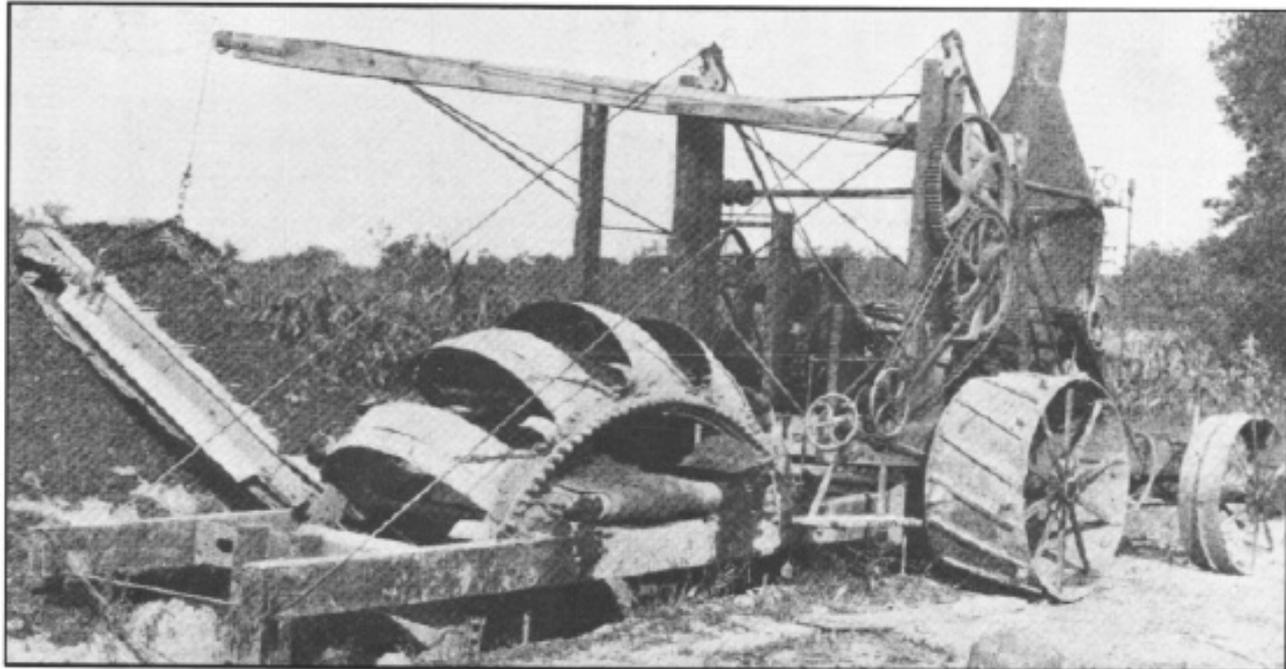


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Natural Resources Section



The Decision Making Process: Antidegradation, Alternatives Analysis, and Public Interest



Buckeye steam traction ditcher, from *Scientific American*, September 10, 1904, page 177.

Under §401, states are recognized to have ultimate responsibility for water quality with respect to federal permits.



Since wetlands are waters of the U.S., states protect wetlands by certifying §404 permits via §401.

§401 certifications must include an antidegradation review as *required by law*.

§401 Certification
requires reasonable
assurance that an
activity will conform to
state laws as well as
§303 of the CWA.

§303 Requires states to
develop water quality
standards.

Minimum water quality
standards require an
Antidegradation Policy.

40 CFR 131.6

Minimum requirements for water quality standards submission.

The following elements must be included in each State's water quality standards submitted to EPA for review:

- (a) Use designations...[recreation, fish, wildlife, etc.]
- (b) Methods...to support water quality standards revisions.
- (c) Water quality criteria sufficient to protect the designated uses...
- (d) An antidegradation policy consistent with §131.12.**

Antidegradation Policy
includes review of
social and economic
justification.

