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June 14, 2013

Ms. Barbara Evoy, Deputy Director
Division of Water Rights
State Water Resources Control Board
1001 I Street, 14th floor
Sacramento, CA 95812

Subject: LADWP failure to adequately conduct the Mono Lake limnology monitoring program mandated in Order 98-05

Dear Ms. Evoy:

The Mono Lake Committee (MLC) is writing to bring serious failures by the Los Angeles Department of Water and Power (LADWP) to comply with State Water Resources Control Board (State Water Board) Decision 1631 and Order 98-05 to your attention, specifically:

- 1) LADWP failure to conduct scientifically valid limnology monitoring of Mono Lake starting in August 2012, and
- 2) LADWP's unilateral elimination of the independent scientific operation of the limnology program in 2012 without State Water Board approval and contrary to Order 98-05.

State Water Board Decision 1631 and Order 98-05 require monitoring of Mono Lake limnology and secondary producers utilizing an independent scientific study program established in 1982.

The monitoring is necessary to understand the condition and restoration of Mono Lake, waterfowl habitat, and the Public Trust resources of Mono Lake; to allow the State Water Board to distinguish changes resulting from the rising level of Mono Lake from naturally occurring changes; and to inform adaptive management actions by the State Water Board.

The LADWP report to the State Water Board of May 13, 2013, documents that LADWP has caused the limnology monitoring program to fall into a state of disarray. The report also documents other matters of significant concern that MLC will address in subsequent letters.

Based on the report, it is clear that LADWP has been unable to operate a scientifically valid limnology monitoring program since it unilaterally took over operations in August 2012.

LADWP initiated major protocol changes in the program. As a result, critical data are not being collected, and key portions of the data that are being gathered are not usable. This undercuts the fundamental purpose of the program to provide the State Water Board and the public with understanding of Mono Lake's health and restoration over time, and is in violation of the rules set forth in Order 98-05.

A detailed review of the failures follows as Attachment A. The Attachment covers violations of Order 98-05, missing core program data, invalidation of data due to loss of continuity, loss of independent science, and Waterfowl Program Director failure.

The Mono Lake Committee requests immediate State Water Board action to remedy the situation before another year is lost.

Urgency

Due to the failures detailed in Attachment A, the Mono Lake limnology program appears to have functionally ceased operation on August 1, 2012. The State Water Board and the people of California are now in the dark about the ecological condition of Mono Lake and the status of its recovery under the landmark Water Board Mono Lake decision.

This violation of Order 98-05 will soon exceed one year in duration. MLC requests immediate action be taken to place the program back into operation this summer and to assure a stable basis for successful operation in the future.

Remedy

MLC requests that the State Water Board order the lake limnology and secondary producers portion of the Waterfowl and Waterfowl Habitat Monitoring Program be immediately and permanently returned to operation in the manner that has been 1) previously established by order of the State Water Board and 2) proven successful for decades. Accordingly, MLC respectfully recommends the State Water Board order the following:

1. As already required in Order 98-05, operation of all aspects of the limnology program is to be conducted by professional limnologists with expertise in saline lakes.
2. As already specified in the Waterfowl Plan (pg. 27) in Order 98-05, designate that the expert limnology team shall be the UC Santa Barbara team lead by John Melack due to their 30 years of success in running the Mono Lake program through July 2012.
3. Create a replacement protocol in the event that the designated limnology team is no longer able to conduct the program. Consistent with Order 98-05 and current practice with other independent science experts, the limnology team should recommend qualified replacement candidates with the replacement to be selected by consensus among the interested Mono Lake parties subject to approval by the State Water Board.
4. Consistent with Order 98-05, specify that the program shall consist of all the regular program elements documented in annual reports prior to 2012.
5. Consistent with Order 98-05, require that the limnology team shall report annually, and the report shall be transmitted to the State Water Board without any modification by LADWP
6. Require that the expert limnology team advise, in their annual report, regarding any program changes appropriate to insure an efficient and scientifically valid program
7. To avoid future impairment of the program, authorize State Water Board staff to assess penalties, consistent with Water Code, should regular operation of the limnology program, a water license term, be disrupted, such as by lack of contract or other administrative matter.

Conclusion

Decision 1631 allows water export while Mono Lake is rising to its long term management level. Since 1997, LADWP has been allowed diversion of 16,000 acre feet per year—an urban supply worth more than \$10 million annually. The limnology monitoring program is a reasonable and affordable condition of the water license that allows those exports.

MLC simply asks that the rules and obligations previously set forth by the State Water Board be followed. The monitoring program led by independent scientists has proven its worth and the value of independent science to the State Water Board is clear. The remedies outlined above will place the limnology monitoring program back onto solid footing. Thank you for your review of this urgent situation.

Sincerely,



Geoffrey McQuilkin
Executive Director

Cc: Mono Basin distribution list

Attachment A

State Water Board Order 98-05 requires monitoring of Mono Lake limnology, secondary productivity, and physical and chemical environment (Order 4d). The Mono Lake program, generally known as the limnology program, has been conducted reliably for 30 years by independent limnology experts knowledgeable about saline lake systems. The information produced by the program is the only study required of the Los Angeles Department of Water and Power (LADWP) to inform the State Water Board and public of the recovering ecological health of Mono Lake as it rises to achieve the Public Trust protections and habitat restoration goals set forth in State Water Board Decision 1631 and Order 98-05.

