Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

KANSAS IMPLEMENTATION PROCEDURES

Surface Water Quality Standards

Prepared by Kansas Department of Health and Environment
Watershed Planning, Monitoring, and Assessment Section/Bureau of Water
Division of Environment

February 18, 2021

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These written procedures provide a uniform mechanism for interpreting Kansas Surface Water Quality Standards in waters of the state.

1 SURFACE WATER CLASSIFICATION

All ponds owned by federal, state, county, or municipal authorities and all privately owned ponds that impound water from a classified stream segment are classified ponds and a portion of those ponds are listed in the Kansas Surface Water Register.

Applicable Regulations: 28-16-28d(a)

1.1 CLASSIFIED STREAM SEGMENTS

Classified stream segments are all stream segments that:

1) Are waters of the state as defined in subsection (a) of K.S.A. 65-161, and amendments thereto, and waters described in subsection (d) of K.S.A. 65-171d, and amendments thereto, and

2) Meet one of the following criteria:

   a. Stream segments indicated on the federal environmental protection agency's Reach File 1 (RF1) (1982) and have the most recently available 10-year median flow of equal to or in excess of 1 cubic foot per second (cfs) based on data collected and evaluated by the United States Geological Survey. In the absence of measured stream segment flow data, calculations of flow conducted by extrapolation methods provided by the United States Geological Survey may be used.

   or

   b. Stream Segments not indicated on RF1 and have the most recently available 10-year median flow of equal to or in excess of 1 cubic foot per second based on data collected and evaluated by the United States Geological Survey or in the absence of stream segment flow data, calculations of flow conducted by extrapolation methods provided by the United States Geological Survey may be used.

   or

   c. Stream segments actually inhabited by threatened or endangered aquatic species listed in rules and regulations promulgated by the Kansas Department of Wildlife and Parks or the United States Fish and Wildlife Service. The Kansas Department of Wildlife and Parks and the United States Fish and Wildlife Service will be consulted in order to determine the presence of threatened and endangered species.

   or

d. Stream segments where scientific studies conducted by the department show that pooling of water during periods of flow below 1 cfs provides important refuges for aquatic life and permits biological recolonization during periods of intermittent flow.

or

e. Stream segments at the point of, and downstream from the point of discharge from a facility permitted under the National Pollutant Discharge Elimination System (NPDES). Note: confined animal feeding operations (CAFOs) are not permitted to have a continuous discharge. Therefore, this provision does not apply to NPDES-permitted CAFOs as defined in K.S.A. 65-171d, and amendments thereto.

A schematic depiction of the process is provided in Figure 1on the following page.

1.2 CLASSIFIED LAKES AND RESERVOIRS

All lakes managed by federal, state, county, or municipal entities and those private lakes and reservoirs used for public drinking water supply or open to the general public for secondary contact recreation, are classified lakes and reservoirs, a portion of those lakes and reservoirs are listed in the Kansas Surface Water Register.

1.3 CLASSIFIED WETLANDS

All wetlands managed by federal, state, county, or municipal entities, those wetlands classified as outstanding national resource waters, exceptional state waters, or designated as special aquatic life use waters, are classified wetlands and a portion of those wetlands are listed in the Kansas Surface Water Register. Those privately owned wetlands open to the general public for hunting, trapping, or other secondary contact recreational activities are also classified wetlands. Artificially created wetlands for wastewater treatment are not considered classified wetlands.

1.4 CLASSIFIED PONDS

All ponds owned by federal, state, county, or municipal authorities and all privately owned ponds that impound water from a classified stream segment are classified ponds and a portion of those ponds are listed in the Kansas Surface Water Register.

