it might be appropriate to take samples in summer when recreation is occurring.	The number of measurements of human-specific *Bacteroides* bacteria shown in Table 3.3 represents a combination of several different studies conducted during the development of the TMDL. The two samples collected from a few of the beaches were assessed for wet and dry periods. The larger number of samples collected from Veterans memorial, Johnsons, and Monte Rio Beaches were collected during the dry period and assessed for impacts from recreation. Additional monitoring of human-specific *Bacteroide*s bacteria concentrations is expected as part of the Russian River Regional Monitoring Program discussed in Chapter 10 of the Staff Report.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-22	Table 5.1 on P. 5-3 shows highest percent of matches between Bacteria DNA Sequences and known human fecal waste (would tend to be much higher in winter, but doesn't differentiate)	The commenter is correct that only the ten locations with the highest fecal waste signal is presented in Table 5.1 for humans, grazers and birds. The purpose of the table was only to summarize a few locations that had high levels of fecal waste measurements. Due to the large amount of information collected during the development of the TMDL, Regional Water Board staff only presented a summary of the information in the Staff Report. Many more water samples were analyzed using the PhylocChip™ tool. Those results are presented in the technical memorandum (June 2014) posted on the Board website. The 2019 Staff Report and addendum also summarizes the lines of evidence of pathogen contamination by subwatershed.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-23	The figure on P. 5-10 shows Enterococcus for whole watershed during dry periods but last two years dry periods had no exceedances in lower river. If lower river is to be targeted for implementation, need for data specific to area. This skews the problem when they take whole watershed and doesn't give more specific information.	Figure 5.6 presents the distribution of enterococci bacteria concentrations measured from different land cover categories during dry weather. All the concentration measurements shown in this figure were collected in tributaries. The specific tributaries locations sampled are described in the technical memorandum (January 2013; Table 1) posted on the Board website. The results of the land cover assessment are used to augment *E. coli* and enterococci results only, not as independent evidence of impairment/pollution.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-24	On P 5-7, six water samples were collected at 3 different locations during both wet and dry periods (E coli, Bacteroides, human and bovine but doesn't mention enterococcus)	The commenter is correct that enterococci bacteria measurements were collected. The Staff Report has been modified to include the mention of collecting enterococci bacteria measurements.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-25	Charts on pages 6-2 and 6-3 do not indicate what years are covered? What happens if you take data from 2010 through 2015? I would very much like to see what happens to your blue boxes if you do that.	Figures 6.2 through 6.5 describe the distribution of bacteria concentration measurements collected as part of the land cover study. The land cover study was specially designed to assess the relationship between fecal indicator bacteria concentrations to various land cover types. As described in section 6.2.1 of the staff report, the study involved independent data collection at three locations for each land cover type during both a wet and dry season. The details of the study can be found in Butkus 2013a as referenced in the staff report and included on the Regional Water Board Russian River Pathogen TMDL website.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
James Niskanen (Odd Fellows Recreation Club)	OFRC-6	Based upon our review, the Bacterial TMDL Implementation Plan does not appear to establish a clear link between historical bacterial readings along the Russian River and any observed illness among river recreates. Indeed, the plan documents do not purport to establish load standards based upon observed illness. Rather, the plan relies upon broadly established links between waterway bacterial concentrations and gastrointestinal illness derived from studies of other water bodies.	The commenter appears to be suggesting the need for a Russian River Watershed-specific epidemiological study. The commenter is correct that no such study has been conducted. Instead, a Russian River Watershed TMDL study has been conducted, which identifies sources of fecal waste pollution and establishes a program of implementation by which to control discharges from those sources. The TMDL study relies on the epidemiological evidence established by U.S. EPA and the State Board in the form of national enterococci criteria and statewide *E. coli* objectives designed to protect REC-1 uses wherever they occur. An independent epidemiological study in the Russian River Watershed is unnecessary to establish source control measures that are protective of public health.
Jim Christian	Christian et al-5	We understand Sonoma County has a dearth of public health complaints or beach closures to corroborate a "real-world" pathogen issue or REC-1 issue. This absence of complaints is consistent with testimony given at the 9-25-2015 hearing by Peter Lescure that travel time for pathogens to travel through most OWTS and soils to tributaries is long enough to render pathogens non-viable.	A real-world pathogen issue in the Russian River Watershed is confirmed by evidence of human and domestic animal fecal waste discharge, exceedances of health-based objectives and criteria; presence of illness causing bacteria, viruses, and protozoa; and beach closures. As a separate matter, the travel time for pathogens to travel through soils to a surface water varies depending on whether the pathogen is a bacterium, virus, or protozoan. The State Board adopted the statewide OWTS Policy, which establishes a default distance of 600 feet from a surface water as the distance past which a pathogen is unlikely to be viable. The Russian River Watershed Pathogen TMDL considers this default

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
			distance, when establishing the Advanced Protection Management Plan (APMP) area.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Bart Deamer	Deamer-3	The epidemiological studies that are the basis for the U.S. EPA (2012) criteria for enterococci bacteria were conducted at point-specific sites of human fecal waste. Other scientific studies have shown that, while enterococci bacteria may be a reliable indicator when a human fecal point source predominates, but it may not be a good indicator of human fecal waste when applied to waters with diffuse sources and heavy vegetation like the Russian River. Research has shown that these bacteria are widely distributed in a variety of environmental habitats, even when there is little or no input from human and/or animal fecal sources. With the difficulties of using enterococci as indicator bacteria for fecal waste in areas like the Russian River, why is the newly introduced enterococci standard not being submitted to scientific peer review?	California Health and Safety Code section 57004 requires that the adoption of regulation, which relies on scientific findings must first submit the scientific findings for scientific peer review. The Regional Water Board submitted its draft Russian River Watershed Pathogen TMDL for scientific peer review in 2015. The review resulted in the recommendation that the Regional Water Board include assessment of enterococci data, arguing that the U.S. EPA 2012 criteria for enterococci is based on a dose-response relationship. The scientific peer reviewer concluded that enterococci more closely associates the fecal indicator bacteria with human health outcomes than does *E. coli,* despite its potential for regrowth. It is based on scientific peer review, that assessment of enterococci was included in the TMDL findings. The U.S. EPA 2012 criteria for enterococci need not be resubmitted for scientific peer review, as it has already been subject to such review. See response above (regarding re-assessment and primary and secondary approaches).

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-26	The Action Plan appears to take the approach that there should be zero human waste. Perhaps this approach would be necessary in the case of an outbreak of a serious infectious disease, but it's been about 60 years since that happened with polio and I don't think that any major health problems have been identified since. In fact, there are no direct epidemiological studies conducted or planned as evidence for the need for this Action Plan as presented here.	The Action Plan proposes a prohibition on the discharge of controllable sources of fecal waste from human and domestic animals. The implementation actions identified were selected to reduce or eliminate known controllable sources of fecal waste. Controlling the discharges of fecal waste should eliminate the risk of pathogen infections of recreators and reduce indicator bacteria concentrations below the standards. The TMDL relies on the best available science. With respect to human health protection, the best available science is provided in the form of national criteria and statewide objectives designed to protect the REC-1 beneficial use. The national criteria and statewide objectives were both subjected to scientific peer review. A site-specific epidemiological study is not required, too.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
James Niskanen (Odd Fellows Recreation Club)	OFRC-7	When high bacterial counts have been observed during periods of high recreational use it almost invariably can be associated with the presence of large numbers of recreates. Of course, exposure to unhealthy water is serious regardless of the time of year. But the exposure of recreates to such water is not established by this plan. Although it may be accepted practice, it makes little sense to treat swimming and fishing as having the same level of "water contact" exposure. Clearly, swimming, a dry season recreational activity, involves greater exposure than fishing, which occurs year-round along the river. It must further be acknowledged that an illness standard of 32 illnesses per 1000 recreates, which is regarded as sufficiently protective during the dry season, will yield dramatically fewer illnesses during the wet season. If the goal of the plan is to minimize total illnesses among recreates, which it should be, then a far more efficient and cost-effective approach would be to set different illness ratio targets for wet and dry seasons and/or to focus primarily on reducing bacterial loading during the dry season when more recreates mean more exposure.	Staff agrees that the recreational uses of the Russian River Watershed vary in type and intensity depending on season. Nonetheless, anyone wishing in the winter to engage in fishing, swimming, or kayaking in the mainstem or splashing in small tributaries (as children do), should be free to do so without risk of pathogen exposure. To this end, the Regional Water Board designated year-round REC-1 beneficial uses to the Russian River Watershed and established water quality standards to protect that use, which are codified in the Basin Plan. The TMDL is designed to protect all recreators from unreasonable pathogen exposure year-round, meet the applicable standards, and protect the beneficial uses. It is a normal public health protection pursuit to control the discharge of fecal waste discharge to public waters, an endeavor worthy of private and public expenditure.
James Niskanen (Odd Fellows Recreation Club)	OFRC-8	It must be acknowledged that historic high bacterial counts along the river are typically of a temporal nature (wet periods) and, the intensity of recreation along the river is also of a temporal nature (dry periods).	See OFRC-7

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Phil Grosse	Grosse-1	The Action Plan does not consider that bacteria levels are lower during the summer when most recreational use occurs. The high costs to implement the plan cannot be justified based on high bacteria levels in the winter when recreational use is low.	See OFRC-7
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-27	How likely is it that REC-1 will actually be impacted by pathogens, unless they are held over somehow from winter storms? After rain events, the river gets very inhospitable, depending on the amount of rain, and while some adventurous sorts may go out in a canoe, how many will actually swim in the river under winter conditions? Where is the nexus between high bacterial counts in winter from storm water runoff from Santa Rosa and the Laguna and supposedly high bacteria counts in the lower river during the summer recreation season? If there is none, (The data we have seen indicates little, but by the Jenner Boat Ramp, which you seem to want to do nothing about!) then the bacterial counts in the lower river during REC-1 activities look sparse indeed most years, and not adequate enough to raise the alarm of most swimmers.	See OFRC-7

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-28	The Critical Conditions section seems illogical. Critical conditions occur in winter because there are more bacteria and critical conditions occur in summer because more people recreate but you conclude that both are critical conditions and should be treated the same. How can you make a relationship here between two conditions that are clearly not connected to one another? If bacteria tend to be sparse in the summertime, and the main goal of this TMDL is to protect those who are recreating from having direct contact with bacteria that can cause illness, then what is the problem? And if the river is filled with bacteria after a big rain, how many people will be swimming in the very cold and dangerous water body? I just don't see the logic in this section.	The point of the discussion as presented in the 2015 draft staff report was to establish that 1) the sources of pathogens exist all year round; 2) the REC-1 beneficial use exists all year round; 3) with the exceptions of recreators themselves; homeless encampments; septic, sewer, manure pond, or recycled water pond overflow or malfunction; and recycled water irrigation, the sources are *generally* mobilized during the wet season, and 4) the *largest* number of people recreating in the Russian River do so during the dry summer months. From these conclusions was posited that there are two critical conditions: the wet season in which sources are most readily mobilized and the dry season in which the most people risk exposure to pathogens. To be clear, there is evidence of pathogen-carrying fecal waste in the Russian River during all times of the year; and, there are opportunities for recreation during all times of the year. To reduce confusion, however, this section was modified in the 2017 and 2019 drafts to focus more directly on the question of whether or not the TMDL should include a seasonal variation. The conclusion is that no seasonal variation is necessary or appropriate.
		I wonder if you are using any winter bacteria data for the little blue dots on these charts to indicate dry season impacts. At the top of page 6-5 it states, "Since both wet and dry periods are critical conditions, the same loading capacities apply throughout the year and should not vary according to season." Please describe how bacteria measured in winter impacts river use in summer and	As clarification, the sources of pathogens exist during all times of the year, though some are more likely to be mobilized during the wet season and others during the dry season. Similarly, there is evidence of fecal waste in the Russian River during all times of the year, though fecal indicator bacteria concentrations are highest during the wet season. But, risk of exposure exists year-round.

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		exposes people to potential illness. Also, please explain the process or exposure train by which infection occurs.	
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-29	This study provided evidence indicating that samples taken in winter months indicated the highest bacteria (human AND animal) levels mostly evident during and after winter storms. So common sense can tell us that there won't be much Rec-1 use in the river during a big storm when the water is roiled, the temperatures are cold, and conditions are very dangerous. There was no nexus indicated between high levels one winter and high levels the following summer. In other words, can high bacteria levels in lower river the following summer, possibly indicating that storm water runoff basin wide is the main issue? And yet, data taken during those winter events are consistently rolled into the annual and multi-year evidence provided to make the case that river bacteria levels are so high as to cause health risks to summer swimmers in the Russian River, even if there may be no connection.	See OFRC-7
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-30	On P. 3-1, first states that most REC-1 uses occur in the summer, then gives list of indicators without stating whether they are found in summer or winter. Summer conditions in our environment are totally different than winter conditions. To treat them both the same and then base a very ambitious program on an assumption about bacterial conditions in summer, is a false	The 2015 draft staff report has been revised with a re-assessment of the data, binned by subwatershed. As such, the 2019 draft provides a more refined picture of impairment/pollution. Similarly, the program of implementation has been significantly revised since the 2015 draft, with attention on 1) upgrading systems with significant potential to discharge fecal waste to a surface water and 2) acquiring public funding, as possible.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		solution. This gives the impression of a serious problem where only a minor one may exist.	
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-31	Gives results for E coli as indicating excessive bacteria but doesn't indicate whether samples were taken in summer or winter. The point is continually driven home that it doesn't matter whether most of the bacteria is found in winter when almost no one recreating or whether it's bacteria that has been discredited for use in drawing such conclusions such as total coliform and fecal coliform. Is this appropriate methodology for achieving the stated goal of the program?	See OFRC-7
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-32	Guerneville, Monte Rio, Forestville have many summer homes not inhabited in winter and many vacation rentals generally not inhabited during week or in winter. There are also many resorts, motels and hotels that have seasonal visitors with more during a mild winter. There are huge discrepancies between summer and winter population and loadings. This should be accounted for in report.	The commenter makes a valid point. Adoption of a TMDL does not require this level of analysis, however. The proper time account for these discrepancies is in the implementation phase when best management practices are identified based on a specific property's potential to discharge fecal waste.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-33	In Tables 3.1 and 3.2, merged data shows *E. coli* and Enterococcus results for years 2001 through 2013. (2014 and 2015 show almost no bacterial problems in summer in the lower river.) There was no attempt to identify seasonality of the data for this table (which skews the data), nor indicate whether exceedances showed up in some years and not others.	A large amount of data was collected to support the development of this Pathogen TMDL. The staff report presents the data in summary form, with more detailed information available in technical memo and reports provided on the website. A re-assessment of the data results in a different summary presentation in the 2019 staff report. As above, the sources of fecal waste exist year-round as does the potential for discharge. Similarly, the potential for exposure to pathogens exist year-round, even though the potential for exposure is seasonally unequal. The purpose of the table was the assessment conducted at each location where bacteria concentration measurements collected. Due to the large amount of measurements collected during the development of the TMDL, Regional Water Board staff only presented a summary of the information in the Staff Report. Many more water samples were analyzed for bacteria concentrations and those results presented in the monitoring reports and technical memorandum posted on the Regional Water Board website.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-34	Page 6-4 Effects of low mainstem flows does not consider the variances due to summer dams and open or closed river mouth and ocean tides. The levels can vary considerably in the lower river and this needs to be considered.	The commenter is correct that additional factors associated with the management of the Russian River flows (i.e., placement of temporary dams, river mouth breaching and ocean tides) were not assessed for their influence on bacteria concentrations levels. Overall, the assessment found that there was not a statistically significant correlation between summer daily mean stream flow rates and *E. coli* bacteria concentrations at Camp Rose Beach, Veteran Memorial Beach, Steelhead Beach, Johnson's Beach, or Monte Rio Beach, as shown in Figures 6.5 through 6.9. In other words, *E. coli* bacteria concentrations do not vary significantly due to flows in the mainstem during dry summer periods. Also, see response in Appendix A, RHolmer-8.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-35	Page 6-4 claims that there is no correspondence between low flows and high bacteria counts in years when TUCO (This is State Order authorizing low flows, not TUCP, which is merely a petition.) is implemented, but does not consider that flows can be quite high under a TUCO resulting from natural tributary flows that can keep flows relatively high at Hacienda, where flows for lower river are measured. The effect of the TUCO is to not allow further releases from Lake Sonoma to bring flow UP to what used to be normal of 125 cfs. Instead, if flows get down to 75 cfs, they stay there. In other words, the TUCO only addresses MINIMUM flows and NOT MAXIMUM flows. Your conclusion, since it does not consider natural flows and actual flow levels while under TUCO, therefore is not relevant to circumstances. You must compare ACTUAL flows with coliform samples taken at the same time they occurred in order to deduce meaningful conclusions (in my opinion).	**T**he analysis of summer dry period stream flows on bacteria concentrations levels was conducted using data collected on the same day. Daily mean stream flow was compared to the median bacteria concentration measurements at five Russian River Beaches that could be affected by summer flow management. The Mann-Whitney U statistical hypothesis test was applied to assess the difference between the distributions of *E. coli* bacteria concentrations and daily mean Russian River stream flows during years with and without an Order approving a TUCP. Based on the assessment, Regional Water Board staff made the flowing conclusions: The Russian River at Camp Rose Beach, Veteran's Memorial Beach, Steelhead Beach, and Johnson's Beach showed no statistically significant difference in *E. coli* bacteria concentrations from reduced stream flows due to the TUCP Orders. However, E. coli bacteria concentrations at Monte Rio Beach did show a difference. The distribution of E. coli bacteria concentrations during reduced stream flows were significantly lower than during normal stream flow years with no TUCP Order. See response Appendix A, RHolmer-8.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-36	The Draft concludes that there is no relationship between low flows and bacteria levels, but if this is the case, how do you explain the exceedingly high levels in 2009, when flows were lowest, then subsequent years when flows were better. Even in 2015, the lowest flow I noticed all summer was around 68 cfs measured at Hacienda. Most of	See RRWPC-35

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		the flows hovered around 90 cfs this summer. In 2009 when flows got down to 47 cfs as mentioned, there was a huge number of beach postings, but very few after that year in lower river.	

