

**RESPONSES TO COMMENTS ON THE DRAFT
BASIN PLAN AMENDMENT TO PROHIBIT SEPTIC TANK DISCHARGES
IN THE TOWN OF YUCCA VALLEY**

Written comments on the Draft Prohibition of Septic Tank Discharges in the Town of Yucca Valley are reproduced in a separate companion document, in which the following coding system is used:

Comment letters are coded by letters, with each issue raised in the comment letter assigned a number (e.g., Comment Letter A, comment 1: A-1).

Where changes to the Draft Prohibition or Staff Report text result from responding to comments, those changes are included in the response and demarcated with revision marks (underline for new text, ~~strike-out~~ for deleted text). Commenter-initiated text revisions to the Draft Prohibition and minor Regional Water Board staff-initiated changes are also provided.

The Shatin Heights Home Owners Association distributed form letters to property owners and asked them to submit these letters to the Regional Water Board during the comment period. Where there were no substantive changes to the comments contained in the form letter, the responses have been combined (see letters D-H & L).

LETTER A, Dan Cain – Yucca Valley Citizen

**Comment A-1: “I have the following questions regarding the proposed prohibition of septic tanks in Yucca Valley. It is my understanding that the cost per home will be approximately \$10,000.
1) Does this include connection fees?”**

Response: The California Water Code prohibits the Regional Water Board from mandating the manner of compliance with the proposed prohibition. Similarly, the Board has no authority on how the Hi-Desert Water District (HDWD) and the Town of Yucca Valley choose to assess fees.

Water Board staff are uncertain how the amount of “\$10,000 per house” was derived. Generally, the cost per home is dependent upon several variables including grant money received by HDWD, interest rates for money borrowed, treatment technology selected by HDWD, and construction costs when the project is finally undertaken.

Comment A-2: **The commenter inquires about: “2) sewer use fees?”**

Response: See response to A-1 above.

Comment A-3: **“3) Who is responsible for the cost of extending the sewer line to the street?”**

Response: Under the scenario for sewer construction proposed by HDWD, the property owner is responsible for those costs.

Comment A-4: **“4) What happens when the septic tank is in the rear of the house and a new lateral has to be run to the street, normally a long distance? What keeps the solids from settling out before they get to the street? Or will solids management be the responsibility of the home owner and the new laterals to the street will only carry secondary effluent?”**

Response: The draft prohibition requires homeowners to terminate wastewater discharges from septic tanks by specific dates, depending upon which sewer system phase the property in question resides, or when sewer service becomes available, whichever occurs first. Sewer service is defined as being “available” when the sewer is operational, and is located within 500 lineal feet of an existing or proposed disposal system discharge. Solids management is the responsibility of the property owner and HDWD.

Comment A-5: **“5) Who pays for the abandonment of the septic tank?”**

Response: Generally, property owners are responsible for costs associated with the abandonment of septic tanks on their property.

Comment A-6: **“6) We just installed a new septic tank. When would we have to connect to the sewer system, or can we wait until the tank fails?”**

Response: Please see response to A-4 above. The age of the septic tank and whether the tank is currently working as designed are not relevant for purposes of whether you would need to comply with the septic tank prohibition.

Response A-7: “We are also concerned about the real estate market for Yucca Valley with these high costs.”

Comment noted.

LETTER B, Charles Newman – Yucca Valley Citizen

Comment B-1: The commenter indicated that he and his wife “do not have an extra \$10,000 laying around to hook up to a needless sewer system.”

Response: The Basin Plan Amendment (BPA) allows the Regional Water Board to grant exemptions to the prohibition in the case of economic hardship, which may help to address your financial concerns. As for the sewer system being “needless”, the Staff Report makes it clear, based on the science underpinning the prohibition, that the prohibition is absolutely necessary to protect the water quality of the aquifer underlying the Town of Yucca Valley. Moreover, that scientific basis has been peer reviewed, and the peer reviewers agree with this conclusion.

Comment B-2: The commenter states: “A Water Purification System would be far better...than this wild and expensive sewer system.”

Response: The mission of our agency is to *preserve, enhance and restore the quality of California’s water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.*”

Allowing groundwater to become further polluted by septic tank discharges is contrary to the Regional Water Boards’ mission and their statutory duties to protect water quality from degradation. Additionally, Regional Water Boards are forbidden from mandating the manner of compliance (e.g., a sewer system) by the California Water Code. Therefore, we have authority to prohibit septic tank discharges that are impacting water quality, but we cannot specify how the regulated community must comply with that prohibition. That decision is up to the regulated community and local entities.

Comment B-3: “...to do this sort of thing with the economy where it is now is in my opinion ‘totally insane’ no matter what kind

of nonsense the State and Local Hi-Desert Water District tries to shove down the public's throat up here."

Response: Please see responses to B-1 and B-2 above.

Comment B-4: **"I predict that the voters up here will vote this nonsense down right away when you try to do the Vote on it!"**

Response: Adoption of the proposed prohibition will be decided by members of the Colorado River Basin Regional Water Board, and not the general public.

Comment B-5: **"So, if you and the Water Company Shut (sic) down the water here, well no problem, because you'll just speed up the process of this entire area becoming a Ghost Town"**

Response: The Regional Board has no authority to "shut down the water". The Board is authorized via the Porter-Cologne Water Quality Control Act in the California Water Code to regulate waste discharges to ground or surface water, and that regulation extends to regulating certain types of discharges or certain areas where such discharges are prohibited. The prohibition is consistent with this statutory authority in that it addresses only wastewater discharges, not water supply.

LETTER C (email), Elizabeth Karman, Co-Founder, Stop Yucca Mesa Annexation Coalition Watchdogs

Comment C-1: **"Do you agree that the Yucca Mesa residents will not be forced to pay for the Town of Yucca Valley's wastewater treatment plant?"**

Response: The Regional Board does not dictate who should or should not be assessed a fee/tax to pay for wastewater treatment facilities (WWTF). Now, more to your point though, at this time we are not including the Yucca Mesa within the scope of the proposed prohibition.

