

## **Russian River Watershed Protection Committee**

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Comments by Brenda Adelman for RRWPC

July 5,

2009

Mona Dougherty  
North Coast Regional Water Quality Control Board  
5550 Skylane Blvd.  
Santa Rosa, CA 95403

Dear Ms. Dougherty:

These comments comprise Russian River Watershed Protection Committee's (RRWPC's) response to the revised Regional Board Order #R1-2009-0050: (formerly Order #R1-2008-0106) entitled:

**Waste Discharge Requirements on Storm Water (Wet Weather) and Non-Storm Water (Dry Weather) Discharges from Municipal Separate Storm Sewer Systems (MS4s).** NPDES #CA0025054 for City of Santa Rosa, County of Sonoma and Sonoma County Water Agency

### **RRWPC Comments not fully responded to...**

RRWPC submitted comments on the first draft permit on 10-22-08. Our comments are included in the document, "Public Comments on Sonoma MS4 Permit Renewal" and occupy pages 105 through 111. In the margin, staff identified 24 comments to be responded to. In looking over the actual responses, one was mentioned twice (10.5), one was listed as not clear (10.6), and comments 10.10 through 10.24 were never responded to at all. Why did that happen and how does this affect the public comment process? What is the legal requirement for responding to all noted comments? If some questions were unclear, as indicated for 10.6, why did no one contact me to ask for a clarification? Regional Board staff met with dischargers about 20 times, why did no one contact us about clarifying our comments?

### **RRWPC supports most of this plan...**

RRWPC supports most of this permit in regards to actual storm water runoff controls, construction and utilities equipment maintenance runoff controls, and controls on runoff from miscellaneous planned and necessary activities that

cause pollutants to run into the storm drains, but whose impacts can be addressed and mitigated in advance.

In general, we feel that Regional Board staff has done an excellent job in planning necessary water quality protections through development of this program. We read the Fact Sheet with great admiration as it honed in on so many and even more of the degradation issues we have been deeply concerned about for the last 30 years, while acknowledging that correction of all these problems will occur in an evolving process and cannot all be done at once.

The Fact Sheet correctly points out the tendency of local governments to take a minimalist approach to addressing water quality issues in our environment. The Fact Sheet comes close to being a fully informed analysis of the issues involved (at this point in time) with storm water runoff. It does seem to focus however, on the urban issues, and does not begin to address problems that exist in rural areas, one of which is described later in these comments.

While this Permit was originally going to address county-wide runoff issues, it has backed off on that approach. Rather several specific projects will be put forth at a future time to address specific problems, and addressing these issues in the region will have to wait. At a minimum, region wide problems should at least be identified in a general way before this permit is finalized. An identification process followed by a prioritization process should have a time line assigned to it, otherwise the situation could languish indefinitely.

We have another major concern. If we understand it correctly, the current version of the Permit allows for 10,000 square feet of impervious surfaces to trigger LID rather than 5000 square feet. We wonder how much development was eliminated from these new requirements with this change and what the potential impacts will be? Can you give examples of what types of development this would include and what would be excluded?

We recognize that Regional Board staff put a great deal of time and effort into working with permittees to address their issues, and certain compromises have been made. Yet "the world wasn't created in a day" and you are providing a venue for addressing issues that have been begging attention for a very long time. In these difficult times, we hope you will be able to follow through on the implementation of this program.

Our number one issue has to do with the accommodation of wastewater reuse in urban areas and the merging of winter and summer pollution problems, which, in our view, tend to be quite different. We believe that the two circumstances should be separated. The body of the lengthy Fact Sheet deals mostly with wet weather and construction related pollution.

Page 34 states that Receiving Water Limitations must be met and that BMP's will be regularly reviewed to assure compliance. We wonder how standards will be guaranteed in impaired waterways while still allowing some discharge? Since local wastewater contains nutrients and the Laguna is impaired for nutrients, it would seem as though ANY DISCHARGE should be illegal, not to mention the

additional nutrients applied to landscaping and turf that can be carried off site by the runoff. The potential harm is so much greater in the summer when stream flows are very low.