RELATIVE SOURCE CONTRIBUTION

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Carmel Angelo (County of Mendocino)	Mendocino-3	Section 5.4.3 addresses the potential impact of homeless encampments but fails to quantify the potential impact of this particular source due to the lack of any reliable study, or even an estimate of the number and size of the alleged encampments. Similarly, Section 5.4.5 asserts that pet waste is a contributing source of pathogen degradation, but admits that the baseline assessments, "did not explicitly evaluate the contribution of pet waste to the bacteria concentrations in surface waters." This failure to substantiate and analyze the contribution of these sources calls into question the need for their inclusion in the required Bacteria Load Reduction Plan.	The commenter is correct that individual potential sources of pathogens have not been quantified. However, the program of implementation establishes procedures for assessing individual potential sources and treating and/or managing those individual sources, which actually discharge fecal waste. Sonoma County and the Regional Water Board have signed an MOU through which the agencies will work to identify strategies to manage fecal waste discharge from homeless encampments. Both agencies see this issue as a high priority. Regarding pet waste, municipal stormwater programs are expected to update their approach to ensuring pet owners adequately clean up after their pets.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-37	Numbers not given for study, but results determined that higher bacteria levels of all three were higher on days with larger number swimming "The results indicate that intensive human contact recreation at public beaches on most popular hot summer days contributes to E.coli, enterococci and Bacteroides bacteria concentrations in surface waters." (5-34). Lower numbers occur during summer weekdays and non-summer season. See graph on page 5-35. So how can you tell which bacteria come from septics or sewer system, and which from people recreating in river or homeless encampments? Does convey that the beneficiaries of this TMDL are part of the problem? To what extent? It would be helpful to have numeric details.	The Russian River Watershed Pathogen TMDL is similar to other pathogen TMDLs in the state. It assesses the extent to which there is an elevated risk of exposure to pathogens from contact with the water during the period in which REC-1 use is designated. It also identifies the potential sources of fecal waste that may be discharging to surface waters during that period. It then establishes a program of implementation designed to target this highest priority categories of potential fecal waste discharge and ensure those potential discharges are controlled. There is no marker, which distinguishes between fecal waste emanating from a septic system, a sewer system, directly from people recreating, or from homeless encampments. But, there is ample evidence of human and domestic animal fecal waste entering surface waters, which proper treatment and/or management could control. It is a normal public health protection strategy to prevent fecal waste from entering public waters.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-38	If you are monitoring a place in the river, how can you tell difference between raw sewage coming from laterals and septage coming from septics if they are merged together?	As above, ambient water quality monitoring protocols do not generally allow one to distinguish elevated fecal indicator bacteria results related to a leaking sewer line from those related to a malfunctioning septic system. But, adoption of a pathogen TMDL does not require that level of precision. The TMDL program of implementation, if adopted, will require that responsible parties with facilities that have the potential to discharge fecal waste to a surface water assess whether or not the facility is functioning correctly and adequate for preventing fecal waste discharge. Some will require upgrade or correction to prevent the discharge of fecal waste; others will not.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-39	We ask if there is any way to differentiate the extent that loadings from Santa Rosa and the Laguna are contributing to the problems in the lower river?	We know from phylochip data that the predominant fecal waste issue in the Laguna de Santa Rosa is related to bovine fecal waste discharge, whereas that seen in the lower river is related to human fecal waste discharge.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-40	No attempt was made to quantify amount of bacterial contamination. Just referred to homeless population with no attempt to estimate the amount of pollution they may generate. (I saw counts somewhere of Guerneville population of homeless. It's likely they provide a significant contribution. Why is there no assessment of the problem?) County did good job commenting on this one.	Homeless encampments are identified as a high priority potential source of fecal waste discharge to the Russian River. Sonoma County and the Regional Water Board have signed a MOU under which the agencies will develop an approach to addressing this high priority source.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Kerry Tinney (Hacienda Improvement Association)	HIA-5	Regional Board staff has acknowledged that further studies will be needed to determine the actual (as opposed to generalized) sources of PIB in the Russian River and the comparative contribution of different sources. We believe that the existing OWTS in our community contribute fewer viable PIB than do recreational users and homeless encampments. We maintain that it is the responsibility of the Regional Board to demonstrate the comparative contribution of the various potential contributors of PIB and then to require proportionate remedies for the various sources.	Comment noted. However, staff disagree that a pathogen TMDL requires an assessment of comparative contributions. A pathogen TMDL commonly uses concentration-based limits, which all potential sources of fecal waste discharge must then achieve. It is a normal public health protection strategy to seek within reason to prevent the discharge of fecal waste to public waters. All facilities with the potential to discharge fecal waste to public waters, should assess the risk of discharge and implement protective measures. In the case OWTS, several revisions of the draft Staff Report and draft Action Plan have been made to narrow the requirements and reduce the number of people who may have to replace or upgrade their systems. Further, public funds have been made available to support waste treatment needs in the lower river.
Phil Grosse	Grosse-2	It is unfair to burden homeowners with the cost of river cleanup, since there are no apparent means of distinguishing between pollution coming from transient recreational users (i.e., canoeists, kayakers) and that coming from faulty septic systems.	See RRWPC-40 and HIA-5

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Richard Holmer	Homer-1	OWTS constitute only one source out of the numerous sources of bacterial constituents. Table 5.1 of the Action Plan shows sampling locations that had the top 10 sites for human fecal waste. Three of the 10 were located on the middle Russian River. Of the 7 sites in the lower Russian River, two were in Guerneville, a heavily developed area with a public sewer system. The presence of high levels of fecal waste in the Guerneville area would suggest that sources of bacterial contamination other than OWTS such as urban run-off, recreational uses, homeless camps and domestic animal waste are significant in the degradation of the river.	The commenter is correct that numerous potential sources of fecal waste discharge are likely contributing the exceedances of water quality standards and other lines of evidence. It should be noted that the OWTS requirements identified in the draft 2015 staff report and draft basin plan amendment have been revised to narrow the requirements associated with OWTS and reduce the number of people who may be required to replace or upgrade their systems. Further, public funds have been made available to support waste treatment needs in the lower river.
Kerry Tinney (Hacienda Improvement Association)	HIA-6	The TMDL needs to assess specifically the negative impact from recreational use along the river and how it contributes to the total river contamination. Clearly the residents have no control over this category of polluters, but the residents are being asked to remediate just the same. The TMDL needs to prove statistically that the remediation being demanded of the residents will improve the contamination caused by recreational use of the Russian River.	The TMDL study (November 2013) on recreational use showed that bacteria concentrations increase during times with a large number of recreational users. Quantification of the relative contributions of bacteria from recreational sources is not possible for all areas of the watershed since many of the sources spatially coexist. The TMDL identifies several actions that could be taken to reduce or eliminate fecal wastes from recreational use of the Russian River.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Carmel Angelo (County of Mendocino)	Mendocino-4	The presence of Bacteroides rRNA has been cited as evidence that the waters of the Upper Russian River have been impacted by human-specific pathogens. However, Section 2.2.1.3 states that there was "a 32% false-positive rate with potential for cross-sensitivity with swine species." It is important to recognize that there is a significant population of feral swine throughout much of Mendocino County, including the watersheds that have been designated as Low Priority Areas. Similarly, another study cited in this section reported that "the HuBac marker showed cross-sensitivity with feces from other animal hosts, most prominently with cats, dogs, and chickens." Those three species are also commonly found throughout the Upper Russian River watershed. Any assessment of pathogen loading based on Bacteroides data should consider the contribution of feral cross-sensitive species.	A re-assessment of the data following the State Board's adoption of new statewide *E. coli* objectives, has resulted in a more refined picture of pathogen impairment/pollution. In Mendocino County, only Oat Valley Hydrologic Unit has evidence of impairment/pollution as demonstrated by enterococci results that exceed national criteria and beach closures.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Carmel Angelo (County of Mendocino)	Mendocino-5	The presence of Bacteroides rRNA has been cited as evidence that the waters of the Upper Russian River have been impacted by human-specific pathogens. However, the Draft Staff Report fails to indicate whether the RNA fragments detected can be attributed solely to bacteria that were previously present and viable in the water column or whether, like caffeine and pharmaceutical compounds, they are inert remnants of domestic wastewater that were able to survive the on-site treatment process. Section 2.2.1.2 states "While disinfection processes kill bacteria cells and eliminate the risk of illness to humans, pieces of the nucleic acids that comprise the bacterial DNA may persist in the water post-death in a non-viable state." So, the question remains: are Bacteroides rRNA fragments a true indicator of direct contamination of a water body by viable pathogens, or are they the byproduct of an effectively operating treatment system?	The commenter is correct that the *Bacteroides* bacteria genetic markers can still be detected for a period of time after wastewater disinfection. The genetic markers are not conservative and will degrade naturally in the environment. The measurements of human- source *Bacteroides* bacteria genetic marker in the watershed would not likely have come from disinfected wastewater since all samples were collected during times when no wastewater was being discharged.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Carmel Angelo (County of Mendocino)	Mendocino-6	This document fails to adequately consider and acknowledge the uncontrolled contribution of fecal contamination from the great number of wild animals that visit and inhabit the Russian River and its tributaries, especially during the dry summer season, and especially in the rural expanses of Mendocino County. Pigs, deer, geese, raccoons, skunks, bear and many other species are drawn to the riparian habitat for food and water. This naturally occurring contribution must be factored into the Total Maximum Daily Load, especially for tributaries. The contribution of avian fecal contamination should be strongly considered, along with that of all forms of wildlife, in any study of the Russian River watershed, especially the Upper Russian River area. Unfortunately, Section 5.1 indicates that fecal matter from gulls and pelicans were able to be identified. Gulls are virtually absent from the Upper Russian River watershed during the summer season and are common only on Lake Mendocino during the other seasons. Pelicans are exceedingly rare (very few historic records) in the watershed at all times of the year. A more meaningful analysis should consider the contribution of ducks and geese, which are quite common in the watershed at all times of the year.	The commenter is correct that only Human-specific and bovine-specific the *Bacteroides* bacteria genetic markers were used in the TMDL studies and genetic markers for other host animals are also available, including birds. The TMDL studies were limited to these genetic markers because of available resources and staff judgment that humans and cattle were the most significant sources of fecal waste in the watershed. These markers were used to better interpret the degree to which *E. coli* and enterococci exceedances could be attributed to human or bovine sources of waste. This effort was specifically designed to address the issue raised by the commenter.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Frost Pauli (Mendocino Farm Bureau)	Farm Bureau-1	Table 3.4 and 3.6 of the staff report do not include the bovine Bacteroides sampling results for the upper Russian River. From this, it appears that bovine fecal bacteria is a minimal issue in Mendocino County based on the current data being used in this draft. For implementation of TMDL compliance, will the current monitoring results be used to measure improvement in water quality or will standards change based on future monitoring in the upper basin? MCFB is concerned that the lack of data could create a moving target tor measuring water quality improvement as related to cattle and other livestock. In relation to numeric targets, calculations and allocations related to fecal indicator bacteria for livestock, MCFB encourages the SWRCB to engage with Dr. Ken Tate, Professor and Cooperative Extension Specialist at U.C. Davis, regarding alternate methodologies for assessing water quality conditions related to livestock. Dr. Tate has performed recent research related to this topic including, Water Quality Conditions Associated with Cattle Grazing and Recreation on National Forest Lands (http://joumals.plos.org/plosone/article?id=10.1371/journal.pone.0068127) and would be a beneficial resource for the Regional Board on this topic.	Bovine-specific Bacteroides bacteria were not collected in the upper Russian River watershed due to a lack of resources. Further, see response above regarding data re-assessment. Finally, it should be noted that the proposed program of implementation includes a fecal waste discharge prohibition. Landowners who manage cattle in such a way as to control the discharge of fecal waste to surface water will comply with the prohibition. Those that do not, should avail themselves of the expertise cited and the assistance of the UC Cooperative Extension and Farm Bureau, among others. A monitoring program, as generally described in Chapter 10, may include sampling locations in the upper watershed to better characterize the presence and extent of pathogen contamination. Dr. Tate's expertise would be welcome.

ONSITE WASTE TREATMENT SYSTEMS

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Susan Gorin (County of Sonoma)	Sonoma-2	While it is clear pathogens are present in the river, we request that the Regional Board discuss in greater detail any attempts to isolate the source of the pathogens, which informs the Regional Board's actions. For example, has the Regional Board sampled the effluent from an OWTS to determine if a standard system, a mound system, etc. is adequately treating pathogens prior to assuming all OWTS are a contributing source? For another example, Bacteroides only survive for a relatively short time frame outside of the host. Wastewater generated in a house takes time to travel through the septic tank, through the soil profile, mound system or dispersal system and more time to travel through the earth prior to reaching a stream or water body. Has this detention/travel time been taken into consideration when identifying OWTS as a potential source? Is the monitoring program designed to take the detention/travel time into account?	The analyses conducted to establish the TMDL sought to answer two basic questions. 1) Is there evidence of fecal waste discharge in the Russian River and its tributaries? 2) Is there an association between known sources of fecal waste and evidence of discharge? The answer to the first question is "yes". The answer to the second question is also "yes". As it relates to OWTS, the TMDL studies showed an association between unsewered developed lands and exceedances of standards. The TMDL studies also showed a correlation between the density of OWTS in a neighborhood and the exceedance of standards. These findings are sufficient to establish an Advanced Protection Management Program (APMP) boundary and require certain actions of the OWTS owners within that boundary. The program of implementation relies on individual landowners within the APMP boundary to assess the competency of his/her own system and make necessary upgrades to ensure compliance with a fecal waste discharge prohibition.
Jim Christian et. al.	Christian et al-6	Determine whether the OWTS-specific pathogen levels entering the Russian River exceed baseline levels in accordance with AB885, and whether REC-1 standards are exceeded in the Russian River adjacent to high-priority areas. For identified named communities, provide evidence whether they contribute to pathogen impairment, and define appropriate OWTS response(s)	See Sonoma-2

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		considering proximity to the river, soils profiles, existing septic systems, etc.	
James Niskanen (Odd Fellows Recreation Club)	OFRC-9	This plan appears to rely upon an equally unclear causal association between properly functioning OWTS and excessive bacterial concentrations. The plan presents research specific to the Russian River linking large concentrations of OWTS with increased bacterial concentrations in the river. However, like the implementation strategies themselves, the analysis of the contamination problem lumps together properly functioning OWTS and improperly functioning OWTS. The research purporting to show the negative impacts to water quality of OWTS on the Russian River is itself contaminated by an apparent failure to consider the impact of properly functioning OWTS apart from failing OWTS. It seems to make little sense to mandate new design requirements for all OWTS when it has yet to be established that all OWTS are part of the problem and when enforcement of current design standards on currently failing systems has yet to be shown as insufficient to address the excessive bacterial loading that the plan attributes to OWTS in general.	The program of implementation as described in the 2015 draft Staff Report and draft Action Plan has been significantly revised to address the many public comments that were received. The proposed program of implementation requires that OWTS owners within the APMP boundary provide evidence of the condition of his/her OWTS, prior it being determined whether or not the OWTS requires replacement or upgrade.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Dennis O'Leary	O'Leary-3	The draft Staff report does not provide evidence that any one OWTS is causing bacteriological contamination of the river. There were no dye studies conducted to prove that specific OWTS's are polluting the river. There likely is a low number of very bad polluters compared to all OWTS's in the area.	The commenter is correct that no dye studies were performed. See Sonoma-2
Bill and Doreen Atkinson	Atkinson-2	Is there strong evidence that septic tanks in Monte Rio are causing any high counts of bacteria? Does the TMDL assume that all of Monte Rio and all the septic tanks are causing pollution to the River?	Yes, there is evidence of fecal waste discharge in Monte Rio, including evidence of human sourced pathogens associated with properties with OWTS. The TMDL does not assume that all OWTS are causing pollution. See Sonoma-2.
Richard Holmer	Holmer-2	In Section 5.2.1 of the Action Plan, the results of the source analysis were presented. In this section concentrations of E. coli bacteria were shown to be higher in developed areas "both sewered and non-sewered". Bacteroides bacteria concentrations "were statistically the same for wet and dry period runoff" for developed sewered areas and developed areas on OWTS. It is not surprising to see higher bacterial concentrations in runoff from areas heavily developed with OWTS. In the lower Russian River area, the higher OWTS density would be associated with higher levels of substandard OWTS as well as higher numbers of OWTS that are overtly failing (sewage discharges to waterways or to the ground surface). No attempt was made in the Action Plan to identify the bacterial contribution from substandard OWTS or failing OWTS even though these are more likely	See Sonoma-2.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		sources of contamination than from properly constructed OWTS.	
Richard Holmer	Holmer-3	The study does not provide substantiation that all OWTS in the high priority areas are causing degradation of the Russian River. The support for establishing high priority areas for OWTS requirements appears to come from Section 5.4.1 which references a 2013 study which measured bacterial counts in storm drain catchments. This study showed higher levels of indicator bacteria in catchments serving areas with a high density of OWTS versus catchments serving areas with a low density of OWTS. Although these bacteria levels provide support that some septic systems are contributing to degradation of the river, there is nothing to suggest that all septic systems are contributing to degradation of the river.	See Sonoma-2.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Lee Torr	Torr-2	Could the high bacteria levels measured at Site #14 from the OWTS study indicate a single failing OWTS, since there are so few OWTS in the catchment?	Yes, this is a possibility. Under the revised program of implementation, each OWTS owner within the APMP boundary will be required to provide evidence of the type and condition of his/her OWTS. In addition, the routine basic operational inspection required by the Action Plan will allow the OWTS owner to document its proper operation and will facilitate timely identification and resolution of maintenance and operational issues.
Kerry Tinney (Hacienda Improvement Association)	HIA-7	We have identified several aspects of the plan which have a potential negative impact on residents which need to be addressed prior to the final adoption of the TMDL. First, there is no evidence, or empirical data, indicating that pollution from Hacienda, or any other residential neighborhood, enters the Russian River. The report needs to formulate a nexus between the residential OWTS and the level of pollution in the river. There needs to be specific differentiation between homes within 50 feet of the river versus homes a quarter of a mile or more away from the river before the property owner is asked to remediate at a cost of tens of thousands of dollars. The TMDL never states what percentage of the river pollution is the result of residential OWTS. How do you measure the success of the upgraded OWTS without that baseline data from which to measure improvement?	See Sonoma-2 and OFRC-9.
Jim Christian et. al.	Christian et al-7	The TMDL assumes all OWTS are sources of pathogens without identifying pathogen-contributing septic types, ages, soils profiles, or distances to recreational water. The areas	See Sonoma-2 and OFRC-9.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
		of the river abutting named high-priority communities were not individually identified as pathogen-impacted beaches.	
Theodore Walker	Walker-1	I agree that the waters of the state have become impaired from improper placement, use, and or abuse of OWTS and other non-point source discharges.	Comment noted.
Steven Bornstein	Borenstein-1	Total bacterial counts should not be used to interpret the impact of leaking septic systems into the River. In order to identify coliform or other bacteria as being of human and presumably septic origin, specific testing using DNA analysis and PCR techniques need to be employed. How does the Water Board propose to monitor the impact of any of the options proposed in terms of water quality testing?	During TMDL development, Regional Water Board staff conducted several different analyses to assess REC-1 impairment and sources of bacteria. In addition to measuring E. coli and enterococci bacteria concentrations, genetic markers using PCR and phylogenetic DNA microarrays were used to identify sources. These are the data that have informed the program of implementation. See Gorin and Niskanen responses to comments above.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Lee Torr	Torr-3	Can the Regional Board provide a maps from the OWTS study of the a) High Parcel Density/High Risk area identified as Site #2, b) High Parcel Density/Low Risk area identified as Site #4, c) Low Parcel Density/High Risk area identified as Site #7, (d) Low Parcel Density/High Risk area identified as Site #9, and Site #14 Area of Concern? Where was the exact location of the sample collection at Site #14 (i.e., which side of the street was the sample collected)?	The sampling locations and drainage catchment boundaries are presented as map coordinates and maps in the "Russian River Human Impact Study Quality Assurance Project Plan" (November 2012), which is available on the Regional Water Board website. The map coordinates are found on page 26. The maps are found on the following pages: Site #2 on page 52, Site #4 on page 54, Site #7 on page 57, Site #9 on page 59. The planned sampling location for Site #14 is shown on page 64. However, no stormwater runoff was found at the planned sampling location during the storm event sampled on December 3, 2012. Therefore, the sample was collected slightly upstream where stormwater runoff was found. This location was on the east side of the corner of Foothill Drive and 'B' Street in Monte Rio. The sampling location and map coordinates are identified on page 13 of the study report "Russian River Pathogen TMDL – Onsite Wastewater Treatment System Impact Study Report" (July 2013), which is available on the Regional Water Board website.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Lee Torr	Torr-4	Why was Site #7 of the OWTS study identified as Low Parcel Density/High Risk? There are only 4 homes adjacent or uphill of the sample collection location.	Regional Water Boards staff selected catchments and sampling locations for the study based on parcel density and the perceived risk of bacterial transport from OWTS in the study area. Parcel data was obtained from the Sonoma County Assessor. The risk of bacterial transport from OWTS systems was assessed using a spatial data model developed by Regional Water Board staff (August 2012) using factors selected from the Basin Plan's Policy on the Control of Water Quality with Respect to On-Site Waste Treatment and Disposal Practices. Landscape analysis of spatial data was conducted to select sampling locations that best represent the identified parcel density and indicator bacteria transport risk categories. Catchments were selected based on the risk of indicator bacteria transport to surface waters and the parcel density (October 2012). Site #7 was selected for the Low Parcel Density/High Risk category due to a low parcel density of 0.01 parcels per acre and a high indicator bacteria transport risk index of 10.8, relative to the other catchments sampled in the study.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Lee Torr	Torr-5	Why was Site #4 of the OWTS study identified as High Parcel Density/Low Risk? The area uphill is notorious for clay soil deposits near the surface and many a septic system have failed in that area over the years.	Site #4 was selected for the High Parcel Density/Low Risk category due to a high parcel density of 3.37 parcels per acre and a low indicator bacteria transport risk index of 8.7, relative to the other catchments sampled in the study (October 2012). Table 19 in the OWTS Monitoring Report (July 2013) present the area-weighted indicator bacteria transport risk component scores. The relatively lower indicator bacteria transport risk was due to a low hill slope rank, relative to the other catchments sampled in the study.
Lee Torr	Torr-6	Why did the OWTS study not include sampling locations around Redwood Drive (which has a generally a low elevation and a close proximity to the River), or Monte Rio Park Subdivision, commonly known as Starrett Hill (area with a high parcel density and known high risk).	Sampling location selection was based on a landscape analysis of spatial data was conducted to select sampling locations that best represent the identified parcel density and indicator bacteria transport risk categories. Catchments were selected based on the risk of indicator bacteria transport to surface waters and the parcel density (October 2012). Certainly, many other catchments in the Russian River watershed meet the High density/High Risk category. The Study was designed to compare results to catchments with a low density and low risk. Limited funding for the OWTS study constrained the sampling to the fifteen sampling locations selected.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-41	Studies showed that higher parcel density in areas with only OWTS is directly associated with higher concentrations of Bacteroides and E. coli bacteria. How is 'higher parcel density' defined?	Sampling location selection for the OWTS study was based on a landscape analysis of spatial data was conducted to select sampling locations that best represent the identified parcel density and indicator bacteria transport risk categories. Parcel data was obtained from the Sonoma County Assessor. High and Low parcel density was defined based on the parcel density of catchments sampled in the OWTS study (October 2012). High parcel density was defined for OWTS study catchments that ranged from 0.76 to 3.88 parcels per acre. Low parcel density of OWTS Study catchments ranged from 0.01 to 0.11 parcels per acre.