Comment C-2: **"Do you agree that Yucca Mesa residents will not be forced by the California Regional Water Quality Control Board to hook up to the Town of Yucca Valley's wastewater treatment plant/sewer system?"**

Response: Please see response to C-1 above.

Comment C-3: **“We understand that a \$1000/day fine will be imposed by the California Regional Water Quality Control Board if residents of Yucca Valley do not vote to assess themselves to pay for a water treatment plant/sewer system. Will each resident in Yucca Valley be fined \$1000/day or will the Town of Yucca Valley be fined \$1000/day, or will Hi-Desert Water District be fined \$1000/day or will all of the above be fined \$1000/day?”**

Response: We have not restricted the enforcement options that the Board might employ in the event of non-compliance with the proposed septic prohibition. Whatever informal and formal enforcement option we use, they will be based on the State Water Resources Control Board Enforcement Policy. The Policy provides for a number of remedies, including issuance of Cease and Desist Orders, Cleanup and Abatement Orders, and Administrative Civil Liabilities (fines). Fines may be assessed up to a maximum of \$5,000/per day per violation (CWC Section 13350(e)(1)). The fine (or any other enforcement) is assessed against only those entities who are in violation of Regional Board requirements or orders. In this case, the prohibition would be applicable only to residents, entities, and businesses in Phases 1, 2, and 3. For the purpose of enforcement, the HDWD is not responsible for all of the septic systems in the town. It is only responsible for the septic systems serving its facilities (e.g., headquarters and maintenance yard). If a landowner in Phases 1, 2, and 3 should fail to comply with the prohibition, he/she would be potentially subject to enforcement.

Comment C-4: **“Also, since residents of Yucca Mesa are customers of Hi-Desert Water District, will they be included in the \$1000/day fine?”**

Response: Please see responses to C-1 and C-3 above

Comment C-5: **“In addition, residents of Yucca Mesa want to avoid the water contamination problem Yucca Valley is experiencing. We do not want to have to build a wastewater treatment plant on Yucca Mesa. Please refer me to California Regional Water Quality Control Board documentation that outlines proper waste water treatment and building codes that will help Mesans (sic)**

avoid groundwater contamination in the future. (For example, only build X number of houses per acre with a maximum square footage of X, with septic tanks.)”

Response: At some point in time, if we find that the discharges of wastes from Yucca Mesa are polluting or degrading water quality, we may take action to remedy that situation. In the meantime, guidance regarding proper operation and maintenance of the septic systems can be found at:
http://www.waterboards.ca.gov/coloradoriver/publications_forms/publications/index.shtml

LETTERS D-H & L , Shatin Heights Residents

Comment D-H&L-1: “The homeowners in the Shatin Heights area are expressing concerns regarding the installation of the above referenced sewer system in our area. We are in a particularly unique area of approximately 2-1/2 acre lots on hilly, granite ground...our terrain is very hilly, the ground is extremely difficult to dig in and our lots are covered by large boulders.”

Response: The conditions described by the commenter, i.e., “hilly, granite ground”, raises concerns regarding the appropriateness of septic tanks for wastewater disposal in that area. That said, the proposed prohibition allows the Regional Water Board to grant exemptions for unique technical, environmental, and/or economic conditions if warranted.

Comment D-H&L -2: “Several homeowners had to extend their leach lines in order to allow the proper drainage leading us to wonder if any seepage would even work its way down toward the town.”

Response: Please see response to D-H&L-1 above. Also, the following language has been added to the proposed basin plan amendment:

HDWD will be contracting with USGS to study further the impact from septic system discharges in Phases 2 and 3. HDWD will be submitting the results of the study to the Regional Board for consideration of modification of the Prohibition.

Comment D-H&L -3: “We are unable to find in any USGS reports provided to us for our area that states that our septic contribute to the problem.”

Response: Please see response to D-H&L-2 above

Comment D-H&L -4: “It is our understanding that the electrical utility company was given an exemption to install overhead lines due to the severe nature of digging in this area. It is also our understanding that the water company had to blast in order to run water lines.”

Response: Please see response D-H&L-1 above.

Comment D-H&L -5: “As homeowners we are concerned the expense of connecting to the sewer line would be extremely costly and the engineering would be extremely involved as the grades are steep. We are therefore asking for an exemption in installing the sewer lines in our area due to the above stated reasons.”

Response: Please see responses to D-H&L-1 and D-H&L-2 above. Also, the proposed Prohibition specifies the procedures for submitting an exemption request. If you think you qualify for an exemption, please submit your request in accordance with these procedures.

LETTER I – Paul Bakkom, Shatin Heights Resident

Comment I-1: “In addition to the electrical line and water line problems mentioned on the previous page, phone lines are routinely severed when grading the dirt streets. On VLU Court, where bedrock composes the upper part of the street, our phone line was buried in the berm on the side of the road. The line was covered with less than a foot of dirt. It could not be buried deeper without hitting bedrock.”

Response: Please see responses to D-H&L-1 and D-H&L-5 above.

LETTER J – Art Miller, Yucca Valley Resident

Comment J-1: “I’d like to state that there are certain areas located on the north side of Yucca Valley that are either low density and or have an extremely rocky terrain. To establish the

existing infrastructure in some of these areas, the use of heavy equipment and blasting were necessary to root out enough rock to install the current water lines. I am a property owner of 5837 Olema Road which is one of these areas and currently included in Phase 3 of the current wastewater plan. I feel that this area should be exempt from any future sewer hookup plans, and my reason for this is that my septic being high in the hills above the valley floor has little or no effect on the current groundwater. In addition, the wastewater line construction costs would be much higher, in this area do (sic) to the terrain in comparison to Phase 1.”

