UNDERSTANDING THE CLEAN WATER ACT REQUIREMENTS FOR HINKSON CREEK

Clean Water Act:

The main goal of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The Act explicitly states "All discharges into the nation's waters are unlawful unless specifically authorized by a permit"

The CWA allowed the US Environmental Protection Agency (EPA) to delegate authority to states to 1.) Identify the navigable waters that would be subject to the CWA, 2.) Identify the uses of those waterbodies, and 3.) Set water quality standards that protect those waterbodies so they will be fishable/swimmable.

This document is divided into these main topics and provides an explanation of the Missouri DNR and EPA authority for protecting waters of the state. Text boxes are used to link these descriptions back to Hinkson Creek.

+ Classified waters,
+ Beneficial use designations
+ Water quality standards

Classified Waters

All navigable streams and rivers that have identified beneficial uses and have some water all year are classified and listed in Tables H of Chapter 10 of the Code of State Regulations. Only 20% of the nation's waters are classified. Streams are further divided depending on flow.

Stream and Rivers

- **Class P: Streams** that maintain permanent flow during drought conditions.
- **Class P1:** Standing water reaches of class P streams.
- **Class C:** Stream that may cease flow in dry periods but maintain permanent pools which support aquatic life

Hinkson Creek Classification:

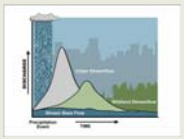
From the mouth (where Hinkson flows into Perche Creek) to Hwy 163, Hinkson Creek is classified as permanent flowing stream or Class "P". From Hwy 163 to the headwaters it is classified as intermittent or "C". Grindstone is also a classified stream, but smaller tributaries such as Flatbranch and Hominy Branch are not currently classified streams.

Beneficial Use Designations

All of the existing or potential uses for a classified waterbody are part of this designation. These descriptions take into consideration the use and value of water for public water supplies, protection and propagation of aquatic life, recreation in and on the water, agricultural, industrial and other purposes. Missouri DNR assigns beneficial use designations to waterbodies in the state. Often there is more than one use designation assigned to a waterbody.

Hinkson Creek beneficial uses include:

1. **Protection of Warm Water Aquatic Life and Human Health-fish consumption**
2. **Livestock and wildlife watering**
3. **Whole Body Contact Recreation**



Water Quality Standards

Under the Clean Water Act, every state must adopt water quality standards to protect, maintain and improve the quality of the nation's surface waters. These standards represent a level of water quality that will support the goal of "fishable/swimmable" waters. The water quality standards can be broken down into narrative and numeric criteria, and antidegradation.

Narrative Criteria, also referred to as the "free from" criteria, are general conditions that apply to **all** surface waters. These criteria state that all waters shall be free from sludge, floating debris, oil and scum, color and odor producing materials, substances that are harmful to human, animal or aquatic life, and nutrients in concentrations that may cause algal blooms.

Numeric Criteria are estimations of concentrations of chemicals and degree of aquatic life toxicity allowable in a water body without adversely impacting its beneficial uses. Although numeric criteria are applied to classified water bodies, they are primarily used to regulate dischargers through National Pollutant Discharge Elimination System NPDES) permits.

Each ***Beneficial Use*** has numeric criteria assigned to that use. For example for *warm-water aquatic life*, the dissolved oxygen level must be above 5 ppm so that fish can breath and survive. *Whole Body Contact* must have low numbers of Bacteria (E Coli) to protect swimmers from illness.

While all surface waters have to meet narrative criteria, only classified waters, with designated beneficial uses have to meet numeric water quality standards. Therefore small tributaries such as Flatbranch and Hominy Branch, which are not classified streams, are not required to meet numeric criteria for chlorides, dissolved oxygen, or macro invertebrate species diversity, whereas Hinkson and Grindstone do.

Waters that do not meet those water quality standards must be placed on an impaired waters list, also known as the 303(d) list. From that point, the waterbody must be monitored to identify the pollutant causing the impairment, and the state agency (Missouri DNR) must develop a total maximum daily load (TMDL) to protect that waterbody. The goal of the TMDL is to determine the amount of a pollutant that the waterbody can assimilate per day, and still maintain the beneficial uses. These regulations are enforced under the National Pollutant Discharge Elimination System (NPDES) permit program.