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Richard Holmer	Homer-4	There are internal conflicts in the study which have not been adequately addressed, particularly with respect to the phylochip analysis that was conducted. The results of task 4 of the study stated: "In the onsite wastewater treatment study, there were no significant differences in bacterial communities associated with parcel density or septic risk". It further stated, "No sites with both high parcel density and high septic risk contained evidence of human fecal signal". The conclusion of the study stated: "At other locations upstream in the Russian River, in impaired tributaries, and throughout the surrounding watershed, samples with exceedances in fecal indicator bacteria were frequently unassociated with fecal bacterial taxa. Similarly, many exceedances in areas with high septic risks and high numbers of fecal indicator bacteria had no fecal signal in the microbial community. These results indicate that non-fecal sources are likely supplying Enterococcus and coliforms to monitored waters."	The commenter cites conclusions reached in the report titled "Russian River Human Impact Study – Phylochip Microbial Community Analysis" dated May 1, 2014 (Dubinsky and Andersen 2014). Specific fecal material profiles were developed to characterize human, grazing mammal and shorebird fecal waste sources. The "detection" of a fecal signal at a few locations was based on the 20% fecal reference library threshold. The selection of the threshold appeared arbitrary and does not seem to be defined by an analytical approach. The report cites Dubinsky et al. (2012) and Cao et al. (2013) as finding that 20% reference library taxa is a "suitable threshold to detect a source signal." Dubinsky et al. (2012) "defined" the 20% threshold without presenting any analysis on the selection of the threshold. Cao et al. (2013) explains that the 20% threshold was based on field tests of marine waters that were contaminated with sewage or bird feces but does not provide further justification for selection of the threshold. It appears that the PhyloChip™ microarray may not have adequate sensitivity to detect specific fecal sources in diluted ambient water. The approach seems to only provide detection of fecal source material at relatively higher bacteria concentrations. Cao et al. (2013) provides justification for this finding: "*Despite their advantages, community analysis methods usually have lower sensitivity than single indicator PCR or qPCR assays. Because community analysis methods measure all indicators and target all sources simultaneously, signals from the less abundant (or*

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
			rare) sources can be low and overwhelmed by signals from dominant contributing sources. This may partially explain the lower sensitivity with sewage, naturally a multiple-source mixture, compared to that with pure human feces. Another possible reason for the observed low sensitivity of community analysis methods is that they mostly focused on identifying dominant sources. It is reasonable that it would be easier to match an unknown sample (containing human feces or sewage and another animal source) to a "pure reference source" (i.e., human feces) than to a "mixed reference source" (i.e., sewage which may itself contain other animal sources). The relative low sensitivity makes this class of methods inappropriate for management applications where high analytical sensitivity is preferred, e.g., for detecting low levels of human waste input. Source identification results by the community-based methods are currently qualitative (dominant vs. minor), which may not be sufficient for comparing the extent of contamination by one particular source across sites."

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Jim Christian et. al.	Christian et al-8	The TMDL did not compare its pathogen impairment data to that assumed in support of the AB885/APMP regulation for similar rivers and watersheds in California.	The Staff Report compares bacteria concentrations measured in the Russian River watershed to accepted water quality objectives and other criteria demonstrating impairment of REC-1 use. The Statewide Integrated Report (https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/303d/) uses these same standards to assess REC-1 impairment in surface waters throughout California.

IMPLEMENTATION MEASURSES

COMMENTOR	No.	SUMMARIZED COMMENT	AGENCY RESPONSE
Grant Davis (Sonoma County Water Agency)	SCWA-14	(A.6) The Sonoma County Water Agency requested that the Regional Water Board affirm its commitment of staff time and financial resources to the development of a Regional Russian River Monitoring Program.	Since the writing of this comment, the Regional Water Board has spent considerable staff time in the development and promoting of a contract proposal to support such a program. Once funding is secured, Regional Water Board staff is committed to the development and implementation of Regional Russian River Monitoring Program as a mechanism for coordinating regional monitoring resources and efficiently collecting the types and number of water quality samples necessary to support a wide array of decision-making, including adaptive management decisions associated with the Action Plan.
Kerry Tinney (Hacienda Improvement Association)	HIA-8	The draft Basin Plan Amendment text includes a Fecal Waste Discharge Prohibition, which is unnecessarily broad for the stated purpose of protecting the Russian River against FIB. We request that the language be amended as follows (underlined): “Discharges of waste containing fecal waste material from humans or domestic animals to waters of the state within the Russian River Watershed that cause or contribute to an exceedance of the TMDL fecal indicator bacteria water quality objectives in the Russian River not authorized by waste discharge requirements or other order or action of the Regional or State Water Board are prohibited."	Thank you for the comment. The fecal waste discharge prohibition has been revised as contained in the 2019 proposed TMDL Action Plan. It now includes recognition of the fact that some discharges of fecal waste material are already controlled under NPDES or WDR permits.
Kerry Tinney (Hacienda	HIA-9	Wastewater utilities that discharge to the Russian River and irrigate with recycled water are currently being required to reduce	It is the expectation of Regional Water Board staff that a properly designed, sited, and functioning OWTS will result in onsite treatment of wastewater

Improvement Association)		concentrations of nutrients in their discharges. We request a clear indication from Regional Board staff whether further limitations might be placed on owners of OWTS within the lifetime of systems that would be required under the TMDL. For example, if we are going to be required in the near future to add nutrient removal to our systems (whether individual or community), that information would affect our decision on what system to select at this time. As we discuss below, the proposed TMDL requirements will be extremely onerous for residents of the lower Russian River; we do not want to invest in systems that will meet the pathogen TMDL only to be required subsequently to meet other limits.	sufficient to remove of contaminants from the domestic waste stream and prevent nutrients from impacting surface waters.
Lee Torr	Torr-7	Is this "Amendment" to the Basin Plan, is in fact, a wholesale replacement of the current BASIN PLAN for the Russian River?	On June 18, 2015, the Regional Water Board revised the Basin Plan to incorporate the statewide OWTS Policy, effectively replacing the Basin Plan's previous Onsite Systems Policy. Section 4.2.1 of the OWTS Policy allows the North Coast Regional Water Board to keep its Basin Plan's previous Onsite Systems Policy in place in the Russian River Watershed until the Regional Water Board adopts the Russian River Pathogen TMDL. Once the Basin Plan is amended to include the Russian River TMDL Action Plan, the Basin Plan's previous Onsite Systems Policy will be removed from the Basin Plan.

Susan Gorin (County of Sonoma)	Sonoma-3	The County's current program addresses new and replacement OWTS but does not include a permitting program for existing OWTS in an Advanced Protection Management Area. A comprehensive sanitary survey to identify and evaluate existing OWTS would require additional authority and financial and staffing resources that are currently not available. The County thus asks that Option 3 be modified to remove the term "existing," and that Option 3 otherwise be clarified that the Regional Board will undertake actions relative to existing systems pursuant to OWTS Policy 4.7, which requires Regional Water Boards to undertake all enforcement with respect to existing OWTS within their region.	The program of implementation described in the draft 2015 staff report and draft basin plan amendment has been fully revised as a result of public comments. The roles and responsibilities of the Regional Water Board and the County of Sonoma in implementing the Russian River Watershed Pathogen TMDL are described in the 2016 Memorandum of Understanding (MOU) between the Regional Water Board and the County of Sonoma. The MOU can be accessed on the Regional Water Board Russian River TMDL webpage at https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/russian_river/ It is the basis for the proposed 2019 staff report and basin plan amendment.
Susan Gorin (County of Sonoma)	Sonoma-4	In order to implement a TMDL action plan effectively and efficiently, it is important to clearly identify the sources of pollutants and be able to prioritize efforts between existing OWTS. Option 1 appears to assume all OWTS are sources of pathogens without data to support that assumption and without regard to the OWTS type, age, soils or distance to a surface water. Regional Board staff has acknowledged in meetings with County staff that an adequate soil profile will remove pathogens. We believe this should be reflected in all options, including this one. We also suggest that further research may uncover that many OWTS categorically are not of concern and can thus be eliminated from the Implementation Plan, making compliance more feasible.	The most recent version of the draft TMDL Action Plan requires corrective action only for OWTS within the APMP area that are discharging to the ground surface, that are receiving a greater volume of flow than they are designed to treat and dispose of, or that lack an OWTS that complies with the OTS Policy. Where those conditions are not present, for instance as a result of good OWTS design or advantageous site conditions, it is assumed that the OWTS is functioning as designed and not contributing to the bacterial impairment. Consequently, corrective action will not be required by the TMDL Action Plan.

Susan Gorin (County of Sonoma)	Sonoma-5	The County requests examples and elaboration on how Option 2 for OWTS (Connection to a Centralized Wastewater Collection and Treatment System) would be implemented. With the possible exception of Fitch Mountain, extension or construction of a new public sanitary sewer system in these areas within 10 years is not realistic.	Regional Water Board staff agrees that for many areas subject to requirements of the APMP connection to an existing centralized sewer system or construction of a new sanitary sewer system is not an economically viable option. However, for other areas, like areas adjacent to the Russian River County Sanitation District or within reasonable reach of other existing municipal sanitary sewer systems, connection to an existing municipal sanitary sewer system is not infeasible and may remain an alternative for complying with the TMDL Action Plan.
Susan Gorin (County of Sonoma)	Sonoma-6	To the extent that the Regional Board is envisioning private cluster systems, it should explain to the public what this would involve and what the performance standards would be.	In the context of this TMDL Program of Implementation, cluster systems might be considered as an alternative to a centralized wastewater system where wastewater is collected from a large number of homes and transported via a community or municipal sewer system for treatment and disposal at a municipal wastewater treatment plant. Small cluster systems collect wastewater from a small number of homes, usually 2 to 10 homes, and transport the wastewater to a common leachfield or surface disposal area. The wastewater may undergo pretreatment before final disposal depending on soil conditions at the location of final disposal. Management of a small cluster system will require cooperation between individual homeowners connected to the cluster system to ensure proper and continuous operation and maintenance of the collection, treatment, and disposal system. Requirements that might be established as a condition of operation of a cluster system, including potential performance standards,

			will depend on the specifics of the collection, treatment, and disposal system.
Susan Gorin (County of Sonoma)	Sonoma-7	The draft Implementation Plan identifies options for property owners, and states that the property owners are the implementing parties. It is not meaningful to say that a property owner can implement non-existent options, for example to connect to non-existent centralized systems. This is a crucial issue because identifying actual options and finding funding for them in order to successfully implement the plan – without significant impacts to housing availability – will	Regional Water Board staff would agree that it is unrealistic that individual property owners would be able to successfully establish a connection to an existing municipal sewer system without extension cooperation between regulatory agencies. Accordingly, the TMDL Action Plan no longer includes a stated option to connect to a municipal sewer system. However, connection to a centralized wastewater treatment system may be an option for some properties where onsite waste disposal is not feasible. In these cases, coordination

		require extensive cooperation between agencies.	between public agencies and the affected property owners will be needed.
Susan Gorin (County of Sonoma)	Sonoma-8	Under Option 1, it appears the individual OWTS property owners in High Priority Areas (as the implementing parties) would be subject to Waste Discharge Requirements (WDRs) and Monitoring and Reporting Requirements within 3 years of the effective date of the TMDL. We request clarification that this is the intent.	The TMDL Action Plan no longer includes OWTS to meet performance standards consistent with the non-deleted Option 1.
Susan Gorin (County of Sonoma)	Sonoma-9	Option 1 for OWTS would place an onerous burden on the owners of OWTS in the impacted communities. Without any discussion of financing, as drafted, this option could lead to large scale red-tagging of properties in the High Priority Areas and associated unanalyzed secondary impacts.	The TMDL Action Plan no longer includes Option 1 for OWTS.

Susan Gorin (County of Sonoma)	Sonoma-10	The draft staff report does not clearly explain the geographic scope of its own significant implications. It does not clearly identify where the High Priority Area is. The County requests a map clearly delineating High Priority Areas where the new requirements will go into effect. Impacted property owners should be directly notified of whether their properties lie within a priority area, and we would like to verify that the Regional Board intends to provide direct notice to the affected property owners.	The TMDL Action Plan now clearly defines the boundaries of the APMP area. The Regional Water Board Russian River TMDL webpage also includes a comprehensive list of parcels with the APMP boundary and an interactive GIS mapping tool that allows the public to evaluate whether a given property is wholly or partially within the APMP boundary. All owners of parcels within the APMP area will be written notice of the determination that their parcel in subject to requirements of the APMP.
Susan Gorin (County of Sonoma)	Sonoma-11	The Implementation Plan says that other areas may subsequently be identified as High Priority Areas. The draft does not explain what this would entail, and whether it would involve notice and comment.	In accordance with the OWTS Policy, the geographic area of the APMP (which is analogous to "High Priority Areas" in the 2015 drat Staff Report and Action Plan) is established in the Russian River Pathogen TMDL Action Plan and incorporated into the Basin Plan as a Basin Plan amendment. Modification of the APMP would require a subsequent Basin Plan amendment, which is a public process that provides several opportunities for public involvement. However, the local agency, at its discretion, may expand to scope or geographic extent of the APMP as a modification of its LAMP. The local process to modify a LAMP will also include a public participation process.

Susan Gorin (County of Sonoma)	Sonoma-12	It is unclear, for example, which Regional Parks facilities within the watershed would be considered high or low priority based on the approach of identifying areas within a high density of OWTS.	The TMDL Action Plan no longer specifically identifies public parks as being subject to requirements of the APMP. The TMDL Action Plan now clearly defines the boundaries of the APMP area. The Regional Water Board Russian River TMDL webpage also includes a comprehensive list of parcels with the APMP boundary and an interactive GIS mapping tool that allows the public or a public agency to evaluate whether a given property is wholly or partially within the APMP boundary.
Carmel Angelo (County of Mendocino)	Mendocino-7	The communities of Redwood Valley and Talmage are listed as Low Priority Areas that would require initial testing of all systems. According to 2010 census data, there are 676 housing units in Redwood Valley, all of them on septic systems. Of the housing units in Redwood Valley, 26% are rentals. Approximately 8% of the families are below the poverty level. According to the same census data, there are 382 housing units in Talmage, all of them on septic systems. In addition, 45% of the housing units are rentals and 29% of the families are below the poverty level. Based on the composition of the communities affected, it seems very unlikely that we will be able to achieve compliance with the monitoring requirements within the initial three-year period. The scope of investigation required for these initial inspections of existing septic systems should be revised to provide an appropriate level of information at a reasonable cost.	Regional Water Board staff acknowledges that the minimum requirements for OWTS inspections described in the 2015 draft TMDL Action Plan may have been cost prohibitive for many owners of OWTS designated to be within the identified High Priority and Low Priority Areas, particularly for OWTS owners in economically disadvantaged areas. The TMDL Action Plan now omits the identification of “priority areas” and the minimum inspection standards proposed in the 2015 draft. Instead, the Action Plan now establishes an assessment process to obtain information about existing OWTS to determine whether an individual OWTS meets the criteria for corrective action set forth in the TMDL Action Plan. Under this new approach, physical inspections of existing OWTS may not be necessary for property owners who possess well documented OWTS records.

Carmel Angelo (County of Mendocino)	Mendocino-8	The requirements for Mendocino County to prepare a Bacteria Load Reduction Plan (BLRP) must recognize the limitations of legal authority and financial resources. This County will need to rely on significant financial support from the State of California or other sources in order to address several of the items suggested or required for the plan, including but not limited to source reduction by providing restroom facilities for recreational use and the homeless, the installation of barriers to discourage illegal camping under bridges, and the collection and analysis of water samples to monitor the effectiveness of actions taken to comply with this new unfunded mandate from the State.	The revised Action Plan requires entities in the Russian River Watershed that are enrolled under the Phase I and Phase II Municipal Separate Storm Sewer System (MS4) permits to prepare and implement a Pathogen Reduction Plan within two years after the effective date of the TMDL Action Plan. Regional Water Board staff anticipates that Mendocino County will describe the limitations of its legal authority and financial resources in its proposed Pathogen Reduction Plan and the scope of County actions will reflect this reality. The Regional Water Board will consider such supporting information in its Pathogen Reduction Plan approval process. Funding opportunities for actions required under the Action Plan are discussed in Chapter 12 of the 2017 TMDL Staff Report.
Carmel Angelo (County of Mendocino)	Mendocino-9	Section 5.4.1 introduces the concept of low density versus high density Onsite Wastewater Treatment Systems (OSWS), also known as septic systems. This differentiation is important in later sections of the Draft Staff Report and needs to be clearly defined. For Mendocino County, we suggest the following definitions: High Density = More than seven contiguous parcels with < 1 Acre per septic system; Low Density = fewer than eight contiguous parcels with < 1 Acre per septic system.	The Action Plan now omits the identification of "priority areas." The Action Plan now clearly defines the boundaries of the APMP area. The Regional Water Board Russian River TMDL webpage also includes a comprehensive list of parcels with the APMP boundary and an interactive GIS mapping tool that allows the public or a public agency to evaluate whether a given property is wholly or partially within the APMP boundary.
Carmel Angelo (County of Mendocino)	Mendocino-10	In Table 9.1 and in 9.2.7 et seq., High Density and Low-Density areas must be clearly defined. For Mendocino County, we suggest the following definitions: High Density = More than seven contiguous parcels with < 1 Acre	The TMDL Staff Report and Action Plan no longer use high density and low-density designations. Also, see the response to Mendocino-11.

		per septic system; Low Density = fewer than eight contiguous parcels with < 1 Acre per septic system	
Carmel Angelo (County of Mendocino)	Mendocino-11	The list of Low Priority Areas in Section 9.2.7 includes those areas with a high density of OWTS in Talmage and Redwood Valley. There are no clear boundaries to either of those communities. The intended extent of "Talmage" and "Redwood Valley" must be defined.	The TMDL Action Plan no longer identifies communities, which may have unclear boundaries, as subject to the APMP requirements. Instead, the APMP is applicable to HUC-12 subwatersheds not achieving water quality standards for bacteria, as described in response to Mendocino-1. The communities of Talmage and Redwood Valley are not currently in HUC-12 subwatersheds subject to the APMP requirements.
Carmel Angelo (County of Mendocino)	Mendocino-12	The list of Low Priority Areas in Section 9.2.7 includes those areas where OWTS are located within 600 feet of listed streams. Please indicate which Mill Creek is intended – the one in Sonoma or Mendocino County.	The Mill Creek identified in the 2015 draft TMDL Action Plan as a Low Priority Area in Section 9.2.7 is in Sonoma County.
Carmel Angelo (County of Mendocino)	Mendocino-13	The list of Low Priority Areas in Section 9.2.7 includes those areas where OWTS are located within 600 feet of listed streams. Dry Creek is included in that list. Please indicate which section of Dry Creek is intended – the section above Lake Sonoma, the section below Lake Sonoma, or the entire stream.	The area downstream of the Lake Sonoma and tributary to the Russian River (West Slough HUC-12) has been determined to be not meeting REC-1 water quality standards.
Carmel Angelo (County of Mendocino)	Mendocino-14	Although none of the High Priority Areas are located within Mendocino County, it seems that the requirement for the replacement of all septic systems in those areas within three years will be nearly impossible to accomplish. Please designate a reasonable time frame for this requirement.	The TMDL Action Plan no longer includes Option 1.