Response: Please see responses to D-H&L -1 and D-H&L-5 above.

Comment J-2: “I do believe that I am going to benefit from cleaner water, so I am willing to pay something towards the total cost of the wastewater facility.”

Response: Comment noted.

Comment J-3: “Regarding the cost, the State of California which is mandating this wastewater system be built within a certain time period should give Yucca Valley a higher priority in any current bond money or grants that are now available. Yucca Valley is a low income community and to convince this community of the need for the wastewater system is a larger undertaking than convincing a community who may only be expanding an existing system. Your board charter may not allow you to do this, however in our case it should be a consideration.”

Response: In 2007 the Regional Water Board adopted Resolution R7-2007-0074 supporting HDWD for priority funding to construct a municipal sewage collection system and reclamation wastewater treatment facility in the Town of Yucca Valley. Additionally, HDWD has achieved the highest priority status on the State Water Resources Control Boards Clean Water State Revolving Funds 2010/2011 Project Priority List. Finally, please see response to B-1 above.

LETTER K (email) –Kevin Stoll, Commercial Property Owner

Comment K-1: “1. I am also looking for other information. Were and [sic--where] are the nitrate concentration levels

measured in the water that HDWD imported from the MWD for the artificial recharge project? Is there a report that provides this information? How can I get a copy?"

Response: In a 3/10/11 email, Regional Water Board staff provided you with this link to State Water Project water quality data online: <http://www.water.ca.gov/swp/waterquality/GrabSample/index.cfm>

Additionally, at Board staff's request, the Department of Water Resources made nitrate water quality data available for the year 1994. This information was provided to you by Board staff via email on 3/11/11.

Comment K-2: **"2. I was surprised by your explanation that the reason for the decline in the nitrate levels over the past 10 years is the declining water levels in the Warren Basin. This did not seem to make sense to me given that the data reported by the Warren Valley Basin WaterMaster (sic) annual reports does not show declining water levels. Is there another source of data?"**

Response: Sound scientific data discussed in the 2003 USGS Study clearly shows septic tank wastewater discharges are violating water quality objectives for NO₃ in the Warren Basin, and will continue to threaten water quality and violate water quality objectives if discharges are not terminated. Whether nitrate (NO₃) concentrations or groundwater elevations are increasing or decreasing is not relevant since they exceed the Basin Plan's water quality objective of background levels for nitrates.

Comment K-3: **"Has the RWB issued a report evaluating the alternatives?"**

Response: No, the Regional Water Board has not issued a report as such. Instead, the Board evaluated alternatives to the prohibition and the reasonably foreseeable alternatives for complying with the prohibition in the Substitute Environmental Document--CEQA Checklist. This evaluation begins on page 17 of that document.

Comment K-4: **"Given the economic magnitude of the proposed project, I would hope that the evaluation of the alternatives would include economic analysis of the alternatives – alternatives to the prohibition, no action alternative and alternative to comply with the**

prohibition. Are there any additional reports or documents evaluating the alternatives?”

Response: Please refer to response to K-3 above. Also, HDWD has various reports available on their web site at: www.hdwd.com/projects/wastewatertreatmentwaterreclamationproject.aspx Including Preliminary Design Reports, and Value Engineering Reports.

Comment K-5: **“I reviewed the CEQA Checklist and page 2 says that Jon Rokke is the contact person (I guessed at his email above). I am not sure who at CWQCB I should be working with to understand the impacts of the proposed septic prohibition and the Wastewater Collection and Reclamation Facility.”**

Response: The Regional Water Board contact for questions regarding the proposed Prohibition is Jon Rokke. He may be reached by phone at (760) 776-8959 or by email at jrokke@waterboards.ca.gov.

For information involving the proposed Wastewater Collection and Reclamation Facility, please contact HDWD at (760) 861-8031 or by email at wastewater@hdwd.com.

Comment K-6: **“The CEQA Checklist provides a good qualitative overview of the alternatives (p. 17-20), but there is not a substantive evaluation or analysis of the various alternatives. Are there any additional documents evaluating the alternatives?”**

Response: Please refer to response to K-3 above.

Comment K-7: **“I also noted a gross error in the Dec. 2010 Staff Report. On page 25, 2nd paragraph: “the estimated capital cost of the WWTP is stated as \$85-128M or \$8,500-12,800 per residence assuming 10,000 water connections.” This estimated cost is only for phase 1 and the entire water district has 9,905 water connections (ref HDWD 2010 Annual Report, schedule 6). The total cost of the project (all 3 phases) is \$238M or \$24,000 per connection. The estimated Yucca Valley population is approximately 21,000 yields per capita cost of \$11,300. And this excludes the customer connection cost estimated to be \$3,000 to \$5,000 per dwelling.”**

Response:

You are correct in noting that the \$125,000,000 amount is the estimate for Phase 1 only. The staff report, Section VI.2.b, Economic Considerations will be revised to read as follows:

Regional Water Board staff believes that ~~the proposed amendment will~~ in the long term the proposed amendment will have a positive impact on property values, given that converting to a public sewer system typically increases market value, while a failing septic system decreases market value. ~~HDWD's Collection System Value Engineering Study evaluated sewer collection improvements/costs in Yucca (Preliminary Value Engineering Study Report, HDWD Collection Systems, August 2008). The study estimated capital costs to construct a Wastewater Treatment Plant (WWTP) and conventional sewer system ranging from HDWD's cost estimates for Phase 1 of the collection and treatment system have ranged from \$85 million to \$128 million, or \$8,500 to \$12,800 per residence, assuming 10,000 water connections and no financial assistance. HDWD, using the engineering consulting firm of Webb and Associates, subsequently estimated costs during the formation of the assessment district. HDWD estimated the cost for Phase 1 of the WWTP and conventional sewer system to be approximately \$125 million, or approximately \$15,000 \$12,500 per residence, assuming all three phases covered by the sewer master plan pay their fair share again based on the assumption of 10,000 water connections. Webb and Associates recently estimated total costs for Phases 2 and 3 of the project to be approximately \$77.35 million. In addition, each parcel owner will need \$3,00 to \$6,000 to construct later sewer lines, connect to the main sewer, and properly abandon their existing septic system (see table 3 below)there are costs to construct lateral sewer lines, to connect to the main sewer, and to properly abandon existing septic systems. These costs for each parcel owner are estimated to be in the range of \$3,000 to \$6,000 (see Table 3, below). The lateral sewer line will cost \$80-\$150 per foot to construct depending on: terrain; easements needed; engineering work required; pipe and backfill materials; methods of construction; and surface restoration. Septic system abandonment involves: (1) obtaining a permit (approximately \$300), (2) pumping the tank, (3) removing and disposing of the lid, and (4) filling the empty septic tank with compacted dirt or sand (\$600-\$1600). Finally, there may be specific local agency requirements for septic tank~~