Our biggest concern is that this permit may be authorized without full revelation of required BMP's needed to address "incidental irrigation runoff". We are further worried that BMP's are never binding; they are hard to enforce, and they will be based on third party agreements that are equivalent to allowing "the fox to guard the chicken house".

Most of this plan appears to appropriately address pollution circumstances that are either a result of natural storm water runoff and/or new construction and utilities maintenance activities, as well as various commercial activities causing water quality problems that need to be carefully managed. Since greatly increased conservation goals and programs would go a lot further in preserving water resources, and be a lot less environmentally harmful than irrigating with wastewater, especially during drought periods, we would much rather see your Board support prioritization of conservation rather than wastewater reuse. Some of our reasons are included on page 8-9 of this document. Have you done anything to promote the desirability of conservation over irrigation? If not, why not?

### **Fact Sheet gives excellent analysis on urban runoff problems...**

The Fact Sheet goes into great detail about how and why urban runoff needs to be controlled, and alludes to the need for careful controls required for the irrigation of wastewater. We call attention to the statement on page 13, *"Both state and federal anti-degradation policies acknowledge that an activity that results in a minor water quality lowering, even if incrementally small, can result in violation of Anti-degradation Policies through cumulative effects, for example, when the waste is a cumulative, persistent, or bioaccumulative pollutant."*

Since wastewater contains many documented unregulated chemicals that are dangerous to human, wildlife, and aquatic life health, it is a given, in our view, that these violations of Anti-degradation Policy will occur.

On the next page it states that, *"Likewise, the discharge COULD NOT be allowed under State Anti-degradation Policy if: (i) The discharge, even after treatment, would unreasonably affect beneficial uses,..."* (emphasis added) On page 17 in about the fifth line, it reads, *"This includes federal requirements to effectively prohibit non-storm water discharges,...."* It is these statements that we believe should strictly apply to the expanded use of wastewater to offset potable supply. Given the extensive amount of irrigation runoff in urban areas, we can't imagine how some can seriously believe that there is a way people can be trusted to irrigate properly (without runoff) on a regular basis.

While this complex permit elaborates on the many underlying problems with urban runoff that require strict regulation, we believe that there is only minimal attention paid to the circumstance of existing and expanding use of wastewater

for urban irrigation. City of Santa Rosa and numerous agencies convey to the public that the wastewater is almost drinkable and meets clean Drinking Water Standards, implying it can be used anywhere and for almost anything.

Ironically, compliance with this new permit puts the patina of respectability on a practice that may exacerbate the very problem it is trying to address. In other words, it sets the perimeters for Santa Rosa's new, anticipated wastewater irrigation program. This in turn will foster new opportunities for future discharges, and probable violations of the Anti-Degradation Policy, to our impaired waterways. The State is ignoring this issue through the benign neglect of assigning study of the problem to a small committee of experts. In the meantime, the volumes of studies on the hazards of the problem keep proliferating.

### **The disconnect between regulations and enforcement.....**

The revised permit and the fact sheet contain some very fine analysis of the problem and all the legal authorities available upon which to base new requirements. It all sounds so good on the page, but as implied above, much of it falls apart in real life. (This is even acknowledged in the Fact Sheet, which calls for regular review of BMP effectiveness in limiting polluting discharges.)

The following situation provides a clear demonstration of our concerns. Santa Rosa has had an irrigation program for at least 40 years or more. Since around 1990 they have operated with a reclamation permit. Since most irrigation is hidden on farms, the general public has not really had an opportunity to see if things are working the way they are supposed to. We have relied on the Regional Board (RB1) to oversee the situation. Yet over-irrigation occurs regularly and the RB1 relies on self-monitoring by the City of a third party as described in this permit. These relationships have not always worked as they should. Yet it has appeared to us that enforcement of Reclamation Permits have been spotty or non-existent indeed.

