

BILL ANALYSIS FORM

Date Filed: March 11, 2013

Sponsor(s): Rep. Davies *et al.*; Sen. D. Sanders *et al.*
(53 total co-sponsors)

As amended: N/A

- 1. Short Title: To Amend the Laws Pertaining to the Promulgation of Water Quality Standards; To Improve the Process for Developing and Implementing Water Quality Standards; and to Declare an Emergency**
- 2. Analysis: The bill will amend the statutory provisions regarding the development of water quality standards at Ark. Code Ann. § 8-4-202(b)(3)**

Summary of Amendments Proposed by the Bill (does not summarize legislative findings or intent):

8-4-202(b)(3)(B):

- **Minerals Criteria (development and implementation (flow)):**
 - Minerals (chlorides, sulfates and total dissolved solids) standards and criteria, and assessment of water quality for conformity with those standards and criteria, will be based on “the greater of the average flow in the stream or stream segment or four (4) cubic feet per second (cfs).
 - Standards and criteria for minerals set to protect a domestic water supply use and assessment of water quality for conformity with or protection of a domestic water supply would also be based on the greater of the average flow or 4 cfs.
 - Assessment for the conformity with water quality standards for minerals shall be based on “average concentration of minerals in the [waterbody] using at least sixty (60) actual measured samples taken at regular intervals over at least a five-year period.”
 - The values for dissolved minerals listed in APC&EC Reg. 2.511 shall not be used to evaluate or assess the attainment of water quality standards.
- **Domestic Water Supply Use:**
 - A water quality standard to protect or maintain the use of a domestic water supply may be developed and implemented only for a stream segment, lake or reservoir that:
 - Has an existing use as a domestic water supply; or
 - Is listed in the Arkansas Water Plan as a planned or potential domestic water supply.
 - The domestic water supply use shall be designated for tributaries to lakes and reservoirs used as a public water supply that are upstream from the point of a domestic water supply intake unless the designated use is or has been removed under the regulations of the APC&EC.
 - The list of stream segments and reservoirs that are designated as a domestic water supply shall be regularly published in APC&EC Regulation 2.
- **Commencement of Studies to Allocate Loads:**
 - Before commencing a study, including a TMDL, that would purport to allocate loads

for permissible discharges to a waterbody in order to conform to a water quality standard, the person conducting the study shall give written notice to all persons who are permitted to discharge directly or indirectly into the waterbody.

- The notice shall:
 - Identify the person responsible for conducting the study;
 - Explain the purpose of the study and the method that will be used to conduct the study; and
 - Provide instructions on obtaining additional information about the study.
- A copy of the draft report of the study shall be sent to:
 - Each person that holds a permit to discharge into the waterbody;
 - Each public drinking water treatment system whose source water's watershed contains the waterbody; and
 - Each person that has requested a copy of the results or report of the study.
- Before the study is finalized, ADEQ shall conduct a public hearing on the study if requested by:
 - A person holding a permit to discharge to the waterbody; or
 - A public drinking water treatment system whose source water's watershed contains the waterbody.
- The study shall not establish a waste load allocation (WLA) for the waterbody for purposes of protecting the use of a domestic water supply unless ADEQ has first certified that:
 - There is an existing domestic water supply use for the waterbody; or
 - The stream segment or reservoir is listed in the Arkansas Water Plan as a planned or potential domestic water supply.
- **Permitting certifications by ADEQ:**
 - Within 30 days after the receipt of an application for an individual discharge permit, ADEQ shall certify to the permit applicant whether the stream segment or reservoir that shall receive the proposed discharge is:
 - An existing domestic water supply; or
 - Listed in the Arkansas Water Plan as a planned or potential domestic water supply.
- **Use of APC&EC Reg. 2.511(B) for assessment**
 - This provision would prohibit the use of Reg. 2.511(B) (ecoregion standards) for evaluation and assessment of attainment of water quality standards.