abandonment. Once sewers are constructed, the process can take four to six months to complete. It is emphasized that all costs presented in this staff report are preliminary estimates. ~~HDWD anticipates that the Webb and Associates Engineers Report will be finalized and available in January 2011~~

Comment K-8: “The CRWQCB’s basis for the prohibition rests largely on the USGS 2003 Report. The report period in question coincided with the plan to replenish (sic) the Warren Basin with imported water. This effort has largely been successful in raising aquifer the water levels by 100 to 200 feet depending on the specific well measurement. However, the elevated nitrate concentrations coincided with this effort and the USGS Report identified the entrained nitrates were being added as the water level rose. Now that the water levels have stabilized, nitrate concentrations have plunged. The Warren Valley Basis (sic) Watermaster data has confirmed this.”

Response: Comment noted

Comment K-9: “The Warren Valley Watermaster has continued to report nitrate levels for water taken from area groundwater wells over the past 10 years (reference 2010 Watermaster Annual Report). These readings show that nitrate concentrations peaked in the 2002-03 and have declined from an average of 21 mg/L to 12 mg/L during the past 9 years. Since the background nitrate concentration levels in the area are approximately 10 (ref USGS Report p.1), there has been an 80+% decrease in nitrate concentration levels over the past 9 years.

How is the CRWQCB taking into account this recent data?

Is a prohibition the appropriate solution at this point in time?

Should we be monitoring the situation before proceeding with expensive projects?”

Response: Please see responses to B-2 and K-2 above.

LETTER M –Ed Muzik, Hi-Desert Water District

Comment M-1: “The Hi-Desert Water District respectfully requests that Phases 2 and 3 be excluded from the current Basin Plan Amendment regarding septic prohibition, until it is determined that these areas are, in fact, polluting our aquifers. Currently there are no scientific studies available that either support or refute this claim. We have discussed this topic with USGS, and we are currently in the planning stage of a study of Phases 2 and 3.”

Response: In response to your request, the following language has been added to the draft amendment:

“HDWD will be contracting with USGS to study further the impact from septic discharges in Phases 2 and 3. HDWD will be submitting the results of the study to the Regional Water Board for consideration of modification of the Prohibition.”

Comment M-2: The letter asks: “The expected time frame for completion of the study is 18-24 months. We request that the Regional Water Quality Control Board review the findings of this important study before making a final determination as to whether Phases 2 and/or 3 will be included in the Basin Plan Amendment.”

Response: Please refer to response to M-1 above.

LETTER N (email)--Claude Short, Yucca Valley Citizen

Comment N-1: “I, Claude L. Short, a resident and water rate-payer of Yucca Valley, Ca. disagree with the Proposed Ban on our septic tanks by the Colorado Basin Water Quality Control Board for the following reasons:

1. The financial impact that it would have on our town’s people, individually and collectively would cause undue hardship, even with the suggested (sic) ‘help’ for low-income/disadvantaged households from the Hi-Desert Water District.
2. The Colorado Basin Water Quality Control Board (Water Board) is using incomplete and misleading information to cause us to agree with the ban. (See notes below).
3. We do not believe that the Water Board and Hi-Desert Water District are acting in good faith on our behalf. (See notes below).

4. **We do not believe that ALL available and reasonable alternatives were considered when proposing the Ban.”**

Response: Please see responses to B-1, K-2, and K-3 above.

Comment N-2: **“1. (From Dr. Hunt review): Comment #2, Dr. Hunt points out the uncertainty of the model used to determine Flow and Transport.**

Ms. Stormo agreed.

With this in mind, shouldn't there be more trustworthy and verifiable research conducted in this matter?”

Response: The USGS is an internationally recognized authority in geology, and the fate and transport of subsurface contaminants. In spite of this recognized authority, the Regional Water Board is statutorily required to have the scientific findings of the staff report and the USGS study independently peer reviewed to verify that the scientific approach is adequate to support the action proposed (i.e., prohibiting septic tank discharges in Yucca Valley due to wastewater impacts to groundwater). The peer reviewers selected, Drs. Hunt and Boehm, are university professors (University of California, Berkley and Stanford University, respectively), with expertise in wastewater and contaminant fate/transport. Both agree with the findings of the USGS study, and proposed prohibition. Dr. Hunt's comment you referenced simply refers to the uncertainty inherent whenever computer fate and transport models are employed.

Comment N-3: **“Comment #5, Dr. Hunt casts doubt on the research by pointing out that ground water data from 2002-2010
“Levels reported are in the range of 10-30 mg/l and that range may represent some steady state value of septic tank discharges and groundwater recharge...” Dr. Hunt goes on to say that groundwater data was not presented for a specific well (Not mentioned in the peer review and response) which does not allow for a determination of whether there may be a reservoir of nitrates in a deeper portion of the aquifer.**

Ms. Stormo does not address this issue, but says that it does not affect the Water Boards determination that there is a need for the ban.