Carmel Angelo (County of Mendocino)	Mendocino-15	In Section 9.2.7.2, the intent of the OWTS inspection program should be reworded as follows: "All existing OWTS in Low Priority Areas . . . shall be inspected within three years of the effective date of the TMDL to ascertain whether the OWTS is functioning properly to the extent that the OWTS does not require major repair, as defined in Section 1.0 of the Basin Plan's OWTS." The remainder of the original wording (. . . *or is not affecting, or will not affect groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is not causing a human health or other public nuisance condition*) calls for evaluations that are not supported by the scope of the inspection protocol as specified in Section 9.2.7.3. At a minimum, extensive soil and groundwater sampling and geotechnical analysis would be required to support the statements that we have suggested be removed. Similarly, that language should be removed from subsequent sections of Chapter 9.	Staff agrees that the determination whether the discharge is affecting groundwater or surface water is beyond what could reasonably be ascertained from an inspection meeting the minimum requirements in section 9.2.7.3 of the 2015 draft Staff Report (and Section B.2.3 of the 2015 draft Action Plan). The Action Plan no longer include the wording that is highlighted in this comment but does include reasonable minimum considerations for a basic operational inspection (Action Plan section D).
Carmel Angelo (County of Mendocino)	Mendocino-16	In Section 9.2.7.3, the hydrostatic test required by Item 4 should be limited to the effective working volume of the tank (up to and below the effluent port).	Comment noted. The Action Plan now requires a demonstration of the water tightness of an OWTS that includes a septic or other tank. The demonstration must be sufficient to indicate that the tank does not leak during normal operation.

Carmel Angelo (County of Mendocino)	Mendocino-17	In Section 9.2.7.3, the determination of "depth of seasonal groundwater level" should be deleted or limited to that time in which the inspection is conducted. A complete analysis of seasonal variability of groundwater levels is an expensive and time-consuming process, and one which has become especially problematic during the recent extended drought.	Staff does not disagree that determining the highest seasonal groundwater level is time-consuming, potentially expensive, and can be difficult to obtain in a timely manner during prolonged drought conditions. However, the minimum separation between the bottom of the infiltrative surface and the highest anticipated groundwater level is critical information to assess whether an OWTS has an adequate depth of unsaturated soil to remove pathogenic organisms from wastewater as it percolates through the soil matrix. This fact notwithstanding, Regional Water Board staff will work with the local agency to arrive at an acceptable method to determine whether there is an adequate unsaturated zone under the OWTS infiltrative surface of existing OWTS and OWTS that are subject to repair or replacement in the APMP-designated areas. All new OWTS are expected meet requirements in an approved Local Agency Management Program (LAMP) for demonstrating adequate minimum depth to groundwater.
Carmel Angelo (County of Mendocino)	Mendocino-18	In Section 9.2.7.3, the determination of separation between leaching surface and groundwater or bedrock should be revised or eliminated. The problems associated with the depth to groundwater analysis are identified in the previous comment. In order to determine the depth to bedrock, a backhoe will often be required to dig a suitable test pit adjacent to the homeowner's leachfield. This will cause a great deal of disruption to established landscaping and may require the removal of fences or other structures in order	As stated in Mendocino-17, the determination of the minimum separation to groundwater or an impermeable soil layer is critical information to assess whether an OWTS will be adequately protective of groundwater and surface water. Regional Water Board staff agrees that, when a measurement of vertical distance from an OWTS to bedrock, hardpan, or saturated soils is required, the use of a hand auger may be an acceptable alternative under certain circumstances.

		to gain access to the leachfield area. An alternative suggestion would be the use of a hand auger to verify that a minimum separation exists.	
Grant Davis (Sonoma County Water Agency)	SCWA-15	(Chapter 5, Section 5.5.1.1 and Chapter 9, Table 9.1) The Occidental County Sanitation District (CSD) and Airport-Larkfield-Wikiup Sanitation Zone (SZ) are WDR facilities, but are not "land discharge[rs]" where the eventual receiving water is groundwater as described in page 5-49 of the draft Staff Report. Recycled water from these facilities is applied at or below agronomic rates. Please remove the Occidental CSD and Airport-Larkfield-Wikiup SZ from the list of "Implementing Parties (Source)" in the second column of Table 9.1, page 9-5 under the "Percolation Pond and Irrigation Discharges" bacteria source category.	Staff agrees that both Occidental CSD and Airport-Larkfield-Wikiup SZ should be included in the Fecal Waste Source Category of "Recycled Water Irrigation Runoff." The facilities subject to this source category, including the Occidental CSD and the Airport-Larkfield-Wikiup SZ, are now referred to generally as "entities permitting to beneficially reuse treated wastewater through irrigation to land."

Grant Davis (Sonoma County Water Agency)	SCWA-16	(Chapter 9, Table 9.1) Under Implementation Actions for "Sanitary Sewer Systems" in the Bacteria Source Category on Page 9-13 of the Draft Staff Report, it states that "within one year of the effective date of this TMDL, the municipality or district shall revise its approved Sanitary Sewer Management Plan (SSMP) to describe actions that it takes or plans to take to further minimize sanitary sewer overflows, spills, and exfiltration from its sanitary sewer system." This action is not necessary as all SSMP's are required to be updated and certified every other year. In addition, the Draft Staff Report provides significant data on SSOs and no data on exfiltration. Unless it can be shown that exfiltration is occurring, the permit holder should not be required to explain how it plans to minimize it. Please modify the Draft Staff Report to allow entities to revise their SSMP through the normal updating and certification process and remove the requirement to include exfiltration minimization plans in the SSMP.	The draft 2017 Action Plan has been revised to require, as an implementation action, that operators of sanitary sewer systems comply with the statewide Sanitary Sewer General Order. The requirement in the 2015 Action Plan for enrollees under the Sanitary Sewer System General Order to revise their SSMPs has been removed.

Grant Davis (Sonoma County Water Agency)	SCWA-17	(Chapter 9, Table 9.1) The Russian River CSD is identified as an Implementing Party under the "Percolation Pond and Irrigation Discharges" Bacteria Source Category. Water that is used for irrigation by Russian River CSD is supplied from a holding pond. If the Russian River CSD demonstrates that water in its holding ponds does not contain human-sourced bacteria and pathogens, the E. coli and enterococcus limits on irrigation discharges should be eliminated. Please include this change in the final version of the Draft Staff Report.	The draft 2017 Action Plan has been revised to require, as an implementation action, that operators of wastewater treatment facilities that discharge to percolation ponds and dispose of treated wastewater through land irrigation comply with their applicable waste discharge permit, which includes effluent limitations or specifications based on title 22 water recycling requirements. The requirement in the 2015 Action Plan for to meeting effluent limits of *E. coli* and enterococcus for entities in the "Percolation Pond and Irrigation Discharges" source category enrollees has been removed.
Grant Davis (Sonoma County Water Agency)	SCWA-18	(Chapter 9, Table 9.1) The requirements in Table 9.1 for Urban Runoff include submittal of a bacteria load reduction plan (BLRP) within two years of adoption of the proposed TMDL. Since the Water Agency does not have land use authority, the requirement for the Water Agency to submit a BLRP to control sources of bacteria is not reasonable. The Water Agency requests the following (underlined) edit be made to Table 9.1, Implementation Actions, page 9-9: "The public entity shall submit BLRP to control sources of bacteria. The Regional Water Board will require submission of the BLRP under authority of section 13267 subdivision (b) of the Water Code. Public entities who do not have land use authority may be exempt from this action with the condition that the entity provides and the Regional Board accepts notice from entity."	The revised Action Plan requires that MS4 permittees comply with the existing General NPDES MS4 Permit (Order No. 2015-0030) to control pathogens in urban runoff. Section VI.I.2 of the General Permit requires development and implementation of a work plan to address pathogens in storm water runoff. It is the expectation of the Regional Water Board that implementing parties will propose and implement actions that are within their authority.

Grant Davis (Sonoma County Water Agency)	SCWA-19	(Chapter 9, Section 9.2.1) Please provide additional information regarding the language from page 9-3 of the Draft Staff Report. What are the "other reports" and under what conditions will they be considered necessary?	In Chapter 9, Section 9.2.1 of the 2015 draft TMDL Staff Report, "other reports" are reports not specifically required by the discharge permit's monitoring and reporting program. These reports may be required as part of a water quality investigation. Consistent with section 13267 of the California Water Code, in requiring those reports, the Regional Water Board will provide a written explanation with regard to the need for the reports and must identify the evidence that supports requiring submission of the reports.
Grant Davis (Sonoma County Water Agency)	SCWA-20	(Chapter 9, Section 9.2.2) There is no data available regarding human-sourced bacteria and pathogens in the Russian River County Sanitation District's (CSD) recycled water holding ponds. Additionally, the Russian River CSD has never been required to test the recycled water in its holding ponds for *E. coli* and enterococci bacteria and is, understandably, concerned about the feasibility of meeting these proposed new effluent limits through development and implementation of a BLRP. The possible compliance actions included in the Draft Staff Report to be included in a BLRP are major undertakings that would require much time to plan and substantial financial resources to implement and operate. Russian River CSD estimates, for example, that it could costs millions of dollars to expand its recycled water system in order to eliminate surface water discharges, a possible compliance action included in the Draft Staff Report. These new	The revised Action Plan requires that all NPDES permits adopted after the Action Plan's effective date include monitoring requirements for wastewater holding pond discharges. No later than seven years after the Action Plan's effective date, effluent limitations implementing WLAs will be established in NPDES permit where the monitoring data or other pertinent information demonstrate that a discharge causes or has the reasonable potential to cause an exceedance of WLAs for *E. coli*. If the permittee is not able to immediately comply with the effluent limitations, a compliance schedule may be approved by the Regional Water Board.

		effluent limits and compliance actions are being proposed without sufficient data.	
Grant Davis (Sonoma County Water Agency)	SCWA-21	Given the Draft Staff Report's acknowledgment that more information is needed, before imposing new effluent limitations for *E. coli* and enterococci bacteria on discharges from recycled water holding ponds, please consider allowing dischargers to complete a study in coordination with the Regional Board. If the results of the study indicate the need to apply new effluent limitations and develop and implement a BLRP, the TMDL can be revised in the future to include these components. Further, it is not clear if the requirement to submit a BLRP on page 9-10 is consistent with Table 9.1, which says 2 years. Please clarify.	See response to SCWA-20.
Grant Davis (Sonoma County Water Agency)	SCWA-22	(Chapter 9, Section 9.2.6) Section 9.2.6 identifies that a "Non-Storm Water Best Management Practices (BMP) Plan, or equivalent plan" will need to be submitted and approved by the Regional Water Board Executive Officer. Furthermore Section 9.2.6 identifies possible actions to be included in the Non-Storm Water BMP Plan might include: "Evaluating and, when necessary, improving BMPs to prevent overspray, spills, and incidental runoff; Increasing setbacks from recycled water points of use to waterbodies, curbs, pavement and storm water inlets; and Improving compliance with recycled water user requirements through increased public outreach and, when necessary, through progressive enforcement." These	The revised TMDL Action Plan requires each entity that is authorized to beneficially reuse treated wastewater and is implementing a Recycled Water BMP Plan, or equivalent plan, certify that its Plan adequately prevents and/or minimizes overspray, spills, and runoff. Any entity that uses recycled water and is without a similar plan must submit a plan for Executive Officer approval no later than two years after the effective date of the Action Plan.

		requirements are already required under Title 22 of the California Code of Regulations and contained in the applicants Title 22 Engineering Report. Revisions if necessary, should be requested through the Title 22 Engineering Report and not a Non-Storm Water BMP Plan.	
David Guhin (City of Santa Rosa)	Santa Rosa-2	The proposed TMDL would impose new pathogen limits on discharges from holding ponds without regard to whether they are of human origin. The City of Santa Rosa has no facilities to treat recycled water discharges from holding ponds. No data is available regarding human-sourced bacteria and pathogens in the City of Santa Rosa's recycled water holding ponds. Thus, the Department is extremely concerned about the enormous cost implications and lack of nexus between the proposed pathogen limit and human health protection	See response to SCWA-6. Chapter 7 of the Staff Report discusses the linkage between pathogenic indicator bacteria and human health risk.

David Guhin (City of Santa Rosa)	Santa Rosa-3	The proposed TMDL states that "If studies or other evidence demonstrate to the satisfaction of the Regional Water Board Executive Officer that human-source bacteria and pathogens are effectively killed or removed from the waste stream and are not present in the holding pond discharge, the entity will be considered to be in compliance with the waste load allocations. Accordingly, NPDES permits renewed for these entities will not include effluent limitations for E. coli and enterococci bacteria for the discharge from the wastewater holding ponds." To address this, the Department requests that the text on page 9-10 of the proposed TMDL be modified as follows: "Each entity authorized to discharge treated wastewater from wastewater holding ponds to the Russian River or its tributaries shall, if E. coli and enterococci are shown through a study completed by the discharger to be of human origin, maintain compliance with the following effluent limitations (which equal the E. coli and enterococci bacteria wasteload allocations) using the bacteriological results of holding pond effluent samples collected at least weekly for the calendar month for which analyses have been completed." This proposed change would clarify and make the numeric limit on page 9-10 cited above consistent with the following statement on page 9-11: "If studies or other evidence demonstrate to the satisfaction of the Regional Water- Board Executive Officer that	See response to SCWA-20.

		human-source bacteria and pathogens are effectively killed or removed from the waste stream and are not present in the holding pond discharge, the entity will be considered to be in compliance with the waste load allocations. Accordingly, NPDES permits renewed for these entities will not include effluent limitations for E. coli and enterococci bacteria for the discharge from the wastewater holding ponds."	

David Guhin (City of Santa Rosa)	Santa Rosa-4	Table 9.1 on page 9-9 in the draft Staff Report requires the City of Santa Rosa and other NPDES storm water permittees to submit a BLRP for Urban Runoff within two years of the TMDL effective date. The draft NPDES permit for Storm Water Discharges From Municipal Separate Storm Sewer Systems that would replace Order R1-2009-0050 would require a Pathogen Special Study to be submitted within one year of the permit effective date. These two deadlines appear inconsistent and should be reconciled to provide a clear and feasible compliance pathway.	The Phase I MS4 Permit Order No. R1-2015-0030 was adopted by the Regional Water Board on October 8, 2015 and requires MS4 Permittees to submit a workplan with BMPs to reduce levels if bacteria in the discharge for surface water from the MS4. The revised Action Plan now requires MS4 Permittees to comply with their applicable NPDES permit, which includes compliance with an approved Pathogen Reduction Plan.
David Guhin (City of Santa Rosa)	Santa Rosa-5	Since the City's cost of this, effort is expected to be substantial ($50,000 to $300,000 based on the experience of comparable Bay Area storm water programs), it will compete with other storm water program components and require careful priority-setting. The Department considers the two-year deadline in the proposed TMDL to be feasible given the cost of this undertaking and our budget cycle, and requests that the schedule in the proposed TMDL not be shortened.	See response SCWA-18.

David Guhin (City of Santa Rosa)	Santa Rosa-6	Section 5.4.5 states that "A 'pooper-scooper' ordinance is an effective solution" to address pet waste in urban runoff. This statement is vague (what does Water Board staff mean by a pooper-scooper' ordinance"?) and unsubstantiated (what is the basis to conclude such an ordinance is effective?). Please clarify.	The term "pooper-scooper" ordinance is a colloquial term to refer to a local ordinance that establishes requirements for the proper disposal of pet waste and prescribes penalties for failure to comply. Regional Water Board staff is unaware of any quantitative or qualitative study that "substantiates" the effectiveness of pet waste ordinances. The statement in question in section in section 5.4.5 of the 2015 draft Staff Report will be revised (Staff Report section 6.3.2.1.1) to state than a pet waste management ordinance "may be" and effective solution, particularly when used in conjunction with public awareness efforts and appropriate enforcement by the local agency.
David Guhin (City of Santa Rosa)	Santa Rosa-7	Please provide additional information regarding the following underlined language from page 9-3 of the Draft Staff Report. What are the "other reports" and under what conditions will they be considered necessary?	See response SCWA-19.
Thomas Lyons (Sonoma-Marin Area Rail Transit)	SMART-2	Table 9.1 of the Staff Report purports to identify SMART as an implementing party and requires SMART to submit a BLRP. Water Code Section 13267(b)(1) requires the Regional Board to identify evidence that supports requiring any party to submit reports. SMART could find no such evidence contained in the Staff Report.	See SMART-1

Terry Crowley (City of Healdsburg)	Healdsburg-1	The Draft Basin Plan Amendment and the Draft Staff Report for the Action Plan Russian River Watershed Pathogen Indicator Bacteria TMDL mistakenly identify the City as operating a facility with "Wastewater Holding Pond Discharges to Surface Waters." Since the Basalt Pond is part of the Russian River, not a wastewater holding pond, the WRF must implement actions specific for "Municipal Wastewater Discharges." Entries in Table 1 and Table 9.1 must be revised to remove the City of Healdsburg.	References to the City of Healdsburg as a municipality that operates a holding pond discharging to surface waters have been omitted from subsequent versions of the Staff Report and Action Plan.
Frost Pauli (Mendocino Farm Bureau)	Farm Bureau-2	In reviewing the draft basin plan, specifically Table 1, there is concern that 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. Table 1 discusses runoff from recycled water irrigation and compliance with related WDRs, however there is no discussion of ponds. MCFB requests clarification on this issue and recommends that additional monitoring requirements on agricultural recycled water storage ponds not be placed in the language of the Russian River Pathogen TMDL. Any water quality monitoring requirements should remain with the municipality that is permitted to beneficially reuse treated wastewater and not with the individual users of the water.	Constructed ponds that store recycled water for agricultural purposes have not been determined to be potential sources of pathogen indicator bacteria in surface waters in the Russian River Watershed, and therefore, are owners of these ponds are not implementing parties under the TMDL Action Plan. These ponds are not considered a possible source because, 1) direct discharges to surfaces waters from agricultural ponds containing recycled wastewater are prohibited without a NPDES permit, 2) irrigation of recycled water in a manner that generates runoff that may reach surfaces waters is not allowed under individual waste discharge requirements or under a Master Water Reclamation Permit, and 3) water storage ponds, by their nature, are not managed like a percolation pond, where the percolation rate is maximized. However, in no case, may the storage of recycled wastewater of an agricultural pond result in a change in groundwater quality unless the change meets all the conditions in the State Antidegradation Policy.

Frost Pauli (Mendocino Farm Bureau)	Farm Bureau-3	MCFB would encourage the ability to continue to use existing BMPs to implement the requirements of the pathogen TMDL. One sector of the non-dairy livestock category that was discussed as being included for compliance with the TMDL at the September 23rd public workshop in Ukiah was horses. Since there are numerous horse facilities as well as individual horse owners within the Russian River, MCFB encourages the NCRWQCB to work with horse owners, University of California, RCDs or other reputable organizations for BMP development.	The Action Plan does not establish specific BMPs for non-dairy livestock operations, as these management practices are expected to be specific to the type of animal operation and site conditions. Regardless of the type of BMPs deployed, the management practices must meet the objectives of the Program of Implementation for this source category, which is to contain, stabilize and reuse or dispose of animal fecal waste to prevent water quality impacts. Failure to implement effective BMPs could result in the Regional Water Board establishing waste discharge requirements for the discharge. Regional Water Board staff will continue to work with stakeholders to ensure successful implementation of TMDL requirements for this source.
Frost Pauli (Mendocino Farm Bureau)	Farm Bureau-4	There has been limited monitoring in Mendocino County to determine ranking of high and low priority areas. MCFB would like clarification on how future definition and ranking of priority will take place.	See responses Mendocino-1 and Mendocino-2.
Frost Pauli (Mendocino Farm Bureau)	Farm Bureau-5	In addition, there seems to be a lack of definition of the areas of concern as related to the low priority areas of Talmage and Redwood Valley in Mendocino County. At the September 23rd public workshop in Ukiah it was stated that definitions of these specific areas would come at a later date. In order for MCFB to work with our members in these low priority areas, it is necessary to know how the areas are defined and when they will be defined, MCFB requests that a process and time frame for defining these areas be provided.	See response Mendocino-11,

Frost Pauli (Mendocino Farm Bureau)	Farm Bureau-6	Finally, at the September 23rd public workshop in Ukiah there was concern voiced by members of the public that are in the septic business that the inspection requirements listed under section B.2.3 of the draft basin plan could lead to increased damage to existing septic systems and therefore increased impacts to water quality. It was recommended to revise the level of inspection required for existing systems in low priority areas to make the inspection process less invasive to determine proper function and therefore reduce the risk of damage to existing systems.	See response Mendocino-15.
James Niskanen (Odd Fellows Recreation Club)	OFRC-10	Faced with a number of failing septic systems within its own community of 200 seasonal and year-round homes, OFRC, at great cost to its members, embarked upon the construction of a community-wide septic system at the turn of the millennium. This engineered and permitted system includes a winter leach field and a summer leach field. It also includes a number of monitoring wells that, under the terms of its operating permit with the Water Board, must be sampled, tested and reported regularly to ensure that the system is functioning properly. Properly monitored and maintained, this system has functioned perfectly since its installation, ensuring that the wastewater generated by OFRC families does not lead to bacterial contamination of the river we all cherish.	Comments noted.