8-4-202(b)(3)(C): Stay/waiver of permits not in compliance with new statutory provisions

- A term or provision in a National Pollutant Discharge Elimination System (NPDES) permit that exists as of the effective date of the act, but has not yet become effective and does not comply with or was not developed in accordance with the requirements above shall be:
 - Stayed upon application to the APC&EC by a person regulated under the “noncompliant” term or condition or an order related to the “noncompliant” NPDES permit; or
 - Waived upon application to the APC&EC or order related to the “noncompliant” NPDES permit until an applicable NPDES permit term or condition or an order related to an applicable NPDES permit complying with the requirements of this bill

becomes effective.

Analysis of Impacts of the Bill:

Overview: This bill contains provisions that are inconsistent with the Clean Water Act

The proposed bill contains provisions that are inconsistent with the federal Clean Water Act. These conflicts may allow the U.S. Environmental Protection Agency (EPA) to make important water quality decisions in Arkansas, rather than leaving those decisions with the Arkansas Pollution Control and Ecology Commission (APC&EC) and the Arkansas Department of Environmental Quality (ADEQ). Water quality standards are regulations which establish, among other things: 1) quality of the state's surface waters; 2) the standards against which water quality data is compared to evaluate water quality impairments; and 3) the standards from which water quality based effluent limits are derived that control pollutants in a permitted discharge to the state's surface waters.

Water quality standards consist of the uses designated for a waterbody, water quality criteria to protect those uses, and an antidegradation policy.¹ As stated in the federal regulations:

[Water quality standards] should, wherever attainable, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and take into consideration their use and value for public water supplies....

40 C.F.R. § 130.3.²

Under the federal Clean Water Act, states are given the responsibility to establish water quality standards. But any standards adopted or subsequently revised must be reviewed and approved by EPA before they can be used by a state as the basis for water quality program decisions.³ Changing water quality standards through legislation, which goes into effect immediately, will place ADEQ in the impossible position of implementing standards that have not been adopted by regulation or approved by EPA. This is inconsistent with Section 303(c) of the federal Clean Water Act.

Additionally, to the extent the following actions are proposed in the bill, they are inconsistent with federal regulations adopted pursuant to the federal Clean Water Act:

- 1) Removing a designated use that is an existing use, as defined by 40 C.F.R. § 131.3(e);
- 2) Changing conditions of an issued NPDES permit without following the administrative procedures established for issuing permitting decisions (federal regulations adopted by APC&EC Reg. 6.104); and
- 3) Assessing water quality which does not evaluate all existing and readily available water quality data (Section 303(d) of the federal Clean Water Act).

1 See Section 303(c) of the Clean Water Act (33 U.S.C. § 1313 (c)); 40 CFR §§ 131.6 and 131.10 – 131.12.

2 See also Sections 101 (a)(2) and 303(c) of the Clean Water Act.

3 Section 303(c) of the Clean Water Act.

In summary, this bill, if adopted, appears to authorize actions which will not likely be approved by EPA or be capable of being implemented by ADEQ under federal law or program delegation. This is important because any changes regarding water quality standards, including designated uses, would have to be implemented through changes to APC&EC Regulation 2, the state's water quality standards regulation. Under federal law, any changes to the water quality standards would require approval from EPA before the changes could be implemented for Clean Water Act purposes (i.e., water quality assessment, permitting, etc.)

Proposed 8-4-202(b)(3)(B)(iv) – Domestic Water Supply Use

According to federal regulations, a state may remove a designated use from a waterbody where the designated use is not an existing use.⁴ Arkansas' water quality standards are set forth in APC&EC's Regulation 2. Domestic water supply⁵ is a designated use under Arkansas' water quality standards.

In order to protect existing and future domestic water supplies for the citizens of Arkansas, APC&EC Regulation 2 applies the domestic water supply use to all surface waters in the State of Arkansas.⁶ The domestic drinking water use (or classification as a raw water source for public water supplies) has been applied to all of the state's surface waters since at least 1973. In limited situations, and based on site-specific scientific studies, the domestic water supply designated use has been removed after a demonstration that the designated use is not an existing use and that the removal of the use will allow all other designated uses to be protected.

