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.

Title 15. Water Quality Standards Code- Meskwaki Nation, Sac & Fox Tribe of the Mississippi in Iowa

Effective May 13, 2026

The attached WQS document is in effect for Clean Water Act purposes with the exception of the following provisions:

May 13, 2026 Action Letter

EPA has taken no action on:

- 15-2101: Antidegradation Policy and Implementation Methods
- 15-5101(e)(2) and Table 2: Nutrient criteria in support of FAL use and DPVs for Iowa River
- Table 4: water quality criteria for selenium, chronic toxaphene, acute alkalinity, and chronic mercury
- Table 5: water quality criteria for copper
- Table 9: water quality criteria for chloramines (as Cl_2), chlorine (as Cl_2), and chlorine dioxide as (ClO_2))

Title 15. Water Quality Standards

ARTICLE I
GENERAL PROVISIONS

ARTICLE II
ANTIDEGRADATION AND MIXING ZONE POLICY AND IMPLEMENTATION

ARTICLE III
NARRATIVE CRITERIA FOR ALL WATERBODIES

ARTICLE IV
DEIGNATED USES OF WATERBODIES

ARTICLE V
NUMERIC WATER QUALITY CRITERIA FOR VARIOUS USES

ARTICLE VI
SAMPLING AND ANALYSIS, VARIANCES, AND EXCEEDANCES

APPENDIX A

TITLE 15. WATER QUALITY STANDARDS CODE

ARTICLE I

WATER QUALITY STANDARDS

CHAPTER 1. GENERAL PROVISIONS.

Section 15-1101. Purpose.

(a) The purpose of these water quality standards ("WQS" or "Standards") is to protect, maintain, conserve and improve the water resources on the lands of the Sac and Fox Tribe of the Mississippi in Iowa (the "Settlement") for the health and welfare of present and future generations, including for public and private drinking water supplies; to promote the habitation, growth, and propagation of native, cultural and beneficial aquatic plant and animal life; to protect existing and future domestic, cultural, ceremonial, agricultural, recreational, and industrial uses; and to protect any other existing and future beneficial uses of "waters of the Tribe," as defined below.

(b) To carry out these purposes, these Standards:

(1) designate uses for the waters of the Tribe;

(2) prescribe narrative and numeric water quality criteria to attain and maintain these designated uses; and

(3) assure that degradation of waters of the Tribe shall be prevented or minimized.

(c) An additional purpose of these Standards is to attain at least the minimum level of water quality described by the most recently updated United States Environmental Protection Agency ("EPA") water quality standards regulations codified in 40 C.F.R. Parts 131 and 132, and to achieve higher levels of water quality protection where needed to support the designated waterbody uses described in these Standards.

(d) These water quality Standards shall provide the basis for all water management decisions affecting water quality within the Settlement, including, but not limited to, point-source permitting, non-point source controls and physical alterations of water bodies, including wetlands.

Section 15-1102. Authority.

(a) The Sac and Fox Tribe of the Mississippi in Iowa ("Tribe") exercises regulatory jurisdiction over the water within the boundaries of the Settlement, which is held by the United States in trust for the Tribe. By its express terms, the Tribal Constitution applies to all territory of the Tribe known as the Sac and Fox Settlement, which was established by the Act of June 10th, 1896 (29 Stat. 331), and to such other land as may be added thereto

by or for the Tribe. The Settlement is equivalent to a "reservation," thus meeting the regulatory criterion set forth at 40 C.F.R Sec. 131.8(a)(3), and therefore fulfills the jurisdictional requirement for "treatment as a state" ("TAS"). The water resources of the Settlement are unique resources that can be best managed by the Meskwaki Natural Resources Department, as directed by the Tribal Council.

(b) The Tribe received TAS approval for CWA §§ 303(c) and 401, 33 U.S.C. §§ 1313(c) and 1341, from the EPA on August 13, 2019. The Tribe is therefore authorized to administer the water quality standards and certification programs under CWA.

(c) The Tribe notes that waters upstream of the Settlement can affect waters within the Settlement. It is the Tribe's intent that these Tribal water quality standards be applied to the fullest extent of the Tribe's authority to protect the waters of the Tribe from any impacts, regardless of the location of the source of those impacts.

(d) Nothing in these Standards shall be construed as limiting, waiving, or abrogating the sovereignty or sovereign immunity of the Sac & Fox Tribe of the Mississippi in Iowa or any of its agencies, departments, enterprises, agents, officials or employees. Any waiver of sovereign immunity contained in these Standards is strictly for the purpose described in such waiver.

Section 15-1103. Applicability, Administration, and Amendments.

(a) *Applicability*. These WQS apply to surface and ground waters on all lands within the boundaries of the Settlement and on all tribal trust land outside the Settlement boundaries. These Standards apply to all persons and all activities within the Settlement and on tribal trust lands outside the Settlement. They also apply to tribal members and their activities on tribal fee lands outside the Settlement.

(b) *Administration*. These WQS will be administered by the Meskwaki Natural Resources Department as directed by the Tribal Council and as provided in these WQS. These WQS are subject to the provisions of Title 2. Administration of the Tribal Code. Pursuant to Sec. 2-4103 of the Tribal Code, and only in relation to these WQS, the Department is granting greater procedural rights to those affected by these WQS than are set forth in Title 2 in order to meet certain EPA requirements. These greater procedural rights shall not be read or construed to apply to anything other than the subject matter of these WQS.

(c) *Revisions to Water Quality Standards*. Changes and revisions to this document including amendments to these Standards shall proceed in the following manner:

(1) "Consistent with CWA § 303(c)(1) and 40 C.F.R. Part 25, the Water Quality Program shall hold public hearings at least once every three years to review and, as appropriate, revise these standards. Revisions shall incorporate relevant scientific and engineering advances with respect to water quality. Whenever the Meskwaki Tribe revises or adopts a new standard, the Meskwaki Natural Resources Department will issue public notice of proposed changes and provide opportunity

for public hearing and comment in accordance with SAC & FOX TR. OF MISS. REGS. Title 2, Article IV, Chapter 4 and in accordance with the procedures outlined in Sec. 15-1103(c)(2). All revisions shall become effective upon approval by the Council, unless a later date is required by applicable law or is specified in the rule. The revised or new standard shall be submitted to EPA for review pursuant to CWA § 303(c)(2) and will be effective under the CWA after EPA approval."

(2) "Public Comment and Hearing. Any revisions to these Water Quality Standards shall be made pursuant to the following procedures, which shall repeat or add to other relevant Tribal rulemaking requirements found in SAC & FOX TR. OF MISS. REGS. Title 2, Article IV, Chapter 4:

(i) Public Notice. Before adopting a revision to these Standards, the Department shall send the exact wording of the proposed revisions to the Executive Director or designee. The Executive Director or designee shall publish notice of the proposed revisions, the exact wording of the proposed revisions, and a description of where and how long the public may send comments on the proposed revisions in a newspaper of general circulation within the Settlement. The Executive Director or designee shall post notice of the same at the Tribal offices. In addition to these efforts, the Department shall provide the public with notice of any proposed revisions to these WQS by:

(A) Mailing or emailing notice to other Meskwaki departments and programs, federal agencies, and agencies of affected Tribes and states that are likely to have an interest in the rulemaking, such as environmental agencies and agencies and departments with jurisdiction over fish and wildlife and other natural resources;

(B) Mailing or emailing notice to persons on a list maintained by the Department of persons who may be interested in or affected by the proposed revisions to the WQS;

(C) In addition to written statements, arguments, data and views, the Department may hold formal or informal meetings and consultations with interested and affected parties regarding any proposed regulation;

(D) Posting notice on the Meskwaki website for at least seven working days. The notice shall provide at least 45 calendar days for persons to submit in writing statements, arguments, data and views on the proposed revisions. The Department Director, at his or her discretion, may provide notice by other means if he or she finds it appropriate, such as by issuing a press release or providing notice at a public or traditional forum.

(ii) Public Hearing. The Department Director also shall provide a public hearing on proposed revisions to these Standards so that comments may be made orally. Notice of a public hearing shall be made at least 45 calendar days prior to the hearing, unless there are no substantial documents that must be reviewed for effective hearing participation and no complex or controversial matters to be addressed, in which case the notice may be provided at least 30 calendar days before the hearing. Public notice of the hearing may be made at the same time as public notice of the proposed revisions to the WQS, and the two notices may be combined.

(iii) Contents of Notice. Public notices issued under this subsection shall contain the following information:

(A) Name and address of the office proposing the revisions;

(B) A brief description of the proposed revisions;

(C) Name, address, email address, and telephone number of a person from whom interested persons may obtain further information, including copies of the proposed revisions (the proposed revisions also may be posted on a website and the website address provided);

(D) A brief description of the comment procedures and the time and place of the public hearing;

(E) The location of the administrative record, the times at which the record will be open for public inspection, and a statement that all comments submitted will be available as part of the administrative record; and

(F) Any additional information that the Department Director considers appropriate to provide.

If the public notice for a hearing is issued separately from the public notice of the proposed revisions, in addition to providing the information listed in subparagraphs (A)-(F) of this paragraph, the public notice for the hearing shall reference the date of any previous public notices relating to the proposed revisions and include a brief description of the nature and purpose of the hearing, including applicable procedures.

(iv) Procedures for Public Hearing.

(A) Department Director shall designate a Hearing Moderator for the public hearing. The Department Director or a member of the staff of the Department may serve as the Hearing Moderator, so long as the Hearing Moderator does not have a financial interest in the outcome of the proposed revisions. The public hearing is not an adjudicative hearing and is conducted solely for the purpose of providing an

opportunity to the public to orally present their views on the proposed revisions to the Standards. The Hearing Moderator shall be responsible for the orderly conduct of the public hearing but is not empowered to make any findings of fact, conclusions of law, or recommendations on the proposed revisions to the Standards.

(B) Hearings shall be held at a time and place that facilitates attendance by the public. The Department shall choose to hold the public hearing(s) either in-person, online, or in a hybrid setting that provides access in a virtual or in-person mode.

(C) The Department Director, a member of the Department staff, or the Hearing Moderator shall inform the audience of the issues involved in the proposed revisions, the considerations the Department will take into account, the Program's tentative determinations (if any) to be recommended to the Tribal Council, and any information that is particularly solicited from the public.

(D) Any person may submit oral or written statements and information concerning the proposed revisions to the Standards. The Hearing Moderator may set reasonable limits on the time allowed for oral statements. The Hearing Moderator shall allow the submission of written statements at the hearing but shall not require a written statement instead of or as a condition of making an oral statement.

(E) A tape recording or written transcript shall be made of the hearing. At the conclusion of the hearing, the Hearing Moderator shall forward to the Department Director the record of the hearing, which shall consist of the tape recording or written transcript and any materials submitted at the hearing. The hearing record shall be made available to the public for review.

(F) If the Department Director determines it is necessary, the Department Director may extend the public comment period provided under paragraph (c)(1) of this section to allow the record to remain open for at least 20 calendar days after the public hearing to provide an opportunity for submission of rebuttal and supplementary information.