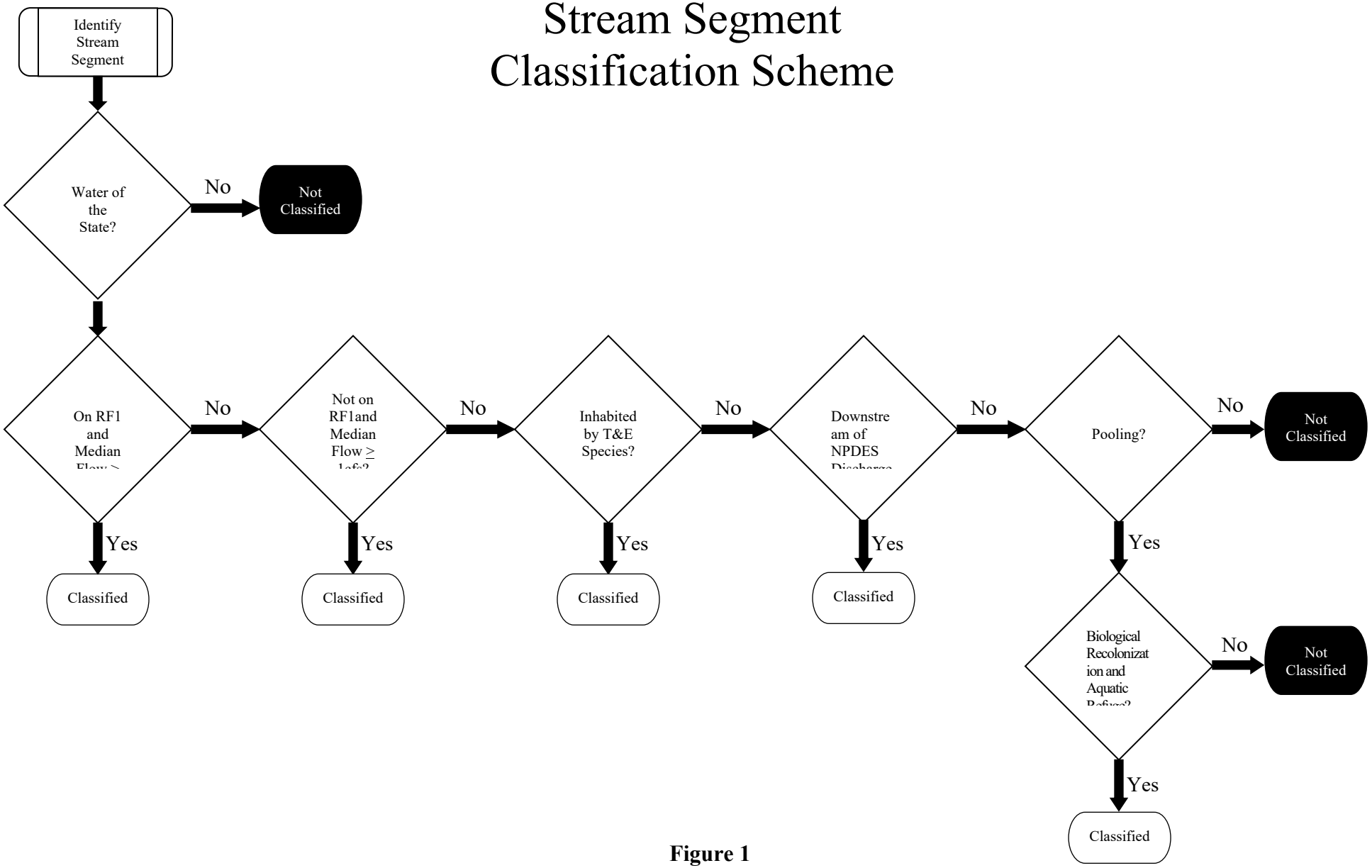
Stream Segment Classification Scheme
Identify Stream Segment
Water of the State?
No
Not Classified
On RF1 and Median
No
Not on RF1and Median Flow ≥
No
Inhabited by T&E Species?
No
Downstre am of NPDES
No
Pooling?
No
Not Classified
Yes
Classified
Yes
Classified
Yes
Classified
Yes
Classified
Yes
Biological Recolonizat ion and Aquatic
No
Not Classified
Yes
Classified

Figure 1

2 DESIGNATED USES

Applicable Regulations: K.A.R. 28-16-28d(b)
K.A.R. 28-16-28d(c)

The Department will assign designated uses to state surface waters by conducting a use attainability analysis following the standardized procedures. Another party, following the Department's standardized procedure, may also conduct a use attainability analysis. If conducted by another party, the use attainability analysis must be submitted to the Department for review and approval.

2.1 AGRICULTURAL WATER SUPPLY USE

Surface waters used for agricultural purposes.

2.1.1 Livestock watering.

Surface waters may be used for consumption of water by livestock.

2.1.2 Irrigation.

Surface waters may be withdrawn and used for application onto cropland.

2.2 AQUATIC LIFE SUPPORT USE

Waters used for the maintenance of the ecological integrity of streams, lakes and wetlands including the aquatic, semi-aquatic, or terrestrial species dependent on surface water for survival

2.2.1 Special Aquatic Life Use.

Surface waters that contain unique habitats or biota that are not commonly found in the state. Surface waters that contain populations of threatened or endangered species will be designated as special aquatic life use waters listed in rules and regulations by the Kansas Department of Wildlife and Parks or the United States Fish and Wildlife Service. The Kansas Department of Wildlife and Parks and the United States Fish and Wildlife Service will be consulted in order to determine the presence of threatened and endangered species.

If the receiving stream is designated as a special aquatic life use water, the permit limits derived will maintain existing uses and where attained, designated uses.

If the receiving surface water is designated by the State as critical habitat for threatened or endangered species, the permit limits derived will maintain water quality considered acceptable for continued propagation of the species and maintenance of its habitat.

2.2.2 Expected Aquatic Life Use.

Surface waters that contain habitats or biota found commonly in the state.

2.2.3 Restricted Aquatic Life Use.

Surface waters that contain biota in limited abundance or diversity due to the physical quality or availability of habitat compared to more productive habitats in adjacent waters.

2.3 DOMESTIC WATER SUPPLY USE

Surface waters that are used, after appropriate treatment, for a potable water resource. As used in these regulations, "point of diversion" is the location of a surface water intake structure used for domestic water supply or at the point of water removal from the alluvial aquifer by a well utilizing "groundwater under the influence of surface water" as defined under K.A.R. 28-15-11(cc).