If the steady-state has been reached, shouldn't we concentrate on NOT making it worse by looking into alternate methods of dealing with the problem of septage entering the water table? One suggestion would be to identify the MAJOR polluters and deal with them individually. The Air Quality Management Districts do such with respect to automotive/industrial air pollution. The AQMDs have shown that they CAN improve air quality by focusing on individuals. The Regional Water Board SHOULD be able to do the same with our groundwater."

Response:

In California, the discharge of waste is a privilege, not a right. Septic tank wastewater discharges have degraded groundwater quality in the Town of Yucca Valley to the extent that beneficial uses have been impacted. This is a violation of the State Antidegradation Policy, and the California Water Code. Dr Hunt's speculation that nitrate levels 'might represent some steady state value' is not germane to the proposed prohibition given:

- the nature and extent of impacts to water quality;
- the vagaries of State Water Project water (recharge water) in terms of availability and allocation, and lastly
- allowing further degradation to areal aquifers is contrary to the Regional Water Board's mission to protect and enhance the quality of state waters, and is a violation of the California Water Code.

In regards to your suggestion to: ***identify the MAJOR polluters and deal with them individually***, the prohibition does focus on the "major" polluters by dividing the area proposed for sewerage into phases, and constructing the sewer by phase, in order of impacts to water quality, beginning with Phase I, the main business corridor of the Town of Yucca Valley. (also, see response D-1 above). Also, the analogy to Major air polluters is not appropriate for this groundwater pollution problem. Stationary sources of air pollution are easily regulated since the air pollution is emitted from discrete and accessible point sources, such as an exhaust stack. The amount of pollutants emitted are also easily quantified since such point sources air quality measuring equipment, which enables the pollutant concentrations emitted to be monitored. In stark contrast, septic tank pollution is a "non-point" type of pollution source; i.e., the pollution comes from many diffuse sources that combine and coalesce to cause wide-spread impacts to groundwater. This makes it very difficult to determine which

septic tanks are the “major” polluters. But even if that could be accomplished, the diffuse nature of this pollution source makes it more likely than not that there are no “major” polluters. Instead, each septic tank probably contributes a relatively small pollutant load to the groundwater, but the cumulative effect of all of the septic tank discharges is considerable, a conclusion reached in the USGS study as well. Finally, another problem with septic tank pollution that causes it to differ significantly from air pollution is that it occurs below ground. Thus, it is difficult to see, measure, and monitor.

Comment N-4: **“Comment #6, Dr. Hunt says that the USGS report indicates considerable water use by the golf course. He further states that there should be an analysis of actual consumptive use of the water in Yucca Valley. Ms. Stormo replies that the golf course was closed in 2004 and that other steps were taken by Hi-Desert Water district to reduce nutrient loading from landscaping to “insignificant levels.” *She does not, however, mention the acres of grass planted in various parks, schools, and community centers in Yucca Valley which require fertilizer and large amounts of water to keep them alive. Additionally, a Consumptive Use Study would help identify the major polluters and provide more data on which the Board could act. It would help to minimize the financial impact on the citizens of Yucca Valley and possibly identify other alternatives which would help improve the groundwater quality.”***

Response: It is unclear how a consumptive use study will *help to minimize* financial impact to Yucca Valley citizens. Nevertheless, the HDWD’s proposed rate structure bases assessments on “equivalent dwelling units” (EDUs), which in effect, are based upon consumptive use.

Comment N-5: **“Comment #8, Dr. Hunt points out that the Recycle Facility has its own issues: The effluent will subject the basin to increased nutrient loading and SALTS! Then asks if the solution (waste water recycling) will improve the over-all health of the basin. Ms. Stormo just says it will be monitored. *By whom? Considering the track record of the Hi-Desert Water Districts lack of maintenance of the water systems in our area, we have NO CONFIDENCE that this***

will be carried out. Also, isn't the ultimate mission of the Board to PROTECT our water? Changing from OWTS to Centralized Sewage Collection only creates further, more severe, problems which will need to be solved through MORE fiscal impact on the citizens of our already burdened town."

Response: Monitoring of Wastewater Treatment Facilities (WWTFs) is accomplished using a self-monitoring program model. WWTF staff is required to periodically submit monitoring reports (typically every month) that Water Board staff review to determine compliance with waste discharge requirements (WDRs). Typical septic tank effluent contains between 20 and 85 mg/L of total nitrogen (Metcalf & Eddy, 3rd Edition). The total nitrogen effluent limit for the wastewater treatment system proposed for Yucca Valley will be 10 mg/l or less. So, a centralized wastewater treatment system with a total nitrogen effluent limit of 10 mg/l should dramatically improve the quality of the effluent discharged into the ground in the Town of Yucca Valley. Your comment regarding your lack of confidence in HDWD, however, is noted.

Comment N-6: ***"We are an earth-quake prone area. Can you imagine the problems which would be created if an earthquake were to tear apart the feeder lines to the sewer system? Or damage the recycling plant? With OSWTS that problem is minimized in case of earthquakes."***

Response: Comment noted.

Comment N-7: ***"(From Dr. Boehm review): Comment #2, Dr. Boehm indicates that the USGS report STRONGLY SUPPORTS the idea that septage from septic tanks is the source of the high nitrates. Ms. Stormo agrees.***

Although the evidence SUPPORTS the assumption that the septic tanks are to blame, it does not pin-point the actual culprit. It leaves room for doubt that the OWTS in our area ARE the problem."

Response: Regional Water Board staff disagrees with your interpretation of Dr. Boehm's statement. Dr Boehm's statement you refer to actually reads "When the modeling results are considered in light of the rest of the evidence

provided in the USGS report, it strongly supports the idea that septage is the source of nitrate in the aquifer.”
Furthermore, the word ‘assumption’ does not appear in Dr Boehm’s peer review.

