

SELECTED INFORMATION FROM WATERSHED BRANCH IN-HOUSE SURVEYS OF EPA REGIONS -- Nutrient Listings

**Bill Painter, WB/AWPD/OWOW/EPA
New Orleans Nutrient Conference, Feb. 2011**

CAVEAT:

The following information is based on an informal survey of staff of EPA Regions, who were not asked to do significant amounts of research before responding. Also, the results could possibly reflect a failure of those conducting the surveys to state their questions in an unambiguous manner.

BASIS FOR NUTRIENT – RELATED LISTINGS:

- Regions reported on practices used by 35 states. ***Starting with most frequently reported approach:***

Numeric WQC for D.O.

- Rivers/streams (22 states)
- Lakes/reservoirs (19 states)

Biosurveys (*only 1 state had WQC*):

- Streams (17 states)
- Lakes (1 state); estuaries (1 state)

BASIS FOR NUTRIENT – RELATED LISTINGS (cont.)

Threshold values from state/EPA guidance

-- Trophic State Index

-- 9 states (lakes)

-- Phosphorous

-- 8 states (rivers); 7 states (lakes); 2 states (estuaries)

-- Chlororophyll a

-- 8 states (lakes); 3 states (rivers); 3 states (estuaries)--

-- Nitrogen

-- 3 states (lakes); 2 states (rivers); 2 states (estuaries)

BASIS FOR NUTRIENT – RELATED LISTINGS (cont.)

Official state numeric WQC (other than DO) –

-- Phosphorous

-- 7 states (lakes); 5 states (rivers); 3 states (estuaries)

-- Turbidity/clarity

-- 6 states (rivers); 4 states (lakes); 2 states (estuaries)

-- Nitrogen

-- 5 states (rivers); 4 states (lakes); 2 states (estuaries)

-- Chlororophyll a

-- 5 states (lakes); 1 state (rivers)

SELECTED INFORMATION FROM 2010 WATERSHED BRANCH IN-HOUSE SURVEYS OF EPA REGIONS

**-- Translation from narrative WQC,
for nutrient TMDL development**

Bill Painter, WB/AWPD/OWOW/EPA

New Orleans Nutrient Conference, Feb. 2011

CAVEAT:

The following information is based on an informal survey of staff of EPA Regions, who were not asked to do significant amounts of research before responding. Also, the results could possibly reflect a failure of those conducting the surveys to state their questions in an unambiguous manner.

Our definition of “translation from narrative WQC” ...

does not include situations where:

- calculated a loading capacity for P or N
 - consistent with meeting an “official” numeric “effects-based” WQC”
 - “official” = adopted in WQS regs & EPA approved
 - “effects-based criterion”: establishes acceptable levels for a *response indicator*
 - chl a, DO, pH, turbidity, biological metrics

Most common example:

Worked off WQC for D.O.

-- done 3000--4000 times (rough est.)

TRANSLATION FROM NARRATIVE WQC: APPROACHES

- Water quality target (WQT) for P/N value taken from state-issued guidance document(s) 950
- Used EPA recommended criterion for P/N as water quality target (WQT) for P/N 150
- TMDL-specific derivation of WQT for P/N 1800
 - Modeled P/N WQT from state-issued guidance value for a response indicator 400
 - Based P/N WQT on reference waterbody conditions 400
 - Based P/N WQT on stressor-response correlation 450
 - Modeled P/N WQT from state response indicator WQC* *550 **
- **TOTAL # OF "TRANSLATIONS"** **2900**

Does not include situations where waters were 303(d) listed due to exceedences of a numeric "effects-based WQC" (WQC for a response indicator) and a loading capacity for P or N consistent with meeting that effects-based WQC was calculated for TMDL purposes. Most common example: WQC for D.O., estimate this done over around 3000 times.

** Perhaps not a "true" translation, as started with numeric water quality criteria*

Note: *The above numbers should not be taken as "hard counts", but rather as indications of the relative frequency with which different approaches were used.*

TRANSLATION FROM NARRATIVE: STATES

All Approaches– N or P (at least once instance)

AK, AR, AZ, CA, CO, CT, FL, IA, ID, KA, LA, MA, MD,
ME, MO, MS, MT,ND, NH, NM, NY, OH, OK, PA*, SC,
TN, VA, WA, WI

-- 27 states total

* EPA did TMDLs

Corrections/updates most appreciated !!

TRANSLATION METHODS: USE OF GUIDANCE VALUES

**Water Quality Target (WQT) for P/N Taken from
State Guidance Documents**

AR, AZ, CO, ID, LA, MA, MT, NM, NY, OH, OK, TN, WA

**Water Quality Target (WQT) for P/N Taken from
EPA Guidance Documents**

ID, MO, NM

***Again, suggestions for additions or other corrections
are welcome.***

TRANSLATION METHODS: SITE-SPECIFIC DEVELOPMENT OF WQT FOR P/N

Information about Historic Conditions:

CA, CO, OK, NM, WI

Information about Reference Waterbodies

AL, CO, FL, ID, LA, MS, PA, TN, VA, WI

Stressor-Response Relationship

CO, FL, MD, ME, MI, MS, ND, SD, TN

Modeled P/N WQT from Guidance Value for Response Indicator

KA, NH, OK

Additional information/corrections ??