(v) Obligation to Raise Issues During the Public Comment Period.

(A) All persons who believe that a proposed revision to the Standards should be issued, modified, or withdrawn must raise all reasonably ascertainable issues and submit all reasonably available arguments and facts supporting their position, including all supporting material, by the close of the public comment period.

(B) The Department Director may extend the public comment period on his or her own initiative or on request if the Department Director determines that such extension is necessary to obtain full public participation and may grant additional time to comment to any person who demonstrates a need for such time.

(vi) Reopening the Public Comment Period.

(A) Whenever any data, information, or arguments submitted during the public comment period appear to raise substantial new questions concerning a proposed revision to the Standards or whenever the Department Director becomes aware of significant new information, the Department Director may take one of the following actions:

(1) Withdraw the proposed revision to the Standards;

(2) Prepare a new proposed revision and direct the reopening of the public comment period; or

(3) Reopen or extend the comment period to give interested persons an opportunity to comment on the information or arguments submitted.

(B) The Department Director shall issue public notice under paragraph (c)(1) of this section of any action taken pursuant to this paragraph (vi). In addition to the requirements of paragraph (c)(1) of this section, the notice for any action taken to reopen the public comment period shall state the scope of the reopening. Such scope shall be limited to the substantial new questions or significant new information that caused the reopening.

(C) If the comment period is reopened pursuant to subparagraphs (A)(2) or (3) of this paragraph (vi), all reasonably available legal and factual grounds concerning the substantial new questions or significant new information, including any supporting material, shall be submitted in writing by a date not less than 30 calendar days after the date of the public notice issued pursuant to subparagraph (vi)(B). Persons desiring to comment may request longer comment periods, which the Department Director may grant to the extent that the Department Director finds is necessary to accomplish the purpose of the reopening.

(vii) Response to Comments and Administrative Record

(A) Response to comments.

The final revisions to the Standards shall be accompanied by a response to comments received. The response shall fully consider all comments received during the public comment period, including any comments received during a public hearing. The response shall specify which of the proposed revisions have been changed, if any, and the reasons for the change; briefly describe and respond to all significant comments raised during the public comment period, including the public hearing; and be made available to the public.

(B) Administrative record.

(1) Department shall maintain an official record for each regulation it proposes by publication of a notice of proposed revisions and each final revision filed with the Executive Director which shall contain:

(i) The proposed revisions and copies of all publications with respect to the revisions;

(ii) The public notice(s) and/or a copy of the notice initially filed with the Executive Director;

(iii) All written petitions, requests, submissions and comments received by the Department and all other written materials considered or prepared by the Department in connection with the revisions, including comments received during any extension or reopening of the public comment period;

(iv) Any official transcript of oral presentations or, if not transcribed, any tape recording or stenographic record of those presentations;

(v) The response to comments and any new material that is referenced in response to comments;

(vi) A copy of all materials submitted to the Tribal Council; and

(vii) The final revised Standards.

The documents required under this subparagraph shall be added to the administrative record as soon as possible after their receipt or issuance. The administrative record shall be complete upon issuance of the revised Standards. The administrative record maintained pursuant to this section must be available for public inspection.

(2) Material readily available at the Department office or published material that is generally available need not be physically included with the rest of the administrative record.

(viii) Issuance and Effective Date of Revised Standards.

(A) After close of the period for public comments on the proposed revisions, the Department shall take one of the following actions:

(1) Submit the proposed regulation for approval to the committee of the Tribal Council with jurisdiction over the agency's actions, or, in the absence of such a committee, the Chairman of the Tribal Council; or

(2) Terminate the proceeding by publication of a notice to that effect in a newspaper of general circulation within the Settlement and by posting the same notice at the Tribal offices.

(B) The revised Standards shall become effective upon approval by the Tribal Council. Once a proposed regulation has been approved pursuant to this section, the agency shall submit the final regulation to the Executive Director for publication in accordance with Meskwaki Administrative Code Title 2, Chapter 3.

(C) The Department Director shall give public notice of the adoption of the revised Standards as soon as possible pursuant to paragraph (c)(1) of this section and shall mail or email a notice to the same persons as were mailed or emailed notice of the proposed revisions, as well as to all persons who commented on the proposed revisions and to anyone else who requests to receive notice.

Section 15-1104. Definitions.

For the purpose of these Standards, the following definitions apply unless another meaning is clearly indicated by context.

(a) Acute: Refers to a stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed in 96- hours or less is typically considered acute. When referring to aquatic toxicology or human health, an acute affect is not always measured in terms of lethality.

(b) Antidegradation: The policy set forth in the water quality regulations under the Clean Water Act, established by the EPA, whereby existing and future uses and the level of water quality necessary to maintain those uses is maintained and protected.

(c) Aquatic Animal: Either vertebrate or invertebrate animals, which lives in water for most of all of its life.

(d) Aquatic Plants: Also called hydrophilic plants or hydrophytes, are plants that have adapted to living in or on aquatic environments.

(e) Aquatic Life: All life inclusive of animal and plants that are living and adapted to living in or near water.

(f) Best Management Practice (BMPs): Schedules of activities, prohibitions of practices maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the Tribe. BMPs also include but not limited to treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or wastewater disposal, or drainage from raw material storage.

(g) Bioaccumulation: The general term describing a process by which chemicals are taken up by a plant or animal either directly from exposure to a contaminated medium (soil, sediment, water) or by eating food containing the chemical. Related terms are bioconcentration in which chemicals are absorbed by an animal or plant to levels higher than the surrounding environment; and biomagnification, in which chemical levels in plants or animals increase from transfer through the food web (e.g., predators have greater concentrations of a particular chemical than their prey).

(h) Biological integrity: The condition of the aquatic community inhabiting unimpaired water bodies of a specified habitat as measured by community structure and function.

(i) Carcinogenic: A substance that causes an increased incidence of benign or malignant neoplasms, or substantially decreases the time to develop neoplasms, in animals or humans.

(j) Chronic: Defines a stimulus that lingers or continues for a relatively long period of time, often one tenth of the life span or more. Chronic should be considered a relative term depending on the life span of an organism. The measurement of a chronic effect can be reduced growth, reduced reproduction, etc., in addition to lethality.

(k) Clean Water Act: An act passed by the U.S. Congress to control water pollution. It was formerly referred to as the Federal Water Pollution Control Act of 1972 or Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), 33 U.S.C. 1251 et. seq., as amended by: Public Law 96-483; Public Law 97-117; Public Laws 95-217, 97-117, 97-440, and 100-04.

(l) Compliance Schedule: A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the CWA and regulations.

(m) "Council" or "Tribal Council": Means the Sac and Fox Tribe of the Mississippi in Iowa Tribal Council.

(n) Criteria: Elements of the tribe's water quality standards expressed as constituent concentrations, levels, or narrative statements, representing a quality of water necessary to support a particular designated use.

(o) "Department" or "Meskwaki Natural Resources Department": Sac and Fox Tribe of the Mississippi in Iowa Natural Resources Department.

(p) Designated Uses: A use defined in these standards as a goal for each waterbody or waterbody segment, whether or not that use is currently being met.

(q) Maximum Contamination Level (MCL): Highest level of a contaminant that is allowed in drinking water under the United States Safe Drinking Water Act. MCLs are set as close to the Maximum Containment level Goals (MCLG) as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCL are enforceable standards.

(r) National Pollution Discharge Elimination System (NPDES): The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of CWA. Helps address water pollution by regulating point sources that discharge pollutants into waters of the United States.

(s) Natural: Water quality/quantity present prior to human produced influences such as point source pollution. Reference conditions or studies of historical data and information are used to determine water quality and quantity of natural conditions. When assessing natural conditions in a disturbed watershed it may be necessary to use an undisturbed similar watershed as a reference condition.

(t) NH_3-N or Ammonia: Means total ammonia (ionized and un-ionized forms). If Ammonia value is entirely ionized or entirely un-ionized, it will be specified as such.

(u) Non-Point Source: The term "nonpoint source" is defined to mean any source of water pollution that does not meet the legal definition of "point source" in Sec. 502(14) of the Clean Water Act (see definition of "point source" below).

(v) Non-Thermal Discharge: Means effluent with a temperature the same as the temperature of the receiving water.

(w) Ordinary High-Water Mark: The highest point on the bank or shore up to which the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation, presence of aquatic vegetation, or other easily recognized characteristics.

(x) Permit: A license for a facility to discharge a specified amount of a pollutant into an Office of Wastewater Management - Water Permitting receiving water under certain conditions; however, permits may also authorize facilities to process, incinerate, landfill, or beneficially use sewage sludge. The two basic types of NPDES permits issued are individual and general permits.

(y) pH: The negative logarithm of the hydrogen ion concentration.

(z) Pollution: Man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water. Includes, but is not limited to, such contamination, or other alteration of the physical, chemical or biological properties, of any surface waters, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any surface waters that will or is likely to create a nuisance or impair any designated use of such waters.

(aa) Pollutant: Includes, but is not limited to, dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2011 et seq.), heat, wrecked or discarded equipment, rock, sand, cellar dirt, hydrocarbons, oil and product chemicals, and industrial, municipal, and agricultural waste discharged into water.

(bb) Point Source: Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

(cc) Primary Contact Recreation: Activities where a person would have direct contact with water, including but not limited to skin diving, and swimming.

(dd) Reference Conditions: The characteristics of the water body segments least impaired by human activities. Reference conditions can be used to describe attainable biological or habitat conditions for water body segments with common watershed/catchment characteristics within defined geographical regions.

(ee) Secondary Contact Recreation: Activities where a person's skin may come into direct contact with the water, but generally without complete submergence. Examples include wading or fishing or kayaking.

(ff) Settlement: The physical territory subject to the jurisdiction of the Tribe as it is described in Article I of the Constitution of the Tribe and shall include the lawful jurisdiction of the Tribe provided nothing in this subsection shall be construed to limit the physical territory, jurisdiction or sovereignty of the Tribe. Alternatively, as defined in SAC & FOX TR. OF MISS. REGS Title 14, "Settlement" means all land, air, and water located within the

exterior boundaries of the Sac & Fox Tribe of the Mississippi in Iowa or held in trust by the United States for the benefit of the Sac & Fox Tribe of the Mississippi in Iowa.

(gg) Surface Water: All natural and man-made surface waters and associated ecosystems, including, but not limited to, all ephemeral, perennial and intermittent streams, rivers, creeks, seeps, springs, canals, reservoirs and wetlands, and tributaries of such surface waters. Man-made water bodies used solely for treating, transporting, or impounding pollutants as part of a waste treatment system shall not be considered surface water.

(hh) Temperature: Water temperature expressed in degrees centigrade (°C)

(ii) Thermal Discharge: Any discharge that varies in temperature from the natural temperature conditions found in the waterbody at the time said waterbody is receiving the discharge.

(jj) TKN: Total Kjeldahl Nitrogen is the sum of free-ammonia and organic nitrogen compounds within a volume of water.