2.4 FOOD PROCUREMENT USE

Surface waters that are used for obtaining edible aquatic or semi-aquatic life for human consumption.

2.5 GROUNDWATER RECHARGE USE

Surface waters used for replenishing useable groundwater resources.

2.6 RECREATIONAL USE

Surface water used for primary or secondary contact recreation.

2.6.1 Primary Contact Recreation.

Primary contact recreational use is evaluated differently for each of two main categories of waters: 1) classified surface waters other than classified stream segments, and 2) classified stream segments. For each category, the determining factor for primary contact recreation is body immersion in the water to the extent that some inadvertent ingestion of water is probable.

The primary contact recreation season is from April 1 through October 31 of each year.

2.6.1.1 Classified Surface Waters Other Than Classified Stream Segments.

Uses supported in this category include boating, mussel harvesting, swimming, skin diving, water skiing, and wind surfing. The three subcategories of primary contact recreational use for classified surface waters other than classified streams segments are:

1) “Primary contact recreational use: swimming beach” applies to those classified surface waters other than classified stream segments that have posted public swimming areas. During the non-recreational season, the secondary contact recreational use: public access criteria will apply.

2) “Primary contact recreational use: public access” applies to those classified surface waters other than classified stream segments where full body contact may occur and is by law or written permission of the landowner open to and accessible by the public. During the non-recreational season, the secondary contact recreational use: public access criteria will apply.

3) “Primary contact recreational use: restricted access” applies to those classified surface waters other than classified stream segments where full body contact may occur and is not open to and accessible by the public under Kansas law. During the non-recreational season, the secondary contact recreational use: restricted access criteria will apply.

2.6.1.2 Classified Stream Segments.

The three subcategories of primary contact recreational use for classified stream segments are:

1) "Primary contact recreational use: class A" applies to those classified stream segments that have been designated as public swimming areas. Uses supported in this category include activities such as; kayaking, mussel harvesting, swimming, skin diving, water skiing, and wind surfing. During the non-recreational season, the secondary contact recreational use: class A criteria will apply.

2) "Primary contact recreational use: class B" applies to classified stream segments where moderate full body contact from activities that include kayaking, mussel harvesting, swimming, skin diving, water skiing, and wind surfing shall occur. A classified stream segment under this classification must be by law or written permission of the landowner open to and accessible by the public. During the non-recreational season, the secondary contact recreational use: class A criteria will apply.

3) "Primary contact recreational use: class C" applies to classified stream segments supporting boating, mussel harvesting, swimming, skin diving, water skiing, wind surfing, wading, or fishing and has infrequent full body contact under Kansas's law, a classified stream segment in this classification is not open to and accessible by the public. During the non-recreational season, the secondary contact recreational use: class B criteria will apply.

2.6.2 Secondary Contact Recreational Use.

There are two categories for secondary contact recreational use: 1) classified surface waters other than classified stream segments and 2) classified stream segments. The determining factor for secondary contact recreational use is a lack of body immersion to the extent ingestion of surface water is not probable.

The secondary contact recreational use standards apply year round to surface waters designated for secondary contact recreational use.

2.6.2.1 Classified Surface Waters Other Than Classified Stream Segments.

This use shall include wading, fishing, trapping, and hunting. The two subcategories of secondary contact recreational use for classified surface waters other than classified streams segments are:

1) "Secondary contact recreational use: public access" applies to classified surface waters other than a classified stream segments that are by law or written permission of the landowner open to and accessible by the public.

2) "Secondary contact recreational use: restricted access" applies to classified surface waters other than a classified stream segments that by law are not open to and accessible by the public.

2.6.2.2 Classified Stream Segments.

Secondary contact recreational uses for classified stream segments are capable of supporting the recreational activities of wading, fishing, canoeing, motor boating, rafting or other types of boating. There two classes of secondary contact recreational use for classified stream segments "Secondary contact recreational use: class A" applies to classified stream segments that are by law or written permission of the landowner open to and accessible by the public.

1) "Secondary contact recreational use: class A" applies to classified stream segments that are by law or written permission of the landowner open to and accessible by the public.

2) "Secondary contact recreational use: class B" applies to classified stream segments that by law are not open to and accessible by the public.

If opposite sides of a classified stream segment have differing public access status, the designated use of the entire classified stream segment will be the assigned the highest attainable recreational use. Assignment of the higher use, however, does not grant de facto public access to both sides of such segment.

Neither primary nor secondary contact recreational use designations will apply to stream segments where the natural, ephemeral, intermittent or low flow conditions or water levels prevent primary or secondary recreational activities.

3 CRITERIA

3.1 BACKGROUND CONCENTRATIONS

Applicable regulation: K.A.R. 28-16-28e(b)(9)
K.A.R. 28-16-28e(d)(3)(B)

In surface waters where naturally occurring concentrations of elemental substances such as chlorides or sulfates exceed the numeric criteria given in Tables 1a, 1b, and 1c in the Kansas Surface Water Quality Standards: Tables of Numeric Criteria, the newly established numeric criteria will be the background concentration in the receiving water. Background concentrations applied as criteria will be determined only for those substances incorporated into surface waters that are released from geologic deposits and formations as a result of erosional processes or groundwater intrusions.