We have reported over-irrigation on several occasions (Once I was almost hit in the face by wastewater irrigation spray driving down Guerneville Rd.) but never heard if anything was done. On several occasions we have noted spray going right into the creek. When we report such incidents, no one ever gets back to us to give us a full report on what was done, and we don't ever recall seeing a cease and desist order or penalties for violations of the Reclamation Permit. (Please correct us if we are mistaken.) I've heard that other people report things also that never seem to be responded to. That diminishes a person's motivation to make further reports. If I find that a frustrating experience, I can only imagine what other citizens feel if they see something that doesn't look right. They report it, and if no one ever gets back to them, it becomes one more example of the failure of government to do its job.

## **Santa Rosa's irrigation program appears to violate their Reclamation Permit....**

On May 26, 2009, the Press Democrat ran a front-page article entitled "Recycling to save a river..." (Attachment #1) Our purpose for including this article is to demonstrate the apparent lack of oversight of the City's reclamation program.

The story featured Saralee Kunde and had a picture of her 15 million gallon wastewater reservoir. I had never heard about this reservoir, so I asked John Short if he knew about it. He said he hadn't and I gave him a copy of the article. The picture of the pond seemed to indicate there were no berms (as Santa Rosa reservoirs have) and we doubt that there were any liners to protect groundwater. We wonder what other requirements were not being met?

Reservoirs constructed by agricultural people are not subject to CEQA review. If John didn't know about this reservoir, it seems as though its construction may not have been reviewed by your Agency. Either this basin was built illegally, or the system that would allow it to be built without Regional Board review is a very flawed one indeed! Is it possible someone in your office reviewed its design and monitored its construction and John never knew about it?

In any case, Saralee and her husband Richard reported using 25,000,000 to 35,000,000 gallons of wastewater each year for irrigating their vineyard and other uses. She is quoted as saying, "We use it on everything. It's been a priceless commodity for us." The Kundes do not pay to use the wastewater. They use it for frost protection along with other irrigation needs, implying that it is being used illegally, since frost protection irrigation usually runs off into a waterway without being reported and/or carefully monitored.

The article goes on to say, "Kunde is unconcerned that the wastewater they use to irrigate might contaminate their own shallow, 60-foot wells that provide water for drinking, cooking, and showers." She said, "It's tertiary-treated. I have no concerns at all." Then it was explained that they sell the wastewater-saturated grapes to 60 wineries, some of whom produce expensive, award winning wines.

Since many of the unregulated chemicals likely to be found in tertiary treated wastewater have been implicated in causing cancer, we are surprised that many vineyards don't take this issue more seriously. It is noteworthy that the Board of Supervisors, sitting as directors of the Sonoma County Water Agency, recently shelved the North County Ag Irrigation Project, mainly because of protests by some local winegrowers about the threat of unregulated chemicals on their crop and in their groundwater. The Kunde's vineyard is in the same general North County area, but their viewpoint is 180 degrees opposite of those opposing that project. The Precautionary Principle dictates that such wastewater irrigation on food crops should not be made easier for vineyards until more is known about the link between drinking wine and breast cancer.

In conducting a cursory search on the web, I found five recent articles (all dated in 2009) that appear to refer to different studies on the subject of wine drinking and breast cancer. (Attachments #2-#6) All of them seem to come to similar

conclusions; that women drinking as little as one glass of wine a day increase their risk for breast cancer. The increase in incidence per 1000 women up to the age of 75 comes to 11 for breast cancer. This may not seem like much, but risk assessments generally consider 1 in 1,000,000 as indicating a serious impact. I will attach all five articles to these comments.

Of course, no one has any proof that irrigation with wastewater causes cancer. It is also possible that those who irrigate with wastewater are also likely to use other toxic chemicals to protect their crops from pests. We don't know if a possible interaction of a variety of toxic chemicals coming together with any given person's unique biology causes cancer. It may be years before we know, and that is why the Precautionary Principle is so important. If there is ANY chance that there is a causal relationship between cancer and these chemicals, you should err on the side of caution.