(kk) Total Nitrogen: The sum of all nitrogen species measured in a volume of water, including dissolved and particulate forms, and organic and inorganic forms. This is also known as the sum of total Kjeldahl nitrogen, nitrite, and nitrate.

(ll) Total Phosphorus: The sum of all phosphorus species measured in a volume of water, including dissolved and particulate forms, and organic and inorganic forms.

(mm) Tribal Waters, or Waters of the Tribe: All groundwater and surface waters located within the boundaries of the Settlement or on tribal trust land outside the Settlement.

(nn) Tribe: The Sac and Fox Tribe of the Mississippi in Iowa.

(oo) Turbidity: The clarity of water expressed as Nephelometric Turbidity Units (NTU) and measured with a calibrated turbidimeter.

(pp) Use Attainability Analysis (UAA): A structured scientific assessment of the factors affecting the attainment of uses specified in Part IV of these standards. The factors to be considered in such an analysis include the physical, chemical, biological, and economic use removal criteria described in EPA's Water Quality Standards regulations (40 C.F.R. § 131.10(g)(1)-(6). Under 40 C.F.R. § 131.10(g) Tribes may remove a designated use which is not an existing use, as defined in §131.3, or established sub-categories of a use if the Tribe can demonstrate that attaining the designated use is not feasible because:

(1) Naturally Occurring Pollutant concentrations prevent the attainment of the use; or

(2) Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the use, unless the conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating water conservation requirements to enable uses to be met; or

(3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(5) Physical conditions related to the natural features of the water body, such as a lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to the water quality, preclude attainment of aquatic like protection uses; or

(6) Controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact.

(qq) Water Body: Any waters of the Tribe, including any portion thereof.

(rr) Water Quality-Based Effluent Limit (WQBEL): Value determined by selecting the most stringent of the effluent limits calculated by using all applicable water quality criteria (e.g., Aquatic life, human health, and wildlife) for a specific point source to a specific receiving water for a given pollutant.

(ss) Wetlands: Any area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils conditions. Wetlands also exhibit soil characteristics commonly found within wetlands due to the inundation and saturation of ground and surface water. Wetlands include, but are not limited to swamps, marshes, bogs, fens, and similar areas.

Section 15-1105. Severability.

If any provision of these Standards or the application of any provision of these Standards to any person or circumstance is held to be invalid, the remainder of these Standards and the application of such provision to other persons or circumstances shall remain unaffected.

Section 15-1106. Water Rights.

The water rights of the Tribe and the authority of the Tribe to allocate quantities of water and administer water rights within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by these Standards.

Section 15-1107. Collaboration with Federal and State Agencies.

The Tribe may collaborate with federal and state agencies to prevent, reduce, and eliminate water quality threats and impairments in coordination with programs for managing water resources.

Section 15-1108. Dispute Resolution.

If a dispute arises between the Tribe and a state or another Indian tribe approved by EPA to administer a surface water quality standards program due to differing standards between the two jurisdictions, the Tribe will follow the Dispute Resolution Mechanism promulgated by EPA and found at 40 C.F.R. § 131.7, as it may be revised from time to time.

TITLE 15. WATER QUALITY STANDARDS CODE

EPA has taken no action on Section 15-2101. Antidegradation Policy and Implementation Methods.--Highlighted below.

ARTICLE II

ANTIDEGRADATION AND MIXING ZONE POLICY AND IMPLEMENTATION

CHAPTER 1. IN GENERAL.

Section 15-2101. Antidegradation Policy and Implementation Methods.

(a) Tier 1: Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(b) Tier 2: Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish and wildlife, cultural/ceremonial uses, and recreation in and on the water, that quality shall be maintained and protected unless the Tribe finds, after full satisfaction of intergovernmental coordination and public participation provisions, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the Tribe shall ensure water quality is adequate to protect existing uses fully. Further, the Tribe shall ensure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(c) Identification of Tribal waters for the protections described in section (b) of this section will be made on a parameter-by-parameter basis.

(d) Before allowing any lowering of high-water quality, pursuant to section (b) of this section, the Tribe shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the Tribe shall only find that a lowering is necessary if one such alternative is selected for implementation.

(e) Tier 2.5: Where high-quality waters constitute an outstanding National Resource, such as waters of National and Tribal Parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(f) In those cases where potential water quality impairment associated with a thermal discharge is involved, the decision to allow such degradation shall be consistent with Sec. 316 of the Clean Water Act.

(g) Tier 3: Where high-quality waters constitute an exceptional recreational, cultural, or ecological resource of the Meskwaki based on their extraordinary water quality or ecological values, or where special water quality protection is needed to maintain critical habitat areas, the Meskwaki may classify those waters as Outstanding Tribal Resource

Waters ("OTRW"). Waters meeting one or more of the following criteria may be considered for Outstanding Tribal Resource Water classification:

(1) Outstanding national or tribal resource;

(2) Areas designated as critical habitat for populations of threatened or endangered species;

(3) Waters of exceptional cultural, ceremonial, recreational or ecological significance; and

(4) Waters supporting priority species as determined by Meskwaki.

(h) The existing water quality of Outstanding Tribal Resource Waters shall be fully maintained and protected, and no permanent degradation of such water quality shall be permitted for any reason.

(i) The Department may propose to classify water bodies as Outstanding Tribal Resource Waters based on data collected or submitted. In addition, the Department as well as members of the Tribe may nominate water bodies for classification as Outstanding Resource Waters as necessary to protect the water quality parameters that affect the ecological integrity of important habitat or special water quality values that are vital to the unique character of those waters. The Department shall issue public notice of all proposed classifications and provide an opportunity for public comment in accordance with Sec. 15-1103 of these Standards. The Tribal Council shall vote on and adopt any final classifications no later than the next triennial review of these standards, in accordance with Sec. 15-1103.

Section 15-2102. Mixing Zone Policy.

In conjunction with the issuance, renewal, or modification of permits under CWA §§ 402 and 404, the Tribe may authorize the use of mixing zones in waters of the Tribe on a case-by-case basis, in accordance with the following provisions:

(a) Mixing zones will not be authorized for a pollutant when the receiving water does not meet water quality criteria for that pollutant, except where: (1) the effluent limits established using a mixing zone are consistent with an EPA-approved or EPA-established TMDL, and (2) the mixing zone is in accordance with this section.

(b) Mixing zones will not be authorized where they may cause unreasonable interference with or danger to designated uses, including, but not limited to, any of the following:

(1) Impairment to the integrity of the aquatic community, including interference with successful spawning, egg incubation, rearing, or passage of aquatic life.

(2) Discharges into shellfish beds.

(3) Lethality to aquatic life passing through the mixing zone.

(4) Heat in the discharge that may cause thermal shock, lethality, or loss of cold-water habitat or may attract aquatic life to a toxic discharge.

(5) Bioaccumulative pollutants in the discharge.

(6) Pollutant concentrations that exceed maximum contaminant levels at drinking water intakes.

(7) Conditions that impede or prohibit recreation in or on the waterbody. Mixing zones shall not be authorized for the indicators in Table 7 Recreation water Quality Criteria.

(c) Mixing Zones shall not overlap.

(d) Water quality within an authorized mixing zone is allowed to exceed chronic water quality criteria for those parameters approved by the Meskwaki Natural Resources Department. Acute water quality criteria may be exceeded for such parameters within the zone of initial dilution inside the mixing zone. Acute criteria shall be met as near to the point of discharge as practicably attainable. Narrative criteria in Article III of these Standards apply within the mixing zone. Water Quality criteria shall not be exceeded outside of the boundary of a mixing zone as a result of the discharge for which the mixing zone was authorized.

(e) Mixing zones shall be no larger than necessary, and the concentrations of pollutants present shall be minimized. Mixing zones shall meet the following restrictions:

(1) Mixing zones in flowing water shall not:

(i) Extend in a downstream direction for a distance from the discharge port(s) greater than 300 feet plus the depth of the water over the discharge port(s)

(ii) Extend Upstream for a distance of over 100 feet

(iii) Utilize greater than 25% of the critical low flow nor

(iv) Occupy greater than 25% of the width of the waterbody

(2) Mixing zones in non-flowing waters shall not:

(i) Exceed 10% of the volume of the waterbody

(ii) Exceed 10% of the surface area of the waterbody (maximum radial extent of the plume regardless of whether it reaches the surface, nor

(iii) Extend beyond 15% of the width of the waterbody

(f) Mixing zones shall be designed to avoid or minimize adverse effects to species and critical habitat listed under the Endangered Species Act.

(g) The following elements shall be considered when designing an outfall:

(1) Mixing Zones should promote rapid mixing to the extent practicable through careful location and outfall design;

(2) Diffusers shall be used; and

(3) Mixing zones that result in shore-hugging plumes shall not be authorized.

TITLE 15. WATER QUALITY STANDARDS CODE

ARTICLE III

NARRATIVE CRITERIA FOR ALL WATERBODIES

CHAPTER 1. IN GENERAL.

The following are the narrative criteria that apply to any action or activity subject to the Clean Water Act that affects the waters of the Meskwaki Settlement.

Section 15-3101. General Narrative Criteria.

(a) All Tribal waters shall be free from substances and/or conditions or activities that may, with reasonable probability, injure human health, animal or plant life, or property, or unreasonably interfere with the public welfare, or the use of property. Contaminants include toxic, radioactive, conventional, non-conventional, deleterious or other polluting substances that prevent attainment of the designated uses (specified in this document).

(b) In addition, the following standards apply to all Tribal waters, unless stricter standards are imposed:

(1) **Aesthetic Qualities** - All waters shall be free of substances attributable to wastewater of domestic or industrial origin or other discharges which adversely affect designated uses, such as but not limited to:

(i) Settling to form objectionable deposits;

(ii) Floating as debris, scum, grease, oil, wax or other matter that may cause nuisances;

(iii) Producing objectionable color, odor, taste or turbidity; and

(iv) Produce undesirable or nuisance aquatic life.

(2) **Tainting Substances** - Water shall be free of unnatural materials which individually or in combination produce undesirable flavors in which edible portions of aquatic organisms are consumed.

(3) **Toxicity** - All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, or growth anomalies.

(4) **Suspended or Settleable Solids** - Discharges or wastes or wastewater shall not contain suspended or settleable solids in concentrations which increase the turbidity of receiving waters, unless it can be demonstrated that such alterations in turbidity do not adversely affect the designated uses.

(5) **Total Dissolved Solids** - Discharges of wastes or wastewater shall not increase the total dissolved solids content of receiving water, unless it can be demonstrated that such an increase in total dissolved solids does not adversely affect designated uses of receiving waters.

(6) **Nutrients** - Waters shall not contain nutrients in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

(7) **Turbidity** - Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

(8) **Sediment** - The suspended sediment load and suspended sediment discharge rate to surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

(9) **Downstream Protections** - All waters from the Meskwaki Settlement shall maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including downstream waters of a state or another federally recognized Tribe.

(10) **Navigation** – Waters designated for use in navigation (NAV) shall maintain flow regimes and water levels necessary to support the movement of watercraft, including canoes, kayaks and bundled cattails. Any artificial hydrological alteration shall not adversely impact the capacity of these waters to support navigation.