Minerals criteria and domestic water supply use have become more important to the regulated community as more waterbodies are listed on the state's Impaired Waterbodies List (303d list). Once data shows that a stream or stream segment is being impacted by minerals from a permitted discharge and the stream segment is determined to be impaired, any permitted facility that discharges minerals to that impaired stream segment, which may cause or contribute to the impairment, will have specific effluent limits placed in their respective permits to address the mineral impairment.⁷ Meeting mineral limits in a permit may be costly. In order to limit mineral impairment listings and their impacts on dischargers, the proposed bill attempts to eliminate the statewide application of the domestic water supply use.

Despite a long history of protecting the state's surface water resources for current and future drinking water supplies, the proposed bill will remove this important use from a significant number of the state's surface waters by a mere stroke of the pen and without *any* demonstration which shows the use is not existing in the affected waters. Under the terms of this bill, the drinking water supply use will be removed unless the stream segment or reservoir is an existing domestic water supply, which is undefined and potentially inconsistent with "existing use" as defined in federal regulation,⁸ or is

4 40 C.F.R. §§ 131.3(e) and 131.12(a); See also 40 C.F.R. § 131.10(g).

5 Domestic water supply "designates water which will be protected for use in public and private water supplies...." APC&EC Reg. 2 302(G).

6 APC&EC Regulation 2, Appendix A.

7 40 C.F.R. § 122.44.

8 Whether current water supplies meet the federal definition of "existing use" is open to question and poses yet another potential source of conflict between the bill and federal regulation because some streams, which might meet

listed in the State Water Plan as a planned or potential domestic water supply. Unfortunately, the existing State Water Plan does not inventory every stream segment in the state that can potentially be used as a public or private water supply. Nor is this level of inventory expected to be conducted in the update to the State Water Plan, which is currently underway and planned for completion by November 2014. Nothing beyond very general information associated with existing drinking water supplies and potential drinking water sources for existing population centers is in the existing State Water Plan. Consequently, it appears that the requisite information needed to protect potential sources of domestic water supplies for the future and in the less populated areas of the states does not exist. As a direct consequence, for most streams in the state, protection as a potential domestic water supply for public or private use will be eliminated under the proposed bill. This is not only bad public policy as it would not provide adequate protection to current designated uses, it does not protect water resources necessary for growth in the state.

Under the bill, only those stream segments, lakes, or reservoirs currently serving as a documented domestic water supply, or tributaries directly upstream of a public water supply intake, will effectively continue to be protected as a domestic water supply. It is important to note that a stream "segment" does not necessarily encompass the entire stream. For example, the White River has a series of dams that form Corps of Engineer reservoirs (Beaver, Table Rock, Bull Shoals, Norfork). These reservoirs are currently being used as domestic drinking water supplies. However, the segments of the White River adjacent to these reservoirs may not be currently used as domestic water supplies. You would expect these segments either to be potential drinking water supplies or to have been domestic water supplies in the past, but if not listed in the current State Water Plan, then the use can be removed from these tributaries under the proposed bill. This is not only inconsistent with federal regulation, but these stream segments should retain the designated use and applicable water quality criteria in order to protect the reservoirs they supply.

The bill appears to protect tributaries upstream from the point of a domestic water supply intake. However, the bill does not define "tributaries" or the reach of those tributaries and, therefore, may only protect direct tributaries upstream of the public water supply intake. In the case of Beaver Water District for example, if only direct tributaries are protected, the West Fork of the White River, the Middle Fork of the White River and Richland Creek would no longer be designated as a domestic water supply and would jeopardize the protection of Beaver Lake as a drinking water source.