Comment N-8: “**Comment #3, Dr. Boehm says that the data SUPPORTS the conclusion that septage is the cause of the high nitrates. However, Dr. Boehm points out that further evidence would have “been nice.”**
Ms. Stormo agrees, but injects that the report INDICATES that septage is the cause.
These statements IMPLY that the septic systems are the cause of the nitrate loads. They do not PROVE it. Other factors are involved which could increase the nitrates in the groundwater.”

Response: Dr Boehm uses the word ‘supports’ only twice in her peer-review; in reference to models used by USGS that indicate septage is responsible for the elevated nitrate levels in the Warren Subbasin aquifer. See response to N-2 above.

Comment N-9: “**Comment #4, Dr. Boehm points out that the spikes in nitrate levels are coincident with the recharge events.**
Ms. Stormo agrees.
So, the people, and the septic tanks, of Yucca Valley are NOT the evil perpetrators of the nitrate problem! Hi-Desert Water District, with the Blessings of the Regional Board, has created the problem.”

Response: Comment noted.

Comment N-10: “**Comment #5, Dr. Boehm points out that data collected since the 2003 USGS report indicates that the nitrate levels in the mid-west hydrogeologic unit has declined. Dr. Boehm continues by saying that the limited data does not prove that there will NOT be future groundwater threats OR that the nitrates will continue to vertically migrate.**
Ms. Stormo agrees. Ms. Stormo says, “The data does not CONCLUSIVELY indicate...”
My interpretation of Dr. Boehm’s comments: The data presented in Appendix D does not prove either point and should not be used as “proof” that our septic systems are the cause of the nitrate concentrations in the ground water. Shouldn’t there be SOME form of

PROOF to support the theory that our problem is caused by our septic systems BEFORE we have to spend outrageous amounts of money to clean up the problem?”

Response: The USGS study was peer-reviewed specifically to determine the veracity of this study and to determine whether it supports the proposed action. The consensus of peer reviewers with expertise in wastewater and contaminant transport is sufficient to conclude with a high level of confidence that the source of nitrate pollution in the Warren Subbasin is discharges from septic tanks. Therefore, this conclusion supports the proposed action to protect groundwater quality—implementation of a septic tank prohibition.

Comment N-11: **“Comment #6, Dr. Boehm says that the USGS report actually says that the most likely cause of the high nitrates is the RISE IN THE GROUNDWATER LEVEL DUE TO THE ARTIFICIAL RECHARGE PROGRAM. Dr. Boehm continues to say that there was no data on pathogens in the water.
Ms. Stormo agrees.
*Again, shouldn't there be more conclusive evidence that the septic systems in our area are the actual CAUSE of the problem?”***

Response: Please see response to N-10 above.

Comment N-12: **“Dr. Boehm (in the original peer review, dated 9 September, 2010) points out that the authors (I assume of the USGS report) freely admit that they used trial and error to choose some model parameters. Dr. Boehm also says that the model provides a “STRONG PIECE OF EVIDENCE” that septage is the source of nitrate...
MS. Stormo does not respond to this.**

Conclusion: The Water Board has failed to PROVE that septic systems in the Warren Basin are the actual causes of the high nitrate levels in the ground water. However, they HAVE proved that the ARTIFICIAL GROUNDWATER RECHARGE PROGRAM is causing the problem. Don't you think that the Recharge Program should be looked into a little closer?”

Response: Please see response to N-10 above.

Comment N-13: ***“Additionally, other areas of concern were not addressed. The Yucca Valley area is inhabited by many animals that use the surface of the desert as urinals. That, combined with the homeless population, and dead/decaying animal and plant remains would also increase the nitrate levels in our area.”***

Response: Please see response to N-10 above.

Comment N-14: ***“Also, the Hi-Desert Water District has instituted a water conservation program which reduces the amount of water used for normal residential irrigation to keep plants alive. This has caused a die-off of grasses, trees and other plants that would help to reduce the nitrogen loading on the water table. In addition, more water on the surface, percolating into the groundwater, SHOULD help to dilute the nitrates as they percolate into the groundwater.”***

Response: The Town of Yucca Valley is located in a desert; hence, water conservation measures are both desirable and inevitable. However, increasing landscape irrigation as a strategy for reducing nitrate pollution is neither realistic nor feasible.

Comment N-15: ***“While I agree that some septic systems in the area MAY be failing, I disagree that the whole community should suffer such extensive economic impact when there are other solutions available.”***

Response: Comment noted.

Comment N-16: ***“The U.S.E.P.A. considers properly maintained and functioning septic tanks to be a safe and viable means of disposing of household waste-water. They do not even consider regulation of systems with an output of less than 5000 gallons per day other than proper siteing (sic) of them.”***

Response: According to the USEPA, septic tank discharges are the third leading cause of groundwater pollution in the United States (USEPA, Onsite Wastewater Treatment Systems Manual,

February, 2002). Therefore, we respectfully disagree with your characterization of the USEPA's position on this matter.

Comment N-17: ***“Furthermore, abandoning the systems cannot be shown to solve our problems or even keep them from becoming worse in the future.”***

Response: Please see response to N-5 above.

Comment N-18: ***“Lastly, there have been many references to Los Osos, Ca. We are not comparable to Los Osos in that we are not on any tributary, our groundwater (until recently) was not in danger of contamination, and other environmental factors were not involved (ie. surface waters, sensitive habitats, etc.).”***

Response: References to Los Osos are likely due to certain commonalities. For example, like Yucca Valley, Los Osos is a sizable community that uses septic systems for wastewater treatment and disposal. Additionally, Los Osos has struggled with the need to construct a municipal wastewater collection and treatment system to address the groundwater contamination caused by its septic systems.