The background concentration of a receiving water may be established using data from STORET or data from other data bases with adequate and documented quality assurance procedures acceptable to KDHE. The background concentration will be determined using existing instream chemical parameter measurements and stream flow measurements. In instances where background concentration is approximately proportional to the flow, the background concentration will be determined using the mean concentration of instream measurements. Only those measurements gathered when stream flow is at or below 50th percentile of all stream flow values will be used to determine background concentrations. A minimum of five data points will be required to make a background concentration determination. If sufficient data is not available, then the background concentration will be established through monitoring. Samples will be collected in upstream areas representative of the receiving water, including various habitat types, and unaffected by the discharge being permitted, or other identifiable anthropogenic influences. Samples from streams will be collected as close as possible to low flow conditions. Samples from lakes will be collected outside of the regulatory mixing zone. The mean of at least five concentration observations is required to establish the background concentration. Hardness and pH data will also be gathered if the criterion is hardness or pH dependent. In instances where background concentration is not proportional to flow, a scientifically based analysis approved by the department will be required.

3.2 SITE-SPECIFIC CRITERIA

Applicable regulation: K.A.R. 28-16-28f(e)

A site-specific criteria determination can change the water quality aquatic life criteria for a parameter(s) in a given stream segment. A change in criteria based on a site-specific determination will not be granted to allow technology-based limits to be exceeded. The discharger requesting a site-specific determination from

the criteria set via K.A.R. 28-16-28e must specifically state, in writing to KDHE, the parameters for which a site-specific determination is being sought. The request must include the scope, content and time frame for a study to gather data in support of the site-specific determination being requested. The site-specific determination study must be conducted in accordance with one of the three methods outlined in USEPA's Interim Guidance on Determination and Use of Water Effect Ratios for Metals, EPA-823-B-94-001, or other acceptable methods (background concentration determination or winter time ammonia criteria). The study may also provide supporting data establishing the chemical, physical and biological condition of the receiving water, including the number, diversity, and health of the biological resources in the stream. Studies to make a site-specific determination may also use guidelines provided in EPA's Technical Support Document for Water Quality-based Toxics Control.

To conduct a site-specific determination study, KDHE will require persons skilled in developing the necessary information needed to make a determination conduct the study. Such skills will include appropriate techniques for conducting the approved EPA methods and relevant biological studies. KDHE approval of the scope, content, and time frame of the study is required.

KDHE will conduct a forum for the public to participate in the establishment of site-specific aquatic life criteria. KDHE will invite interested parties, regional experts, and the general public to assist in the construction of the scope and content of any studies used for support or development of site-specific criteria. The public will also be invited to comment on proposed criteria through the public notice process and if deemed necessary, through a public hearing.

Normally, KDHE will allow 12 months to gather the necessary data and three additional months to assimilate and present the report. This time frame may be extended or reduced based upon the complexity of the study; weather induced delays and other contingencies outside the control of the discharger. During this time, monitoring requirements will be placed in the permit for the parameters, which will be affected by the site-specific determination. The requirements in the original permit issued prior to allowing the site-specific criteria study will remain in effect until the permit is renewed or until a final decision is made on the site-specific criteria request.

The decision and appropriate permit modifications will be public noticed and subject to review and appeal. If the request to change the site-specific criteria is not granted and the permitee is unable to meet the required limitations, the permit will be modified with a schedule of compliance.

3.3 NATURALLY OCCURRING CONDITIONS FOR LOW DISSOLVED OXYGEN (DO) CRITERION IN STREAMS

Applicable regulation: Kansas Surface Water Quality Standards: Tables of Numeric Criteria 1g

Some conditions that occur naturally can cause low dissolved oxygen levels in streams. Typically, the incidence of low dissolved oxygen occurs in the summer when water temperatures are high (reducing the ability of water to retain dissolved oxygen) and stream flows are low (reducing the ability of the stream to re-aerate itself or flush or dilute any oxygen-demanding substances present in the water). At times, the introduction of natural organic materials such as during periods of leaf fall can cause low dissolved oxygen levels in some segments of streams. Additionally, ground water reaching the surface through springs and seeps may have low dissolved oxygen. Digressions from the dissolved oxygen criterion under the above conditions should be excluded for the purposes of Section 303(d) of the Federal Clean Water Act.

Natural conditions contributing to the local digression of low dissolved oxygen should be documented during the field site visit. Factors including flow conditions, ambient air and water temperatures, presence of allochthonous organic matter from wildlife or riparian vegetation, dystrophic inputs to the stream from

wetland areas and extended days of cloud cover should be noted at the time of sampling. Additionally, observations and samplings of the resident aquatic life community, including fish, mussels, macroinvertebrates and other shellfish should be made at the time of deficient oxygen to ascertain possible stress on the biota or lack thereof. These ancillary data and information will be used in the Section 303(d) listing and assessment process to determine whether the incident of low dissolved oxygen can be discounted.