(11) **Water Supply** – Wastes or toxic substances introduced either directly or indirectly by human activities into waters designated WS (see Sec. 15-4104) shall not occur in concentrations that would produce undesirable effects in dependent crops, livestock, or industrial processes.

Section 15-3102. Temperature.

Normal, seasonal variations of surface water temperatures that are necessary to support aquatic species shall be maintained. The natural receiving water temperature of surface waters shall not be altered by discharges of wastewater unless it can be demonstrated that such alterations in temperature do not adversely affect the designated uses. In instances of potential water quality impairments associated with thermal discharge, the requirements of the Clean Water Act § 316 shall apply.

Section 15-3103. Minerals.

The existing mineral content of surface waters shall not be altered by municipal, industrial, or in-stream activities or other waste discharges so as to interfere with their designated uses.

Section 15-3104. Radioactive Materials.

Concentrations of radioactive constituents shall not exceed EPA Safe Drinking Water Act (SDWA) standards except when concentrations caused by naturally occurring materials exceed those standards, in which case the Department may develop site-specific criteria based on natural conditions, subject to Council and EPA approval. Any such determination shall have a documented, scientifically defensible basis that demonstrates that the site-specific criteria protect the applicable designated use. Site-specific criteria based on natural conditions shall be subject to public review and comment. Notwithstanding the foregoing sentence, if a standard more stringent than the SDWA standard is indicated for a designated use, the more stringent standard will apply for that designated use.

Section 15-3105. Biological Conditions.

(a) All waters of the Tribe shall maintain a natural diverse biological community; therefore, aquatic life shall be as it naturally occurs;

(b) The overall biological community may not be adversely affected by the discharge of water for industrial, municipal, or agricultural purposes, or by the discharge of pollutants to the water;

(c) Waters of the Tribe shall be free from substances, whether attributable to point source discharges, nonpoint sources, or in-stream activities, in concentrations or combinations which impair the structure or limit the function of the resident aquatic community as it naturally occurs;

(d) Determination of impairment or limitation of the resident aquatic community shall be based on the aquatic community found at an appropriate reference site or region.

Section 15-3106. Wetland Conditions.

(a) All wetlands, as defined by the Meskwaki classification scheme, shall maintain biological, physical, chemical, and hydrological conditions - as determined by established baselines and reference wetlands - including, but not limited to:

(1) base flow, flow regime, wetland hydroperiod;

(2) chemical, nutrient, dissolved oxygen regime of the wetland;

(3) conditions favorable to protection propagation of threatened, endangered, at-risk species;

(4) floristic quality;

(5) integrity of species diversity, abundance, zonation;

(6) normal movement of fauna;

(7) pH of wetland waters;

(8) salinity;

(9) size shape;

(10) soil type horizon structure;

(11) water currents, erosion, or sedimentation patterns;

(12) water levels or elevations;

(13) and water temperature variations.

Section 15-3107. Determining Compliance with Narrative Standards.

(a) Visual assessment methods, chemical testing, monitoring of physical attributes, and biomonitoring and/or bioassessment following current EPA test methods or other methods approved by the Department may be used to determine compliance with the narrative criteria in Sec. 15-3101 through Sec. 15-3106.

(b) When no historical or background data exist, data collection and analysis will be used to determine the standard. Data from an appropriate reference site, which reflects the natural condition, may be used for this purpose. For the purpose of this section, reference site means a similar site that approximates a natural, unimpacted condition (biological, chemical, physical, etc.) for the target water body

TITLE 15. WATER QUALITY STANDARDS CODE

ARTICLE IV

DESIGNATED USES OF WATERBODIES

CHAPTER 1. IN GENERAL.

Section 15-4101. Existing Uses.

Waters that represent a unique sacred and cultural resource of the Tribe, due for example to their use, their association with the traditional value system of the Tribe, or their beauty may be designated as such by the Council. Modifications to designated use categories, including the addition or removal of a designated use category or establishment of a use subcategory, may be made pursuant to the provisions of Sec. 15-1103(c) and consistent with the requirements of 40 C.F.R. § 131.10, as may be revised from time to time.

The following sections describe the designated uses for Tribal waters. Narrative water quality criteria and relevant numeric criteria in Tables 1-8 shall apply to Tribal waters. Where there are several designated uses for a waterbody, the applicable standard applied will be the criterion necessary to protect the most sensitive use. At the boundary between surface waters of different designated uses, the most stringent water quality criteria will be used.

The waters of the Tribe shall be classified in one or more of the categories in Sec. 15-4102 to 15-4104.

Section 15-4102. Human Health Uses.

(a) **C: Cultural:** Supports cultural and traditional uses of waters of the Tribe.

(b) **FC: Fish Consumption:** Water body supports the use of the water by humans for harvesting aquatic organisms for consumption.

(c) **GWR: Groundwater Recharge:** Use of water within areas used to recharge shallow aquifers and drinking water wells within the Meskwaki Settlement

(d) **REC: Recreation Primary & Secondary Contact**: Supports primary contact recreation and secondary contact recreation. This includes but is not limited to Tribal activities involving water contact such as swimming, boating, hunting, fishing and harvesting.

Section 15-4103. Aquatic Life and Wildlife Uses.

(a) **FAL: Fish and Aquatic Life:** Water quality necessary to support a balanced aquatic life community and to protect aquatic organisms in order to sustain their uses as food, medicinal, crafting, and other resources.

(b) **VWH: Vegetative and Wildlife Habitat:** Supports instream and riparian plant communities and terrestrial and avian wildlife ecosystems by providing vegetative and wildlife habitat with adequate food, cover, and water sources for the propagation of dependent wildlife populations.

Section 15-4104. Other Designated Uses.

(a) **NAV: Navigation:** Use of the water supports the movement of watercraft. Ex: canoes, kayaks and bundled cattails.

(b) **WS: Water Supply**: Supports the use of water for industrial, agricultural, or aquaculture purposes.

Section 15-4105. Table of Waterbody Use Designations.

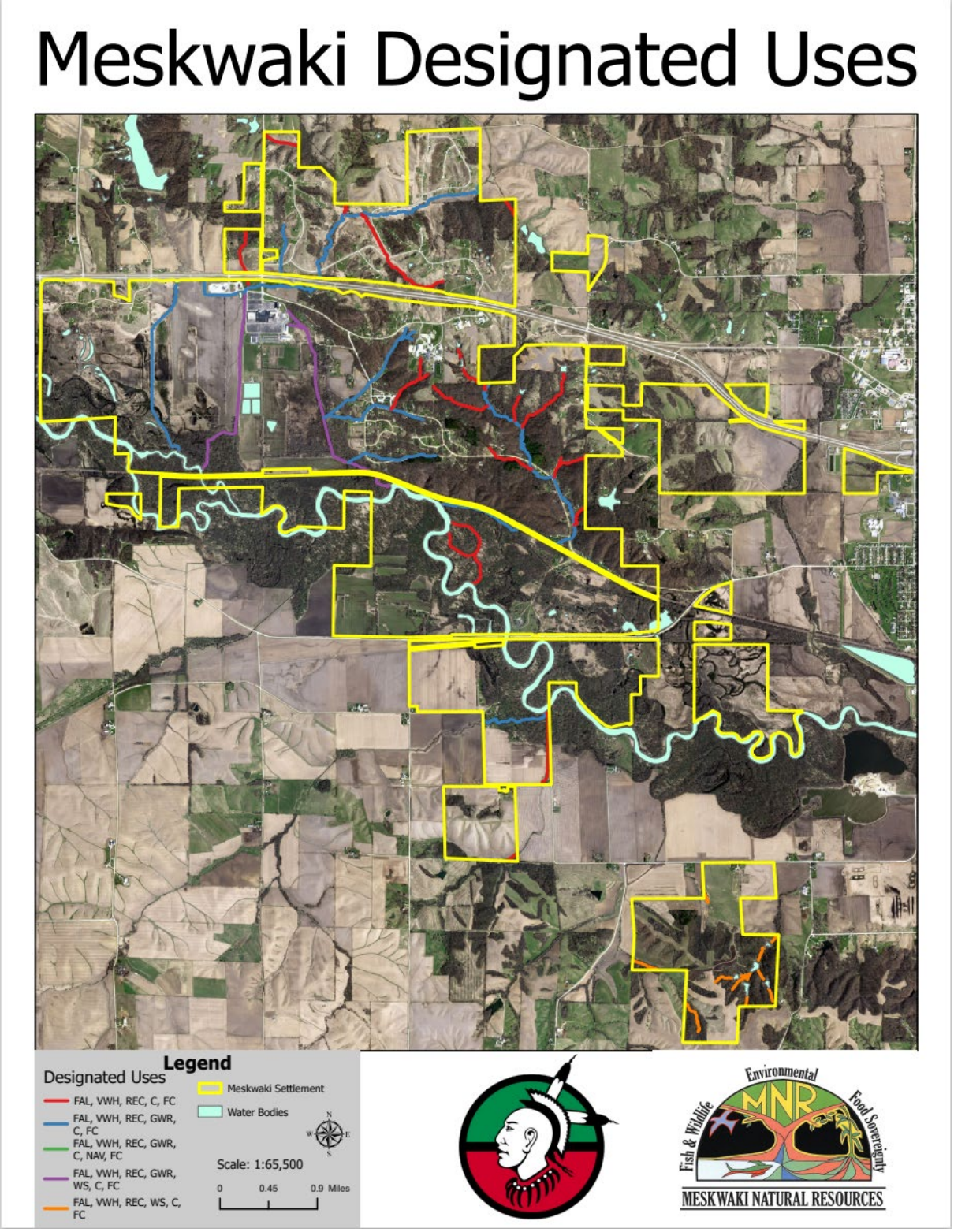

Figure 1. Map of Meskwaki waterbody designated uses. Reach identifiers and colors correspond to the Stream and River Reaches portion of Sec. 15-4105.

