September 4, 1999

Todd Thompson
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State Water Resources Control Board
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Dear Mr. Thompson:

This letter is in regard to the DEIR for GWDR for Biosolids Land Application. Since the proposed plan to use treated sewage sludge on crop land in San Miguel here in San Luis Obispo County, the public concern and awareness about potential risks to both human, animal, water and plant health has increased.

It has become apparent to many that the federal regulations on biosolids and the oversight and monitoring both by federal and local agencies has been sorely lacking in many areas. 33-1

One of the areas that concerns me the most is the fact that the long term effects of using biosolids as a soil amendment for food crops and forage crops has not been researched thoroughly. This sludge spreading practice has only become widespread since the Clean Water Act has become law. It was found that this material was too hazardous to dump into the ocean. Why, then, would it be safe for food to be grown in? 33-2

The sludge standards acceptable to the EPA exceed the allowable limits for European countries and Canada, often by a factor of ten. The United States is the largest producer of chemicals in the world. The EPA decided not to even regulate chemicals and pesticides that are now banned like DDT, for instance. The National Sludge Survey (1988-89) found DDT/DDE/DDD, Dioxins, PCB's--to name only a few out of about 30 listed, to be detected in sludge samples collected from 180 wastewater treatment plants. This was 10 years ago. The amount of toxins and pathogens, carcinogens must be much more prevalent now. And what of the synergistic effects? 33-3

There are technologies we have now that would produce no sludge. As the cost of disposal grows, along with the population growth and monitoring and liabilities and non-acceptance by vigilant and responsible land owners wouldn't it be more sensible and ethical to move towards these answers? 33-4

After looking over the DEIR prepared by your Board for GWDRs for land use for agricultural, horticultural, silvicultural and land recleamation activities, it looks like there are not much "potentially significant impacts", and for the ones that are "potentially significant", there are mitigation measures to take care of them. 33-5

For instance, Table ES-1 states potential incidence of chronic human disease resulting from ingestion of biosolids-derived heavy metals in crops grown on land application sites is "less than significant". 33-6

The same is said for direct human contact with pathogenic organisms in irrigation runoff or rain runoff, or walking on the application sites or breathing air particulants from them--"less than significant". 33-7

The one area of potential significance in the public health section is animals fed with crops grown on land application sites ingesting pathogenic organisms--mitigation measure--extend grazing restriction period to allow for pathogenic reduction--then the risk will be "less than significant". 33-8

You will have to employ a virtual army to monitor all these farms, water ways, open space, public access areas and peoples backyards. When I have read the contents on bags of fertilizer/soil amendments you buy for your home garden, most of them nowadays have sewage sludge listed. But the contents of the sludge is not available. 33-9

Lastly, but most importantly, children are the most vulnerable to disease and carcinogens. It is unacceptable to expose them to any more hazards than we already have to deal with. 33-10

Sincerely,
Marilyn E. Brown
Marilyn E. Brown

Center for Marine Conservation
PROTECT OCEAN LIFE

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33-1. The proposed GO will assist in providing adequate oversight for biosolids applications. The proposed GO establishes requirements at the point of application and places responsibility with the landowner and the generator. This is not required anywhere in the State. The proposed GO specifically outlines the requirements for the discharger and provides for a regional contact for the discharger, local agencies and the public.

33-2. This commenter expresses concern about the long-term effects of using biosolids as a soil amendment for food crops and the lack of scientific knowledge of this subject. In addition, the commenter notes that dumping sludge in oceans was outlawed because of its hazards and pollution potential, and asks how it could be considered safe to incorporate into agricultural soils.

The limits for loading for metals as contained in the Part 503 regulations were based on a set of mainly conservative assumptions that were considered protective of the soil resource and of public health. The Part 503 regulations may be changed and updated over time as additional research is conducted on long-term effects. These changes could become a part of the proposed GO, which bases many of its regulations on implementation of the Part 503 regulations pursuant to the GO Provision 13. The Part 503 regulations have been added to and strengthened in the proposed GO and through the mitigation measures recommended for consideration by the SWRCB in the draft EIR and these responses to comments.