3.4 BIOTIC LIGAND MODEL FOR AQUATIC LIFE COPPER CRITERIA PERMIT LIMITATIONS

Applicable regulation: K.A.R. 28-16-28e(e) and Kansas Surface Water Quality Standards Tables of Numeric Criteria 1a

In March 2015, KDHE adopted by reference the Biotic Ligand Model to calculate the copper aquatic life ambient freshwater quality criteria.

The Biotic Ligand Model (BLM) is a tool used in aquatic toxicology that examines the bioavailability of metals in the aquatic environment and the affinity of these metals to accumulate on gill surfaces of organisms. BLM depends on the site-specific water quality including such parameters as pH, temperature, and dissolved organic carbon (DOC). In this model, lethal accumulation values (accumulation of metal ion the gill surface, in the case of fish, that cause mortality in 50% of the population) are used to be predictive of lethal concentration values that are more universal for aquatic toxicology and the development of standards.

The point of the model is to provide an easy way to estimate how WQC values should respond to changes in water chemistry variables such as DOC, pH, alkalinity, Ca, Na, etc. This capability enhances analyst's ability to develop water quality criteria that are consistent with the level of protection that is intended by the water quality standards (WQS).

Datasets will be comprised with a minimum of 12 samples to be analyzed for the parameters listed in Table 1 of this section, with one exception, when using KDHE instream monitoring data total organic carbon (TOC) will be included versus DOC. When TOC is included in the data set it will be converted to DOC prior to inputting the value(s) into the BLM by a multiplication factor of 0.7482. When selecting the dataset to be modeled to generate site-specific copper criteria limitations it will be determined if KDHE's instream chemistry monitoring station data is to be used (Data from the ENVI database), or if the NPDES permittee EDMR/DMR specific data is to be used and compared to or in conjunction with KDHE's data. When there is insufficient instream monitoring station data to calculate BLM copper criteria limitations the NPDES permittee will be requested to conduct at least 12 months of monitoring to collect data for the parameters listed in Table 1:

Table 1: BLM Parameters

- Temperature	- Sodium
- pH	- Potassium
- Copper	- Sulfate
- Dissolved organic carbon (DOC)	- Chloride
- Humic acid*	- Alkalinity, and
- Calcium	- Sulfide*
- Magnesium	

*Default values identified in the BLM manual may be used, such as 10% for humic acid and 1.0^{-10} for sulfide.

Once data has been inputted into the model and run an Instantaneous Cu WQC Report will be generated. This report will include the Criterion Maximum Concentration (CMC otherwise known as the Acute Criteria) and Chronic Continuous Concentration (CCC otherwise known as the Chronic Criteria).

4 WATER QUALITY STANDARDS VARIANCES

Applicable Regulations: K.A.R. 28-16-28b
K.A.R. 28-16-28f(d) through K.A.R. 28-16-28h

4.1 BACKGROUND

In August 2015, the Environmental Protection Agency (EPA) published 40 C.F.R. 131.14, implementing its authority under the Clean Water Act (CWA) section 101(a) and 303(c)(2) to establish requirements for water quality standard (WQS) variances. A WQS variance is a flexible mechanism of water quality protection that may be requested by an individual or group of dischargers who believe they cannot meet their current permit limit and are also uncertain whether the permit limit can ultimately be achieved. Variances establish time limited designated use and criterion, that reflects the highest attainable condition as an alternative to one or more of the criteria of K.A.R. 28-16-28e for the purposes of developing National Pollutant Discharge Elimination System (NPDES) permit limits where the underlying designated use and criterion cannot currently be met due to one of the factors cited in K.A.R. 28-16-28f(d)(1). The process of adopting WQS variance will be done according to K.AR. 28-16-28b, K.A.R. 28-16-28f(d) and K.A.R. 28-16-28h, which adopts in part 40 C.F.R. 131.14.

The Kansas Department of Health and Environment (KDHE), the permitting authority for the state of Kansas, may adopt time-limited WQS variances for a designated use and criterion reflecting the highest attainable condition (HAC) applicable throughout the term of the WQS variance, pursuant to K.A.R. 28-16-28b(sss) and 28-16-28f(d). A WQS variance does not exempt the discharger from the requirement to comply with all other applicable technology-based effluent limitations (TBELs) or water quality-based effluent limitations (WQBELs) outside of the parameters specified in the variance. WQS variances may be adopted for a single discharger, multiple dischargers, or a water body or waterbody segment(s). Each WQS variance is considered to be a WQS and is subject to the requirements of the public participation process referenced in 40 CFR 131.14 and referenced in K.A.R. 28-16-28f(d) and defined in 40 C.F.R. 131.20.

A WQS variance may be appropriate when a facility has opportunities to improve water quality, but the timeframe is uncertain as to when the criteria will be consistently met. A WQS variance will not be adopted if the underlying designated use and criterion of the proposed WQS variance can be achieved by implementing technology-based effluent limits.

