

## ***Water Quality Standards – Iowa DNR Update***

May 26, 2005

WQS Stakeholder Meeting

## ***The Current Work Element Reports***

- Aquatic Life Use Designation and General Use Classification Changes (and to include the Warm Water Use Designation Assessment Protocol).
- Protected Flow

## ***Brief History***

- EPA historic concerns regarding our WQS
- Recent actions from environmental groups accelerated modifications to WQS
- DNR responded by providing time lines for modifying the WQS to be consistent with the CWA

## ***General Use - Background***

- Aquatic life protected from acutely toxic conditions at elevated flows
- Streams that flow as a result of wastewater treatment plants
- All waters at all times should be protected from acutely toxic conditions

## ***Brief History Continued***

- Time lines were created in August 2004
- Met with EPA several times to determine what changes needed to be made
- Began meeting with stakeholder groups like IWPCA, IAMU, League of Cities, Sierra Club, Iowa Environmental Council, etc.
- Began conducting research into the issues (this is still ongoing)

## ***Class B(LR) - Background***

- Current Definition:
  - Class B(LR) Limited Resource Warm Water - Waters in which flow or other physical characteristics limit the ability of the water body to maintain a balanced warm water community. Such waters support only populations composed of species able to survive in a wide range of physical and chemical conditions, and are not generally harvested for human consumption.
- Does not include human health protection for fish consumption
- Definition is too broad

## ***Proposed Modifications***

- General Use
  - Remove wastewater treatment plant exemption
  - Eliminate redundancy between the definition and criteria
  - Remove elevated flow provision
- Class B(LR)
  - Provide Human Health protection
  - Provide more specificity to B(LR)-type uses

## ***Protected Flow - Background***

- Protected flow used in concert with the use designation
- Resulted in streams with very low flow regimes to be designated for aquatic life use protection
- Associated with the calculation of wasteload allocations and WQ-based permit limits.
- EPA does not agree with protected flows
  - Does not protect when stream flows are lower than the protected flow (i.e. 1Q10, 7Q10, & 30Q10)

## ***Proposed Modifications***

- The current Class B(LR) is proposed to be split into separate designations.
  - Class B(WW-2)
    - Same as existing Class B(LR) definition
  - Class B(WW-3) – *New Definition*
    - Recognizes B(LR)-type conditions that can occur without a consumable fish population (i.e. only minnows)
    - Provides detail to the type of stream B(LR) is intended to protect (i.e. perennial pool-type streams)
    - Received initial EPA approval
  - Class B(HH) – *New Definition*
    - Splitting out human health protections as a separate designation.

## ***Proposed Modifications***

- **Eliminate Protected Flow Concept.**

## ***What does this mean?***

- Many waterways will be designated as a Class B(WW)-type stream
  - This can include:
    - Wastewater treatment plants discharging to a currently undesignated waterway (i.e. general use only)
    - Any stream known to be perennial

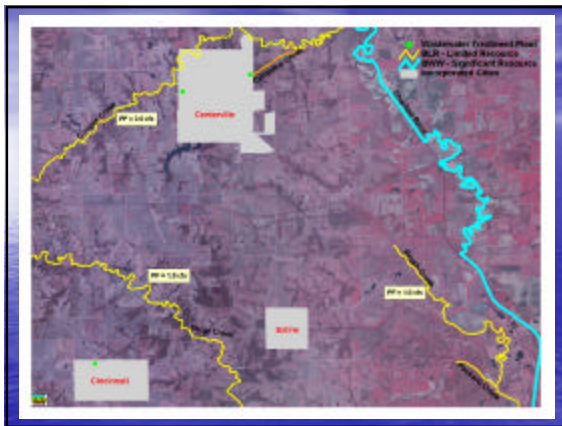
## ***Potential Impacts for Both Changes***

- Potential for large economic impact for wastewater facilities
- Elimination of the dilution capacity used in the WLAs
- Results in more stringent permit limits (i.e. ammonia-nitrogen)
- Most facilities, especially aerated lagoons, may have difficulty meeting these limits
- May face construction of advanced treatment or alternative technology to assure compliance

## List of Affected Facilities

- Effluent Dominated Facilities = 160 facilities
- Discharge to Protected Flow Streams = 81
- Discharge to General Use Streams then to Protected Flow Streams = 116
- Total Affected Facilities = 357

## Questions???



## New Information

- A total of 491 continuous discharging facilities discharge to general use streams
- First wave of stream use designations based on desktop approach
- The 1<sup>st</sup> wave streams will affect 276 facilities (end-of-pipe limits)
- The remaining streams will be assessed using the warm water protocol

| End-of-Pipe Permit Limits for an Aerated Lagoon |             |             |
|---|-------------|-------------|
|   | Avg. (mg/l) | Max. (mg/l) |
| January   | 5.2         | 19.9        |
| February  | 5.8         | 8.4         |
| March   | 3.9         | 3.9         |
| April   | 2.1         | 4.7         |
| May   | 1.8         | 3.2         |
| June  | 1.3         | 3.2         |
| July  | 1.1         | 3.2         |
| August  | 1.0         | 2.7         |
| September                                       | 1.5         | 2.7         |
| October   | 2.7         | 2.7         |
| November  | 2.7         | 2.7         |
| December  | 3.9         | 3.9         |

| End-of-Pipe Permit Limits for a Mechanical Facility |             |             |
|---|-------------|-------------|
|   | Avg. (mg/l) | Max. (mg/l) |
| January   | 5.2         | 15.2        |
| February  | 5.8         | 14.2        |
| March   | 4.5         | 14.7        |
| April   | 2.1         | 15.7        |
| May   | 1.8         | 15.2        |
| June  | 1.3         | 14.4        |
| July  | 1.1         | 17.6        |
| August  | 1.0         | 16.2        |
| September   | 1.5         | 16.5        |
| October   | 2.8         | 15.7        |
| November  | 3.4         | 14.7        |
| December  | 4.0         | 16.0        |

## New Information

- Potential Fiscal Impact
  - If all general use streams become designated the following impact is projected
  - 491 general use dischargers
  - Not all will be impacted (many industrial excluded)
  - Range of fiscal impact can be anywhere between \$550 million to \$860 million overall based on the departments estimations
  - Estimate includes capital construction cost and operation and maintenance costs