Finally, the "frosting on the cake" is that the Kunde's were referred to as "visionaries" by Miles Ferris, Santa Rosa Utilities Director. His Utilities Department recently honored Sara Lee and Richard with the "2008 Recycled Water Agricultural Customer of the Year Award". We have no intention of disparaging the Kunde's, who we assume are simply unaware of all the risks connected to this irrigation, but we certainly fault the City for encouraging practices that are probably in direct violation of their Reclamation Permit.

Santa Rosa has used their wastewater for agricultural irrigation for many years but now we are learning more about unregulated toxins in the wastewater (pharmaceuticals, personal care products, endocrine disruptors, anti-bacterial agents, etc.).

In the meantime, the Laguna has become severely impaired, seeming to indicate that the controls have been inadequate. Much of the nutrient impairment in the Laguna has been openly attributed to wastewater. It is clear that enforcement has been prevalent in regards to Laguna irrigation practices, and protection of the waterway has not been assured. (The Fact Sheet alludes to the TMDL for nitrogen done in the mid-1990's. My memory tells me that no nutrient budget was developed and that the TMDL was conveniently based on the amounts of nitrogen already discharged by Santa Rosa. The whole controversial history (including listing and de-listing and lawsuits, etc.) of the listing of nutrients, and especially phosphorus, should not be held up as the poster child of how the TMDL process should work. Our pictures of the Ludwegia taken at Stony Point Rd. in 2008 and 2009 illustrate that fact. (We believe that over-irrigation in Rohnert Park and Cotati may have contributed to that situation.) (Attachment #7) Similar problem exist downstream of the discharge point. There is also significant Ludwegia growth in the lower Russian River. (see picture: Attachment #8)

Another reason for our concern has to do with the attitude of many business park owners and landscape companies. Consultants to these user groups have been heard to say that many landscapers and business park owners simply don't want to cooperate either on irrigation or conservation and many would rather pay

higher fees than comply. One has only to look at the lush green vegetation at most of the business parks to know this is true.

Furthermore, almost every time I attend an early morning meeting at the Llano Treatment Plant, I witness ponded wastewater on their sidewalk in front of their entrance resulting from over irrigation. I have also witnessed similar puddles in front of their Utilities Department offices on Stony Point Rd. On at least two occasions, I have taken pictures of the puddles. (Attachment #9))

### **Summer landscape irrigation with wastewater is major concern....**

So RRWPC is most concerned about the “non-storm water runoff” as it applies to urban irrigation with wastewater, which is neither a natural storm water runoff event nor a planned discharge. The one thing we can say for sure about these runoff events, and which make the generic name sound somewhat benign and almost misleading (i.e., “non-storm water runoff”) is that both the length of time of occurrence and severity of the impact is totally unpredictable. Therefore the possibility of cumulative impacts as described on page 13 of the Fact Sheet is a very real one indeed.

It is very difficult to address this issue in the context of a Basin Plan which is about to be amended to allow “incidental runoff” and which currently contains a Summer Discharge Prohibition that appears to prohibit such runoff. How odd that the purpose of this Amendment is ostensibly to assist you in preventing runoff. What ever happened to the Anti-degradation Policy in this regard?

(The Amendment will be taken up at the same meeting the Permit will be considered. It has been very problematic, in terms of analysis to address these two separately, with no time to even study the landscape permit being processed concurrently. We understand that there are other considerations demanding this tight schedule, but we go on record as stating that it is to the detriment of the process that it is occurring this way. We are particularly aggrieved that the response to comments and staff report for the Basin Plan Amendment is coming out four days AFTER these comments are due. This makes it almost impossible to get the word out to the public about possible revisions in the Amendment.)

While we understand staff’s reasoning for including incidental runoff in the permit, we believe it’s justification utilizes faulty logic, and we are unqualified to address this in a legal sense. (The illegal discharge, when it occurs, ends up in a storm drain and this regulation is needed to control it. Why is the Anti-Degradation Policy inadequate?) There are simply too many scientific findings of late to indicate that facilitating the expanded use of recycled water that contains many potential contaminants is a dangerous move. To allow the expansion of this practice without demanding further treatment, just doesn’t make sense.