Removing a designated use should require modification of the State's water quality standards. And when these standards are changed, they must be submitted to EPA for approval.⁹ ADEQ cannot implement water quality standards that have not first been approved by EPA. If a standard is adopted by a state, but disapproved by EPA, then the standard cannot be used to draft water discharge permits (known as NPDES permits). If the standard, which is not approved by EPA, is used to draft permits, then EPA may object to the issuance of the permit. Once EPA objects and the state fails to address EPA's objection, then the authority to issue the permit is transferred to EPA¹⁰ Further, if a standard is adopted by a state, but disapproved by EPA, then the standard cannot be used for assessing

the federal definition of "existing use" and, therefore, cannot be removed without conducting a use attainability analysis, may be removed under the proposed bill if its former use is not captured in the current State Water Plan.

⁹ Section 303(d) of the Clean Water Act; 40 C.F.R. §§ 131.20 and 131.5.

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waterbody impairments under Section 303(d) of the Clean Water Act.¹¹ If a state's water quality standards are disapproved by EPA, EPA is allowed to adopt standards that conform to the Clean Water Act which will be applicable to Arkansas.¹²

Proposed 8-4-202(b)(3)(B)(i)-(iii) – Mineral Criteria (development and implementation (flow))

One initial concern is that the bill will require the development and implementation of standards for minerals using “the greater of the average flow in the stream or stream segment or [4 cfs].” ADEQ has never used flow to establish standards or to assess streams against the standards established. And 4cfs has only been used to develop permit limits for minerals in very small streams. However, if actual stream flow data exists, then that data should be used instead of 4 cfs. For instance, if actual stream flow data showed that the flow was 3 cfs, then sound science would not support the use of the larger 4 cfs. The use of 4 cfs is only sensible, where it is an accurate measure of natural flow conditions.

This bill also contains conflicting provisions regarding the development of standards and criteria for minerals and the assessment of water quality for determining conformity with or attainment of the standards and criteria. The bill will require minerals standards and criteria, and the assessment of water quality for conformity with those standards, to “be based on the greater of the *average flow* in the stream or stream segment *or [4 cfs].*” (Ark. Code Ann. § 8-4-202(3)(B)(i)). Later, in the same subsection, the bill provides that “assessment of a [waterbody] for conformity with or attainment of a water quality standard for minerals...shall be based on the *average concentration* of minerals in the [waterbody]....” (Ark. Code Ann. § 8-4-202(3)(B)(iii)). Standards based on flow and standards based on average concentration would yield two completely different numbers and would not be workable as an assessment methodology.

Development and Assessment of Mineral Standards

Mineral standards are viewed as more similar to human health criteria in that they are designed to protect against long-term exposure, which in some cases includes the lifetime of aquatic organisms. Minerals, in the low concentrations set forth in the water quality standards, do not cause discernable effects to the aquatic community. Rather, as mineral concentrations increase from low to high concentrations over long periods of time, certain species may be impacted and usually disappear, to be replaced by other species. This effect takes place over the long-term, rather than at short-term, low flow conditions.

The reference to 4 cfs first appeared in APC&EC Regulation 2 in the 1990s as a means for establishing mineral limits for dischargers to small streams. But this proposed bill goes far beyond the establishment of permit limits for minerals. This bill proposes that “development and implementation of standards and criteria for minerals must be based on flow (the greater of the average flow (which is an undefined term) or 4cfs). However, flow data has never been used by

¹¹ 40 C.F.R. §§ 122.4, 122.43, 122.44(d), 131.4, and 131.21. See also the definition of “applicable standard” at 40 C.F.R. § 122.2 .

¹² 40 C.F.R. §§ 131.22, 122.4, 122.43, and 122.44(d). See also the definition of “applicable standard” at 40 C.F.R. § 122.2 .

ADEQ to develop water quality standards or to assess stream segments anywhere in the State of Arkansas. ADEQ has historically maintained that standards are based upon the assumption that existing flow conditions in streams continue without material change. Since the standards were not developed based on flow, it would be inappropriate to consider flow data when assessing water quality based on those standards.