40 CFR 131.12 ANTIDegradation POLICY

- States are to develop and adopt a statewide antidegradation policy and *identify the methods* for implementing such policy which at the *minimum* shall include:
 - Protection of existing instream water uses and the level of water quality necessary to protect those uses

AND

40 CFR 131.12 ANTIDegradation POLICY

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AND

- Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected

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- States are to develop and adopt a statewide antidegradation policy and *identify the methods* for implementing such policy which at the *minimum* shall include:
 - Protection of existing instream water uses and the level of water quality necessary to protect those uses

AND

- Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected **unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located...**



...unless the State finds...necessary to accommodate important economic or social development...

=

SOCIAL AND ECONOMIC JUSTIFICATION



SO WHAT ABOUT TENNESSEE?



**THE TENNESSEE WATER QUALITY
CONTROL ACT OF 1977**



T.C.A.69-3-108

PERMITS

Without a permit, it is unlawful for anyone to conduct activities that result in the alteration of the physical, chemical, radiological, biological, or bacteriological properties of **any waters of the state.**



T.C.A.69-3-103

PART DEFINITIONS

(42) “**Waters**” means any and all water, public or private, on or beneath the surface of the ground, that are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership that do not combine or effect a junction with natural surface or underground waters;

- 
- TCWA Establishes the state's Aquatic Resources Alteration Permit (ARAP) program that regulates physical alterations of waters of the state.
 - You don't just need a §401 cert in TN, you also need an ARAP.
 - ARAP language satisfies §401 .



Physical alterations to waters of the state that require either an ARAP or a §401 water quality certification include:

- dredging
- excavation
- channel widening or straightening
- bank sloping /stabilization
- channel relocation
- water diversions or withdrawals
- dams, weirs, dykes, levees or other similar structures
- **flooding, excavating, draining and/or filling a wetland**
- road and utility crossings; and structural fill

- ARAP rules define wetlands as a category of waters of the state *and* establish a “no net loss of water resource value” standard for permitting.
- §401 certification is required for any §404 permit approved by the Corps.
- If the Corps issues a Nationwide Permit (NWP) for a project, or doesn't have jurisdiction over the impacted wetland, then the applicant must obtain a state ARAP.

DIVISION RULES CHAPTER 1200-4-7
AQUATIC RESOURCE ALTERATION
1200-4-7-.01 (1)

Persons who wish to conduct an activity that may impact a water of the state shall consider **avoidance and minimization** of such impacts. If impacts to the waters will occur, mitigation as set forth in part (7) of these rules must be proposed to offset any lost resource value.

- 404(b)(1) in a nutshell.



DIVISION RULES
AQUATIC RESOURCE ALTERATIONS
1200-4-7-.03 DEFINITIONS

(38) "**Wetlands**" means those areas that are inundated or saturated by surface or ground water 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 soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.



NOTE--

The Division denied all NWPs except:

- 13. Bank Stabilization
- 25. Structural Discharges
- 36. Boat Ramps

Whereas:

- The activity is located within water resource development project lands and waters, including flowage easement, managed by the Tennessee Valley Authority or the U. S. Army Corps of Engineers and,
- rip rap activities under NWP 13 shall be limited to 500 linear feet.

- 
- TN has its own general permits roughly analogous to the Corps' Nationwides.
 - GP for permanent wetlands impacts are limited to .10 acre on a case by case basis after antidegradation/cumulative impact review.



Tennessee Department of Environment and
Conservation
Division of Water Pollution Control
Water Quality Standards



GENERAL WATER QUALITY CRITERIA

1200-4-3-.02 GENERAL CONSIDERATIONS

Tennessee water quality standards shall consist of:

- General Water Quality Criteria
- Antidegradation Statement
- Use Classifications for Surface Waters



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1200-4-3-.03 CRITERIA FOR WATER USES.

- (1) Domestic Water Supply...
- (2) Industrial Water Supply...
- (3) Fish and Aquatic Life...**
- (4) Recreation...
- (5) Irrigation...
- (6) Livestock Watering and Wildlife...
- (7) Navigation...

1200-4-3-.03 CRITERIA FOR WATER USES.

(3) Fish and Aquatic Life...