(a) **Stream and River Reaches:**

Reach Identifier	Reach Length (ft)	Designated Use								Associated Color
Bear Creek	3186	FAL	VWH	REC		C		FC		Red
Bennett Creek	3007	FAL	VWH	REC	GWR	C		FC		Blue
Buffalo pasture stream	443	FAL	VWH	REC		C	WS	FC		Orange
Cattail Creek	13874	FAL	VWH	REC	GWR	C		FC		Blue
Economic Drainage	1977	FAL	VWH	REC	GWR	C		FC		Blue
Fox Creek	1965	FAL	VWH	REC		C		FC		Red
Honeysuckle	963	FAL	VWH	REC		C		FC		Red
Housing	2932	FAL	VWH	REC		C		FC		Red
Iowa River Section	7198	FAL	VWH	REC	GWR	C		FC	NAV	Green
Iowa River Section	19065	FAL	VWH	REC	GWR	C		FC	NAV	Green
Meskwaki and Springs Rd. Drainage	9025	FAL	VWH	REC	GWR	C	WS	FC		Purple
Meskwaki Rd. Drainage	3947	FAL	VWH	REC	GWR	C		FC		Blue
Northwood drainage	2105	FAL	VWH	REC	GWR	C		FC		Blue
Old BIA	1952	FAL	VWH	REC		C		FC		Red
Onion Creek	784	FAL	VWH	REC		C		FC		Red
Onion Creek Drainage	7466	FAL	VWH	REC	GWR	C	WS	FC		Purple
Onion Creek Drainage	8862	FAL	VWH	REC	GWR	C		FC		Blue
Onion Creek Drainage	3877	FAL	VWH	REC	GWR	C		FC		Blue
Oxbow	5035	FAL	VWH	REC		C		FC		Red
Pond Drainage	957	FAL	VWH	REC		C		FC		Red
Power substation Drainage	2124	FAL	VWH	REC		C		FC		Red
Public Works	1858	FAL	VWH	REC		C		FC		Red
Ray’s Named Stream	5028	FAL	VWH	REC		C		FC		Red
Settlement School	2795	FAL	VWH	REC		C		FC		Red
South Buffalo stream	2367	FAL	VWH	REC		C	WS	FC		Orange
South Farm pond	4428	FAL	VWH	REC		C	WS	FC		Orange
Southeast School	2484	FAL	VWH	REC		C		FC		Red
Sportsmans Drainage	7234	FAL	VWH	REC	GWR	C		FC		Blue
Springs Road	3403	FAL	VWH	REC	GWR	C		FC		Blue
Tribal Operations	5613	FAL	VWH	REC	GWR	C		FC		Blue
West Onion	1964	FAL	VWH	REC		C		FC		Red

(b) **Wetlands:**

(1) All wetlands, including ponds and lakes, are designated for the following uses until individual wetland sites are designated otherwise:

	FAL	VWH	REC	GWR	C	WS	FC	NAV
Wetlands	✓	✓	✓	✓	✓	✓	✓	✓

Section 15-4106. Designated Use Category Modifications.

Modifications to designated use categories, including the addition or removal of a designated use category or establishment of a use subcategory, may be made pursuant to the provisions of Sec. 15-1103(c) of these Standards and consistent with the requirements of 40 C.F.R. § 131.10, as may be revised from time to time.

TITLE 15. WATER QUALITY STANDARDS CODE

ARTICLE V

NUMERIC WATER QUALITY CRITERIA FOR VARIOUS USES

CHAPTER 1. IN GENERAL.

Section 15-5101. General Numeric Criteria.

(a) Numeric criteria are established in these Water Quality Standards for pollutants and other parameters, including toxic pollutants and a thermal component (consistent with the requirements of the Clean Water Act), which may adversely affect the water quality of Tribal waters. The numeric criteria support existing uses, and the designated uses described in Article IV of these Standards. In setting numeric criteria, the Department may consider the effect of local conditions on water quality and may develop site-specific criteria subject to Tribal Council and EPA approval when justified by sufficient data and need. Tables listing numeric water quality criteria for specific pollutants are provided in Tables 1-7, and Table 8 of Appendix A of these standards.

(b) When numeric criteria are not available and the Department determines they are necessary to protect designated uses, it will adopt criteria based on biological monitoring or methods consistent with information published pursuant to CWA § 304(a) or other scientifically defensible methods. WQS revisions will be adopted according to procedures in Sec. 15-1103(c) of these Standards. Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods or previously adopted numeric criteria, or to limit the ability of the Department to adopt other criteria it determines are necessary to protect the designated uses of Tribal waters.

(c) When numeric criteria for the protection of human health are not identified in these Standards or Table 8 of Appendix A, such criteria may be derived by the Department from the most recent toxicity information provided in EPA's Integrated Risk Information System (IRIS), EPA guidance and recommendations under CWA § 304(a), and other scientifically defensible toxicity data.

(d) Numeric criteria for the protection of aquatic life uses not identified in these Standards may be developed by the Department from the following information and methods, subject to Council and EPA approval:

(1) Site-specific criteria developed pursuant to Sec. 15-1103(c) of these Standards;

(2) Biological monitoring and biological surveys;

(3) The most recent toxicity information defined in EPA's Ecotoxicology (ECOTOX) database and other relevant and scientifically defensible toxicity data, and EPA-

recommended or other scientifically defensible procedures for deriving water quality criteria; or

(4) Other scientifically defensible methods.

(e) Nutrients and Nutrient Response Criteria. Separate nutrient and nutrient response criteria were developed for Iowa River tributaries with drainage areas between 0-10 mi^2 and the lengths of the Iowa River passing through Settlement boundaries. These reaches are identified in Sec. 15-4105. No Tribal flowing waters identified in these Standards fit the category of 10-700 mi^2 in drainage area but could be added in future Standards revisions. The referenced documents and approaches below were used to derive the nutrient criteria for flowing waters found in tables 1 and 2. For these criteria, duration is a seasonal mean, and frequency is not to exceed more than 1 in 3 years.

(1) Iowa River Tributaries (Drainage Area = 0-10 mi^2): Nitrogen and phosphorus criteria are not intended to be used alone to assess support of the FAL use. Instead, assessment decisions are to be based on a convergence of evidence approach that combines assessment of nutrient causal and response parameters. This approach is based on the EPA's guidance on integrating nutrient causal and response parameters for water quality standards. A waterbody will fail to meet the FAL use if at least one causal and at least one response parameter are exceeded. A waterbody will fail to meet FAL use if at least one causal parameter is exceeded, and data are unavailable for any response parameter. If a causal parameter is not exceeded, but at least one response parameter is exceeded, then the waterbody will fail to meet the FAL use, but further investigation may be necessary to determine if nutrient pollution is the cause of such impairment.

(i) Total Nitrogen as N (TN)[a]. This criterion was derived by the USEPA Office of Water for the level III ecoregion Western Corn Belt Plains (47). The Office of Water identifies TN as one of two essential causal parameters for nutrient enrichment.

(ii) Total Kjeldahl Nitrogen (TKN)[a]. This criterion was derived by the USEPA Office of Water for the level III ecoregion Western Corn Belt Plains (47). TKN is a nutrient causal parameter as described by the Office of Water.

(iii) Total Phosphorus as P (TP)[a]. This criterion was derived by the USEPA Office of Water for the level III ecoregion Western Corn Belt Plains (47). The Office of Water identifies TP as one of two essential causal parameters for nutrient enrichment.

(iv) Dissolved oxygen (DO)[b,c]. Two different criteria are included for DO. Both the 16-hour minimum DO[b] of every 24-hour period and the 24-hour minimum DO[c] at any time during every 24-hour period, are taken from Iowa WQS.

(v) Turbidity[a]. This criterion was derived by the USEPA Office of Water for the level III ecoregion Western Corn Belt Plains (47). The Office of Water identified turbidity as an essential nutrient enrichment response parameter in its analysis.

(vi) Chlorophyll *a* (as a measure of sestonic algal abundance)[a]. This criterion was derived by the USEPA Office of Water for the level III ecoregion Western Corn Belt Plains (47). The Office of Water identified chlorophyll *a* as an essential nutrient enrichment response parameter in its analysis.

Table 1. Nutrient criteria in support of FAL use for Iowa River tributaries with drainage areas between 0-10 mi^2.

Nutrient Criteria for all Iowa River Tributaries (Drainage area = 0-10 mi^2)				
	Criteria (mg/l) or NTU	**Assessment**		
Causal Pollutants	**FAL**	**Time period**	**Exceedance Statistic**	**Minimum Two Year Rolling Base flow Sample Size (n)**
Total Kjeldahl Nitrogen as N	0.65[a]	All seasons	Rolling two year mean	10
Total Nitrogen as N	3.26[a]	All seasons	Rolling two year mean	10
Total Phosphorus as P	0.118[a]	All seasons	Rolling two year mean	10
Response Parameters				
Dissolved Oxygen	Minimum value for at least 16 hours of every 24-hour period 5.0[b]	All seasons	count of exceedances	5
	Minimum value at any time during every 24-hour period 5.0[c]	All seasons	count of exceedances	5
Turbidity	15[a]	All Seasons	Rolling two year mean	10
Chlorophyll *a* (as a measure of sestonic algal abundance)	0.0044[a] using fluorometric methods	All Seasons	Rolling two year mean	10

[a] This criterion was taken from the 2000 USEPA document titled "Ambient Water Quality Criteria Recommendations: Rivers and Streams in Nutrient Ecoregion VI," and was derived using water quality data collected from streams in the USEPA Western Corn Belt Plains sub-ecoregion from January 1990 to December 1999. United States, Environmental Protection Agency, Office of Water. "Ambient Water Quality Criteria Recommendations: Information Supporting the development of State and Tribal Nutrient Criteria for Rivers and Streams in Nutrient Ecoregion VI," December, 2000.

[b] This value is the class B (Warmwater-1) Minimum value for at least 16 hours of every 24-hour period dissolved oxygen criterion from the Iowa DNR Water Quality Standards, section 61.3(3), Table 2. State of Iowa, *567 Iowa Administrative Code Chapter 61*, "Iowa Water Quality Standards," October 7, 2020.

[c] This value is the class B (Warmwater-1) Minimum value at any time during every 24-hour period dissolved oxygen criterion from the Iowa DNR Water Quality Standards, section 61.3(3), Table 2. State of Iowa, *567 Iowa Administrative Code Chapter 61*, "Iowa Water Quality Standards," October 7, 2020.

EPA has taken no action on 15-5101(e)(2) and Table 2: Nutrient criteria in support of FAL use and DPVs for Iowa River.

(2) Iowa River: Support of the FAL use for the Iowa River is only assessed based on dissolved oxygen criteria and criterion in Table 2. Support of downstream protection values (DPV) is assessed based on the nutrient criteria outlined below.

Background: The Iowa Nutrient Reduction Strategy (INRS)[d] uses the 1980-96 and the more data-rich 2006-2010 period as a benchmark from which to measure progress toward its goal of reducing Iowa's contribution of total phosphorus (TP) and total nitrogen (TN) loads to Iowa waters and the Gulf of Mexico by 45%. This 45% reduction goal from historic baseline estimates was prompted by the 2008 Gulf Hypoxia Action Plan[e], which aims to reduce the 5-year rolling average areal extent of the Gulf Hypoxic zone to less than 5,000 mi^2. Impairments of aquatic life and recreational uses within waterbodies downstream of the Tribe, including the Gulf of Mexico, result in part from the delivery of excessive nutrient loads via the Iowa River to downstream waters.