On May 13, 2013, LADWP filed its annual compliance report with the State Water Board. In 2012, LADWP unilaterally chose to end its contract with the independent expert limnology team from UC Santa Barbara (UCSB) who had successfully conducted the program up until that time. LADWP subsequently made major changes to the limnology program protocol and attempted in-house program operation starting in August 2012.¹ No communication from LADWP staff sought approval for these changes from the State Water Board, or communicated them to MLC and other interested Mono Lake parties. Nor are we aware of the Waterfowl Program Director at the time, also a LADWP staff member, making any such communications.

The Mono Lake Committee concludes that LADWP, based on its own compliance report, is unable to operate the program to provide reliable, scientifically useful data and analysis on the health of Mono Lake. Highlights are as follows.

Violation of Order 98-05

- Order 98-05 includes the Mono Basin Waterfowl Habitat Restoration Plan, which specifies that the entire Mono Lake limnology program “will be performed by contract” (pg. 27) and identifies the UCSB research team as the established experts expected to conduct the work. For 2012 LADWP reports (Compliance Reporting, Appendix 1, pg. 4) that it converted the program from an independent science effort to an in-house operation in violation of the Order.
- Program failures documented below show multiple violations of the limnology monitoring requirement of Order 98-05 after LADWP changes starting in August 2012. These are not one-time errors. The pattern of problems shows LADWP’s inability to operate a successful monitoring program.

Missing data

- The salinity of Mono Lake was not recorded, as is required in the program protocol. Salinity is a basic parameter of fundamental interest to understanding the dynamics of a salt lake. LADWP reports that no reliable data were collected during its operation of the program from August–December, 2012 (Compliance Reporting, Appendix 1, pg. 12). Subsequent inquiries indicate that salinity information is still not being collected as of May 2013—a data gap exceeding 10 months. Salinity data are critical for, among many things, determining if Mono Lake is meromictic or monomictic and thus understanding nutrient availability to the ecosystem.
- Meteorological data were not recorded, as is required in the program protocol. The weather station on Paoha Island—the only source of near-lake weather data—failed in October 2012 and was not repaired (Compliance Reporting 2012-2013, Appendix 1, pg. 9). Alternate stations are distant from the lake and do not provide comparable data. MLC understands the station remains unrepaired as of May 2013.
- No measurements of the primary productivity of Mono Lake were made, as is required in the program protocol. Primary productivity photosynthetic rates provide a long term integrative measure of lake productivity.

Loss of continuity in monitoring methods invalidates LADWP data

- LADWP modified multiple data collection and analysis methodologies starting in August 2012. Long term monitoring requires use of consistent methods to allow year to year comparisons and

¹ These changes were contrary to Order 98-05, as discussed below.

long term trend analysis. There is no indication that validation techniques—typically comprised of overlapping sample periods—were applied. Further, the reporting does not indicate that the new methods applied for sample analysis were adjusted for the unique water chemistry of Mono Lake.

- Brine shrimp data cannot be compared to prior years. Sampling and counting brine shrimp requires individual technician expertise. Based on the reporting, insufficient efforts were made to calibrate the new LADWP staff with prior trained personnel. As a result it cannot be known if changes in 2012 brine shrimp population dynamics reflect “the real world” or the presence of a new technician. This could have been easily accomplished by having both technicians make counts of a series of the same samples.
- Ammonium data cannot be compared to prior years. LADWP implemented substantially new methods involving freezing and extensive transport of samples. No calibration with the long-established method of analysis was made. Further, no effort is reported to assure the new methods are accurate in light of the unusual water chemistry of Mono Lake.
- Chlorophyll data cannot be compared to prior years. LADWP implemented substantially new methods involving freezing and extensive transport of samples as far as the Chesapeake Bay in Maryland. No calibration with the long-established method of analysis was made.

Loss of independent science

- Performance of the limnology program by independent scientists with expertise in saline lake limnology took place for 30 years prior to the changes made by LADWP in August 2012. The role for independent science at Mono Lake has been well established by the State Water Board in multiple aspects of the Mono Lake decision and orders, including preparation of both the stream and waterfowl habitat restoration plans, implementation of stream restoration, oversight of the limnology and waterfowl programs, and ongoing monitoring. With the limnology program, independent science provides the unbiased information and the expert data analysis and trend synthesis needed for the State Water Board to evaluate if the public trust protections established at Mono Lake are being achieved. LADWP has unilaterally departed from this well established model.
- Past reporting by the UC Santa Barbara team of independent experts provided the State Water Board with critical multi-year trend reviews, analysis of limnological factors operating in complex ways specific to Mono Lake, review of changes in light of trends at other Great Basin saline lake systems, and multi-year synthesis of data (for example, see Compliance Reporting 2011–2012, Appendix 1).

Failure of LADWP Waterfowl Director

- The Waterfowl Program Director role was established in Order 98-05 to assure, as one duty, successful operation of the limnology monitoring program. In 2012 the Waterfowl Program Director was LADWP employee Dr. Brian White. Dr. White allowed all the issues above to take place under his watch. Further, Dr. White—and indeed LADWP as a whole—never once communicated with the State Water Board or the interested Mono Lake parties about the massive changes made to the program, the new methods and techniques selected, or any efforts undertaken to assure program success. Rather, based on the LADWP reporting it appears that the changes that have debilitated limnology monitoring were designed and deployed “in-house” without regard to existing State Water Board mandates, established protocols of communication, or good scientific practice.

In summary, LADWP has departed from the rules and principles set forth in State Water Board Decision 1631 and Order 98-05 as well as good scientific practice. As a result, the multi-year Mono Lake limnology program is in crisis. Critical data are not being collected, and key portions of the data that are being gathered are not usable. Immediate action is needed to place the program back into operation this summer and to assure a stable basis for successful operation in the future.