Comment N-19: ***“Many of us see the enforcement of the ban as just another way for ‘our government,’ and those who are supposed to serve us, to take away more of our rights and our money! The Water Board is using a sledgehammer to solve a problem which would be better handled with a scalpel. With more time and research comes a wider choice of solutions!”***

Response: The Regional Water Board has been urging the Town of Yucca Valley to eliminate septic systems since 1973. The prohibition is the product of 38 years of effort to eliminate nitrate pollution to the town's aquifer, upon which all residents rely for drinking water. Because previous requests to the town have failed to effectively address the groundwater contamination caused by area septic systems, the Regional Water Board determined that it was necessary to take this regulatory action by prohibiting septic tank discharges.

Comment N-20: ***“If you MUST take some sort of action, please consider a moratorium on development rather than a Ban on our septic tanks.”***

Response: We do not have authority to impose a building moratorium. But even if we did have such authority, a moratorium on development does not protect groundwater from on-going discharges of nitrate-rich septic tank effluent into the vadose zone. Further, it is our understanding that many residents in the area are opposed to a moratorium, claiming it constitutes another way for the government to take away their rights and money.

LETTER O –Ronald Reitenauer, Yucca Valley Citizen

Comment O-1: “There seems to be general agreement that we need to stop using our septic tank discharges in the Town of Yucca Valley.”

Response: Agreed.

Comment O-2: “The cost estimate for a replacement system is \$125 million for a proposed gravity system, the proven, preferred method of wastewater treatment for a town our size. While the Town and Hi-Desert Water District are pursuing financing through grants and various methods, the residents of Yucca Valley are faced with major economic concerns as to how to pay for this.”

Response: The \$125 million you cite assumes no (“zero”) financial assistance. HDWD is planning to obtain about 30% of the funding through grants (money not needing repayment). Additionally, the prohibition has been revised to allow exemptions in instances of severe economic hardship. Finally, please refer to responses to B-1 and C-1 above.

Comment O-3: “Your proposed prohibition of septic tank discharges is being imposed as the way to pressure us to eliminate pollution of our groundwater to protect public safety. But this presupposes the town can afford to pay for a wastewater treatment facility. If we cannot, then without discharge allowed from our septic tanks, we are exposed to the considerable cost penalty of pumping our tanks and hauling the waste. This results in an equal economic hardship for the population of Yucca Valley.”

Response: As noted in our response to N-19 above, the Regional Water Board began urging the Town of Yucca Valley to eliminate wastewater dischargers from septic systems in 1973. In the 38 years since this initial effort, the cost of the proposed remedy has only increased. Unfortunately, a “zero cost” alternative is not feasible at this time.

Comment O-4: **“Would it not be an advantage to all concerned to create a more positive atmosphere to resolve this issue of vital public safety?”**

Response: Please refer to response to N-3 above.

Comment O-5: **“Could the regulatory authority issue a conditional prohibition, the condition being the ability of the town to pay for a replacement system before any specific prohibition? What good would it do the people of Yucca Valley to punish them if we are not able to afford either a new sewer system or the costs of the penalty? Rather than create a potential negative result benefiting no one, with your power and influence you can help us to achieve our common goal by extending your goodwill in this manner.”**

Response: Please see responses to A-1, B-2, C-1, and O-3.

Comment O-6: **“I am appealing to you to be realistic in your concerns. Consider conditioning your prohibition on the town first obtaining financing to build a new sewer, rather than a penalty for not being able to do so. Under this condition it will be necessary for the town to pursue financing with all due diligence as they are currently doing and not ignoring the pressing problem.”**

Response: HDWD has already had success raising funds to construct its proposed wastewater collection system. In many instances, securing funds for projects such as this is actually facilitated by a looming deadline.

Comment O-7: **“Additionally, please consider limiting any prohibition of discharge from all septic tanks in Yucca Valley. The outlying areas of the town are remote and, in many cases, severely hampered by the topography of the land. I urge you to consider a complete survey of our area before an overall ban on all tanks. The possibility the ban can be modified in future (sic) is not as**

productive or efficient as considering existing conditions before the prohibition is enacted.”

Response: Comments noted. Please refer to responses to D-1 and D-2 above.

Comment O-8: **“The threat to us is not your prohibition or the potential resulting penalty. The real threat is from us continuing to pollute our groundwater. If we are people concerned with our own health and well being, we will find a way to pay for a proper system regardless of any prohibitions you might impose. But it will take time and debate to resolve this financing, so I implore you to consider this in your proposed amendment.”**

Response: Comment noted. Moreover, 38 years is more than adequate time for public debate of this issue. Further delays addressing this issue is scientifically unwise, unwarranted, and contrary to the statutory mandate of our agency, *...to preserve, enhance and restore the quality of California’s water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.”*

LETTER P (email) – Claude Short, Yucca Valley Citizen

Comment P-1: **“A total ban on septic tanks would merely delay further, more expensive, actions by the Regional Water Board. Also, it is not the only solution to the problem in Yucca Valley.”**

Response: It is unclear what the commenter means by “more expensive actions by the Regional Water Board.” While we agree that a prohibition is not the only solution in Yucca Valley, to date no other solution has been shown to be effective.

Comment P-2: **“As I surfed the State Water Board’s site, I found that there area numerous citations being issued to waste water treatment plants for excessive pollution.”**

Response: One of the core functions of the Regional Water Board is to regulate discharges from wastewater treatment facilities. When any regulated facility falls out of compliance with its waste discharge requirements (permit), appropriate enforcement actions are taken consistent with the State

Water Resources Control Board's Water Quality Enforcement Policy.

Comment P-3: **“Considering the Hi-Desert Districts current record of poor maintenance on the water supply end, I find it very hard to believe that they will do any better with our sewage. It seems to me that, given some time, HDWD would be presented with citations for excessive pollution. This would cost the citizens of Yucca Valley a lot of EXTRA money to repair/replace the faulty systems. Additionally, one system, not properly maintained, could cause a higher degree of pollution in our water.”**

Response: Please see responses to B-2 and P-2 above.