To ensure the attainment of downstream designated uses, the Tribe has developed downstream protection values (DPVs) incorporating INRS load reduction goals and historic concentration and load data in the Iowa River. A USGS study[f] was commissioned to produce modeled estimates of nutrient concentrations and associated loads and yields at multiple locations on the Iowa River and its tributaries in the Middle Iowa River Basin for the periods 1980-96, 2006-10, and 2011-18. Because an Iowa River sampling site upstream of the Settlement had a more complete nutrient sampling history than any Tribal sites during the 1980-96 and 2006-10 sampling periods, nutrient criteria were derived from its estimated mean annual nutrient concentrations. Criteria were simply derived as follows in equation 1:

Eq. 1 $$X_N = 0.55([N]*DR)$$

Where X stands for criterion, N stands separately for the constituents nitrate + nitrite as N, total nitrogen as N, and total phosphorus as P, [N] represents the annual average estimated concentration of each constituent associated with USGS stream gage site USGS 05451500 during the monitoring period 2006-10, and DR represents the drainage ratio of the Tribal monitoring site associated with USGS stream gage site USGS 05451770 to the upstream monitoring site associated with USGS stream gage site USGS 05451500 (DR=1.155). The product of [N] and DR yields a prorated estimate of annual average concentrations at USGS 05451770 that accounts for the 6.4% increase in drainage area between the upstream and downstream monitoring locations during the 2006-10 benchmark period. Finally, the multiplier 0.55 accounts for the 45% load reduction goal of the INRS.

[d] Iowa Department of Agriculture & Land Stewardship, Iowa Department of Natural Resources, and Iowa State University, 2017. Iowa Nutrient Reduction Strategy—A science and technology-based framework to assess and reduce nutrients to Iowa waters and the Gulf of Mexico: Ames, Iowa, Iowa State University.

[e] Mississippi River Gulf of Mexico Watershed Nutrient Task Force, 2008. "Gulf Hypoxia Action Plan for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico and Improving Water Quality in the Mississippi River Basin."

[f] Garrett, J.D. and Kalkhoff, S.J., 2020, Nutrient concentrations, loads, and yields in the Middle Iowa River Basin, Iowa: U.S. Geological Survey Scientific Investigations Report 2020–5148, https://doi.org/10.3133/sir20205148.

To make assessment decisions on DPVs derived using this approach with any amount of reasonable assurance is difficult because of the seasonality and flow-dependent nature of nutrient concentrations and associated loads. These difficulties necessitate an increase in sample frequency and event monitoring capacity, as well as a widening of sampling window width in order to meet the large data requirements of nutrient models built to produce reliable annual average concentration and load estimates. For example, the weighted regression on time, discharge, and season model (WRTDS) works best with greater than 100 water quality samples dispersed over at least a 5-year monitoring period, and a sampling regime that covers the majority of a discharge range at a stream gaged monitoring site. The LOADEST model, though less data-intensive, still requires a large dataset for load and concentration estimation. DPV assessment decisions will be based upon modeled estimates of average annual nutrient concentrations and will be made as sufficient data sets are established.

(i) Nitrate + Nitrite as N. This criterion is derived as discussed in the above, and as shown in Equation 1.

(ii) Total Nitrogen as N. This criterion is derived as discussed in the above, and as shown in Equation 1.

(iii) Total Phosphorus as P. This criterion is derived as discussed in the above, and as shown in Equation 1.

(iv) Dissolved oxygen. Two different criteria are included for DO. Both the 16 hour minimum DO[b] of every24-hour period and the 24-hour minimum DO[c] at any time during every 24-hour period are taken from Iowa WQS. DO is understood as a nutrient response parameter as well as a significant stressor to fish and aquatic macroinvertebrate communities at insufficient concentrations.

Table 2. Nutrient criteria in support of FAL use and DPVs for the Iowa River.

Nutrient Criteria for Iowa River					
	Criteria (mg/l) or NTU		Assessment		
Causal Pollutants	FAL	DPV	Time period	Exceedance Statistic	Minimum Sample Size (n)
Nitrate + Nitrite as N[k]	-	5.22	All seasons	Rolling five year estimated average annual concentration	Dependent on model needs
Total Nitrogen as N[k]	-	5.79	All seasons	Rolling five year estimated average annual concentration	Dependent on model needs
Total Phosphorus as P[k]	-	0.18	All seasons	Rolling five year estimated average annual concentration	Dependent on model needs
Response Parameters					
Dissolved Oxygen	Minimum value for at least 16 hours of every 24-hour period	-	All seasons	count of exceedances	5
	Minimum value at any time during every 24-hour period	-	All seasons	count of exceedances	5

(f) pH. For all Tribal waters, pH levels shall not fall outside of 6.5 to 9.0 standard units. Discharges shall not alter existing natural background pH levels by more than 0.5.

(g) Turbidity. The turbidity of all flowing waters of the Tribe greater than 700 mi^2 in drainage area shall not be increased by more than 25 NTU above natural conditions, measured at a location upstream from or not influenced by any human-introduced non-point source or point source activity. The turbidity of all flowing waters of the Tribe less than or equal to 700 mi^2 shall not exceed 15 NTU during normal baseflow conditions.

(h) Ammonia. Table 3 gives the pH and temperature-variable equations for acute (CMC) and chronic (CCC) FAL criteria.

Table 3. Total Ammonia Nitrogen Aquatic Life Criteria for Fresh Waters.

mg Total Ammonia Nitrogen (TAN)/L	
Acute (CMC) equation (1 hour average)	$CMC = MIN\left(\left(\frac{0.275}{1+10^{7.204-pH}}+\frac{39.0}{1+10^{pH-7.204}}\right),\right.$ $\left.\left(0.7249\times\left(\frac{0.0114}{1+10^{7.204-pH}}+\frac{1.6181}{1+10^{pH-7.204}}\right)\times\left(23.12\times 10^{0.036\times(20-T)}\right)\right)\right)$
Chronic (CCC) equation (30-day rolling average)*	$CCC = 0.8876\times\left(\frac{0.0278}{1+10^{7.688-pH}}+\frac{1.1994}{1+10^{pH-7.688}}\right)\times\left(2.126\times 10^{0.028\times(20-MAX(T,7))}\right)$
Note: Ammonia criteria are a function of pH and temperature. At the standard normalized pH of 7.0 and temperature of 20 °C, the acute criterion would be 17 mg TAN/L and the chronic criterion would be 1.9 mg TAN/L. Criteria duration: the acute criterion is a one-hour average and the chronic criterion is a thirty-day rolling average. Criteria frequency: Not to be exceeded more than once in 3 years. * Not to exceed 2.5 times the CCC as a 4-day average within the 30-days, *i.e.* 4.8 mg TAN/L at pH 7 and 20 °C. more than once in 3 years on average.	

Note to Table 3: Acute (CMC) and chronic (CCC) freshwater ammonia criteria were developed using EPA's 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater* (EPA–822–R–13–001), which is hereby incorporated by reference. Illustrations, tables, and formulae used in the development of these equations can be found on pages 40-52 of the criteria document.

(i) Radioactive materials. The State of Iowa's criteria[g] for radioactive substances are adopted here for class C, WS, and GWR waters:

(1) The combined radium-226 and radium-228 shall not exceed 5 picocuries per liter.

(2) Gross alpha particle activity (including radium-226 but excluding radon and uranium) shall not exceed 15 picocuries per liter.

(3) The average annual concentration of beta particle and photon radioactivity from man-made radionuclides other than tritium and strontium-90 shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.

[g] State of Iowa, *567 Iowa Administrative Code Chapter 61*, "Iowa Water Quality Standards," June 16, 2021.

(4) The average annual concentration of tritium shall not exceed 20,000 picocuries per liter; the average annual concentration of strontium-90 shall not exceed 8 picocuries per liter.

(j) Temperature. Rate of temperature change of waters shall not exceed 1 °C per hour, nor shall it exceed a 3 °C increase within a given day. Temperatures in the Iowa River shall not exceed enumerated monthly values for Zone III Mississippi River waters as written in Iowa WQS[g] by more than 2 °C.

Section 15-5102. Additional Numeric Criteria for Designated Uses.

(a) Fish and Aquatic Life (FAL). Waters designated for this use shall exhibit the following characteristics:

(1) Concentrations of the following substances shall not exceed criteria in tables 4-6 below. Except where otherwise noted, all criteria are taken from USEPA recommended Aquatic Life Criteria table. Certain FAL criteria are not included here as they are instead included in Sections 15-5101(e-j) above.

Table 4. Additional numerical criteria in support of FAL use.

Pollutant	FAL A Criterion (mg/L)	FAL C Criterion (mg/L)
4,4'-DDT	0.0011	0.000001
Acrolein	0.003	0.003
Aldrin	0.003	
Alkalinity	20	
alpha-Endosulfan	0.00022	0.000056
Aluminum (pH 5.0 - 10.5)	2.5[h]	0.89[h]
Arsenic	0.34	0.15
Atrazine	0.003	
beta-Endosulfan	0.00022	0.000056
Cadmium	[i]	[i]
Carbaryl	0.0021	0.0021
Chlordane	0.0024	0.0000043
Chloride	860	230
Chlorine	0.019	0.011
Chloropyrifos	0.000083	0.000041
Chromium (III)	0.57	0.074
Chromium (VI)	0.016	0.011
Copper	[i]	[i]
Cyanide	0.022	0.0052
Demeton		0.0001
Diazinon	0.00017	0.00017
Dieldrin	0.00024	0.000056
alpha-Endosulfan	0.00022	0.000056
beta-Endosulfan	0.00022	0.000056
Endrin	0.000086	0.000036
gamma-BHC (Lindane)	0.00095	
Guthion		0.00001
Heptachlor Epoxide	0.00052	0.0000038
Heptachlor	0.00052	0.0000038
Iron		1
Lead	[i]	[i]

[h] The acute and chronic criteria for aluminum are taken from Iowa DNR Water Quality Standards. As explained in that document, this approach (for developing site-specific aluminum criteria) refers to using spatially and temporally representative model inputs for a site and the 2018 (V2.0) or most recent version of the aluminum criteria calculator to obtain individual model outputs. Subsequently, the site-specific criteria would be calculated as the lowest tenth percentile of individual model outputs as was done for the state-wide values. Site-specific data collection requirements, as described in Section 15 of Iowa's Wasteload Allocation Procedure (WLAP) (2020), would be considered spatially and temporally representative for a site.

Malathion		0.0001
Mercury	0.0014	0.00077
Methoxychlor		0.00003
Mirex		0.000001
Nickel	[i]	[i]
Nonylphenol	0.028	0.0066
Oxygen, Dissolved	Minimum value at any time during every 24-hour period dissolved oxygen criterion: 5.0[c]	Minimum value for at least 16 hours of every 24-hour period dissolved oxygen: 5.0[b]
Parathion	0.000065	0.000013
Pentachlorophenol	[i]	[i]
Phenol	2.5	0.05
Polychlorinated Biphenyls (PCBs)	0.002	0.000014
Polynuclear aromatic hydrocarbons (PAHs)	0.03	0.00003
Selenium	0.0193	0.005
Silver	[i]	i
Sulfide-Hydrogen Sulfide		0.002
Toluene	2.5	0.05
Toxaphene	0.00073	0.000002
Tributyltin (TBT)	0.00046	0.000072
Trichloroethylene	4	0.08
Zinc	[i]	[i]

[i] Criterion depends on other constituent concentrations. See Table 5 for formulae and numerical criteria.

EPA has taken no action on Table 5: water quality criteria for copper. -- Highlighted below.

