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DIVISION OF  
WATER QUALITY

August 20, 2008

Mr. William Moellmer  
Utah Division Of Water Quality  
P.O. Box 144870  
Salt Lake City, Utah 84114-480

Subject: Comments to Proposed Amendments to the Standards of Quality for Waters of the State,  
R317-2 - Great Salt Lake Selenium Standard

Dear Mr. Moellmer:

We are pleased to submit comments on the proposed standard for selenium in the open waters of Gilbert Bay. We have reviewed the proposed Amendments to the Standards of Quality for Waters of the State, proposed for Rule R317-2 of the Utah Administrative Code. This issue is important to the District because the District discharges wastewater effluent into drainages which discharge to the Great Salt Lake. We support the need to protect the Great Salt Lake ecosystem and the need to provide for increased public water supplies for a rapidly growing human population in Salt Lake Valley. Specifically, the demineralization of water sources in Utah and Salt Lake counties would produce by-product water which may feasibly be discharged to Gilbert Bay.

We note that the proposed selenium water quality standard consists of two components. The first component is a tissue-based standard of 12.5 mg/kg dry weight, using bird eggs. We support this proposed standard based upon the extensive studies that have been performed over the previous four years to arrive at this number.

We also support the second component that, of establishing assessment procedures for Gilbert Bay waters, which would allow for monitoring and taking increased actions if selenium concentrations are found to increase toward the standard in future years. However, we disagree with the proposal to place caps on selenium loading in Great Salt Lake discharge permits at 60 percent of the proposed standard level. We see this as a de facto selenium standard placed at 60 percent of the number derived through appropriate scientific studies. This would cause confusion between the 12.5 mg/kg standard cap and the lower 60% value of that cap.

We request that the implementation of annual selenium loading caps at levels below the selenium standard not be included within the proposed assessment procedures. We appreciate the opportunity to comment on this important water quality and standards issue.

Sincerely,



Ed Hansen  
District Manager



DWQ-2008-001421  
Document Date: 08/20/2008

August 19, 2008

Board of Directors  
Walt Baker  
Division of Water Quality  
P.O. Box 144870  
Salt Lake City, Utah 84114-4870

Dear Board Members and Walt,

The Nature Conservancy appreciates the opportunity to provide comments on the Division of Water Quality's proposed rules and selenium standard recommendation. We, like a number of other participants, have been involved in the selenium process from the beginning and as a major lake shoreline landowner, have a vested interest in the health of the lake system.

#### Summary

With EPA having stated that it is scientifically justifiable to select any number between "no effect" and the proposed 10% damage limit, The Nature Conservancy continues to support a "no effect" selenium standard as being the only standard that meets both the stated purpose of the selenium process and achieves full protection of all the approved beneficial uses currently in existence. The current Board recommendation would allow up to 10% damage of the avian nesting resource and require, in our opinion, a public explanation of how such a decision can be compatible with the Public Trust responsibilities held by the Division of Water Quality with respect to maintaining a healthy lake system, allowing only those uses that do not impair other beneficial uses and that are sustainable over time. A new selenium standard in California that takes into account the effects of hormesis and more detailed information on the inadequacy of the proposed standard in protecting the brine shrimp resource should also be cause for reconsideration of the Board's proposed selenium standard.

#### Rationale

We have commented extensively earlier in this process with additional reasons in support of our position, but they may be briefly listed as:

- Even the "no effect" standard allows a 2-fold increase in discharge from today's level. To adopt a discharge level that accommodates industry's

“potential” need to increase discharges dramatically while at the same time allowing damage to the wildlife beneficial use, requires a rock-solid justification and full public explanation.

- Remaining “unknowns” include: the possible impact on eared grebes who feed exclusively on brine shrimp within the water body, further data collection and refinements to the model, the possible synergistic effects between selenium and mercury, a possible additional, unmeasured selenium load that is occurring naturally within the system, and a more exact understanding of the volatilization process for removing selenium from the system
- Public expectations that a standard will be fully protective, not partially protective
- The fact that EPA has stated it is willing accept any number between “no effect” and EC10, acknowledging that all are scientifically justifiable and that the Board’s decision is a political decision on “how protective” the state wants to be
- Rather than an obvious “win-lose” EC10 standard, it is perfectly within the grasp of the Board to choose a “win-win” solution that would fully protect the wildlife values of the lake and still meet society’s and industry’s need to increase the discharge of contaminants into Utah’s premier water body.

#### New Information

1) Hormesis is important to consider in that it changes the shape of the modeled toxicity “curve”, possibly reducing the point where the EC10 actually falls. Considering hormesis, the actual EC10 for mallards is probably not 12.5mg/kg, but closer to 8 mg/kg. It is our understanding that Orange County, CA has recently adopted an EC10 standard for selenium that has been adjusted for the hormesis effect, bringing their effective standard from 12.5 mg/kg to roughly 7-8 mg/kg. This precedent should ease the fear that in selecting a numeric value lower than 12.5, Utah would be setting an unreasonably low selenium standard far more protective than any other state. By adopting the hormesis-adjusted standard, Utah just might be adopting what will be seen as a reasonable standard in line with future states’ decisions.

2) The brine shrimp factor. The brine shrimp is an integral part of the Great Salt Lake Ecosystem – valuable at many levels: from primary dietary component for a number of bird species at the lake, to a multi-million dollar brine shrimp cyst industry. New analysis and information presented by the brine shrimp industry indicates very clearly that an EC10 is not protective of the brine shrimp resource and could have major negative biological and economic results if the EC10 standard is adopted. To provide a minimally acceptable level of protection for brine shrimp, it is critical to have a more protective avian tissue standard, a separate brine shrimp standard, or a mandatory brine shrimp tissue-based monitoring program that includes actionable brine shrimp “triggers”.

3) The Nature Conservancy does support the proposed DWQ Assessment protocol with the actionable levels as proposed by DWQ and approved by the Steering Committee. It is

discomfiting to watch efforts by some to change/modify or even do away with this important part of the selenium standard proposal. The difficult final decisions made by members of the Steering Committee and its subsequent recommendation to the Board would simply be invalidated by any change in the Assessment details. It is certain that a number of members would have voted for a more conservative standard (lower standard number) if they knew the Assessment portion of the recommendation would be altered or dropped. We strongly support the Assessment protocol as presented be incorporated into the rulemaking.

### In Conclusion

The responsibility of the Steering Committee was to listen to the scientists and make a policy recommendation to the Board. All the stakeholders who made up the Committee were good people, who in the final moments, voted to protect the narrow interest that they felt they were on the Committee to represent. The process at that point became a numbers game – with final votes cast in either the “protection” or the “expanded use” camps. This was probably to be expected in hindsight.

The Nature Conservancy believes, however, that the members of the Board have an obligation that goes beyond whatever stakeholder group or interest they “represent” on the Board. The Board speaks and decides on behalf of the entire Utah public and must wrestle not with which beneficial use should be favored over another, but what is best in the long run for this wonderful natural system - a system that harbors international wildlife in astonishing numbers and also provides jobs and economic benefit to the state and its citizens. You can only have both continue if you make decisions based on the long-term health of the lake system – allowing only those uses that do not damage other legitimate beneficial uses and at levels that are sustainable over time.

Thank you again for allowing us to comment on this important issue.

Sincerely,

Dave Livermore  
Utah State Director  
The Nature Conservancy

Chris Montague  
Director of Conservation Programs  
The Nature Conservancy