In response to the second part of the comment, by the nature of their physical differences, soils have a much larger capacity to accept and renovate or attenuate wastes than does a body of water.

The ban on ocean disposal of sewage sludge was enacted by Congress in 1988 with the Ocean Dumping Ban Act. No sewage sludge has been dumped into the ocean by U. S. municipalities since 1992. The ban was largely a result of the creation of nutrient rich conditions in bottom sediments, which caused excessive oxygen demand, creating anoxic sediments which adversely impacted marine life in the sediments. The material was never deemed hazardous; the subsequent long-term assessment of impacts has shown that dumping at the 106-Mile site off the coast of New York in the Atlantic Ocean was remote from commercially important living marine resources and was unlikely to have significant impact on those resources or human health (Hunt et al. 1996).

Based on six years of exposure, these same researchers concluded that no major direct adverse impact was identified on populations of non-commercial species residing in or near the site, or along the continental slope downstream from the site. Potential indirect effects from the bioaccumulation of contaminants in the sludge were also not identified because

contaminant concentrations in the species studied were either low or could not be related to the 106-Mile site dumping activity. Most of the past impacts were associated with sites only 12 miles offshore in the inner New York Bight. The offshore disposal of more than 42-million tons of sewage sludge in the ocean over a six-year period did not result in apparent negative impacts to ocean resources or threats to human health (Hunt et al. 1996).

33-3. Refer to Master Response 12 for a discussion of U.S. versus European controls on land application of biosolids. Regarding regulation of chemicals and pesticides, refer to Responses to Comments 21-41 and 47-12. The amount of potentially toxic or carcinogenic material in municipal sludge is much less today than in years past. The requirements placed on large municipal wastewater treatment operations regarding pretreatment of wastes from industry and voluntary pretreatment and pollution prevention programs undertaken by industry have made a significant difference in levels of metals and organics in wastewater treatment by-products (Linnett et al. 1998).

EPA addressed the potential for synergistic effects of metals in its publication, "A Guide to the Biosolids Risk Assessments for the EPA Part 503 Rule" (U.S. Environmental Protection Agency 1995). The report indicated that EPA was not aware of any evidence that synergy has occurred, even in studies where metals-rich biosolids were used as soil amendments. No concern was raised regarding synergistic effects of SOCs. See also Response to Comment 47-12.

33-4. Technology continues to improve and provide opportunities for better and safer solutions to waste management issues. The GO program has been evaluated using the best studies and scientific information available. The program is designed to be revised and updated if additional sound science indicates that such revisions are needed.

33-5. The commenter is correct regarding the conclusions presented in the draft EIR.

33-6. This conclusion was based on the fact that the EPA risk assessments were based on very conservative factors, most of which are not applicable to California operations (California conditions would make the risks even lower because of higher soil pH values, less rainfall, and the low levels of heavy metals found in California sludges compared to the National Sewage Sludge Survey). Additionally, the proposed GO includes provisions to protect public health and the environment.

33-7. There was no evidence that exposure to pathogens at biosolids-amended sites was high enough to pose a risk to human health. Most operations are remote and under current management practices do not contribute to offsite movement of materials. Good agronomic practices are promoted by the GO restrictions, and these should help minimize offsite exposure from runoff or from having particulates be of concern.

33-8. See Mitigation Measure 5-2 and Master Response 8 regarding the issue of extended grazing restriction period.

33-9. See Master Response 1.

33-10. Comment noted. The Chapter 5 and Appendix E of the draft EIR addressed the issue of immunocompromised individuals and children. Children may be more susceptible to pathogens and infections. It is of key importance to manage Class B biosolids such that in areas where children are likely to be, exposure is minimized to avoid contact or ingestion. The proposed GO has been developed to achieve the necessary control.