Table 5. Calculated numeric criteria in support of FAL use.[j]

Pollutant	FAL Criterion	Equation	Value[k] (µg/l)
Cadmium	Acute	= (1.136672 - [(ln(hardness)) × (0.041838)])*e$^{(0.9789*\ln(\text{hardness}) - 3.4210)}$	5.35
	Chronic	= (1.101672 - [(ln(hardness)) × (0.041838)])*e$^{(0.7977*\ln(\text{hardness}) - 3.909)}$	1.2
Copper	Acute	= e$^{[0.9422*\ln(\text{hardness}) - 1.700]}$	26.9
	Chronic	= e$^{[0.8545*\ln(\text{hardness}) - 1.702]}$	16.9
Lead	Acute	= (1.46203 - [(ln(hardness)) × (0.145712)])*e$^{(1.2731*\ln(\text{hardness}) - 1.46)}$	136
	Chronic	= (1.46203 - [(ln(hardness)) × (0.145712)])*e$^{(1.2731*\ln(\text{hardness}) - 4.705)}$	5.3
Nickel	Acute	= 0.998 x e$^{[0.846*\ln(\text{hardness}) + 2.255]}$	840
	Chronic	= 0.997 x e$^{[0.846*\ln(\text{hardness}) + 0.0584]}$	93
Pentachloro-phenol	Acute	= e$^{[1.005(\text{pH})-4.869]}$	23.83
	Chronic	= e$^{[1.005(\text{pH})-5.134]}$	18.28
Silver	Acute	= 0.85 x e$^{[1.72*\ln(\text{hardness}) - 6.59]}$	11
	Chronic		
Zinc	Acute	= 0.978 x e$^{[0.8473*\ln(\text{hardness}) + 0.884]}$	211
	Chronic	= 0.986 x e$^{[0.8473*\ln(\text{hardness}) + 0.884]}$	211

(b) Vegetative and Wildlife Habitat (VWH). Waters designated for this use shall exhibit the following characteristics:

(1) Concentrations of the following substances shall not exceed the following:

[j] All criterion equations are taken from Iowa DNR Water Quality Standards.

[k] All values are derived, where applicable, with an assumed total hardness = 200 mg/l as $CaCO_3$, pH = 8, and sulfate = 63 mg/l. If site-specific values for these variables are available, site-specific criteria will be calculated for assessment decisions.

Table 6. Aquatic Life Criteria: Vegetative and Wildlife Habitat (VWH) use.

Pollutant[l]	VWH Criterion (mg/L)
Acetochlor	0.00143[m]
Alachlor	0.00164[m]
Atrazine	0.001[m]
Carbaryl	0.00085[n]
Chlorpyrifos	0.00005[n]
Copper	0.00205[n]
DEET (N,N-diethyl-m-toluamide)	37.5[n]
Malathion	0.000049[n]
Metolachlor	0.008[m]
Prometon	0.098[m]
Simazine	0.006[m]

(c) Fish Consumption (FC). Waters designated for this use shall meet the criteria in Table 8 located in Appendix A.

(d) Recreation, Primary and Secondary Contact (REC). Waters designated for this use are not to contain *E. coli* bacteria significant to the public health in concentrations exceeding

(1) A monthly geometric mean as outlined in column B of Table 7, E. coli, based on a minimum of five (5) samples spaced approximately equally over a rolling 60-day period.

[l] We have included VWH criteria for these pollutants because 1) they have previously been detected in waters of the Tribe, and 2) they have associated EPA aquatic life ecotoxicity benchmarks available from risk assessments involving aquatic flora and invertebrates.

[m] Criterion is the EPA acute aquatic life ecotoxicity benchmark value for nonvascular plants. EPA aquatic life benchmarks are estimates of the concentrations below which pesticides are not expected to represent a risk of concern for aquatic life.

[n] Criterion is the EPA acute aquatic life ecotoxicity benchmark value for aquatic invertebrates. EPA aquatic life benchmarks are estimates of the concentrations below which pesticides are not expected to represent a risk of concern for aquatic life.

Table 7. Recreation Criteria.

Criteria Elements	A		B	
	Estimated Illiness Rate: 32 per 1,000 primary contact recreators		Estimated Illiness Rate: 36 per 1,000 primary contact recreators	
	Magnitude		Magnitude	
Indicator	Geometric Mean (cfu/100 mL)	Statistical threshold value (cfu/100 mL)	Geometric Mean (cfu/100 mL)	Statistical threshold value (cfu/100 mL)
Enterococci (marine and fresh water)	30	110	35	130
E. coli (fresh water)	100	320	126	410
[a] *EPA Method 1600*, or another equivalent method, shall be used to measure culturable enterococci. *EPA Method 1603* (U.S. EPA, 2002b), or another equivalent method, shall be used to measure *E. coli*.				
Duration and Frequency: The water body GM should not be greater than the selected GM magnitude in any 60-day interval. There should not be greater than a ten percent excursion frequency of the selected STV magnitude in the same 30-day interval.				

(e) Groundwater Recharge (GWR). Waters designated for this use are to exhibit the following characteristics:

(1) Concentrations of the substances named in Table 9 of Appendix A shall not exceed their associated values.

(f) Water Supply (WS). No numeric water quality criteria are currently assigned to protect this use. Narrative criteria in Sec. 15-3101(b)(11) are assigned to protect this use.

(g) Cultural (C). Waters designated for these uses shall exhibit the following characteristics:

(1) Concentrations of the substances named in Table 8 of Appendix A shall not exceed their associated values.

Section 15-5103. Application and Construction.

(a) The criteria assigned and applicable to a water body are those required to sustain all designated uses of the water body. When a water body has more than one designated use, as indicated in Sec. 15-4106 of these Standards, the applicable numeric criteria for each parameter shall be those necessary to maintain all the designated uses of that water body.

(b) Except where otherwise noted in Sec. 15-5101, the following design flows shall be used to implement the aquatic life and human health criteria in Tables 1-6, and 7-8.

Criteria	Design Flow
Aquatic Life Acute Criteria[1]	1 Q 10^3
Aquatic Life Acute Ammonia as N Criterion	1 Q 10^3
Aquatic Life Chronic Criteria[2]	7 Q 10^4
Aquatic Life Chronic Ammonia as N Criterion	30 Q 10^5
Human Health Criteria	Harmonic Mean Flow

Notes:

1) The Aquatic Life Acute criterion is the water quality criterion to protect against acute effects in aquatic life and is the highest instream concentration of a priority toxic pollutant consisting of a short term- average not to be exceeded more than once every three years on the average;
2) The Aquatic Life Chronic criterion is the water quality criterion to protect against chronic effects in aquatic life and is the highest in stream concentration of a priority toxic pollutant consisting of a 4-day average not to be exceeded more than once every three years on the average;
3) 1 Q 10 is the lowest one-day flow with an average recurrence frequency of once in 10 years determined hydrologically;
4) 7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically;
5) 30 Q 10 is the lowest average 30 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically.

(c) Water quality standards established for the attainment and maintenance of upstream designated uses shall be sufficient to protect the attainment and maintenance of downstream designated uses.

(d) These Standards provide the basis for managing discharges attributable to point and nonpoint sources of pollution, including in-stream activities. These Standards are not intended to apply to or control natural conditions or phenomena.

(e) These Standards are intended to protect the water quality of the waters of the Tribe in a manner that is at least as protective as would be provided by the laws and regulations of the State of Iowa and EPA national recommendations.

TITLE 15. WATER QUALITY STANDARDS CODE

ARTICLE VI

SAMPLING AND ANALYSIS, VARIANCES, AND EXCEEDANCES

CHAPTER 1. IN GENERAL.

Section 15-6101. Sampling and Analysis.

(a) To the extent feasible, all methods of sample collection, preservation, and analysis used in determining water quality and compliance with these standards shall be in accordance with procedures prescribed by "Guidelines Establishing Test Procedures for the Analysis of Pollutants" (40 C.F.R. Part 136, Appendix A). When a test method is not prescribed by 40 C.F.R. Part 136 for a particular parameter, the most recent edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association, American Waterworks Association, and the Water Pollution Control Federation), and other or superseding methods published and/or approved by the Water Quality Program shall be used.

(b) For criteria requiring "no measurable change" (or "no measurable decrease/increase") from natural background conditions, the approved analytical method with the greatest precision shall be used. A change shall be considered measurable if the concentration measured is statistically different from the background concentration.

(c) "Natural conditions" sampling locations shall be upstream or up-gradient from all human-caused sources of pollution. When assessing natural conditions in a disturbed watershed, it may be necessary to use a neighboring or similar watershed as a reference condition.

(d) The Department shall require water quality monitoring to assess the effectiveness of pollution controls and to determine whether these standards are being attained.

Section 15-6102. Variances.

Any WQS variances adopted will be consistent with the federal regulation at 40 C.F.R. 131.14.

Section 15-6103. Compliance Schedules.

The Tribe Authorizes the use of compliance schedules, on a case-by-case basis, for water quality-based effluent limits as written in the National Pollutant Discharge Elimination System (NPDES) permits, when appropriate, and consistent with 40 C.F.R. 122.47, for new, recommencing, or existing dischargers to require compliance as soon as possible with water quality-based effluent limitations calculated to meet water quality standards issued or revised after July 1, 1977

APPENDIX A

NUMERIC CRITERIA AND OTHER ANALYTICAL INFORMATION

Table 8. Human Health Criteria: Cultural (C) and Fish Consumption (FC) uses.

Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000, and a water ingestion rate of 2.4 liters/day			
Pollutant[o]	**CAS[p] Number**	**C criterion (water + organism) (µg/L, unless otherwise noted)**	**FC criterion (organism only) (µg/L, unless otherwise noted))**
Acenaphthene (P)	83329	70	90
Acrolein (P)	107028	3	400
Acrylonitrile (P)	107131	0.061	7
Aldrin (P)	309002	0.00000077	0.00000077
alpha-Hexachlorocyclohexane (HCH) (P)	319846	0.00036	0.00039
alpha-Endosulfan (P)	959988	20	30
Anthracene (P)	120127	300	400
Antimony (P)	7440360	5.6	640
Arsenic (P)	7440382	0.014	0.047
Asbestos (P)	1332214	7 million fibers/L	—
Atrazine		3[q]	—
Barium	7440393	1,000	—
Benzene (P)	71432	0.58	16
Benzidine (P)	92875	0.00014	0.011
Benzo(a)anthracene (P)	56553	0.0012	0.0013
Benzo(a)pyrene (P)	50328	0.00012	0.00013
Benzo(b)fluoranthene (P)	205992	0.0012	0.0013
Benzo(k)fluoranthene (P)	207089	0.012	0.013

[o] Pollutants followed by (P) are USEPA Priority Pollutants. Priority pollutants are a set of regulated chemical pollutants, found at 40 CFR Part 423, Appendix A, for which there are developed analytical test methods.

[p] Chemical Abstracts Service (CAS) registry number.