WQS variances and requests for subsequent WQS variances are initially reviewed by the KDHE Bureau of Water (BOW). If KDHE BOW supports the proposed WQS variance, it is then subject to public review and comment during the public notice process, and a public hearing as a change to the WQS. KDHE BOW will address any public comments prior to submittal to U.S. EPA Region 7 for final approval. Once EPA Region 7 has granted final approval of the WQS variance, NPDES permit(s) with the WQS variance can

be issued. Each WQS variance is granted for the minimum time needed as to achieve compliance with the applicable highest attainable condition as determined by KDHE.

4.2 VARIANCE REQUEST REQUIREMENTS

All Variances: Person(s) requesting a WQS variance shall meet at least one of the factors included in K.A.R. 28-16-28f(d)(1).

As part of the WQS variance application or request, the requestor is to demonstrate they have assessed and considered the following factors:

- Technology-based controls are insufficient to meet WQBELs derived to meet the underlying designated use and criteria at issue in the variance,
- Ensure there is no jeopardy to threatened or endangered species,
- Ensure there is no unreasonable risk to human health, and
- Ensure the highest attainable condition applicable throughout the term of the variance does not result in any lowering of currently attained ambient water quality, consistent with 131.14(b)(1)(ii).

Multiple-discharger Variances: When requesting a variance for greater than one (multiple) dischargers, specific eligibility requirements may be specified in a WQS variance, as an alternative to identifying qualified dischargers at the time of adoption of a WQS variance for multiple dischargers. The receiving waterbodies must be included in the request.

4.3 SUBMISSION REQUIREMENTS

WQS variance requests from a discharger(s) will include an application that will be reviewed by KDHE. WQS variance requests shall include the following information, provided by KDHE or the applicant, for consideration:

4.3.1 Variance submissions to EPA**.**

WQS variance submission per 40 C.F.R. 131.14(b) shall include:

1) The pollutant(s) or water quality criterion, and the water body/waterbody segment(s) to which the WQS variance applies.

2) The specific discharger subject to the WQS variance. (K.A.R. 28-16-28f(d) and 40 C.F.R. 131.14(b)(1))

3) All the applicable requirements that represent the HAC of the water body or waterbody segment throughout the term of the WQS variance.

4) Provide a quantitative expression of the HAC of the water body or waterbody segment receiving the discharge. Determine if the variance is for a discharger(s)-specific or applied to a water body or waterbody segment then select the appropriate quantifiable expression described below:

a. A quantifiable expression for discharger(s)-specific sites will be stated as one of the options listed in this section. (40 C.F.R. 131.14(b)(1)(ii)(A)(1-3))

- The highest attainable interim criterion; or
- The interim effluent condition that reflects the greatest pollution reduction achievable; or
- If no additional feasible pollutant control technology can be identified, the interim criterion or interim effluent condition that reflects the greatest pollutant reduction achievable with the optimization of pollutant control technologies installed at the time the WQS variance is adopted, and the adoption and implementation of a pollutant minimization plan (PMP).

b. A quantifiable expression for a water body or waterbody segment will be stated as one of the options listed in this section. (40 C.F.R. 131.14(b)(1)(ii)(B)(1-2))

- The highest attainable interim use and interim criterion; or
- If no additional feasible pollutant control technology can be identified, the interim use and interim criterion that reflect the greatest pollutant reduction achievable with the pollutant control technologies installed at the time of adoption of a WQS variance, and the adoption and implementation of a PMP.

5) A statement providing that the requirements of the WQS variance are derived from the HAC identified at the time of the adoption of the WQS variance, or a subsequent HAC identified during any reevaluation, whichever is more stringent. (40 C.F.R. 131.14(b)(1)(iii))

6) The term of the WQS variance. Term limits may be documented to expire on a specific date or as an interval of time after EPA-approval. (40 C.F.R. 131.14(b)(1)(iv))

7) A provision specifying the schedule for the reevaluation(s) using all existing and readily available information and associated public input process for a WQS variance with a term greater than five years. Reevaluations will occur no less frequently than every five years after EPA approval of the WQS variance. (40 C.F.R. 131.14(b)(1)(v))

   Upon the completion of the reevaluation the results will be submitted to EPA within 30 days.

8) A provision that the WQS variance will no longer be the applicable water quality standard for purposes of the Federal Clean Water Act if a reevaluation consistent with the frequency specified in the WQS variance is not conducted or the results are not submitted to EPA, unless and until the reevaluation is conducted and the results are submitted to EPA. (40 C.F.R. 131.14(b)(1)(vi))

4.3.2 Supporting Documentation.

Compile the appropriate supporting documentation for the type of variance being requested as required for the submission packet. Supporting documentation shall include:

1) Indicate if the designated use is a Federal Clean Water Act 101(a)(2) use or a non-101(a)(2) use. Based on the designated use determination include the appropriate documentation as defined in this section. Federal Clean Water Act 101(a)(2) use(s) include those uses which provide for the protection and propagation of fish, shellfish, wildlife and recreation in and on the water.

a. For 101(a)(2) use(s) (40 C.F.R. 131.14(b)(2)(i)(A)):

i. Document one of the factors listed in K.A.R. 28-16-28f(d)(1), is met, or

ii. List the actions necessary to facilitate lake, wetland, or stream restoration through dam removal or other significant reconfiguration activities that preclude attainment of the designated use and criterion while the actions are being implemented.

b. For Non-101(a)(2) use(s) (40 C.F.R. 131.14(b)(2)(i)(B)) provide justification and demonstration that the use and value of the water for those uses listed in 40 CFR 131.10(a) appropriately supports the WQS variance and term.