(b) pH - The pH value shall not fluctuate more than 1.0 unit over a period of 24 hours and shall not be outside the following ranges: 6.0 – 9.0 in wadeable streams and 6.5 – 9.0 in larger rivers, lakes, reservoirs, and wetlands.

(m) Biological Integrity - The waters shall not be modified through the addition of pollutants or through physical alteration to the extent that the diversity and/or productivity of aquatic biota within the receiving waters are substantially decreased or adversely affected, except as allowed under 1200-4-3-.06 [Antidegradation Statement]...**Interpretation of this provision for wetlands or large rivers may be made using scientifically defensible methods...**



GENERAL WATER QUALITY CRITERIA

1200-4-3-.02 GENERAL CONSIDERATIONS

Tennessee water quality standards shall consist of:

- General Water Quality Criteria
- **Antidegradation Statement**
- Use Classifications for Surface Waters

1200-4-3-.06

ANTIDEGRADATION STATEMENT

(1) It is the purpose of Tennessee's standards to **fully protect existing uses** of all surface waters as established under the Act...

Additionally, the Tennessee Water Quality Standards shall not be construed as permitting the degradation (see definition) of high quality surface waters...

Where the quality of Tennessee waters is better than the level necessary to support [designated uses] propagation of fish, shellfish, and wildlife, and recreation in and on the water, that quality will be maintained and protected unless the state finds, after intergovernmental coordination and public participation, that lowering water quality is necessary to accommodate **important economic or social development** in the area in which the waters are located.



**TIER REVIEW:
TENNESSEE ABANDONS TIER
TERMINOLOGY**



Antidegradation cont'd

Unavailable conditions (EPA Tier 1/impaired streams): exist where water quality is at, or fails to meet, the criterion for one or more parameters

- new or increased discharges of a substance that would cause or contribute to a condition of impairment will not be allowed [303(d) list for streams].



Antidegradation cont'd

Unavailable conditions (EPA Tier 1/impaired streams): exist where water quality is at, or fails to meet, the criterion for one or more parameters

- new or increased discharges of a substance that would cause or contribute to a condition of impairment will not be allowed [303(d) list for streams].
- Where impairment by habitat alteration exists, additional significant loss of habitat within the same area of influence shall not be authorized unless avoidance, minimization, or in-system mitigation can render the impact de minimis.

Antidegradation cont'd

Unavailable conditions (EPA Tier 1): exist where water quality is at, or fails to meet, the criterion for one or more parameters

- new or increased discharges of a substance that would cause or contribute to a condition of impairment will not be allowed [303(d) list for streams].
- Where impairment by habitat alteration exists, additional significant loss of habitat within the same area of influence shall not be authorized unless avoidance, minimization, or in-system mitigation can render the impact de minimis.
- **Although TN has no Wetland 303(d) list, *per se*, habitat alteration cannot be allowed to substantially diminish or adversely impact biological integrity of waters of the state under General Water Quality Criteria. (except thru AD)**



Antidegradation cont'd

Available conditions (EPA TIER 2): exist where water quality is better than the applicable criterion for a specific parameter.

- new or additional degradation for that parameter will only be allowed if the applicant has demonstrated to the department that reasonable alternatives to degradation are not feasible.

Antidegradation cont'd

Available conditions (EPA TIER 2): exist where water quality is better than the applicable criterion for a specific parameter.

- new or additional degradation for that parameter will only be allowed if the applicant has demonstrated to the department that reasonable alternatives to degradation are not feasible.
- Analysis of reasonable alternatives shall be part of the application process and shall include a discussion of the feasibility of all potential alternatives, and the social and economic considerations and environmental consequences of each alternative.

Alternatives analysis is integral to the review of avoidance/minimization and socio-economic justification for allowing degradation.