James Niskanen (Odd Fellows Recreation Club)	OFRC-11	What makes it all the more troubling is that the plan focuses on certain OWTS that, potentially, are properly functioning, simply because of their proximity to OWTS that are failing. This inequity is substantially compounded by the scant attention the plan directs toward direct fecal contamination to the riverine environment by recreates, the homeless and itinerant laborers. Those of us who live along the river are very familiar with the impacts of these populations. We are troubled that the plan directs so little attention to the impacts of these users while creating regulatory framework and strategies related to OWTS that are highly prescriptive… Indeed, in regard to the obvious deleterious impacts of recreates, the homeless and itinerant laborers, this implementation plan is little more than a plan to plan. There is little exploration of the problem and of demonstrated effective remediation strategies. However, in regard to OWTS, where the impact to recreation appears largely speculative and poorly defined, the implementation plan mandates particular, elaborate and expensive remediation strategies.	Section B.1.3.1.3 of the revised Action Plan sets forth an OWTS Assessment Program to identify OWTS that are failing or substandard. Under this revised approach, corrective actions to implement the TMDL will focus on failing OWTS, OWTS prohibited by the OWTS Policy (such as, cesspools), and OWTS that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries. Regional Water Board staff agrees that direct inputs of human waste from recreators and homeless encampments are significant sources of bacteria in the Russian River and control of these sources is important to attaining bacterial water quality objectives. However, the Regional Water Board has limited authority to directly control these sources through issuance of state permits. In acknowledgement that these pathogen sources are diffuse and therefore challenging to control, the Regional Water Board and the County of Sonoma in 2016 signed a Memorandum of Understanding (MOU) to jointly address these sources with the regulatory tools at each agency's disposal. The MOU describes each agency's roles and responsibilities for addressing these sources. The MOU can be accessed on the Regional Water Board Russian River TMDL webpage at https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/russian_river/ . Regional Water Board staff do not agree that the impact of failing and substandard OWTS on bacteria water quality objectives is "speculative" and "poorly defined." The analysis that indicates that OWTS are likely sources of pathogens in the Russian River and

			its tributaries is contained in section 6.5.1 of the Staff Report. The Staff Report explains that poorly sited, substandard, and failing OWTS provide incomplete and inadequate treatment of domestic sewage discharges to the subsurface and can also result in direct discharges to surface waters. Monitoring data also indicate that there is a correlation between areas with high densities of OWTS and high bacteria levels in surface waters downstream of those areas.

James Niskanen (Odd Fellows Recreation Club)	OFRC-12	Individuals and communities with OWTS will have directed substantial energies and monies to upgrading their systems with no apparent reduction to the total number of water contact recreation illnesses. We are concerned that this plan will fail to meet its bacterial load standards, and that when those standards are not met, this plan will have opened the door to making greater demands of the owners of OWTS despite a lack of correlation between OWTS in general and water contact illnesses, much as is occurring with this very implementation plan.	Chapter 8 (Linkage Analysis) of the Staff Report establishes the link between the presence of fecal waste, the water quality objectives of water contact recreation, the risk of illness associated with fecal waste discharges, and the anticipated reduction of risk of pathogen contact and illness the will result from implementation of the Action Plan. Outcomes for OWTS owners resulting from lack of attainment of bacteria water quality objectives is speculative.
James Niskanen (Odd Fellows Recreation Club)	OFRC-13	As has been widely decried at the public hearings, the plan does not provide a map outlining the specific high, low and no priority areas. Rather, the plan makes reference to community names and general geographic areas without providing any greater definition. For a plan that is so prescriptive in its requirements for OWTS owners, it is indeed hard to understand how there can be so little definition of the areas to be most impacted by the plan's mandates. Is there so little analysis of existing OWTS that the plan cannot provide greater specificity as to where it is believed the problem of alleged OWTS-related contamination derives? If so, then the plan would seem premature. If not, then it seems appropriate to document the specific target areas so that those owners of OWTS who will be immediately affected can know and respond with certainty, and so those owners of OWTS whose systems are not specifically	The Action Plan now clearly defines the boundaries of the APMP area. The Regional Water Board Russian River TMDL webpage also includes a comprehensive list of parcels with the APMP boundary and an interactive GIS mapping tool that allows the public to evaluate whether a given property is wholly or partially within the APMP boundary

		designated can have some assurance against "plan creep" once the plan moves to the implementation stage.	
James Niskanen (Odd Fellows Recreation Club)	OFRC-14	There is already a set of standards in place for OWTS in Sonoma County. Many systems clearly do not meet the current standards in place. Rather than focus on enforcing the current OWTS standards and making subsequent evaluations of resulting impacts to bacterial counts, this plan, largely ignoring the impacts of recreates, the homeless and itinerant workers, drawing upon an unclear linkage between temporal bacterial counts and health impacts to recreational users, and an equally unclear linkage between bacterial counts and dense concentrations of properly functioning OWTS, takes a laudable river health and public health goal and uses that as the pretext for promulgating a plan that imposes huge costs on owners of OWTS and promises little improvement in water contact recreation illnesses in return.	See response to OFRC-2.

Kerry Tinney (Hacienda Improvement Association)	HIA-10	The draft staff report in support of the TMDL states that "based on multiple lines of evidence," all communities in the Russian River watershed with a "high density" of OWTS have been designated High Priority. However, data for the two selected indicator bacteria, E. coli and enterococci, indicate that FIB in the Russian River at Hacienda Beach are well below the proposed limits. The reach of the Russian River adjoining our community is not listed as impaired for FIB under the Federal 303(d) listing. The nearest downstream reach that is listed, at Fife Creek, is approximately seven river miles downstream of our community. We therefore contest the identification of our community as a High Priority area.	It is correct that the OWTS Source Study did not conduct water quality monitoring in the immediate vicinity of the community of Hacienda. Rather, the monitoring design sought to determine, generally, whether there was a correlation between areas with high densities of OWTS and high bacteria levels in surface waters downstream of those areas. The monitoring results showed a positive correlation. Consequently, the 2015 and 2017 Action Plan drafts included special requirements for OWTS in areas with high densities of OWTS, naming these areas "High Priority" areas or included areas with parcel densities greater than 50 parcels per square mile. The 2019 Staff Report and Action Plan, while recognizing that areas with high densities of OWTS elevate the risk that OWTS in these areas are contributing to the impairment, does not use OWTS density as a criterion for including specific parcels in the APMP. Instead, as explained in previous responses (see RRWPC-13, RRWPC-16, and RRWPC-17), E. coli exceedances of statewide objectives are used as the primary metric for assessing impairment/pollution. Enterococci exceedances of national criteria are used as a secondary metric for assessing impairment/pollution, but only when accompanied by other lines of evidence of pollution. Beach closure data are employed as a line of evidence with which to interpret enterococci exceedances of national criteria.

Kerry Tinney (Hacienda Improvement Association)	HIA-11	It is logical that existing septic systems in our community would contribute minimal viable human pathogens to the Russian River. Most systems are more than 50 feet from the River or its tributaries. As stated by Peter Lescure in the September 25, 2015, public meeting, travel time for effluent from most systems to migrate through soils and enter the River or tributaries is long enough for virtually all pathogens to have become non-viable long before the effluent might reach the river.	The fate and transport of microbiological pathogens in the subsurface is a complex subject and is dependent on many variables, including type of organism, soil organic matter, temperature, soil moisture content, soil chemistry, pH, rainfall, presence of antagonistic soil microflora, and residence time. There are many studies that have found that bacteria can travel hundreds of feet under saturated soil conditions. Viruses, which are much smaller that bacteria and are considered the primary agent of waterborne disease associated with sewage contamination, can travel thousands of feet under soil conditions favorable to viral transport.
Kerry Tinney (Hacienda Improvement Association)	HIA-12	If the Basin Plan Amendment is adopted as currently written, and our community is required to construct either OWTS to meet High Priority standards or new community treatment facilities, there would be no expectation of improved water quality at Hacienda Beach. We therefore request that our community be removed from the High Priority area designation.	The 2015 draft Action Plan has been revised and will no longer include the three options described in the 2015. Instead, the Action Plan establishes an assessment process to obtain information about existing OWTS t to determine whether the OWTS meet the criteria for corrective action set forth in the Action Plan. In accordance with the Action Plan, owners whose OWTS are failing, are prohibited by the OWTS Policy (such as, cesspools), or that by their design or operation are likely contributing pathogens to surface waters will be required to take actions bring their OWTS into compliance with the Action Plan.

Kerry Tinney (Hacienda Improvement Association)	HIA-13	The requirements for homeowners with OWTS are punitive and specific, as compared for measures for other sources such as storm water runoff, homeless encampments and recreational users themselves. For example, implementation actions for reduction in PIB from recreational users and homeless and farmworker encampments are limited to requirements for development and implementation of BLRPs. By contrast, owners of OWTS are faced with very stringent requirements, with a third vague option for development of a LAMP. Where are the explicit stringent alternatives for other sources? We therefore request that the Regional Board either: 1) Remove the specific and onerous requirements for OWTS and retain general language comparable to that for other potential PIB sources, or 2) Add specific requirements for other sources of PIB that would be comparable to those for OWTS.	See response to OFRC-2
Kerry Tinney (Hacienda Improvement Association)	HIA-14	Option 3 for High Priority areas should specifically allow for a LAMP to reach FIB reduction objectives through other means than those already identified in the TMDL, such as graywater systems, composting toilets, and prohibition of kitchen sink disposals, at least in part.	Comment noted. The revised Action Plan for OWTS establishes prescriptive requirements for the types of supplemental treatment components or effluent dispersal systems that may be approved by the local agency for corrective action for replacement OWTS.
Kerry Tinney (Hacienda Improvement Association)	HIA-15	Option 3 should also allow for acceptance of OWTS which do not comply with Option 1 as long as the neighborhood meets the TMDL objective.	The revised Action Plan no longer includes the three options described in the 2015 draft Action Plan.

Kerry Tinney (Hacienda Improvement Association)	HIA-16	The TMDL requires measurement of compliance at each individual system. This may not be appropriate for communities along the river. We recommend and request that the TMDL be modified to allow for testing downgradient of communities or sub-communities, as appropriate for the particular situation. This approach would for example, allow for incremental improvement of systems, starting with the most outdated, such as cesspools and/or those nearest the river, rather than requiring all systems upgrade at the same time. The TMDL needs to recognize actual in situ conditions may require less stringent and/or extensive solutions to reach the objective of improving water quality in the river.	Section B.1.3.1.3 of the revised Action Plan sets forth an OWTS Assessment Program to identify OWTS that are failing or substandard. Under this revised approach, corrective actions to implement the TMDL will focus on failing OWTS, OWTS prohibited by the OWTS Policy (such as, cesspools), and OWTS that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries.
Kerry Tinney (Hacienda Improvement Association)	HIA-17	There needs to be TMDL language which exempts those property owners who comply with the County's current voluntary septic upgrade program from requirement for additional remediation. This exemption would relieve the concern of homeowners that they may be forced to duplicate prior action taken to improve their OWTS.	The TMDL Action Plan does not include any exemptions for OWTS owners. As explained in previous responses, (see HIA-12 and HIA-16), corrective actions for OWTS are required for failing OWTS, OWTS not authorized by the OWTS Policy or OWTS that are treating wastewater flows beyond their treatment capacity and are thus likely contributing to the pathogen impairment.
Kerry Tinney (Hacienda Improvement Association)	HIA-18	For the TMDL to be successful and involve all stakeholders, there needs to be a plan for outreach to property owners/residents, agencies and businesses identified in the document. If the goal is true public involvement, government agencies developing the TMDL need to make contact with the general public which goes beyond the minimal legally required protocols. A postcard, email	Regional Water Board staff will endeavor to contact all property owners to make them aware of the availability of the draft Staff Report and Action Plan and the public hearings regarding the Russian River Watershed Pathogen TMDL.

		(or any social media outlet), notice in this year's tax bill or water bill would be evidence of a good faith effort to inform and include the public.	
Kerry Tinney (Hacienda Improvement Association)	HIA-19	Along with the stated concerns mentioned, residents need to be made aware of what they must do, why they must do it, when they need to do it how much it will cost them to do it and what are the consequences if they are unable to comply. The TMDL report treats all the lower Russian River with the same broad brush where everyone gets sacked regardless of culpability. Rather than forcing all residents into one remediation plan, hot spots need to be identified, a remediation plan put in place and a time specifically stated to measure and evaluate the plan's effectiveness. If additional interventions are needed, only then can you move forward.	The Action Plan establishes in the APMP the geographic area within which the special requirements for OWTS will apply based on the evidence of impairment, the conditions under which an existing OWTS does not meet the minimum requirements to comply with the TMDL, the minimum OWTS standards necessary for new and replacement OWTS to comply with the TMDL, and a time schedule by which all OWTS in the APMP should be in compliance with the TMDL. The Staff Report provides a range of costs for upgrading individual OWTS, creating small community systems, and connecting to an existing municipal sewer system. The Action Plan does not identify a specific project or "remediation plan" that must be completed. The path for compliance for OWTS owners may be through individual OWTS upgrades or some community solution, including connection to an existing municipal sewer system or construction of small community OWTS.

Kerry Tinney (Hacienda Improvement Association)	HIA-20	Unless a property is proven to directly add to the pollution of the Russian River at a level which lowers the river's water quality, no upgrade should be required until the property is sold. Upgrading of septic systems in the lower Russian River would be a condition of sale when property ownership is changed. Financing of the remediation could be rolled into the sale price and thus the mortgage payments or homeowner could be given the option of paying through property taxes.	As explained in previous responses, the Action Plan requires corrective action for OWTS that are failing, not authorized by the statewide OWTS Policy (e.g., cesspools), or are receiving wastewater flows in excess of their treatment and disposal capacity and therefore pose an elevated risk of contributing pathogens to surface waters. The objective of the APMP is to establish additional protections for OWTS in impaired subwatersheds where OWTS have been determined to be contributing to the impairment.
Candace Healy (Northwood Property Owners Association)	NPOA-2	The Regional Water Board should consider the Northwood area to specifically be designated as a "low Impact" area and that this area be subject to Option #3 and the LAMP program. The vast majority of residences within the Northwood area was constructed during the 1970's and 1980's and were required to have permitted and inspected OTWS systems at finished construction. Currently, any failures to these residential systems already would implement present County rules and regulations to upgrade or repair these systems.	The revised Action Plan sets forth an OWTS Assessment Program to identify OWTS that are failing or substandard. Under this revised approach, corrective actions to implement the TMDL will focus on failing OWTS, OWTS prohibited by the OWTS Policy (such as, cesspools), and OWTS that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries.
Maria Alderete et. al.	Alderete et al-2	The TMDL study did not adequately identify bacterial pollution from properly functioning septic systems versus failing or inadequately constructed septic systems. It is inappropriate to propose a broad-brush condemnation of all septic systems in the high priority areas when a significant number of the systems are modern, fully functioning systems. There should be a detailed examination of which septic systems are contributing to the	See response to HIA-8

		bacterial pollution of the river and your efforts should be focused onto those systems.	
Maria Alderete et. al.	Alderete et al-3	A tiered approach to septic system compliance as outlined in the AB885 statewide standards for septic systems is a more reasonable solution and will mitigate unnecessary financial impacts to owners of compliant septic systems.	This comment is unclear. The Russian River Watershed is the subject of a pathogen indicator bacteria TMDL that is currently in development and that identifies OWTS as a source of pathogens contributing to the impairment. Accordingly, the OWTS policy, which is the governing policy developed by the State Water Board pursuant to Assembly Bill 885, designates all OWTS in the geographic area defined as impaired by the TMDL as Tier 3 and requires a management program for all OWTS located near impaired water body. The management program is referred to in the OWTS Policy as an Advanced Protection Management Program (APMP) and requires special provisions for OWTS for that water body. The 2019 Staff Report establishes certain subwatersheds of the Russian River watershed as impaired for pathogenic indicator bacteria, based on multiple lines of evidence. The APMP specifies the geographic area of the APMP and any special provisions need for these areas to meet TMDL load allocations. The 2019 Action Plan sets forth an OWTS Assessment Program to identify OWTS that are failing or substandard. Under this approach, corrective actions to implement the TMDL will focus on failing OWTS, OWTS prohibited by the OWTS Policy (such as, cesspools), and OWTS that by their design or operation are likely contributing

			pathogens and other pollutants to the Russian River or its tributaries.

Jim Christian et. al.	Christian et al-9	The TMDL standards for high-priority OWTS systems exceed both baseline AB885 and the AB885/APMP criteria adopted statewide for pathogen-impaired waterways. The TMDL summarily re-classifies all existing, functional OWTS in the high priority named communities from AB885's Tier 1 (i.e. no action needed) and Tier 2 (low-risk) to Tier 3 and 4. Given that AB885 has not been implemented in this watershed pending the TMDL completion, and given that the TMDL compliance array significantly exceeds AB885, the case must be made that individual and community-level AB885 performance is inadequate. This case has not made.	The commenter has confused the OWTS Policy's tier structure. Tier 0 refers to existing OWTS that are properly functioning and not included in Tier 3 (Impaired Areas) or Tier 4 (OWTS Requiring Corrective Action). Tier 1 refers to new and replacement OWTS that are low-risk and where there is no approved Tier 2 LAMP. In accordance with the OWTS Policy, requirements for OWTS within Tier 3 areas are prescribed in an Advanced Protection Management Program (APMP). The objective of the APMP for the Russian River Watershed Pathogen TMDL is to identify and correct OWTS that are failing, are prohibited by the OWTS Policy (such as, cesspools), and that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries. Regional Water Board staff believes that this is a reasonable approach and recognizes existing OWTS that are likely functioning properly (i.e., OWTS that have been constructed, repaired, or replaced in compliance with County code.)
Jim Christian et. al.	Christian et al-10	High-priority OWTS includes all that would be Tier 1 and Tier 2 OWTS in non-impaired watersheds.	See Christian et al-9
Jim Christian et. al.	Christian et al-11	The performance standards for high-priority OWTS exceed AB885/APMP criteria for waterways impaired for pathogens. These marginally stricter standards have not been justified. Marginal pathogen or REC-1 attainment from the requirements is not predicted.	The Action Plan for OWTS has been revised and will no longer include the three options in the 2015 draft Action Plan, one of which includes performance standards for OWTS in high priority areas described. Instead, the revised Action Plan establishes an APMP that focuses on identifying and upgrading failing and substandard OWTS in areas identified by the TMDL.