Normally, storm water is viewed as just that, a winter program that is a result of natural rainfall events that cause pollution to end up affecting water quality. While we have argued against winter wastewater discharges into our waterways for many years now, we have recognized that until alternatives were available,

the options to do otherwise were quite limited. We have finally reached a point, with Santa Rosa at least, where zero discharge in most years is a reality. It is very disturbing to have to start over in terms of summer use, when those discharges had been illegal all along. You are going from calling them illegal but not enforcing violations to calling them legal under some circumstances, while not spelling out how enforcement will occur. Please explain how this is an improvement?

### **Permit puts off addressing impacts of “incidental runoff”....**

This permit offers two options for addressing potential water quality issues resulting from “incidental runoff”. We have a problem with the term “non storm water runoff” since there are many different kinds. We’ve been reverting to the term “incidental runoff” to apply to irrigation with wastewater in order to differentiate, but that may not be fully appropriate either.

Furthermore your document substitutes the term “non-storm water discharges” which we feel is very misleading, since it refers partly to wastewater, which is already illegal to discharge. There is an admission that these discharges must be regulated and that potential dischargers can meet requirements in one of two ways. They cannot irrigate, or they can enter into some undefined, unexamined, and possibly unmanageable BMP program that will address issues down the road and give the impression that the matter is being attended to.

While this permit ostensibly includes a CEQA equivalent, and since the program is seen as improving water quality and therefore not having negative impacts on water quality, therefore the issue of incidental runoff (non storm water) impacts goes unaddressed in this document. It is put off until some future time when the BMP program will be separately addressed in a public review process. CEQA does not allow the promise of future programs to serve as mitigation. Does the State Board’s equivalency allow such an approach?

### **Serious risk to human and wildlife health from unregulated chemicals in wastewater....**

Everyday there are more studies coming out about the risks of continuing on the path of putting off dealing with the problem of unregulated chemicals. The State Board dealt with it by setting up a “Blue Ribbon Committee” of experts. It’s apparent that no regulations will happen for quite awhile. But the information about endocrine disruptors has been around for almost twenty years and the situation becomes more dire every day. Some scientists have stated that this problem is greater than global warming due to the rapid species extirpation mentioned in my prior comments.

One study I just received only a day ago and I submit it with these comments. It is called simply: “Endocrine-Disrupting Chemicals” and is a scientific study put out by The Endocrine Society. (Attachment #10) To convey the seriousness of this issue, it states, “*The evidence for adverse reproductive outcomes (infertility,*



*cancers, malformations) from exposure to endocrine disrupting chemicals is strong, and there is mounting evidence for effects on other endocrine systems, including thyroid, neuroendocrine, obesity and metabolism, and insulin and glucose homeostasis.”* These effects can also be transmitted over generations and some occur in wildlife as well as humans.

A group called ChemTrust authored a paper called, “Effects of pollutants on the Reproductive Health of Male Vertebrate Wildlife – Males Under Threat”. (Attachment #11) It makes the case that males of each of the main classes of animals, including bony fish, amphibians, reptiles, birds, and mammals, have been adversely affected by chemicals in the environment, particularly those with hormone disrupting properties. They acknowledge the unknown effects of synergistic exposures to multiple chemical compounds. Problems encountered were low sperm counts, presence of intersex reproductive organs, structural deformities, poor reproductive success (i.e., early death of offspring or failure to gestate), and much more.

There’s an article entitled, “Environmental and occupational causes of cancer: A call to act on what we know”. We include this article not only because of our concern about unregulated chemicals in the wastewater, but also because of the risk to our waterways if the runoff includes soil amendments, bio-solids, and/or pesticides, all of which probably contain endocrine disrupting chemicals. (Attachment #12)

We also include an article by Jane Kay of the Chronicle from July 11, 2007, entitled “Danger feared from chemicals getting into the bay”. This was based on a study called “Down the Drain”, by the Environmental Working Group which we had submitted before. (Article: Attachment #13) Two dozen grab samples were taken from the sewage near businesses and homes in the East Bay MUD sewer system. Samples showed phthalates, bisphenol A, and triclosan, all endocrine disruptors were all in evidence. (Does Santa Rosa regularly test for those toxins?)