Antidegradation cont'd

- For activities that cause habitat alterations, alternatives that minimize or avoid degradation should be explored and explained by the applicant.
- Required info on TN ARAP/ §401 Application
- Same application for GP or Individual

Antidegradation cont'd

- **Exceptional Tennessee Waters (*EPA 2.5?*):**
 - Waters with exceptional macro invert score
 - Waters within state parks
 - Inhabited by T&E species
 - Wetlands scoring out exceptional on T-RAM, etc.
- no degradation will be allowed unless and until--
 - State finding of social and economic importance
 - Additional Public Notice



1200-4-3-.04
DEFINITIONS

Degradation - The alteration of the properties of waters by the addition of pollutants or removal of habitat.

De Minimis – Alterations [other than wastewater discharge] that represent either a small magnitude or a short duration shall be considered a de minimis impact and will not be considered degradation for purposes of implementing the antidegradation policy.

- In-system mitigation renders an impact de minimis.
- De minimis impacts avoid antideg review.
- In-system not defined.
- HUC 12 generally accepted as in-system—ultimately determined on a case by case basis.
- Impacts are assumed to be de minimis if they meet GP criteria so antideg review is built into each application review.

Discharges other than domestic wastewater, de minimis if:

- temporary
- use less than five percent of the available assimilative capacity for the substance being discharged

Water withdrawals de minimis if:

- less than five percent of the 7Q10 flow taken

Habitat alterations authorized by ARAP de minimis if:

- division finds that the impacts are offset by a combination of impact minimization and/or in-system mitigation.

Cumulative Impacts

If multiple impacts are authorized in a segment, presumed to be de minimis if the total of the impacts uses no more than 10% of:

- assimilative capacity,
- available habitat, or
- 7Q10 low flow

Cumulative impacts above 10%, considered de minimis provided that the division finds on a scientific basis that the additional degradation has an insignificant effect on the resource.

Cumulative Impacts

No *single* activity is allowed to consume more than 5% of:

- assimilative capacity,
- available habitat, or
- 7Q10 low flow

“Segment” not defined—scale and scope determined on a case by case basis

EPA Tier 1	Tier 2	<i>Tier 2.5?</i>	Tier3
<p>Conditions at or below water quality standards for an individual parameter. Degradation cannot be authorized for that parameter.</p>	<p>Conditions above water quality standards for a certain parameter. Degradation allowed only following alternatives analysis and a state finding of social or economic necessity/public notice</p>	<p>Waters with Specific Characteristics, (e.g. exceptional bug score, waters in a State Park, etc.) Degradation allowed only after extra public notice and a state finding of social or economic necessity.</p>	<p>Outstanding National Resource Waters. No measurable degradation.</p>
<p>Unavailable ^{TN} Conditions</p>	<p>Available Conditions</p>	<p>Exceptional Tennessee Waters</p>	<p>ONRWs</p>

*In system mitigation renders degradation de minimis

Adapted from:

Tennessee's Newly Adopted Anti-degradation Procedures: Potential Model for Other States? Paul E. Davis, WPC Director

- 
- Currently, Tennessee uses T-RAM (adapted from O-RAM) to assess whether a wetland is an ETW.
 - Antidegradation policy applied to ETW wetlands as on any ETW.
 - TN has an EPA wetlands development grant to further develop our wetland assessment methodologies.

- 
- At this time, TN has adopted no standard methodology for designating wetlands as impaired.
 - TN currently uses best professional judgment to determine wetlands impairment until T-RAM can be calibrated for that use.
 - TN permit application requires avoidance, minimization, alternatives analysis, and cumulative impact reviews on the front end even before any mention of condition--so wetlands are afforded protection regardless of functional condition.



RECAP



AVOIDANCE

MINIMIZATION

JUSTIFICATION

(MITIGATION)

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Antidegradation Policy includes review of social and economic justification.