Jim Christian et. al.	Christian et al-12	There is no cost/benefit analysis of the much higher cost of a compliant Option #1 OWTS compared to the basically zero-cost of continuing a Tier 1 OWTS, the unknown cost of Option #2, and the unknown cost of Option #3 (the existence of which is not certain).	See response to Christian *et al-11.*
Jim Christian et. al.	Christian et al-13	The case for stricter OWTS measures than AB885 calls for has not been made in the TMDL. The TMDL fails to substantiate that the OWTS performance being demanded in High Priority areas will remediate contamination in the Russian River to be compliant with the EPA pathogen criteria and REC-1 uses.	Chapter 8 (Linkage Analysis) of the Staff Report establishes the link between the presence of fecal waste, the water quality objectives of water contact recreation, the risk of illness associated with fecal waste discharges, and the anticipated reduction of risk of pathogen contact and illness the will result from implementation of the Action Plan. explained in previous responses, the Action Plan for OWTS is consistent with the OWTS Policy, which is the governing policy developed by the State Water Board pursuant to Assembly Bill 885. Also, see response to Christian et al-11.
Jim Christian et. al.	Christian et al-14	The Option 1 supplemental treatment OWTS with permanent monitoring are many times more costly than a minimal tank + leach pit or leachfield system, especially for Tier 1 OWTS versus the TMDL, and the stricter supplemental treatment metrics of the TMDL exacerbate this. The TMDL must justify this. The Staff Report must provide evidence that the marginal OWTS compliance criteria are needed, i.e. that AB885 criteria alone won't reduce the pollutant load to EPA or REC-1 criteria.	See previous responses to Christian *et al-11.*

John Bauer and Jim Christian	Bauer/Christian-1	The TMDL implementation plan for OWTS should be the same as the AB885 regulation. The draft TMDL action plan does not supply adequate evidence that more-stringent requirements for OWTS will achieve better water quality than application of the AB885 regulation.	See previous responses to Christian *et al-11.*
Lessa Vivian	Vivian-1	We just installed a modern and costly new OWTS permitted through PRMD. How will the TMDL affect homeowners who have upgraded their OWTS?	The objective of the APMP is to identify and correct OWTS that are failing, are prohibited by the OWTS Policy (such as, cesspools), and that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries. Regional Water Board staff believes that this is a reasonable approach and recognizes existing OWTS that are likely functioning properly (i.e., OWTS that have been constructed, repaired, or replaced in compliance with County code.)
Ken Sund	Sund-1	I have installed a permitted aerobic OWTS that works perfectly with maintenance. How will I be affected by the TMDL?	See response to Vivian-01
Stephen Martin	Martin-1	I don't know if I'm in the high priority area. No maps or addresses are presented in the draft Staff Report. Those who are going to be affected need to be individually notified of the changes and then given adequate time to comment.	See response to OFRC-04. To assist with identifying whether a property is subject to the APMP, the interactive mapping tool can be accessed on the Regional Water Board's Russian River TMDL webpage at: http://waterboards.maps.arcgis.com/apps/InformationLookup/index.html?appid=b9527b76e0874c139a59d8d53a538150.

Kris Clothier	Clothier-1	Information on indicator bacteria from samples collected in specific regions of the watershed should be collected before identifying high priority areas.	The monitoring design of the OWTS Source Study sought to determine, generally, whether there was a correlation between areas with high densities of OWTS and high bacteria levels in surface waters downstream of those areas. The monitoring results showed a positive correlation. That correlation was extrapolated to all areas of high OWTS densities. This is admittedly a conservative approach, but necessary given the number of high-density areas that would have to be individually monitored and limited resources for monitoring.
Kris Clothier	Clothier-2	Measurements of the outcomes associated with implemented changes from the TMDL should be established prior to requiring the implementation actions identified.	It is not possible to measure outcomes of TMDL actions before the actions are implemented.
Kris Clothier	Clothier-3	More investigation is needed to understand why there are high levels of indicator bacteria in areas with sewer systems.	Regional Water Board staff agrees, and the Action Plan includes a commitment to continue ambient monitoring to assess compliance with the Fecal Waste Discharge Prohibition and require special studies where more information is needed.
Victoria Wikle	Winkle-1	Special consideration should be given to OWTS that are effective versus ones that are not. No one sized solution is appropriate.	See response to OFRC-04
Theodore Walker	Walker-2	Would the Regional Water Board consider a timeline for voluntary compliance with identified OWTS implementation actions or only when property transfers take place or houses are being rebuilt?	The revised Action Plan does not include a program that would allow voluntary upgrades that would not comply with the minimum requirements of the APMP.

Todd Victor	Victor-2	Rebuilding a new septic system on my property would be prohibitively expensive, if not impossible. I am concerned that our property will be red-tagged and make my home valueless.	Regional Water Board staff will be working with staff at the Permit Sonoma to provide affordable alternatives to OWTS on parcels with restrictive site conditions. Regional Water Board staff anticipates that funding for OWTS improvements will be available through grant or loan programs.
Preston Smith	Smith-1	OWTS that can meet the minimum standards established by the County of Sonoma for a "Class-I" system should exempt from installing "Supplemental Treatment" components. Those OWTS that meet "Class-I" system requirements should not be penalized to install "Supplemental Treatment" that is not required anywhere else in the State.	The APMP requires supplement treatment and/or an enhanced effluent dispersal system for new and replacement OWTS under certain circumstances, as set forth in section B.1.3.4 of the Action Plan. These additional protections are needed to achieve bacteria water quality objectives in the Russian River and its tributaries.
Ken Sund	Sund-2	There are OWTS near Jenner that do not function properly. Technology exists for OWTS that work better than the wood cesspools or dilapidated tanks with leech fields. Have the levels of indicator bacteria been measured near the mouth of the Russian River?	The Sonoma County Water Agency regularly samples for *E. coli* and enterococcus bacteria during the summer, at a location in the middle channel near the public boat launch in Jenner. The assessments of these data for the Staff Report can be found in Tables 3.1 and 3.2 under the location named "Russian R. at Jenner Boat Ramp".
Sarah Yardley	Yardley-1	Please consider adding the words "site-specific, data-responsive, incremental and flexible" to the description of Option 3 for OWTS.	See response to Christian et al-11.
Dennis O'Leary	O'Leary-4	A map is needed showing the specific boundaries of the high and low priority areas.	See response to OFRC-04. To assist with identifying whether a property is subject to the APMP, the interactive mapping tool can be accessed on the Regional Water Board's Russian River TMDL webpage at: http://waterboards.maps.arcgis.com/apps/InformationLookup/index.html?appid=b9527b76e0874c139a59d8d53a538150.

Dennis O'Leary	O'Leary-5	Assuming that the RWQCB is responsible for undertaking enforcement requirements (OWTS Policy 4.7), does the board have the authority to trespass on private property to determine if violations of TMDL policies exist?	The Porter-Cologne Water Quality Control Act grants the regional water boards the authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the groundwater and surface waters of the State. To enter private property, Regional Water Board staff require consent of the owner or an inspection warrant issued by the Court pursuant to section 13267 of the California Water Code.
Karen Gallinger	Gallinger-1	Who will do the septic inspections? What are the requirements to pass the inspection? What are consequences of not passing the inspection?	In accordance with section B.1.3.1.1 of the Action Plan, all owners of OWTS are required to obtain a basic operational inspection for their OWTS at least every 5 years. Minimum requirements for this inspection include observations to detect structural and mechanical failures and evidence of leaks, odors, blockages, and general operational failures that require major repair to the OWTS, as defined in the OWTS Policy. OWTS that meet the criteria in section B.1.3.1.2 of the Action Plan will be required to contact the local agency and initiate corrective action.
John Bauer	Bauer-1	This Action Plan needs much further review and changes to become reasonable and viable. The plan seems designed to intentionally force local sewering over other options. The approach described for new and existing OWTS on the lower River area is unreasonable with negative implications on multiple levels beyond water quality.	The objective of the APMP is to identify and correct OWTS that are failing, are prohibited by the OWTS Policy (such as, cesspools), and that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries. Regional Water Board staff believes that this is a reasonable approach and recognizes existing OWTS that are likely functioning properly (i.e., OWTS that have been constructed, repaired, or replaced in compliance with County code.)

John Bauer	Bauer-2	Where is the current or future local infrastructure to accommodate the implementation in the stated time frame for needed inspections, re-inspections, continuing inspections, permits, new, replacement or corrected systems?	The assessment phase of the revised TMDL Action Plan will seek to balance the need for information about specific OWTS with local resources. Where additional resources are required, the Regional Water Board and the local agencies will seek to supplement current staffing levels with additional resources.
John Bauer	Bauer-3	Based on census of the lower river communities, 62% of the property owners live elsewhere. Many of these owners may not be aware of the Action Plan.	Comment noted. Regional Water Board staff will endeavor to contact all property owners to make them aware of the availability of the draft Staff Report and Action Plan and the public hearings regarding the Russian River Watershed Pathogen TMDL.
Phil Grosse	Grosse-3	The Action Plan should provide assurances that a homeowner who installs a new septic system now will not be required for an even greater investment in a few years if the State or the County decides that their new system not adequate.	The objective of the TMDL is to develop and implement a strategy to return a water body to compliance with water quality standards. Unfortunately, there are no guarantees that actions required to implement the TMDL will be successful, nor can there be a guarantee that future improvements to OWTS might not be required.
Phil Grosse	Grosse-4	The Action Plan should consider different requirements on OWTS for homes that are used only a few weekends every year.	The Action Plan requires corrective action for OWTS within the APMP area that are discharging to the ground surface, that are receiving a greater volume of flow than they are designed to treat and dispose of, or that lack a septic tank and leachfield. If any of those conditions are present, at any time, the OWTS poses an increased threat to cause or contribute to an exceedance of bacteria water quality objectives regardless of the level of occupancy.

Lee Torr	Torr-8	Will the 10-year flood plain OWTS distance requirement now be eliminated under the BASIN PLAN when the TMDL study is adopted?	With the replacement of the Basin Plan's previous Onsite System Policy with the statewide OWTS Policy, the minimum setbacks to the 10-year flood plain of a perennially flowing stream are no longer part of the Basin Plan for the North Coast Region. However, the local agency may establish a similar setback to a watercourse in its LAMP.
Lee Torr	Torr-9	Is the stream hyphoreic zone mapped in the Lower Russian River area? Does the stream hyphoreic zone include all those areas identified as either a) the floodway, b) the 10-year flood plain, and/or c) the 100 year flood plain? The Regional Water Board should implement a standard identifying the stream hyphoreic zone with parcel specificity as identified on a map that would be part of the TMDL and draft EIR?	Although a discussion of the Hyporheic Zone is not discussed in the 2017 Draft Action Plan or Staff Report, Regional Water Board staff acknowledges that the Hyporheic Zone is an important interface between surface water and groundwater and has the potential to be adversely impacted by failing OWTS. It is anticipated that improvements in the design and operation of OWTS within the watershed will improve bacterial water quality of the groundwater, surface water, and the subsurface flow between the two. The 2019 Final Staff Report and Proposed Action Plan remain silent on this topic.
Lee Torr	Torr-10	Are monitoring wells to be a) installed in contemplation of wet weather conditions (times of high-water table occurrence), b) monitored at times of wet weather conditions (times of high-water table occurrence)? Are monitoring wells to be drilled to a) the point which reaches the water table, and/or b) to the point of reaching rock, or fractured rock? How deep are monitoring wells to be dug? How many monitoring wells are to be dug on any particular parcel?	The TMDL Action Plan does not require the installation of groundwater monitoring wells.

Lee Torr	Torr-11	If the monitoring well could be fewer (under a LAMP) than the 3 mandated under Option 1, or if the depth and location requirements diverge in any way from Option 1, why would this not constitute a "license to pollute"?	Option 1 in the 2015 draft Action Plan does not mandate the installation of groundwater monitoring wells. Subsequent drafts of the Action Plan render this comment moot.
Lee Torr	Torr-12	What is the definition of High and Low Hill slope ranges?	Regional Water Board staff is unable to locate a reference to high and low hill slope ranges in the draft Staff Report or the proposed Basin Plan Amendment.
Lee Torr	Torr-13	The Action Plan does not identify the communities of Villa Grande, Duncans Mills, Forest Hills, Northwood and Rio Campo. Should of these communities also be identified due to the 600-foot distance requirements from the main stem of the Russian River?	The revised Action Plan does not identify affected communities specifically; instead, the APMP geographic area is defined as the area defined by parcels within 600 linear feet on either side of the centerline of blueline streams depicted on the USGS 1:100,000 scale topographic map and parcels that are within 200 feet of the centerline of waterways derived using the Sonoma County LIDAR database. Applying this new definition, many, but not all, OWTS from Villa Grande, Duncans Mills, Forest Hills, Northwood, and Rio Campo are within the geographic area of the APMP and are therefore subject to APMP requirements.

David Wallace	Wallace-2	What is the stream's edge-of-water from which the 600 feet is measured? Should it be the stream's edge while the stream is at a particular unspecified in the Action Plan flood stage or during its June flow level? My suggestion is that it should be the edge-of-water during the January to May period while the water is flowing relatively clear, silt free not during or within a few days following a storm. The water could be called "fishable" clear. Yes, it is subjective...but it is easily understood. Any differences of opinion as to what is "relatively clear" should only amount to a few vertical feet in the Russian River and a few horizontal feet in creeks. Yes, it requires a little field time be spent and an edge of water judgment be made during creek related site reviews. The River's edge for the purposes of the Action Plan could be established by the Water Agency in Sonoma County.	The revised Action Plan uses the centerlines of waterbodies to establish the APMP boundaries. Elsewhere In the APMP, where “top of bank” is referred to, the determination of this point is left to the discretion of the local agency during the corrective action process.
David Wallace	Wallace-3	In the event the septic tank lies further from the stream than the distribution field does, from the perspective of possible stream contamination, the most significant feature at issue remains to be the distribution field ...whether or not it has "failed". What if the septic tank is 50 feet away from the distribution field, on the opposite side the distribution field from where the stream lies? Is it really necessary for the homeowner to pay the professional to conduct the leakage test when a replacement decision could easily be made based on a visual inspection? Again, if the leakage information is not needed to	See response to Wallace-02. Also. If a visual inspection indicates that a septic tank is leaking, then a professional leakage test would not be necessary. The failure of the septic tank would require corrective action pursuant to Tier 4 of the OWTS Policy.

		make a replacement decision why should the testing expense be required of the owner?	
David Wallace	Wallace-4	Conducting leakage tests on collection lines would provide more useable information than testing individual tanks would. Public agencies who have wastewater collection pipeline facilities buried within 600 feet of impacted streams should be required to conduct "leakage tests". Collection lines are enveloped in a very porous bedding material. The porous material conveys leaked wastewater along outside the pipe in the same way an OWTS's distribution field is designed to do. The decision to whether or not to slip line pipes leaking near streams could then be made.	Owners or operators of sanitary sewer systems are required to comply with Statewide General WDRs for Sanitary Sewer Systems (State Water Resources Control Board Order No. 2006-0003-DWQ) and the Revised Monitoring and Reporting Program (WQ 2013-0058-EXEC). This statewide general permit requires implementation of an Operations and Maintenance (O&M) Program as a component of a Sewer System Management Plan (SSMP). As part of the O&M Program, the sanitary sewer system owner must identify, prioritize, and correct deficiencies in the sanitary sewer system that are detected during routine inspections. Routine inspections that include closed-circuit television (CCTV) inspections can reliably detect sewer problems that can result in leaks and infiltration. The Action Plan requires each enrollee in the Russian River Watershed under the statewide permit to comply with the statewide general permit, which includes implementation of the enrollee's SSMP.
David Wallace	Wallace-5	What if a large collection trunk was installed near impacted stream, possibly even crossed under the stream, and was found to be a "leaking", most especially during the winter months...possibly even flowing under surcharged conditions? How should this repair be prioritized in relation to conducting septic tank systems reviews along the impacted stream? What agency coordinates the prioritization?	See response to Wallace-04.

David Wallace	Wallace-6	Are the agencies operating/owning municipal sewerage collection trunk lines subject to similar review and action timelines that the Action Plan places on septic system owners? Should the agencies have an TMDL Action Plan imposed timelines to guide their LAMPs?	The revised Action Plan does not include the timelines that were specified in the previous draft. In the revised Action Plan, owners of sanitary sewer systems will be required to maintain compliance with the Sanitary Sewer System General Order and implement their SSMPs. Schedules for routine CCTV inspections should be based on the pipeline age, material, site-specific conditions, SSO reports, and other pertinent criteria.
David Wallace	Wallace-7	Can the LAMP residential OWTS reviews along a creek be phased to enhance LAMP'S effectiveness? For example, could Mark West Creek and Santa Rosa Creek be segmented lengthwise and site review work begun at the most upstream segment first? This principle would be applicable to any of the water courses listed in the Action Plan. First, test below the uppermost segment. If the water is not contaminated, move down to the next segment. Test above and below it for the presence of human contamination. If it is contaminated, conduct the on-site reviews; make whenever professionally recommended changes are in order; and retest the creek segment. Once the contamination has successfully been removed, then move downstream to the next segment. If the segment remains contaminated continue with more investigations and corrective measures until the contaminants are no longer evident via testing. Continue so forth down the stream. This way the public's resources would be focused on contaminated segments first and in doing so not cause properties which are	The Action Plan does not describe a phased process for assessing OWTS. Besides being impractical for the Regional Water Board or the local agency to assess each of the thousands of OWTS within the APMP boundary, the stepwise, phased approach is not conducive to developing a community solution for OWTS that require repair or replacement. Secondly, the objective of the APMP is to identify and correct OWTS that are failing, that are not authorized under the OWTS Policy (e.g., cesspools), or that are operated beyond their treatment and disposal capacity and thus are more likely to fail. OWTS meeting these conditions should be repaired or replaced.

		not contributing to the problem unnecessary expense.	
Bill and Doreen Atkinson	Atkinson-3	The Plan does not clearly indicate how the 600-foot distance for Low Priority Areas is measured: middle of the river, edge of the river, during high water or low water conditions.	The revised TMDL Action Plan states that the 600-foot distance is the horizontal (map) distances measured from the OWTS and the natural edge or levied bank of the water body. This is consistent with the OWTS Policy.
Bill and Doreen Atkinson	Atkinson-4	I believe the River needs to be looked at holistically and not piecemealed out in sections to various State, County and Federal Agencies, Not dealing with the River from beginning to end overlooks the major problems that will eventual lead to the River's demise, such as low flow, toxins from agriculture, homeless encampment, upstream sewage plants, and the selling off of its water for unchecked development.	Comment noted.

Bill and Doreen Atkinson	Atkinson-5	Regarding Option 1: Quoting from the Board of Supervisors letter, dated October 3, 2015, in the Sonoma County Supervisors agenda packet to you: "Option 1 appears to assume all OWTS are sources of pathogens without data to support that assumption and without regard to the OWTS type, age, soils or distance to a surface water. Regional Board staff have acknowledged in meetings with County staff that an adequate soil profile will remove pathogens. We believe this should be reflected in all options, including this one. We also suggest that further research may uncover that many OWTS categorically are not of concern and can thus be eliminated from the Implementation Plan, making compliance more feasible." I personal fought for the defeated of the Monte Rio Sewer Project which the County put together and find it very ironic that the County is using the same arguments with CRWQCB that we anti-sewer people questioned the County about but were rebuffed. Thank you, county, for finally coming around.	The most recent version of the draft Action Plan requires corrective action only for OWTS within the APMP area that are discharging to the ground surface, that are receiving a greater volume of flow than they are designed to treat and dispose of, or that lack a septic tank and leachfield. Where those conditions are not present, for instance as a result of good OWTS design or advantageous site conditions, it is assumed that the OWTS is functioning as designed and not contributing to the bacterial impairment. Consequently, corrective action will not be required by the Action Plan.
Bill and Doreen Atkinson	Atkinson-6	Regarding Option 2: Connection to a Centralized Wastewater Collection and Treatment System. We've gone down that road already and wasted a lot of time and money with Questa Engineers and County Officials. I'm sure a financial analysis to either connect to Guerneville (for which I would be opposed) or private cluster systems would also be a financial burden on those living in Monte Rio.	Comment noted.

Richard Holmer	Holmer-5	The three options presented for OWTS in the high priority areas do not differentiate between properly functioning OWTS in the target area versus substandard systems. It is inappropriate to target all OWTS as being contributors to the degradation of the Russian River when there are a substantial number of OWTS that have been upgraded in recent years and are in compliance with current local code and the Basin Plan or that meet County standards for an effective replacement of a substandard OWTS.	See previous response to Christian et al-11.
Richard Holmer	Holmer-6	The standards proposed under Option 1 are the most rigorous and expensive standards ever proposed for OWTS in the State of California. The justification for these onerous requirements is poorly documented in the Action Plan. This option simply seems to be an attempt to require the most rigorous standards despite the adequacy of the existing OWTS or the ability to install an adequate replacement OWTS.	Option 1 is no longer included in the draft Action Plan.
Richard Holmer	Holmer-7	The results of the TMDL study simply do not justify the extremely restrictive standards and the costs as proposed under Option 1.	Option 1 is no longer included in the draft Action Plan.

