

Senator Charlie Ringo, Chair
Senate Environment Committee
Oregon Senate
900 Court St. NE.
Salem, OR, 97301

2/28/05

Dear Mr. Chairman,

Thank you for inviting me to testify before you today.

My name is Gershon Cohen. Following my residency in Oregon in the late 1970's – early 1980's, I have and continue to reside in Haines, Alaska. I work as a consultant to numerous non-profit organizations and governmental agencies on a variety of industrial water pollution related issues. I hold a Bachelor's degree in Biology, a Masters Degree in Molecular Biology and Ph.D. in Environmental Policy. My doctoral dissertation, entitled *Mixing Zones: Diluting Pollution Under the Clean Water Act* was published in the *Tulane Environmental Law Journal* in 2001.

I have been working on the issue of mixing zones for much of the past thirteen years. In 2002 I formally petitioned the federal government for a review of the mixing zone regulation (See 40CFR131.13,) which in one sentence provides states with the authority to establish mixing zone policies affecting the implementation of their state water quality standards (WQS) without providing any guidance or limitations on their scope or application.

This rule has led to the adoption of policies across our country that directly result in a widespread circumvention of the purposes and mandates of the Clean Water Act, whose goal was and is to eliminate the discharges of wastes into U.S. waters. To support this contention I conducted a survey of mixing zone use across the country, submitting a list of questions regarding the use of mixing zones to regulators in all fifty states. One year later I published this survey and submitted it to the federal government in 2002 along with the petition mentioned above.

Let me share with you a few of my findings:

1. The dilution-solution is the reality in every state in our country. Tens of thousands of permitted, "legal" discharges across the U.S. fail to meet WQS at the point of discharge, i.e., they are considered legal because the

WQS are in theory eventually met somewhere downstream following dilution and dispersion of the wastestream into public waters.

2. Every state allows discharges of pollutants into mixing zones to exceed chronic aquatic life criteria, numerical limits beyond which it is assumed there will be long term reproductive, neurological, and/or developmental impacts to aquatic life.

3. Only five states prohibit discharges from exceeding acute aquatic life criteria, numerical limits beyond which it is assumed there will be near-immediate mortality to aquatic life.

4. Nearly half the states authorize generic mixing zones without any site-specific evaluation of the receiving water and only three claimed to routinely evaluate the risks to people where human health criteria are exceeded in the mixing zone.

5. In most states mixing zones are authorized in all classes of water for all pollutants regardless of whether the water is impaired, contains species listed as threatened or endangered, or is used by the public as a drinking water source or for primary contact recreation, regardless of whether the pollutant through transport or other means will ever leave the mixing area.

6. Preauthorization analyses of resident biota, monitoring of mixing zone boundaries to substantiate engineering models used to calculate mixing zone allowances, and post-authorization examination of impacts to biota through tissue sampling or ecosystem evaluation are virtually non-existent.

7. No state records the cumulative volume of water or linear dimension of river miles that are being contaminated through the use of mixing zones, or regularly posts areas within mixing zones.

8. Only two states claimed to ever perform cost benefit analyses to determine the economic impacts of mixing zone authorization on the discharger or the public.

Oregon was one of four states that refused to either devote staff time to the survey, failed to submit survey information, or stated that the information was unavailable.

LC818 does not eliminate the authorization of all mixing zones. It does begin to ratchet down on what are arguably the most illogical, and potentially harmful mixing zone policies – the authorization of mixing zones for toxic, persistent and bioaccumulative pollutants. Mixing zones are antithetical to the fundamental goals of the CWA, and the mandate of every state to protect the quality of its waters and the wildlife and people that depend upon those waters; the use of mixing zones to circumvent the necessary and reasonable burden to remove pollutants that do not dilute and disperse simply insults our common sense.

Mixing zones for mercury, arsenic, lead, and other heavy metals are meaningless. These pollutants do not “mix” with the receiving water and in the process cease to be toxic. Heavy metals and toxic organic compounds that bioaccumulate and persist in the environment continue to build up in the ecosystem over time. They accumulate in sediments and benthic organisms, awaiting their inevitable movement up the food chain, eventually finding their way into fish and the mammals and birds that consume them.

This scenario, and therefore the health of the aquatic ecosystem are further compromised by the fact that mixing zones are typically authorized for multiple pollutants. It is common for wastestreams to contain more than one compound that will exceed the WQS. As a result, pollutants that may work additively or synergistically to further compromise the ecosystem are typically treated as if they are isolated discharges. Furthermore, very few states sample sediments to determine contamination levels, and fewer still have adopted regulatory regimes for controlling the contamination of sediments by polluted wastestreams.

Years of regulatory abuse by private and public dischargers, and the especially egregious nature of mixing zone authorizations for bioaccumulative, persistent pollutants led Congress to establish a timetable for the elimination of mixing zones for these pollutants in all discharges into the Great Lakes by the year 2010 (See 33 U.S.C. §1268(c)(2).)

In closing, I will leave you with the words of EPA’s first Administrator William Ruckelshaus. Before a Senate panel in 1972, discussing the bill that would become the Clean Water Act, Ruckelshaus stated; “...we don’t believe that the solution to pollution is dilution....” (See Senate Comm. On Public Works, 93rd Cong., A Legislative History of the Water Pollution Control Act Amendments at 1228 (1973) I urge you to support LC818 and make Oregon the first state to begin closing the most significant point source pollution loophole for toxic compounds, the mixing zone.

Please feel free to contact me regarding any related concerns or questions.

Sincerely,

Gershon Cohen Ph.D.
Box 956 Haines, Alaska, 99827
907-766-3005
gershon@aptalaska.net