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Sources

Code of Federal Regulations

Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1987) 1

Federal water pollution control act, as amended by the clean water act of 1977

Rivers and Harbors Act 1899

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Tennessee Code Annotated

Tennessee's Newly Adopted Anti-degradation Procedures: Potential Model for Other States?,

Paul E. Davis, Director, Division of Water Pollution Control

Tennessee Water Quality Control Act of 1977

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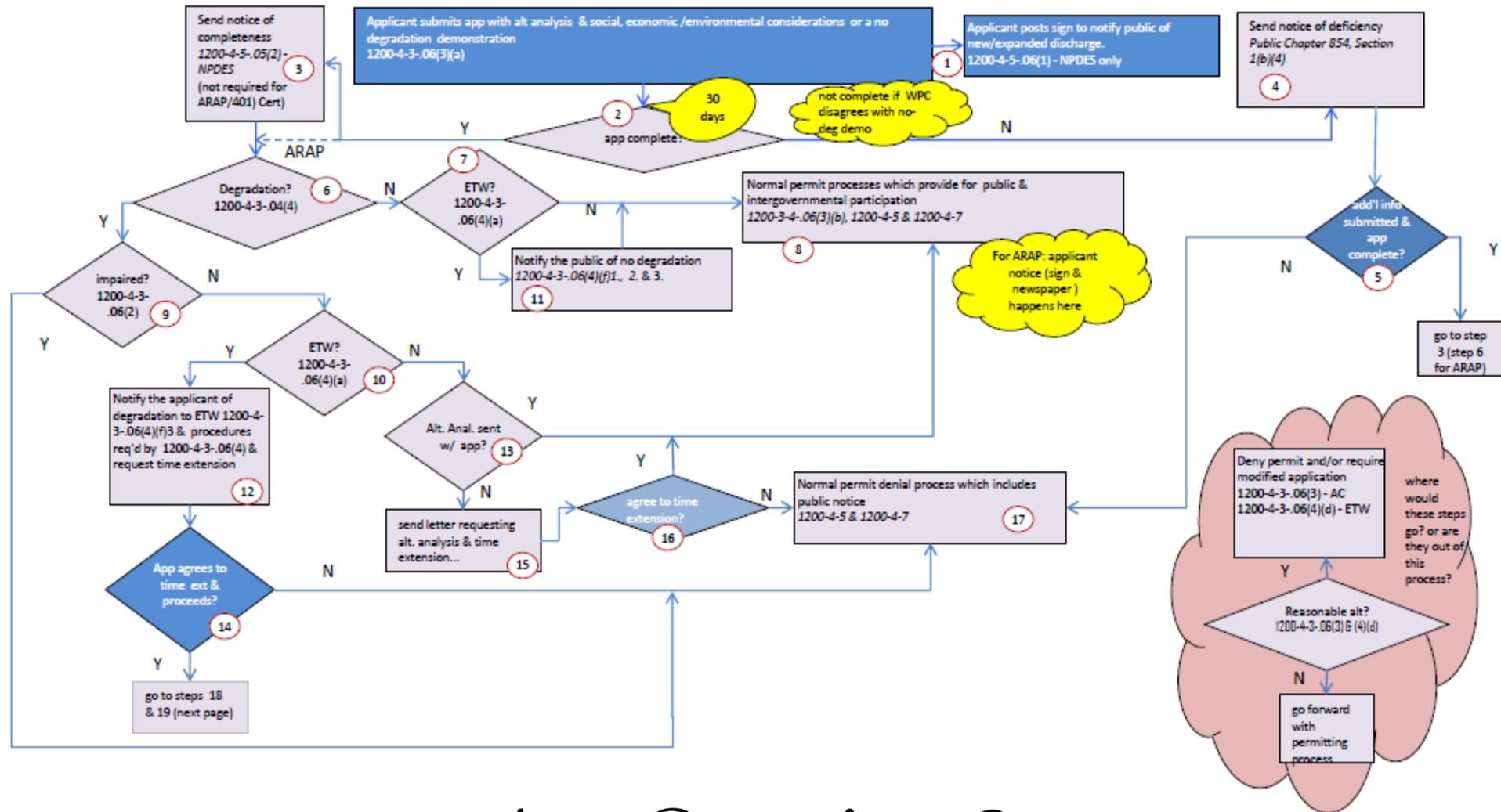
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www.epa.gov

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Draft anti deg flow chart:

New/Expanded discharge or New Physical alteration DRAFT



Any Questions?