Richard Holmer	Holmer-8	Option 2 requires connection to a centralized wastewater collection and treatment system. In the area where I live, there is no such system. An attempt to install a centralized system in a portion of Monte Rio failed due to excessive costs. The nearest centralized system (Russian River County Sanitation District) does not have adequate capacity for additional connections. Although the provision of a centralized wastewater system is a seemingly simple and obvious solution, the issues of cost and availability of treatment systems need to be thoroughly addressed. To include this option without a thorough assessment of the ability to meet the requirement is not a valid approach.	Option 1 is no longer included in the draft Action Plan. However, voluntary connection to a municipal sanitary sewer system may be an option for some OWTS owners. Additional analysis by the municipal sewer district will be needed to determine the feasibility of this option.
Richard Holmer	Holmer-9	The proposed establishment of high priority areas needs further documentation and resolution of the conflicts between the studies. Given the results of the phylochip analysis, the establishment of stringent standards for high priority areas is simply not justified.	See previous responses regarding the conditions that trigger the need for corrective action. These conditions, when present, increase the likelihood that the OWTS is causing or contributing to exceedances of bacteria water quality objectives or contributing human fecal waste to the Russian River and its tributaries.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-42	RRWPC acknowledges that some septic systems in the watershed might need remediation. We support regulation that includes inspection program that would identify and repair inadequately functioning systems. We also know that there are some low-cost septic repair solutions that may not be fully supported by governmental agencies at this time. We need a full array of choices for resolving these issues in an affordable manner because many local people may not be eligible for financial assistance, or the anticipated assistance may not be forthcoming. We don't think all options have to be put on the table as of this time or have been thus far. We do not need an all-encompassing program that considers every bacteria a threat to human health and the environment. Your proposed approach is far too extreme.	Where an OWTS has been identified by the Regional Water Board as meeting criteria set forth in the APMP when corrective action is required, the OWTS owner must contact and work with the local agency to repair or replace the OWTS so that the corrected OWTS complies with the Action Plan. The local agency may approve alternative OWTS that are consistent with their LAMP and the minimum conditions for major repairs in the Action Plan.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-43	To document noncompliance with the Fecal Waste Discharge Prohibition, it would seem that the Agency would have to establish that fecal matter from a specific septic system is ending up in a waterway. We are concerned, however, that you will assume this is occurring just by virtue of its location, or the size of its lot, or the age of its system, or any similar designation. People on septics want evidence that their tank is failing.	The draft Action Plan establishes the conditions under which OWTS posed an increased threat to water quality (i.e., proximity of OWTS to water bodies, OWTS density, prior evidence of major OWTS failure, hydraulic overloading, prohibited OWTS type) and established a geographic area in which to assess existing OWTS. The draft Action Plan places the burden on the OWTS owner to demonstrate that their OWTS does not meet the minimum requirements for needing corrective action.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-44	We also are concerned about the following on page 5-58, which states: "The source analysis does not estimate the volume of fecal waste entering the Russian River Watershed from any given potential source, nor does it stratify the sources based on order of magnitude. But, the multiple lines of evidence provide an understanding of the locations within the watershed with greatest risk from pathogenic waste, the land uses of most concern, and the point and nonpoint sources deserving further evaluation. For example, with respect to the discharge of human-source fecal waste, the locations of greatest concern are within the Guerneville, Laguna, and Santa Rosa hydrologic subareas. With respect to the discharge of grazer-source fecal waste (livestock), the locations of greatest concern are also the Laguna, Guerneville, and Santa Rosa hydrologic subareas." Please explain the basis for determining greatest areas of concern in this statement. Is Monte Rio included? When you refer to Guerneville as a hydrologic area, what does that include? This needs to be clarified in the text. On page 6-1 it states: "All three indicator bacteria show significantly higher concentrations measured during wet weather compared to dry weather samples. This finding indicates that higher pathogenic indicator bacteria levels are associated with higher flows that are associated with storm events." We could agree that the lower river area receives much of the bacterial contamination from upstream,	Regional Water Board staff's determination of "greatest areas of concern" is based on a synthesis of the data, the so-called multiple lines of evidence, presented in the Source Analysis Chapter of the Staff Report. The State of California's watershed boundaries are defined in the California Interagency Watershed Map of 1999 (Calwater 2.2, updated May 2004). Monte Rio is located in the Guerneville hydrologic subarea. A map of the watershed boundaries can be viewed at: https://www.arcgis.com/home/item.html?id=7a495cfa71ca4616aba58c5e915eef2c .

		with the Santa Rosa area and Laguna being major contributors. (Where are the cows in Guerneville? We had been identified as a "Municipality" on Table 1.4 and then as a source of cow manure bacteria in this section. Is that consistent for a tiny downtown two blocks long?)	
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-45	Please explain the seeming contradiction between the following bulleted findings (summarized from page 5-8 of the 2015 Staff Report): 1. All bacteria have statistically significant higher concentrations in wet periods that dry periods and 2. Runoff from forests had statistically significant lower concentrations of fecal bacteria than other categories.	The bullets in the commenter's letter are inaccurately summarized from the first paragraph of section 5.2.2 (Results) of the 2015 Staff Report. The commenter's first bullet refers to bacteria concentrations in wet periods and the second bullet refers to bacteria concentrations based on land cover categories. The bullets are not related.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-46	What is the value of this information when the goal of this TMDL is to protect REC-1, which is summer water contact recreation, especially if you can't always differentiate between pathogens from Guerneville and those from upstream? (During cold water conditions, Bacteroides can last up to a week. How far can the water travel in that time? Saying that it is an indicator for bacteria nearby is not necessarily always the case under winter conditions.)	The correlation between high concentrations of E. coli, enterococci, and Bacteroides bacteria measured in TMDL monitoring studies and wet weather and high flow events associated with storm events is important and it supports the hypothesis that runoff mobilizes bacteria from land-based sources and facilitates the migration of these bacteria to surface waters. It is also likely true that it is difficult to isolate indicator bacteria measured in surface water during high flows and determine the location of origin of that indicator bacteria and the time at which it was released, and the monitoring plan in this TMDL did not attempt to make that assessment. It is speculative to suggest, in the absence of supporting evidence, that the fecal indicator bacteria detected in

			Guerneville, for example, is from a distant upstream source.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-47	The coliform sources are measured at a time when few sane people would recreate anywhere near the sample points mentioned in these comments. As far as Guerneville is concerned, if you are mixing winter and summer data, of course you will see high estimates of pathogens in our area. Everyone knows the river is a dangerous mess in winter during high flows. Your data and its analysis do not appear adequate to make the conclusions you express in this document.	Regional Water Board must protect all beneficial uses, including REC-1, at all times.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-48	As you have no idea how much pathogenic bacteria is coming from sewered vs. unsewered areas, the only way you can make this work is to declare zero tolerance for all bacteria, and then require extremely expensive remedies for all properties in a low-income community. While you are telling the community this will not happen, your document says otherwise.	Regional Water Board staff is endeavoring to make the APMP requirements fair, affordable, and implementable, while at the same time, meeting the objectives for the TMDL, which is to return the Russian River and its tributaries to consistent compliance with bacterial water quality objectives.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-49	The emphasis of the TMDL Action Plan is on septic, but you claim just as much bacteria is coming from sewered areas. So, what is the plan for assessing and dealing with that?	Table 1 of the draft Action Plan describes implementation actions for all identified sources of fecal waste discharges. Areas severed by municipal sanitary sewer systems are currently regulated under the statewide General Order for Sanitary Sewer Systems and under MS4 permits that have requirements to minimize discharges of human and domestic fecal waste to surface waters.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-50	In terms of parcel density as a factor in pathogen source, we noted no clear definition in this report of how that contributes to the problem. In the Guerneville area, most of the parcels within half a mile from the river are sub-standard lots, about 5000 square feet. That part of the community can be considered 'dense', but we are paying large amounts for sewer; yet now you say we are polluting also. Rather quickly however, as parcels move away from the river, they get larger and more in keeping with rural lot sizes. Or in other cases, the mountains intrude, and parcels get larger where development has occurred, or there is no development at all on very steep slopes. Starrett Hill in Monte Rio is the major exception and may be a significant cause of more frequent exceedances in the Monte Rio area. This Action Plan doesn't really describe/define the land use nature of our area, which is dictated by the natural landscape, nor how it might affect the prospect of the movement of bacteria through our environment. It was of great concern to the community that staff was so resistant to defining high priority areas of concern.	See previous responses regarding the conditions that trigger the need for corrective action. These conditions, when present, increase the likelihood that the OWTS is causing or contributing to exceedances of bacteria water quality objectives or contributing human fecal waste to the Russian River and its tributaries.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-51	If sewered areas also have a lot of bacterial pollution, then what portion of the problem can be attributed to Sanitary Sewer Overflows (SSOs)? Aren't there records of SSO's? Shouldn't that information appear in this document?	Section 6 (Source Analysis) of the 2015 Staff Report includes a discussion of SSOs. Table 6.3 lists the number of SSOs for each hydrologic subarea and the responsible agency. Details of all SSOs that have been reported since 2007 can be found in the state's SSO database by accessing the California Integrated Water Quality System (CIWQS) at: https://ciwqs.waterboards.ca.gov/ciwqs/index.jsp. Regional Water Board staff is not aware of a method to determine the percentage of contribution of fecal waste material attributed by each source. Instead, Regional Water Board staff have concluded, based on monitoring data and other evidence, that the sources described in the Staff Report are contributing pathogens as a source type and must comply with existing waste discharge requirements or new requirements, as appropriate, to comply with TMDL implementation actions.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-52	In the section on municipal wastewater discharges to surface waters it says, "When a disinfection system operates properly and attains the effluent limitations, direct discharges of treated wastewater to surface waters will also attain E. coli and enterococci bacteria waste load allocations." On page 5-17, in regards to bacterial regrowth in ponds, it states, "…the same recycled water, when stored in open-air holding ponds, may become contaminated as a result of regrowth of bacteria or through contribution of fecal waste from wildlife, particularly birds that frequent the storage ponds. Thus, the original bacterial water quality of the recycled water demonstrated immediately after disinfection cannot be guaranteed during storage." On page 5-19, also on treated wastewater holding ponds, it states, "…wastewater from recycled water holding ponds may contain E. coli and in concentrations above the TMDL targets." We remind you that hook up to a central treatment system was a promoted remedy for septic owners in Guerneville to prevent pathogens from getting into the river and affecting the health of Rec-1 users.	The Action Plan establishes a wasteload allocation for discharges of treated wastewater from storage ponds to surface waters. Operators of municipal wastewater treatment plants that propose to discharge treated wastewater in this manner must treat their effluent to achieve the wasteload allocations. A properly designed and operated wastewater disinfection system will consistently reduce wastewater pathogens to levels that will meet the wasteload allocations.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-53	The City of Santa Rosa has huge recycled water storage and their treated wastewater goes to Rohnert Park and Santa Rosa for irrigation reuse. In light of all the irrigation runoff, with no one testing for bacteria at the site of application (Does regrowth occur in pipelines as well?), isn't it probable that this wastewater gets into Laguna and Russian River as well? It has never been measured, so we have no idea of how much ends up there at a time when flows are very low, and impacts are biomagnified.	Typically, bacterial regrown occurs in the presence of sunlight, which will not be found in pipelines. Consequently, regrowth of wastewater-borne bacteria is not expected in irrigation pipelines. Based on reports from recycled water users in the Russian River Watershed, it is probable that treated wastewater destined for recycled water uses reaches surface waters. However, the volume discharged via runoff is considered by the Regional Water Board to be small and controllable through implementation of best management practices set forth in a Recycled Water BMP Plan. The Action Plan requires entities that beneficially reuse treated wastewater by irrigation develop and implement Recycled Water BMP Plans.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-54	On page 5-49 the Action Plan states: "Municipal wastewater disposed through surface irrigation from facilities that are operating properly and whose discharge conforms to conditions prescribed in waste discharge requirements is not expected to cause bacterial contamination of groundwater or surface waters." Obviously, this does not consider the regrowth of bacteria in the holding ponds since that is not monitored, a clear contradiction.	There is no contradiction. Treated wastewater beneficially used as recycled water, whether or not it has been stored in holding ponds, is prohibited from being discharged to surface waters. What volume of irrigated recycled wastewater that does reach surface water is small and controllable through implementation of a Recycled Water BMP Plan. Irrigation runoff that reaches surface water that is not incidental is subject to enforcement action by the Regional Water Board. Irrigation of tertiary treated wastewater at rates expected to meet an agronomic rate for nitrogen does not pose a threat to groundwater quality.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-55	The TMDL Staff Report asserts that Guerneville is a contributor of septage waste. (for example, on page 5-58); however, Guerneville has been on a tertiary sewer with advanced disinfection (for which we paid millions of dollars extra) so couldn't be a source	As expressed, for example, on page 5-58 of the 2015 Staff Report, there are multiple lines of evidence that human-source fecal waste is present in surface within the Guerneville hydrologic subarea, which includes the town of Guerneville. There are many potential sources, as described in Chapter 5 of the 2015 Staff Report (Chapter 6 in the revised Staff Report). Because the Guerneville WWTP has a storage pond for treated wastewater discharges to surface water, there is a potential for regrowth of bacterial pathogens in the storage pond and discharge of pathogens to the Russian River.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-56	On Page 9-17 you place previously designated high priority areas under a heading entitled "Low Priority Areas include:" and then it goes on, "Areas with a high density of OWTS in the middle and upper Russian River Watershed. This appears to be a mistake.	Subsequent drafts of the Action Plan do not identify affected communities specifically; instead, the APMP geographic area is defined as the area defined by parcels within 600 linear feet on either side of the centerline of blueline streams depicted on the USGS 1:100,000 scale topographic map and parcels that are within 200 feet of the centerline of waterways derived using the Sonoma County LIDAR database.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-57	While issues other than septics are addressed in this document, nevertheless, the amount of space devoted to OWTS issues compared to other sources indicates that the main attention is on lower river septics as a cause of most problems.	Requirements of the statewide OWTS Policy requires the development and implementation of an Advanced Protection Management Program (APMP) for OWTS near impaired water bodies. The APMP must include requirements for OWTS to improve the condition of impairment. Because the TMDL Action Plan sets forth the detailed APMP requirements, a relatively large portion of the Action Plan is dedicated to OWTS compared to other fecal waste sources. There is no evidence that OWTS in the lower Russian River are the primary cause of the impairment.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-58	Regarding the Action Plan for OWTS, in light of the potentially cataclysmic impacts this Plan will have on individuals affected by it, we wonder why the Regional Board didn't find it a lot easier to just implement AB 885, the likely driver of this effort. (We have seen no effort to describe AB 885. How would this plan differ? Is it far more stringent?)	Assembly Bill 885 (AB 885) was the bill signed into law in 2000 by then-Governor Grey Davis and incorporated into the California Water Code. The law resulted in the State Water Board's development and adoption of the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems. This policy is also known as the OWTS Policy. Assuming that by "just implement(ing) AB 885," the commenter means implementing Tier 3 (Section 10) of the OWTS Policy, Regional Water Board staff followed the requirements of the OWTS Policy be developing an APMP that describes the requirements needed for existing, new, and replacement OWTS to improve the condition of impairment. Another alternative, would have been for Regional Water Board staff to apply the prescriptive Tier 3 requirements of all OWTS within 600 feet of every water body within a defined APMP geographic area. Regional Water Board staff has not done a detailed comparison between the Policy's default APMP and that proposed in the TMDL Action Plan.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-59	It would be helpful to compare new requirements to what is currently enforced. Are requirements listed on pages 9-17 through 9-22 all new? According to County comments, what formerly applied to new and improved and/or expanded properties, now applies to all. What is being set up could result in a regulatory nightmare, and it is no wonder your agency is looking for some other agency to implement the new rules.	The requirements for OWTS described on pages 9-17 through 9-22 of the draft 2015 Staff Report are largely consistent with the requirements in Tier 3 of the OWTS Policy. The revised Action Plan contains many conditions that are consistent with Sonoma County's draft OWTS Manual.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-60	The project alternatives for OWTS seem somewhat limited in that they require the involvement of large institutional changes. The 'No Project Alternative' would require NO changes. We wonder if there is something in-between that is not nearly as onerous as those proposed. What about a septic inspection program for anyone selling or upgrading their house? This could also apply to a complaint program when neighbors report problems. There can be categories of properties that could be made subject to such a program without involving everyone. People who have received permits in the last ten years could be exempt, etc. There could also be a list of many affordable devices and services to repair septics at affordable prices. I see advertisements and hear stories about numerous technologies that address problems. I know the Monte Rio Task Force researched this possibility and came up with many suggestions in their White Paper.	The revised Action Plan no longer includes the options described in the 2015 Staff Report and Action Plan. Regional Water Board staff has been receiving public comments on the draft requirements for OWTS and is endeavoring to make the APMP requirements fair, affordable, and implementable, while at the same time, meeting the objectives for the TMDL, which is to return the Russian River and its tributaries to consistent compliance with bacterial water quality objectives.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-61	This document considers sewered and unsewered areas as equally problematic in terms of contributing bacteria to the river. Until recently, your agency had strongly advocated centralized sewer systems as the solution to supposedly failing septic systems. What is the basis for claiming that excessive bacteria are released by the Russian River County Sanitation District (RRCSD)?	The Russian River CSD operations a large municipal wastewater collection, treatment, and disposal system. It's activities, such as operating of a sanitary sewer system, a wastewater/recycled water holding pond, and an effluent irrigation system, have been identified as activities that a probable sources of fecal waste discharges to surface waters. Chapter 6 (Source Analysis) of the revised TMDL Staff Report describes these activities and the reasons why they are considered sources of fecal waste discharges.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-62	Have problems been documented with system hardware and/or private property connections that promote contamination? If so, what has been or will be done about addressing problems caused by private laterals? If it is an equivalent to septic systems in terms bacterial contamination, why are you recommending hookup to a centralized sewer system as an option to deal with septic system failures?	Spills from private service laterals and recommendations to address this source are addressed in Source Analysis Chapter 6 (section 6.3.1.3) and Chapter 9 (section 9.2.6) of the revised TMDL Staff Report.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-63	The TMDL Staff Report provides evidence that forested areas contribute the least amount of bacterial contamination. Yet nowhere did I see credit given to the extensive forests of the lower river for preventing bacterial pollution in our river. We have some of the highest trees in the nation in our back yard, yet they receive no credit for drinking up much of the used and unused water in our area (and therefore bacteria with it). Before the sewer, people used to crack jokes about the flourishing plants on and near their septic systems.	Regional Water Board staff is not aware of any peer-reviewed studies that demonstrate the efficacy of disposal of septic system effluent through uptake by trees.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-64	Why can't priorities be established that consider the type and condition of septic system, slope, soil type, lot size, tree cover, and other appropriate conditions for prioritization for repair and/or replacement of OWTS?	Section B.1.3.1.3 of the revised Action Plan sets forth an OWTS Assessment Program to identify OWTS that are failing or substandard. Under this revised approach, corrective actions to implement the TMDL will focus on failing OWTS, OWTS prohibited by the OWTS Policy (such as, cesspools), and OWTS that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries.
Brenda Adelman (Russian River Watershed	RRWPC-65	In addition to absorbing wastewater from OWTS, trees provide protection against ozone depletion.	Comment noted.