ADEQ develops an assessment methodology in order to evaluate the state's water quality and, in turn, to determine which waterbodies should be listed as impaired. Waterbodies which do not meet water quality standards are identified on the 303(d) list as impaired.¹³ Once waterbodies are listed as impaired, then a total maximum daily load (TMDL) must be calculated.¹⁴ A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive in order to meet water quality standards and consists of the “sum of the individual wasteload allocations for point sources and load allocations for nonpoint sources and natural background.”¹⁵ In order for the impaired waterbody to attain water quality standards, dischargers to an impaired waterbody must have their permits revised based on the TMDL.

With well over 150 ambient monitoring stations that are sampled once per month, and 50-80 roving monitoring stations that are sampled multiple times per year, ADEQ does not have adequate resources to measure the flow at each of the sampling locations to determine if the flow requirements of the proposed bill are being met. In addition to flow data, under this bill water quality assessments for minerals require no less than 60 actual measured samples taken at regular intervals over a five year period. . There are times when samples are not collected because there is a “no-flow” condition at a monitoring station. When this occurs, ADEQ will collect less than the required 60 samples pursuant to the proposed bill resulting in a stream segment not being assessed. In this proposed legislation, if one sampling event is missed during the five year period of record, then no data can be used to assess the waterbody. This is in direct conflict with the requirements of the Clean Water Act.

Although this approach will be effective in avoiding listing stream impairments due to minerals, it is inconsistent with federal regulations, which require states to “assemble and evaluate all existing and readily available data and information” in developing its 303(d) list.¹⁶

The assessment methodology, data evaluated, and list of impaired water bodies is provided to EPA, as required by federal law.¹⁷ EPA reviews the information submitted and approves or disapproves the list.¹⁸ If EPA disapproves the list, then EPA “shall...identify such waters in such a state and establish such loads for such waters as determined necessary to implement applicable [water quality standards].”¹⁹ If a state fails to consider all existing and readily available data, it is very likely that EPA will disapprove the 303(d) list at least in part and revise the list as it determines to be necessary. Federal court cases from the Eighth and Eleventh Circuit Courts of Appeals have not given a favorable view to state’s “credible data laws” and, as such, some provisions of this bill may not be acceptable.

13 Section 303(d) of the Clean Water Act.

14 *Id.*

15 40 C.F.R. §130.2(i).

16 40 C.F.R. § 130.7(b).

17 Section 303(d) of the Clean Water Act; 40 C.F.R. § 130.7.

18 *Id.*

19 *Id.*

Implementation of Minerals Standards (Permitting)

Flow data is necessary for developing certain effluent limitations in NPDES permits. According to the Continuing Planning Process (CPP), which is a document required to be developed by federal and state law,²⁰ the background flow for calculating mineral limits for permits varies depending on the size of the stream into which the effluent is discharged. At the time the CPP was last updated (2000), flow data existed for many large and medium streams, but was not widely available for small streams, i.e. those with a watershed less than ten square miles (10 mi²). **The CPP contains a "Minerals Implementation Policy," that was developed for establishing mineral effluent limits for dischargers located in watersheds of 10 mi² or less. This policy was not intended to be used to develop mineral criteria.**

The Minerals Implementation Policy generally determined that: (1) harmonic mean flow best represented the critical flow to be used for mineral discharge limits; (2) insufficient data existed to develop a regression model by stream size and ecoregion to predict harmonic mean flow for small watershed streams; and (3) in the absence of sufficient data to establish a harmonic mean flow in small watersheds, a critical flow of four (4) cubic feet per second (cfs) would be used to develop mineral permit limits.

Regulation No. 2 requires that ecoregion-specific perennial stream fisheries designated uses must be maintained and protected in waters with a watershed size equal to or greater than 10 mi². A review of the limited flow data from the smallest watershed sizes within each ecoregion indicated that the median flow for 10 mi² watershed streams ranged from just less than 3 cfs to just over 7 cfs. Ecoregion averages were from about 3 to 5 cfs. Therefore, in the 1990s, based on a limited data set, a statewide median flow of 4 cfs was selected to be used as a “critical flow” in place of harmonic mean flows where insufficient data exists to establish such flows.