Beryllium (P)	7440417	4[q]	—
beta-Hexachlorocyclohexane (HCH) (P)	319857	0.008	0.014
beta-Endosulfan (P)	33213659	20	40
Bis(2-Chloro-1-methylethyl) Ether (P)	108601	200	4,000
Bis(2-Chloroethyl) Ether (P)	111444	0.03	2.2
Bis(2-Ethylhexyl) Phthalate (P)	117817	0.32	0.37
Bis(Chloromethyl) Ether	542881	0.00015	0.017
Bromoform (P)	75252	7	120
Butylbenzyl Phthalate (P)	85687	0.1	0.1
Cadmium (P)	7440439	5[x]	168[y]
Carbofuran		40[x]	—
Carbon Tetrachloride (P)	56235	0.4	5
Chlordane (P)	57749	0.00031	0.00032
Chlorobenzene (P)	108907	100	800
Chlorodibromomethane (P)	124481	0.8	21
Chloroform (P)	67663	60	2,000
Chlorophenoxy Herbicide (2,4-D)	94757	1,300	12,000
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	93721	100	400
Chromium (III) (P)	16065831	100[x]	—
Chromium (VI) (P)	18540299	100[x]	3365[y]
Chrysene (P)	218019	0.12	0.13
Copper (P)	7440508	1,300	—
Cyanide (P)	57125	4	400
Dalapon		200	
Dibenzo(a,h)anthracene (P)	53703	0.00012	0.00013
Dichlorobromomethane (P)	75274	0.95	27
Dieldrin (P)	60571	0.0000012	0.0000012
Diethyl Phthalate (P)	84662	600	600
Dimethyl Phthalate (P)	131113	2,000	2,000
Di-n-Butyl Phthalate (P)	84742	20	30
Dinitrophenols	25550587	10	1,000

[q] USEPA has not issued recommended human health criteria for beryllium and atrazine, so the EPA MCL was used instead.

[x] Iowa DNR human health (water + organism) criterion.

[y] Iowa DNR human health (water only) criterion.

Endosulfan Sulfate (P)	1031078	20	40
Endrin (P)	72208	0.03	0.03
Endrin Aldehyde (P)	7421934	1	1
Ethylbenzene (P)	100414	68	130
Fluoranthene (P)	206440	20	20
Fluorene (P)	86737	50	70
gamma-Hexachlorocyclohexane (HCH) [Lindane] (P)	58899	4.2	4.4
Heptachlor (P)	76448	0.0000059	0.0000059
Heptachlor Epoxide (P)	1024573	0.000032	0.000032
Hexachlorobenzene (P)	118741	0.000079	0.000079
Hexachlorobutadiene (P)	87683	0.01	0.01
Hexachlorocyclohexane (HCH) - Technical	608731	0.0066	0.01
Hexachlorocyclopentadiene (P)	77474	4	4
Hexachloroethane (P)	67721	0.1	0.1
Indeno(1,2,3-cd)pyrene (P)	193395	0.0012	0.0013
Isophorone (P)	78591	34	1,800
Manganese	7439965	50	100
Methylmercury (P)	22967926	—	0.3 mg/kg
Methoxychlor	72435	0.02	0.02
Methyl Bromide (P)	74839	100	10,000
Methylene Chloride (P)	75092	20	1,000
Nickel (P)	7440020	610	4,600
Nitrates	14797558	10,000	—
Nitrobenzene (P)	98953	10	600
Nitrosamines	—	0.0008	1.24
Nitrosodibutylamine	924163	0.0063	0.22
Nitrosodiethylamine	55185	0.0008	1.24
Nitrosopyrrolidine	930552	0.016	34
N-Nitrosodimethylamine (P)	62759	0.00069	3
N-Nitrosodi-n-Propylamine (P)	621647	0.005	0.51
N-Nitrosodiphenylamine (P)	86306	3.3	6
Pathogen and Pathogen Indicators	—	—	—
Pentachlorobenzene	608935	0.1	0.1
Pentachlorophenol (P)	87865	0.03	0.04
pH	—	5 – 9	—

Phenol (P)	108952	4,000	300,000
Polychlorinated Biphenyls (PCBs) (P)		0.000058	0.000058
Polynuclear Aromatic Hydrocarbons (PAHs)		0.0038[x]	0.018[y]
Pyrene (P)	129000	20	30
Selenium (P)	7782492	170	4200
Solids Dissolved and Salinity	—	250,000	—
Tetrachloroethylene (P)	127184	10	29
Thallium (P)	7440280	0.24	0.47
Toluene (P)	108883	57	520
Toxaphene (P)	8001352	0.0007	0.00071
Trichloroethylene (P)	79016	0.6	7
Vinyl Chloride (P)	75014	0.022	1.6
Zinc (P)	7440666	7,400	26,000
1,1,1-Trichloroethane (P)	71556	10,000	200,000
1,1,2,2-Tetrachloroethane (P)	79345	0.2	3
1,1,2-Trichloroethane (P)	79005	0.55	8.9
1,1-Dichloroethylene (P)	75354	300	20,000
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03
1,2,4-Trichlorobenzene (P)	120821	0.071	0.076
1,2-Dichlorobenzene (P)	95501	1,000	3,000
1,2-Dichloroethane (P)	107062	9.9	650
1,2-Dichloropropane (P)	78875	0.9	31
1,2-Diphenylhydrazine (P)	122667	0.03	0.2
Trans-1,2-Dichloroethylene (P)	156605	100	4,000
1,3-Dichlorobenzene (P)	541731	7	10
1,3-Dichloropropene (P)	542756	0.27	12
1,4-Dichlorobenzene (P)	106467	300	900
2,3,7,8-TCDD (Dioxin) (P)	1746016	5.00E-09	5.10E-09
2,4,5-Trichlorophenol	95954	300	600
2,4,6-Trichlorophenol (P)	88062	1.5	2.8
2,4-Dichlorophenol (P)	120832	10	60
2,4-Dimethylphenol (P)	105679	100	3,000
2,4-Dinitrophenol (P)	51285	10	300
2,4-Dinitrotoluene (P)	121142	0.049	1.7
2-Chloronaphthalene (P)	91587	800	1,000

2-Chlorophenol (P)	95578	30	800
2-Methyl-4,6-Dinitrophenol (P)	534521	2	30
3,3'-Dichlorobenzidine (P)	91941	0.049	0.15
3-Methyl-4-Chlorophenol (P)	59507	500	2,000
4,4'-DDT		0.00003	0.00003
p,p′-Dichlorodiphenyldichloroethane (DDD) (P)	72548	0.00012	0.00012
p,p′-Dichlorodiphenyldichloroethylene (DDE) (P)	72559	0.000018	0.000018
p,p′-Dichlorodiphenyltrichloroethane (DDT) (P)	50293	0.00003	0.00003

Table 9. Human Health Criteria: Groundwater Recharge (GWR)[r] use.

EPA has taken no action on Table 9: water quality criteria for chloramines (as Cl2), chlorine (as Cl2), and chlorine dioxide as (ClO2)) -- Highlighted below.

Pollutant	Criterion Source (MCL[s] or MRDL[t])	GWR Criterion (mg/L, unless otherwise specified)
1,1,1-Trichloroethane	MCL	0.2
1,1,2-Trichloroethane	MCL	0.005
1,1-Dichloroethylene	MCL	0.007
1,2,4-Trichlorobenzene	MCL	0.07
1,2-Dibromo-3-chloropropane (DBCP)	MCL	0.0002
1,2-Dichloroethane	MCL	0.005
1,2-Dichloropropane	MCL	0.005
2,4,5-TP (Silvex)	MCL	0.05

[r] The GWR supporting criteria are numeric MCLs and MRDLs for drinking water systems. MCLs and MRDLs are post-treatment standards for drinking water. However, because GWR designated waters are designated as such due to their significant influence on water quality in the Iowa River Alluvial Aquifer (IRAA), the raw water source for the Meskwaki drinking water supply as well as for private wells, MNR uses MCLs and MRDLs as criteria for GWR designated waters.

[s] MCL stands for Maximum Contaminant Level. An MCL is the highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

[t] MRDL stands for Maximum Residual Disinfectant Level. MRDLs are the highest level of a disinfectant allowed in drinking water.

2,4-D	MCL	0.07
Alachlor	MCL	0.002
Alpha particles	MCL	15 picocuries per Liter (pCi/L)
Antimony	MCL	0.006
Arsenic	MCL	0.01
Asbestos (fiber > 10 micrometers)	MCL	7 million fibers / liter
Atrazine	MCL	0.003
Barium	MCL	2
Benzene	MCL	0.005
Benzo(a)pyrene (PAHs)	MCL	0.0002
Beryllium	MCL	0.004
Beta particles and photon emitters	MCL	4 millirems per year
Bromate	MCL	0.01
Cadmium	MCL	0.005
Carbofuran	MCL	0.04
Carbon tetrachloride	MCL	0.005
Chloramines (as Cl2)	MRDL	4.01
Chlordane	MCL	0.002
Chlorine (as Cl2)	MRDL	4.01
Chlorine dioxide (as ClO2)	MRDL	0.81
Chlorite	MCL	1
Chlorobenzene	MCL	0.1
Chromium (total)	MCL	0.1
cis-1,2-Dichloroethylene	MCL	0.07
Cyanide (as free cyanide)	MCL	0.2
Dalapon	MCL	0.2
Di(2-ethylhexyl) adipate	MCL	0.4
Di(2-ethylhexyl) phthalate	MCL	0.006
Dichloromethane	MCL	0.005
Dinoseb	MCL	0.007
Dioxin (2,3,7,8-TCDD)	MCL	0.00000003
Diquat	MCL	0.02
Endothall	MCL	0.1
Endrin	MCL	0.002
Ethylbenzene	MCL	0.7
Ethylene dibromide	MCL	0.00005

Fluoride	MCL	4
Glyphosate	MCL	0.7
Haloacetic acids (HAA5)	MCL	0.06
Heptachlor	MCL	0.0004
Heptachlor epoxide	MCL	0.0002
Hexachlorobenzene	MCL	0.001
Hexachlorocyclopentadiene	MCL	0.05
Lindane	MCL	0.0002
Mercury (inorganic)	MCL	0.002
Methoxychlor	MCL	0.04
Nitrate (measured as Nitrogen)	MCL	10
Nitrite (measured as Nitrogen)	MCL	1
o-Dichlorobenzene	MCL	0.6
Oxamyl (Vydate)	MCL	0.2
p-Dichlorobenzene	MCL	0.075
Pentachlorophenol	MCL	0.001
Picloram	MCL	0.5
Polychlorinated biphenyls (PCBs)	MCL	0.0005
Radium 226 and Radium 228 (combined)	MCL	5 pCi/L
Selenium	MCL	0.05
Simazine	MCL	0.004
Styrene	MCL	0.1
Tetrachloroethylene	MCL	0.005
Thallium	MCL	0.002
Toluene	MCL	1
Total Trihalomethanes (TTHMs)	MCL	0.080
Toxaphene	MCL	0.003
trans-1,2-Dichloroethylene	MCL	0.1
Trichloroethylene	MCL	0.005
Uranium	MCL	.030
Vinyl chloride	MCL	0.002
Xylenes (total)	MCL	10