To address the issue of species extirpation, we include an article entitled, “Catastrophic shifts in ecosystems” by Marten Scheffer, Steve Carpenter, Jonathan A. Foley, Carl Folke, and Brian Walker in Nature, Vol 413, Oct. 11, 2001

We also fully support the comments of HR Downs of the O.W.L. Foundation on proliferation of anti-bacterial resistance in the wastewater. This is an extremely serious problem and he can tell the story far better than I can. He developed a CD on the subject which I include with my comments since he ran out of copies. (Attachment #15)

### **Stream flow circumstances changing and impacts not considered...**

The Russian River is a managed system. Flows have been governed by Decision 1610 since the early 1980’s. Conditions have been changing extensively in the river and consequently flow management in the form of

changes to “1610” will be changed as well. It is expected that the process to change Decision 1610 will begin next year. Changed circumstances include:

- More and more vineyards have been planted in the last twenty years, which increases water demand on the main stem Russian River as well as tributaries feeding into the river. The demand is especially strong in the late winter/early spring for frost protection, at a time when the advent of critical rains (in a dry year) needed to fill Lake Mendocino reservoir are still unknown.
- Many of these vineyards have had trouble getting water rights and illegal diversions have become rampant. Since these diversions are not regulated, no one really either knows the amount of water available in the feeder streams, nor how much is being used. Furthermore, there does not seem to be the regulatory will to get a strong handle on the problem. This situation has a major impact on fish survival along with water quality.
- The Russian River has been listed as impaired for temperature and sediment, the latter of which may be contributing to bacteriological contamination in the lower river.
- In the last ten years, three fish species have been listed by the Federal Government and the State as threatened and/or endangered and include Steelhead Trout, Coho salmon and Chinook salmon. As a result, a Biological Opinion has been issued by the National Marine Fisheries Service (NMFS) addressing current operations of the Sonoma County Water Agency. Key elements include:
  - Assuring that the mouth of the Russian River remain closed all summer to provide valuable breeding habitat in the Estuary for juvenile Steelhead.
  - In order to maintain a closed Estuary, it is necessary to lower flows to the Russian River from Lake Mendocino. The BO also calls for lowering flows in the lower river to about 85 cfs (as opposed to 125) even in normal rain years.
  - Requires SCWA to improve at least six miles of habitat in Dry Creek to possibly allow higher flows without harming migrating Coho and Steelhead. If this doesn't work, SCWA should be prepared to implement a pipeline solution to obtain greater flows from Lake Sonoma.
  - SCWA has the complex role of being legally bound to provide water to their contractors while at the same time having responsibility for releases from the dams, which provide water supply to property owners, and serve other beneficial uses such as recreation in the lower river. Furthermore, they are now responsible for programs that address the needs of the disappearing fish.

- This Storm Water permit fails to even address in passing the relationship between flows, especially in drought situations, and the impacts of wastewater “discharges” (incidental runoff) on streams containing very little water. The winter storm water periods at least have the advantage of a certain amount of dilution to minimize the effects of pollutant run off. How will you address this issue?
- Due to the State Board’s granting of an emergency order to the Sonoma County Water Agency in May, it is anticipated that flows in the lower river will go as low as 35 cfs. this year, as opposed to a normal of 125 cfs. This represents the minimum flows designated for a “critically dry year” even though certain aspects of the system were not seen as critical and actual releases so far have been in the normal range.

The point to including the above mentioned issues is because they have the potential to create circumstances that make maintenance of water quality a severe problem, especially during low flow periods. Already signs have been posted at various intervals on lower river beaches because of bacteriological contamination. How can ANY discharge not contribute to that problem? The non-storm water portion of this Storm water permit does not appear to address any of these issues.