In the 2013 Triennial Review of the state’s water quality standards (which is open for public comment at this time), ADEQ proposes to change the definition of “critical flow” for determining permit limits for minerals criteria to “Q7-10” for site-specific standards developed by ADEQ. For site-specific standards developed by third parties, the critical flow would be the flow stated in the documentation that was used to support the site-specific standard. Thus, for those standards that were based upon a background flow of 4 cfs, the critical flow would remain 4 cfs. This proposed change is more appropriate than a statutory change that will direct the development and assessment of water quality standards, not just their use in setting permit limits.

Proposed 8-4-202(b)(3)(B)(v) - Commencement of Studies to Allocate Loads

ADEQ has no objections to providing notice to any person who holds a permit from ADEQ where ADEQ is undertaking a TMDL or other study that would allocate pollutant loads. ADEQ is able to identify permitted discharges, but has no way of identifying any permitted indirect dischargers, as these persons are undefined and unknown. ADEQ also does not object to providing public notice and opportunity to comment and a public hearing on any draft TMDL report. However, ADEQ

20 Section 303(e) of the Clean water Act; 40 C.F.R. §§ 130.5 and 130.10; Ark. Code Ann. § 8-4-208.

objects to limiting those who can request a public hearing to dischargers, rather than allowing a request for a public hearing to be made by any member of the public.

EPA specifically stated in their review of a draft of the bill:

This provision speaks directly to the procedures and criteria for developing approvable TMDLs. To the extent this provision may be relied upon to restrict or inhibit TMDL development, EPA would view the provision negatively. This language is not consistent with 40 CFR 130.7(e), which allows for the development of TMDLs “for the specific purpose of developing information,” also known as informational TMDLs. The language in this paragraph prevents the establishment of informational TMDLs which apply domestic water supply uses if the water is not listed in the State Water Plan as having an existing/planned/potential domestic water supply use.

Additionally, it is unclear if this provision would apply directly to contractors that may be performing the study on behalf of another entity, such as a governmental agency or industrial discharger.

Proposed 8-4-202(b)(3)(B)(vi) - Permitting certifications by ADEQ

It is unclear why this requirement is necessary. All domestic water supply uses are designated and listed within APC&EC Regulation No. 2. The requirement of a list by this bill would not be new, unless the bill requires a separate listing in an appendix or other section of the regulation. .

Proposed 8-4-202(b)(3)(B)(vii) – Use of Reg. 2.511(B) for assessment

ADEQ has proposed a similar change to the text of APC&EC Reg. 2.511(B) during the 2013 Triennial Review, so we would not have a problem with this section. However, if EPA was to disapprove the change during the Triennial Review process, this provision would not be effective for Clean Water Act purposes.

Proposed 8-4-202(b)(3)(C) - Stay/waiver of permits not in compliance with new statutory provisions

Any significant permit modification requires approval of EPA. In particular, any changes in permit limits must comply with federal anti-backsliding provisions found in 40 C.F.R. § 122.44(l), which prevents renewed NPDES permits from containing less stringent provisions than the previously-issued permit. The proposed bill appears to contemplate staying or waiving certain permit conditions upon application to the Commission and without requiring permit modification. Where a permit contains mineral limits which are not yet effective, such as the final effluent limits that do not become effective until after a compliance period expires, those conditions may be waived or stayed without following any permit modification process, if the discharge is to a stream segment that is not currently being used as a drinking water supply or identified in the State Water Plan as a potential domestic water supply. (This will likely be most stream segments in the state.) Even if the permitted

discharge is into a stream segment or reservoir currently used as a drinking water supply, then any permit condition not yet in effect may be waived or stayed without modification, if the mineral limits were not derived using the greater of the average flow or 4 cfs. If this is how this bill can be interpreted, then, in effect, permits that have been issued by ADEQ and approved by EPA can be changed without the permit being modified in conformance with state and federal law and NPDES program delegation.

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