Comment P-4: **“Individual systems would be much less likely to fail during earthquakes. Individual systems would be much easier, and less expensive to replace, or repair, than a community-wide system.”**

Response: Please see response to B-2 above.

Comment P-5: **“The USEPA says that our systems ARE able to adequately protect the ground-water if properly placed and serviced. Yet, that was not even considered in your Proposal (sic).”**

Response: Septic system density in the Town of Yucca Valley can be addressed by the Regional Water Board via the Board's authority to regulate wastewater discharges. Land use designation/zoning is a function of the Town of Yucca Valley's government. Also, please see response to N-16 above.

Comment P-6: **“True, there are systems which are permitted to be sited on parcels where they should never have been. True, they are causing issues with the groundwater. However, it would be better (in my opinion) to deal with those specific polluters, rather than the whole community.”**

Response: It is a common misconception that impacts to groundwater are caused only by malfunctioning or improperly sited septic systems. Even properly maintained septic systems discharge wastewater containing 20 to 85 mg/L of total nitrogen (Metcalf & Eddy, 3rd Edition). The sheer number of septic tanks in the Town of Yucca Valley is the cause of

excessive nitrogen loading to areal groundwater. Also, please see response to N-3 above.

Comment P-7: **“To ban all septic tanks because of a few poorly performing systems is tantamount to banning all motor vehicles because of a few polluters. The USEPA found a much better solution. It is one that I believe the Regional Board could follow. The USEPA (and California) have adopted a plan to regulate the pollution from motor vehicles on an individual basis. A similar system could be used for septic systems.”**

Response: In effect, the proposed prohibition does regulate individual dischargers in that each discharger is personally responsible for compliance with the prohibition. The Regional Water Board is forbidden by law from mandating the “manner of compliance”, so for instance one may chose to comply by installing a package treatment system capable of meeting effluent limits. Alternatively, converting a septic tank into a holding tank, and having the contents pumped and hauled off as needed is another option. Also, please see responses to N-3 and P-6 above.

Comment P-8: **“It would be easy enough to verify that each homeowner or business was properly maintaining their systems. Our local septic service companies could simply forward the records to your office for verification. Permits could be renewed every 3 years or so, based upon that verification. If the homeowner or business did not comply with the requirements, the individuals involved could be cited or fined. This system would provide a much better way to regulate contamination of our water.”**

Response: Please see responses to N-3 and P-6 above.

Comment P-9: **“Consider the alternatives. You are knowledgeable in the operations of sewage treatment plants, so I believe you are aware of the potential problems with air quality, disposal of solids, transportation issues, etc. None of those would be a concern for the citizens of Yucca Valley OR the Regional Board if they regulated individual systems.”**

Response: All the potential problems you cite above are present in Yucca Valley today but in dispersed fashion. Each

subsurface disposal system is in effect a rudimentary wastewater treatment and disposal system, with the attendant odor, solids disposal, and other problems. Currently about 10,000 treatment plants are operating in Yucca Valley, most with operators that have little or no knowledge of their operation or maintenance (O&M) requirements. With a municipal system, highly trained personnel will oversee the O&M thereby substantially lowering the risk to the environment.

Comment P-10: **“Putting regulation into action that focuses on the individual’s responsibility would be much easier on everyone than trying to create a whole new sewer system and then trying to regulate it.”**

Response: From a regulatory standpoint, oversight of fewer systems is less resource intensive than regulating more systems.

Response P-11: **“\$\$ Also- think of the money an individually-based system of regulation could generate for the State and local businesses!\$\$ There’s potential for fees to renew permits (sort of like the smog certificates on motor vehicles). Also, consider the money that the local companies could charge (every 3 years) for pumping and maintaining the systems. \$\$ Then, think of the money the average consumer could save by NOT having to pay HDWD every month just to do what our systems are already doing! Sounds like a win, win, win situation to me.”**

Response: Comment noted.

Comment P-12: **“I am requesting that the above issues and solutions be considered by the board prior to any decision to ban our tanks.”**

Response: Request noted.

LETTER Q (email) – Dave Mahaffey, Action Pumping

Comment Q-1: **“As i (sic) spoke of at today’s meeting the documents fail to mention that Nitrate is the aftermath signature and that Enteric Bacteria had been present thus being the real cause for blue baby syndrome. This is a science finding in fact blue baby syndrome has been caused by**

people not washing properly prior to baby feedings. Please take the needed time to do further research.”

Response: The nitrogen transformation process in domestic wastewater is well understood and explained in detail in the staff report beginning on page 18. While bacteria are a constituent of serious concern in septic tank effluent, staff can find no literature confirming the assertion that Enteric Bacteria are a source of nitrate in domestic wastewater. Regardless, eliminating discharges from septic tanks will eliminate all of the various constituents of concern in septic tank effluent, including Enteric Bacteria.

Comment Q-2: **“Also of mention at today’s meeting and prior meetings there is no mention of pollutants coming in to the Morongo Basin areas water supply by outside our community’s control at this time. We have asked as to how many septic tanks are between the Morongo basin and the Northern CA. DELTA ? With no answer we are very aware that there are as many as 300 sewers discharging up to One Billion Gallons of partially treated sewage into the Sacramento-San Joaquin Delta and its associated waterways which is racking up waste discharge fines and lawsuits due to significant amounts of Ammonia and other toxins. This water is being discharged into and polluting our communities drinking aquifer as well as others.”**

Response: Comment noted. Please see response to K-1 above.

Comment Q-3: **“Is it not true that the California Regional Water Quality Control Board can fine septic discharge as well as Sewer Discharge?”**

Response: The Regional Water Board enforces effluent limits and other requirements contained in individual and general Waste Discharge Requirements (WDRs) for dischargers subject to, or enrolled in, said WDRs. One of the enforcement mechanisms available to staff are Administrative Civil Liabilities Complaints (ACLCs), which are in effect monetary fines subject to approval by the Regional Water Board.