



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

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AUG 19 2014

Ref: 8EPR-EP

Dr. Andrew Todd, Chair  
Water Quality Control Commission  
4300 Cherry Creek Drive South  
Denver, CO 80222-1530

Subject: Ambient-Based Selenium Standards for Golf Course  
Wash and Turkey Creek (Regulation #32)

Dear Dr. Todd:

The Environmental Protection Agency is reviewing revisions to Colorado water quality standards for segments in the Arkansas River and Rio Grande basins. Such revisions include the ambient-based selenium standards for Golf Course Wash (Middle Arkansas River segment 4e) and Turkey Creek (Middle Arkansas River segment 18b). The purpose of this letter is to request additional information or rationale in support of these segment-specific standards.

The segment-specific standards were adopted by the Water Quality Control Commission (WQCC or Commission) on August 12, 2013, based on a proposal developed by the Pueblo West Metropolitan District (PWMD). The standards were developed to describe and protect current conditions. The numeric standards are Se (acute) = 1,797 µg/L and Se (chronic) = 1,769 µg/L for Golf Course Wash, and Se (acute) = 2,498 µg/L and Se (chronic) = 2,344 µg/L for Turkey Creek.

The Statement of Basis and Purpose adopted by the Commission provides the following:

“Based upon selenium data collected in these segments and an engineering report that concluded that the source of selenium in the Pueblo West Metropolitan District Wastewater Treatment Plant influent and the surrounding ground and surface waters is the geologic shale formations ubiquitous to the Middle Arkansas sub-basin, the Commission adopted ambient quality-based selenium standards.”

As part of the Environmental Protection Agency’s ongoing review pursuant to Clean Water Act (CWA) § 303(c), the EPA has considered all formal written comments. For example, we reviewed the responsive comments submitted to the Commission by the Water Quality Control Division (WQCD or Division). The WQCD comment letter requested that PWMD withdraw the proposal for Golf Course Wash and Turkey Creek. The WQCD expressed concern that the proposal was not ripe for consideration, because PWMD did not show that existing conditions are protective of the classified uses. The Division commented that Pueblo West is one of the fastest growing areas in Southeastern Colorado, the PWMD proposal did not include a thorough assessment of the water quality impacts of development, and ambient selenium levels may be affected by anthropogenic activity and not solely the result of natural contributions of the underlying geology.

The EPA has also reviewed the rebuttal statement submitted to the Commission by PWMD. In response to the Division’s comments, PWMD explained that “assessment of land use, aquatic life and agriculture use protection, and anthropogenic influences upon the source and mobilization of selenium have been addressed for the Pueblo

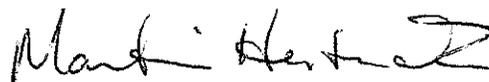
Reservoir area over a 20-year period by the City of Pueblo, WQCD, and PWMD.” PWMD also provided general information, e.g., regarding land uses in the Golf Course Wash watershed (e.g., open spaces, single family home development, some Lake Pueblo State Park land, and the golf course). In response to Pueblo County, PWMD provided more detailed information, including photographs of Golf Course Wash and Turkey Creek (in Exhibit #35) and explained that, for example, “Pueblo West is a community totaling 39,000 acres, 60% of which is considered developable. Only 34% of Pueblo West is currently developed. Of this developed percentage, it is estimated that less than 5% is irrigated, including parks, schools, and the golf course which is watered with non-potable water (i.e., PWMD water treatment plant backwash water). This results in a total estimated maximum irrigated area of 1.7% of the 39,000 acre total.”

Although ambient-based standards have been disapproved by the EPA on a number of occasions, there also have been multiple examples where the EPA approved such standards.<sup>1</sup> Ambient-based standards are authorized by the general policy at Section 31.7(1)(b)(ii) of the Basic Standards and Methodologies for Surface Waters. Ambient-based standards are appropriate if the supporting materials demonstrate that the standards protect the highest attainable water quality condition and use. Regarding Golf Course Wash and Turkey Creek, our understanding is that there are no point sources. Accordingly, the primary question appears to be whether the supporting materials adequately demonstrate either that anthropogenic nonpoint sources are negligible, or that loading reductions are infeasible.

We have not yet completed our review of the Golf Course Wash and Turkey Creek ambient-based standards. We are considering whether the supporting materials resolve the extent to which existing water quality conditions are due to: 1) natural sources, 2) irreversible human-induced sources, and/or 3) controllable sources. There are sites in the west where irrigation practices have elevated otherwise natural concentrations of selenium. If reduced loadings from such nonpoint sources are feasible to achieve, the numeric standards should not be based on current conditions, but rather the conditions that are attainable. The materials submitted by PWMD include useful information regarding geology, land use and irrigated acreage, and successfully demonstrate that high selenium concentrations have been observed consistently across a number of drainages on the north shore of Lake Pueblo.

To support completion of the EPA’s review of the submitted WQS revisions, we request that the Commission submit to the EPA any additional information or rationale in support of the ambient-based selenium standards for Golf Course Wash (Middle Arkansas River segment 4e) and Turkey Creek (Middle Arkansas River segment 18b). Examples of the types of information that would be useful include data addressing whether existing ambient conditions are protective of the aquatic life use classifications and whether downstream uses are protected (e.g., fish tissue selenium concentrations in Pueblo Reservoir). Also, additional information on sources and loading from those sources would be useful, if available, and whether those sources are controllable. Questions may be directed to David Moon (303 312-6833), the Region’s water quality standards coordinator.

Sincerely,



Martin Hestmark  
Assistant Regional Administrator  
Office of Ecosystems Protection  
and Remediation

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<sup>1</sup> For example, various Arkansas River basin ambient-based standards were disapproved in an EPA letter dated May 5, 2000. Other ambient-based standards have been approved, with the most recent example being the selenium standards for lower Sand Creek (Upper South Platte segment 16i) that were approved with an EPA letter dated July 8, 2014.