2) Submit documentation demonstrating the term of the WQS variance is only as long as necessary to achieve the HAC. Such documentation will justify the term of the WQS variance by describing the pollutant control activities to achieve the HAC, including those activities identified through an associated PMP, which are to serve as milestones for the WQS variance.

3) A WQS variance for a water body or waterbody segment requires additional supporting documentation per 40 C.F.R. 131.14(b)(2)(i)(B)(iii), that identify and document any cost-effective and reasonable BMPs for nonpoint source controls related to the pollutant(s) or water quality parameter(s) and water body or waterbody segment(s) specified in the WQS variance that could be implemented to make progress towards attaining the underlying designated use and criterion.

4.3.3 Submitting the WQS variance Package to EPA Region 7 Office.

WQS variances are to be certified by the Attorney General prior to submittal to EPA Region 7. Necessary supporting documentation as defined in section 4.3.2 of this procedure will be submitted along with the WQS variance.

4.4 REEVALUATIONS

WQS variances that exceed five years will be reevaluated according to the reevaluation schedule identified in the variance. The purpose of the reevaluation is to ensure that the highest attainable condition is reflected throughout the term of the variance. When a more stringent attainable condition is identified that condition will become the applicable interim WQS without additional action. Upon permit reissuance, the WQBEL will be based on the newly identified interim condition consistent with the NPDES permitting process. If the reevaluation identifies a condition less stringent than the highest attainable condition, the WQS variance will be revised and submitted to EPA for approval consistent with the Clean Water Act requirements.

Additionally, the reevaluation period allows the department to consider and evaluate changes in technology, operation or design of the existing wastewater treatment system to further optimize the treatment of wastewater and reduce the discharge of the pollutant(s) subject to the WQS variance. Incorporation of these changes will be made within the context of the permit holder's capacity to financially implement those changes and the applicability of the change to the current system of the permit holder. Such changes may include, but are not limited to:

1) Opportunity to irrigate the treated effluent onto adjacent agricultural, commercial or recreational land, thereby reducing or eliminating the discharge of effluent.

2) Employing controlled discharge operations to alter the flow and volume of effluent discharges during critical and favorable conditions in the receiving waters.

3) Review piping flow path to maximize the detention time of wastewater within the treatment system and construct improvements as appropriate.

4) Schedule desludging of the treatment system to restore retention and functionality in the treatment system.

5) Shield wastewater from exposure to sunlight as appropriate to support treatment capability on detained wastewater.

6) Construct alternative discharge structures that opportunistically access wastewaters of differing quality.

7) Construction of additional treatment cells, basins, raceways or polishing wetlands to enhance biological treatment or eliminate discharge of wastewater.

8) Construction of aeration, chemical feeds or other capacity for treating influent sewage and initiating biological removal of pollutants from the final discharging wastewater.

Other emerging technology as applicable to reduce the concentration and loads of pollutants from wastewater.

4.5 SUBSEQUENT VARIANCES

If necessary, a subsequent WQS variance may be adopted when water quality goals have not been attained within the term of the original variance or as special circumstance dictate. Subsequent variances will follow the same variance submittal process for a new variance as defined in section 2 and 3 of this procedure. (K.A.R. 28-16-28f(d) and 40 CFR 131.14(b)(1)(iv))

When requesting a subsequent WQS variance for a water body or waterbody segment, documentation detailing the extent of best management practices (BMP) implementation for nonpoint source controls to address the pollutant(s) subject to the initial WQS variance and the resulting water quality improvements is to be compiled for the submission packet and approval. (40 CFR 131.14(b)(2)(iii)(B))

4.6 IMPLEMENTING WQS VARIANCES IN NPDES PERMITS

A WQS variance serves as the applicable water quality standard for implementing NPDES permitting requirements pursuant to 40 C.F.R. 122.44(d) for the term of the WQS variance. Any limitations and requirements necessary to implement the WQS variance shall be included as enforceable conditions of the NPDES permit (40 C.F.R. 131.14(c)). Each NPDES permit and its conditions involving the variance will be subject to public notification and opportunity for comment as typical through the department's permitting process.

Discharger-specific and multiple-discharger WQS variances will be detailed in the Kansas Variance Register per K.A.R. 28-16-28h and will be publicly accessible on the KDHE BOW Water Quality Standards website. The Kansas Variance Register will include a narrative and listing section for each approved variance adopted by Kansas. During the permit renewal process if it is found that a facility no longer requires the use of a WQS variance, the permit will be written to reflect the most current applicable criteria.

Where a permittee cannot immediately meet the WQBEL derived from the terms of a WQS variance, a permit compliance schedule or order may be issued so the permittee can remain in compliance with the NPDES permit.