Furthermore, it appears as though, drought or not, lower flows in the river and streams will occur on a permanent basis and along with this may the threat of summer water shortages on a permanent basis as well. This in turn will mean that there will need to be more focus on conservation and less on wastewater generated.

Now the major goal of conservation is saving water. This means there will be less wastewater disposed into the watershed. This in turn calls for conservation management practices that are often at odds with wastewater reuse through irrigation. For example, turf is very desirable and even necessary for wastewater irrigation programs. Furthermore, irrigation programs can only be cost effective if large numbers of contiguous properties are willing to use the wastewater in this manner.

Yet one of the demands of the State Board with this latest Emergency Order is to either eliminate ornamental commercial turf or modify watering to keep it at a minimum. Of course, this does not apply to irrigation with wastewater, but while we are in transition, some of the sites are getting rid of turf so they won’t have to pay the high cost of water now that costs are shooting way up.

So if the whole purpose of the wastewater irrigation program is to offset water supply, in the long run, it’s really cheaper and easier to get rid of it altogether, this attempt to write regulations to accommodate its use, we believe is a futile effort, not to mention the benefits to water quality by not having it altogether.

The truth of the matter, wastewater has many unregulated contaminants in it, including endocrine disruptors and pharmaceuticals that may be extremely harmful to the public, wildlife, and aquatic life and certainly water quality. We

request that you give our comments careful consideration before you authorize this permit.

Sincerely,

Brenda Adelman

## **List of Attachments:**

#1: "Recycling to save a river" by Mike McCoy, Press Democrat, 5-26-09: Pg. A1

#2: "Moderate Alcohol Intake and Cancer Incidence", Naomi E. Allen, Valerie Beral, Delphine Casabonne, Sau Wan Kan, Gillian K. Reeves,, Anna Brown, Jane Green on behalf of the Million Women Study Collective, Cancer Epidemiology Unit, University of Oxford, Oxford, UK, 2-24-09

#3: "Even moderate drinking affects women's cancer risk", British Medical Journal, BMJ Group, Feb. 24, 2009

#4: "Red wine carries same breast cancer risk as white wine", Anne Harding, Health

#5: Karen Denice, CNN, Atlanta, Georgia

#6: "Despite red wine's healthy reputation, study finds it won't lower cancer odds", Serena Gordon, Health Day Reporter, US News & World Report, 7-1-09

#7: Photos by Brenda Adelman, Ludwegia, Stony Point Bridge South of RP Expressway, 6-17-09 and 8-29-08

#8: Photos by Brenda Adelman, Ludwegia, Monte Rio Bridge looking east, 6-14-09 and 6-22-09

#9: Photo by Brenda Adelman, Poned Wastewater in front of Laguna TP Administration Building, 9 AM, 6-1-09

#10: "Endocrine-Disrupting Chemicals: An Endocrine Society Scientific Statement" Evanthia Diamanti-Kandarakis, Jean-Pierre Bourguignon, Linda C. Giudice, Russ Hauser, Gail S. Prins, Ana M. Soto, R. Thomas Zoeller, and Andrea C. Gore, The Endocrine Society, Copyright 2009

#11: "Effects of Pollutants on the Reproductive Health of Male Vertbrate Wildlife-Males Under Threat", Gwynne Lyons, Chem Trust

#12: "Environmental and occupational causes of cancer: A call to act on what we know", Richard W. Clap, Genevieve K. Howe, Molly M. Jacobs, Dept. of Environmental Health, Boston University School of Public Health, May 10, 2007

#13: "Danger feared from chemicals getting into bay", Jane Kay, SF Chronicle, July 11, 2007.

#14: "Catastrophic shifts in ecosystems", Marten Scheffer, Steve Carpenter, Jonathan A. Foley, Carl Folke and Brian Walker, Nature, Vol. 413, p. 591

#15: CD: "Waterborne: It's in You", produced by HR Downs of O.W.L Foundation and featuring Edo McGowan and Mary Reilly