Protection Committee)			
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-66	If many septic replacements have to go in, there is a strong possibility that many trees will be damaged and possibly destroyed as a result. They can weaken and fall on houses (I had a tree destroy the house next door to me and another one destroyed a house two doors down; believe me, you don't want this experience! The 180' Douglas Fir missed my house by two feet.) In fact, when the Guerneville sewer went in, a Doug Fir right in front of my house on the street had to be taken out because of root damage; this happened to many trees in the area. One more thing, it takes about $6000 to take out a 180' tree, unless it's behind the house, and then it costs more.)	Comment noted. The Staff Report analysis cannot feasibly include all site-specific factors that may factor into individual septic system replacement costs. The economic analysis in Chapter 12 provides an estimated cost range for septic replacement that reasonably accounts for the majority of systems that require replacement. The fact that tree removal could increase costs for site preparation in advance of OWTS replacement was added to the Chapter 12 (Economic Considerations) of the Staff Report.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-67	It appears as though your agency is trying to conquer the whole universe of bacteria in the Russian River watershed through your evidence using Bacteroides. By using this means to demonstrate a pollution problem, your standard is higher and broader than for almost any other pollutant. This Action Plan has massive proportions in that regard, and it allows you to define almost any human activity near a Russian River tributary as a source of bacteria and needing of correction. This is especially problematic since no epidemiological studies have been provided to prove a connection between Bacteroides and human health.	Bacteroides is just one line of evidence used in this TMDL to support the evidence of impairment and identify sources of fecal pathogens in surface waters in the Russian River Watershed. Each indicator type has its advantages and disadvantages, but taken together, paint a picture that fecal waste in surface waters from humans and domestic animals is widespread. The Action Plan the Fecal Waste Discharge Prohibition, established a plan to control these controllable sources, so that bacteria water quality objectives are achieved at all times of the year.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-68	By forcing this standard that is all encompassing, you will use all your resources addressing it, leaving little for other, more serious problems, such as nutrients and toxic algae, which is becoming more of a problem every year.	Regional Water Board staff does not agree that implementing the Action Plan for the Russian River Watershed Pathogen TMDL will result in other water quality problems being left unaddressed. In fact, the increased monitoring associated with Action Plan implementation will likely result in increased attention to Russian River water quality and earlier identification of problems such as excessive biostimulation and toxic algae.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-69	In no other regulatory action have we seen your agency work within such a narrow scope; for example, the definition of 'incidental' in regard to wastewater runoff. After many years of documenting runoff, we are still seeing it happen (and releasing bacteria into the environment when it does.). This document acknowledges the problem, and it appears some effort will be made to correct it, but requirements based on BMPs are still far looser than the six pages of detailed requirements for meeting new septic rules.	The requirements for OWTS focus on failing OWTS, OWTS prohibited by the OWTS Policy (such as, cesspools), and OWTS that by their design or operation are likely contributing pathogens and other pollutants to the Russian River or its tributaries. These conditions, particularly in older communities, are generally as a result of poor OWTS siting and design, rather than an issue of OWTS management. In contrast, recycled water BMPs, or best management practices, rely on management practices of engineered systems to protect water quality. For these engineered systems, poor siting and poor design are not part of an approved system.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-70	This Action Plan has found that there is some bacterial regrowth in ponds from which irrigation water comes. Can you provide numbers as to the amount? How will this be tracked? Also, why is it not considered in regard to summer landscape irrigation in urban areas, especially since many public parks and schools are irrigated. Very little, if anything is said about opportunities for illness, especially for children, when they come in contact with a wet park lawn or playing field.	Figure 6.7 of the revised Action Plan provides concentrations of *E. coli* from a recycled water holding pond for the Town of Windsor, the only holding pond for which the Regional Water Board has monitoring data from the holding pond discharge. The source of *E. coli* in the Town's holding pond is not known. An analysis to determine the risk of use of recycle water from holding ponds is beyond the scope of the Russian River Watershed Pathogen TMDL.

		It seems as though some analysis is needed on this issue.	
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-71	On P. 5-19, it states that the "…wastewater from recycled water holding ponds may contain E coli and in concentrations above TMDL targets" (WHAT DOES THIS SAY ABOUT LANDSCAPE IRRIGATION PROGRAM?). Text states it may not be a problem because it may not have a human source, BUT WHAT ARE OPPORTUNITIES FOR HUMANS TO BE EXPOSED TO DISEASE FROM OTHER CREATURES?	Regarding the health risk from physical contact with recycled water use for landscape irrigation, see response to Adelman-30. As discussed in Chapter 3 of the TMDL Staff Report. Fecal waste material from wildlife has the potential to cause disease in humans. However, fecal waste input from wildlife is generally considered to be an uncontrollable source.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-72	In Table 5.4 on P. 5-23 regarding SSOs over 1,000 gallons: The chart indicates SSO totals over an entire 7-year period for SSOs, so it looks far worse than it is. Also, you show the entire watershed, so the total numbers look very large. But if you just take lower river SSOs that reach water, and divide each number by 7, you get 10 gallons for Forestville per year, 27 gallons for Graton, 31 for Occidental, and 100 for RRCSD. Now I think we can call those 'incidental' SSOs.	In section 6.3.1.3 of the Staff Report, Regional Water Board staff concludes that SSOs from municipal sanitary sewer systems are probably not a large contributor to the pathogen impairment because the volume of SSOs per mile of municipal sewer line is low compared to other municipalities around the state.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-73	The whole of section 5.4.4 (Recycled Water Irrigation from Landscape Irrigation) is untrue and not based on any real numbers. I did a whole analysis during Santa Rosa's permit review in Dec. 2012 and attach documents to this submission. I have provided many photos to the Board staff over the years of wastewater over spray and little has been done that I am aware of.	Section 5.4.4 of the draft 2015 Staff Report (section 6.4.3 in the revised Staff Report) states that spills of recycled water do occur, that they are unintentional, that most spills are low volume, and that they are likely a low contributor to the pathogen impairment because the recycled water has been disinfected and used in accordance with requirements for recycled water in title of the California Code of Regulations. It also states that larger spills do also occur but are infrequent and unintentional. Photographs of individual instances of recycled water overspray and what the commenter describes as a lack of response does not refute these statements.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-74	Pets seem to be a very large contributor of bacteria to the environment. Some cities have reported that these are the largest source of fecal contamination. While they assume that pet waste is a source of bacteria in watershed, there was no attempt to quantify it. Rather one is left to conclude that some part of the source attributed to septics might be from pets.	Regional Water Board staff does not have enough information to quantify the contribution of bacteria from household pets and this is reflected in the Staff Report. Although there are some recent studies that there is some microbial connection between humans and their pets, the TMDL monitoring program did not attempt to distinguish between the genetic markers of human and household pets.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-75	Bovine fecal matter often stored in lagoons that can hold millions of gallons of liquid manure and can break, leak, spill, or fail. Linings can crack and allow seepage into groundwater. Pipes and hoses connected can fail and leak. When applied to fields, runoff can occur. After 2012, dairies must be outside the 100-year flood plain. Most of the worst sites are in the Laguna watershed. (E coli was 880 MPN/100 mL rather than 100 and Enterococcus were 1,556 instead of target of 30 MPN/100mL) Why are dairy cows still allowed in Laguna, or are they? Also, it would be helpful to quantify how much of this fecal matter ends up in the watershed.	As described in the Action Plan, owners of dairies in the Russian River Watershed are regulated under waste discharge requirements or conditional waivers of waste discharge requirements. Both waste discharge requirements and waivers prohibit discharges of wastewater from dairy production areas. Because manure in pasture area, both from spray irrigation and from the animals, can reach surface waters, the TMDL Action Plan requires dairy owners to update their waste management plans to address these potential bacteria inputs. Among Regional Water Board staff's recommendations are to exclude animals' direct access to surface waters and to establish vegetated buffers to prevent the migration of fecal waste to surface waters. Implementation of a surface water monitoring plan by the dairy would help provide feedback about the success of best management practices employed by the dairy operators.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-76	Table 5.10 on P-5-49 lists Oakmont Treatment Plant, which no longer exists. Need to update table.	This table has been updated.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-77	On P. 5-49, it states that municipal wastewater is treated adequately and is not expected to be a source of bacteria, but earlier had acknowledged that some regrowth occurs in ponds, so unless bacteria are monitored at point of discharge, you really don't know what pathogens are being released. You make assumptions when convenient for your argument, but don't allow others to do the same. Furthermore, this section admits that testing of wastewater applied to land has not been tested, and needs to be, so no conclusions can be drawn until that is studied.	The text on page 5-49 of the draft 2015 Staff Report states that the recycled water discharges to land, when used in conformance to waste discharge requirements, are not expected to be a source of bacterial contamination of groundwater or surface water. This is because the recycled water, which may contain bacteria from incomplete disinfection or regrown during storage, will receive further treatment in the soil column during percolation to groundwater. Runoff of recycled water to surface water is prevented by managing application rates and establishing and maintaining appropriate setbacks. The direct discharge of recycled water to surface water is prohibited, except for runoff that qualifies as incidental.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-78	Biosolids/ also needs more study/ general waste discharge requirements adopted by state board. Biosolids only used by SR in Laguna. Should that be allowed?	The City of Santa Rosa applied for and obtained coverage under the statewide general permit for land application of biosolids. The Biosolids General Permit includes prohibitions and discharge specifications to prevent the migration of biosolids and the pathogens contained therein to surface waters. The Action Plan requires that entities that land apply biosolids in the Russian River Watershed comply with the statewide general order for land application of biosolids or other applicable waste discharge requirements.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-79	At the bottom of p. 9-2, it states: "When a disinfection system operates properly and attains the effluent limitations, direct discharges of treated wastewater to surface waters will also attain E coli and enterococci bacteria wasteload allocations." Yet nothing is said here about the need to study bacteria levels in holding ponds from which the discharges are made. This may be another example of saying what is convenient but causing a lack of internal consistency within this document.	There is no contradiction. The text in section 9.2.1 of the Staff Report states that a properly functioning disinfection system, meeting tertiary treatment effluent limitations for bacteria and discharging directly to surface water will also meet the WLAs at the point of compliance with effluent limitations for bacteria, which is typically immediately after the completion of the disinfection system. When the same disinfected effluent is held for days in an uncovered holding pond, exposed to conditions to conditions that facilitate bacterial regrown and contamination by wildlife, *E. coli* and enterococci bacteria may be present in concentrations that cause or contribute to an exceedance of the WLAs.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-80	How come RRCSD left off list of dischargers on P. 9-2? What about Windsor and Forestville and Graton? Does this imply that RRCSD is totally in compliance and others are not? Santa Rosa is out of compliance and Healdsburg? I thought they had state of the art facilities. RRWPC advocated monitoring for bacteria at point of discharge for many years. So glad it is finally happening.	The Russian River CSD was inadvertently omitted from the list in the draft 2015 Staff Report of wastewater treatment facilities directly discharging to surface waters within the Russian River Watershed. The omission was corrected in subsequent drafts of the Staff Report.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-81	Sanitary sewer systems item on page 9-5 lists all members of Subregional system but Rohnert Park (includes Sebastopol and Cotati). Why is Rohnert Park excluded?	The City of Rohnert Park was inadvertently omitted from the list in the draft 2015 Staff Report of entities operating sanitary sewer systems within the Russian River Watershed. The omission was corrected in subsequent drafts of the Staff Report.

Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-82	On pages 9-11 and 9-12: Why is Santa Rosa, Rohnert Park, Windsor and Healdsburg not on list of those who dispose wastewater through irrigation? If there is some reason for eliminating those entities, please give reason. So far, in my reading of this document, I have seen no mention of meeting agronomic rates for irrigation or any specific directions for doing so. Did I miss something or did you?	Because the cities of Santa Rosa, Rohnert Park, and Healdsburg and the Town of Windsor beneficially reuse treated effluent through approved water recycling programs, their programs fall under the "Recycled Water Irrigation Runoff" bacteria source category, rather than the category of the category "Percolation Pond and Irrigation Discharges."
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-83	On Page 9-18: Why is connection to a POTW an option when they have been identified as contributing similar levels of excessive pathogens as OWTS?	Publicly owned treatment works (POTWs) are regulated under waste discharge requirements that include water quality-based effluent limitations and other requirements to ensure compliance with water quality objectives for bacteria. The Action Plan establishes TMDL compliance actions and dates for discharges from POTWs that may not comply with the bacteria WLAs.
Brenda Adelman (Russian River Watershed Protection Committee)	RRWPC-84	Regarding the timeline for BLRPs on page 9-28: This really sounds like pie in the sky when in reality you will be dealing with other agencies that have their own timelines and priorities. This is bound to meet with strong resistance as you may have found already from the County's comments on this document. You sounded very laid back at community meetings about the timing of priorities, yet this document gives another impression. To me it sounds almost dictatorial.	**S**ection 9.3 (Bacteria Load Reduction Plans) of the draft 2015 Staff Report was removed from subsequent draft of the Staff Report.

Bob Legge (Russian RiverKeeper)	RRK-9	Based on all the data, we do not see adequate support to pin the only hard requirements on OWTS as we see summer contributions from homeless camps, pet waste, MS4's, leaking sewer collection systems, livestock operations but no requirements placed on those sources. This does not follow the best available science and is unfair to subject one source category, OWTS owners in high priority areas to requirements while not placing requirements on other sources of discharges of indicator bacteria.	See response to Adelman-17 and Adelman-29 for an explanation why the TMDL implementation requirements for OWTS appear more extensive and detailed than other sources. For many of the other fecal waste source categories, the implementing parties are already regulated under waste discharge requirements or conditional waivers of waste discharge requirements. It is expected that an implementing party's compliance with requirements will ensure achievement of the WLAs. Where the existing discharge requirements are insufficient to ensure consistent compliance with the WLAs, additional requirements are set forth in the TMDL Action Plan. As explained in the Staff Report, nonpoint sources are by their nature more difficult to control and may require an alternative to prescriptive permit requirements.
Bob Legge (Russian RiverKeeper)	RRK-10	In section 9.1, Page 9-1, it states that "*Sources of domestic animal and farm animal waste identified in this TMDL project include*:" What was the reason agricultural operations involving manure applications were not assessed as possible sources of discharges? Or large composting operations as they can provide food for birds and mammals resulting in bacteria loading from these sources. We have submitted data to the Board staff in the past showing that bacteria exceedances occur at the edge of manure spray fields and in receiving waters.	It is Regional Water Board staff's intent that agricultural operations involving manure applications are among the potential sources of animal waste and whose discharge to surfaces waters is prohibited by the Fecal Waste Discharge Prohibition.

Bob Legge (Russian RiverKeeper)	RRK-11	RRK recommends Staff consider introducing into "Chapter 9, Implementation Actions" Best Management Practices (BMPs) that are focused on minimizing/preventing sediment and nutrient loading in conjunction with bacteria reductions. Refer to the comment we made regarding "Staff Report for the Proposed WQO Update Amendment" on page 1 of this document.	In many cases, implementation of management practices that control the discharges of wastes containing human and domestic animal pathogen to surface waters will also result in reductions in nutrient loading. To the extent that pathogens are entrained in sediment and/or otherwise associated with sediment transport, management of sediment delivery to surfaces waters will also reduce delivery of pathogens to the surface waterbody.
Bob Legge (Russian RiverKeeper)	RRK-12	In Section 9.2.1 (Municipal Wastewater Discharges to Surface Waters), Page 9-2: R1 Staff lists four municipal wastewater treatment facilities in the Russian River Watershed that collect, treat, and discharge fully treated effluent directly to the Russian River or its tributaries. This is incorrect. Town of Windsor needs to be listed here and the number four changed to five.	According to the NPDES permit for the Town of Windsor (Order No. R1-2013-0042), all treated wastewater from the Town of Windsor's wastewater treatment facility is stored in an effluent holding pond before discharge to the water reclamation system or to Mark West Creek.
Bob Legge (Russian RiverKeeper)	RRK-13	RRK strongly believes and expects that ALL sectors responsible for WLAs and LAs have affirmative, enforceable actions placed upon them in the event they fail to meet the discharge prohibitions in this soon to be promulgated Russian River Pathogen TMDL.	Responsible parties not meeting their respective WLAs and LAs that have been incorporated into permits or other Regional Board Orders may be subject to progressive enforcement actions. Discharge prohibitions that are adopted into the Basin Plan are independently enforceable of permitted limits, and may be enforced through issuance of a cleanup and abatement order, cease and desist order, or administrative civil liability

Bob Legge (Russian RiverKeeper)	RRK-14	In Table 9.1 of the Staff Report, for Sanitary Sewer Systems, RRK recommends you replace "Further Minimize" with "Prevent."	Table 9.1 of the draft 2015 Staff Report was revised in a subsequent draft of the Staff Report and no longer includes the text in the 2015 draft. The Action Plan now requires that operators of municipal sanitary sewer systems comply with requirement of the statewide General Order for Sanitary Sewer Systems. This General Order contains requirements that express the need to prevent, rather than minimize, SSOs.
Bob Legge (Russian RiverKeeper)	RRK-15	In Table 9.1 of the Staff Report, for Land Application of Treated Municipal Sewage Sludge (Biosolids), RRK asks whether NPS discharges from application areas are ever monitored? If not, the Implementation Plan should require these dischargers to assess the potential for contributing to Bacteria LAs by sampling for indicators.	See response to RRWPC-78.
Bob Legge (Russian RiverKeeper)	RRK-16	Regarding the timetable to submit a BLRP in Table 9-1 for Recreational Water Use: RRK objects that submission of a BLRP is ineffective. The TMDL should ensure each recreation beach throughout the Russian River Watershed has restrooms facilities during the high visitor season – SUMMER 2016 – and do BLRP on side.	Section 9.3 (Bacteria Load Reduction Plans) of the draft 2015 Staff Report was removed from subsequent draft of the Staff Report. For the "Recreational Water Uses and Users" and "Homeless Encampments" source categories, the TMDL Action Plan now indicates that the Regional Water Board and the Counties of Sonoma and Mendocino will work cooperatively to address the water quality impacts from this source category. The installation of restroom facilities along the mainstem Russian River is being considered as a feasible implementation action for both source categories. Also, see response to OFRC-11 for details regarding the MOU between the Regional Water Board and the County of Sonoma.

Bob Legge (Russian RiverKeeper)	RRK-17	Regarding the timetable to submit a BLRP in Table 9-1 for Homeless Encampments: RRK objects that submission of a BLRP is ineffective. The responsible parties should commit to cleaning a certain number of camps NOW while working on BLRP and establish funding to support local efforts. State cleanup funds can only be accessed by local governments and they are the hurdle to NGO's getting more funding, so they need a stick at their back to take action.	See response to RRK-16.
Bob Legge (Russian RiverKeeper)	RRK-18	Regarding the timetable to submit a BLRP in Table 9-1 for Urban Runoff: RRK objects that submission of a BLRP is ineffective. Failure to address near term issue with planning that might never result in implementation. We expect action prior to year 3, this is not a new problem. We know Urban runoff is massive source.	Section 9.3 (Bacteria Load Reduction Plans) of the draft 2015 Staff Report was removed from subsequent draft of the Staff Report. For the "Urban Runoff" source category, the Action Plan now requires MS4 enrollees to develop and/or implement a Pathogen Reduction Plan as an enforceable requirement in their Phase I and Phase II MS4 permits. Current Phase I MS4 enrollees are already implementing Pathogen Reduction Plans. Phase II MS4 enrollees must develop and implement Pathogen Reduction Plans within two years after the effective date of the Action Plan.
Bob Legge (Russian RiverKeeper)	RRK-19	Regarding implementation action on Page 9-8 for Non-dairy Livestock and Farm Animal Waste: The requirement to properly contain and dispose of waste must be required; stream access for livestock must be prohibited.	The Action Plan was revised to require owners and operators of animal facilities to implement BMPs to properly maintain and disposal of waste within two years after the effective date of the Action Plan, or submit a report of waste discharge to the Regional Water Board for possible establishment of waste discharge requirements.
Bob Legge (Russian RiverKeeper)	RRK-20	There needs to be effectiveness monitoring of BMPs – spray fields just move bacteria around – dispersal, not treatment going on!	See response to RRWPC-75.

Bob Legge (Russian RiverKeeper)	RRK-21	Adopt pet waste ordinance and start enforcing – 6 months.	Local ordinances are established at the local regulatory level and beyond the scope of the TMDL and the outside the authority of the Regional Water Board.
Bob Legge (Russian RiverKeeper)	RRK-22	Create licensing program and abatement program to move all feral cat colonies away from urban creeks.	Local programs are established at the local regulatory level and beyond the scope of the TMDL and the outside the authority of the Regional Water Board.
Bob Legge (Russian RiverKeeper)	RRK-23	There is wide interest in keeping fecal waste out of the river, but, this proposed program has generated a lot of fear.	Regional Water Board staff is endeavoring to make the APMP requirements fair, affordable, and implementable, while at the same time, meeting the objectives for the TMDL, which is to return the Russian River and its tributaries to consistent compliance with bacterial water quality objectives.