Calculating the HAC alternative effluent limitations will be dependent upon the criteria included in the variance as documented and adopted in the Kansas Surface Water Quality Standards Variance Register.

4.6.1 Multiple-discharger Wastewater Lagoon Ammonia Variance

The methods used to calculate HAC alternate effluent limitations for the *Multiple-discharger Wastewater Lagoon Ammonia Variance*, approved for implementation on May 7, 2018, can be found in Section 4 Appendix A of this document.

SECTION 4 APPENDIX A

PROCEDURE to CALCULATE the HIGHEST ATTAINABLE EFFLUENT CONDITION UNDER the KANSAS AMMONIA MULTIPLE DISCHARGER VARIANCE – ALTERNATIVE AMMONIA LIMITS

Procedures for Determining a Permittee's Ability to Meet the 2013 Ammonia Criteria and for Calculating a Highest Attainable Effluent Condition

An Addendum to the "Kansas Eligibility Determination for Wastewater Lagoon Variances" – April, 2017, Edited May, 2020

The following procedures detail the steps used to determine an NPDES permittee's ability to comply with limits developed using the 2013 NH_3 ammonia criteria and the subsequent calculation of an alternative ammonia effluent limit if compliance is not possible. A permittee must also undergo the economic eligibility determination before a decision regarding inclusion in the ammonia multiple discharger variance (MDV) will be made. The highest attainable effluent condition is unique to each NPDES permit and can be used as the numeric limit for ammonia for compliance purposes. Additionally, combined with the pollutant minimization plan, the highest attainable effluent condition is considered the highest attainable condition (HAC) for ammonia in the permittee's discharge, hence, both will be assessed to determine compliance with the conditions of the ammonia MDV.

1. Determining a permittee's eligibility for an alternative effluent limit for ammonia.

    a. Permit writer submits a request for water quality (WQ) review for a discharging lagoon facility that includes request for 2013 NH_3 criteria/HAC assessment.

    b. Monthly limits for NH_3 are developed for the lagoon facility using 2013 NH_3 Criteria.

    c. Facility's NH_3 discharge monitoring report (DMR) data is pulled for the 2008-current period of record.

        i. If fewer than 10 NH_3 DMR results, including < RL but excluding No Discharge (ND) results, are available, the WQ certification memo will reflect a Monitor Only determination for the NH_3 limit.

            1. A Monitor Only determination indicates there is not yet enough data to determine eligibility for inclusion in the NH_3 MDV.

            2. A Monitor Only determination means the facility is not eligible for the NH_3 MDV pending a recheck during the next permit renewal for the facility.

            3. The facility's dataset will be assessed as part of the next renewal and, if sufficient at that time, a determination may be made concerning inclusion in the NH_3 MDV.

    d. Compare the DMR dataset against the monthly limits developed using 2013 NH_3 criteria.

        i. If the comparison results in more than 1 violation (i.e., reported sample concentration exceeds the applicable NH_3 limit) within a 5-year period, an alternate ammonia criterion reflecting the highest attainable effluent condition should be calculated.

2. Calculating the highest attainable effluent condition that will serve as the alternative effluent ammonia limit in the facility's NPDES permit.

a. Conduct an outlier test on the facility's NH_3 DMR dataset (2008-current).
    i. Determine 25th and 75th percentile values of the dataset and calculate the difference between them.
    ii. Multiply the difference between the 25th and 75th percentile values by 3 and round to 1 decimal place.
    iii. If a DMR data point is greater than the resulting value it is considered a significant outlier.
    iv. Generally, 1 outlier may be routinely removed from a dataset.
    v. Removing more than 1 outlier is allowable but should only be considered when there is other, supporting, information available.
    vi. Outliers are considered violations when they exceed the criterion and will be counted as such when determining a permittee's eligibility for an alternative effluent limit for ammonia, step 1. d. above.

b. Calculate the Alternative Effluent Ammonia Limit:
    i. Calculate the 99th percentile value of the facility's DMR dataset (after removal of outliers).
        1. The "PERCENTILE.INC" function in MS Excel may be used.
        2. Utilizing best professional judgement (BPJ) evaluate the appropriateness of the 99th percentile value as the alternative effluent ammonia limit for the respective facility.
        3. Reflect the resulting value as the alternative effluent ammonia limit in the water quality certification memo to the permit writer.

c. Calculate the Alternative Effluent Ammonia Limit:
    i. Calculate the 99th percentile value of the facility's DMR dataset (after removal of outliers).
        1. The "PERCENTILE.INC" function in MS Excel may be used.
            a. =
        2. Utilizing best professional judgement (BPJ) evaluate the appropriateness of the 99th percentile value as the alternative effluent ammonia limit for the respective facility. Some things to consider:
            a. Is it appropriately stringent?
            b. How does it compare against the monthly 2013 NH_3 limits developed for the facility?
            c. To account for changes in performance, should the alterative effluent limit be calculated from a limited dataset, i.e., most recent 5 years?
        3. Reflect the resulting value as the alternative effluent ammonia limit in the water quality certification memo to the permit writer.