PIGEON RIVER

Sampling through the decades

What are you doing the first full week after the 4th of July?
A brief ... no, long history ...

• 1901 NC grants immunity from criminal prosecution for pollution

• 1908 Champion comes to Canton, NC
• 1927  Gov. Henry Horton: Lamentable Condition Bill

• 1942  Hess & Tazewell, U. S. Public Health Service
• 1960  Champion installs primary WWTP

• 1972  Champion installs secondary WWTP

• 1980  CPL drawdown of Waterville Reservoir

• 1982  TWQB Resolution; TWRC enlist AG’s Office… Instream color becomes a biological issue
• 1985 Aug  Tn Supr. Ct decision: Remedy in Federal System

• 1985  EPA assumes NPDES permit authority from NC

• 1986  J. Sentelle, U. S. District Ct., rules in favor of EPA/TN
• 1988 May  Dioxin becomes an issue in the Pigeon River
• 1988 Dec  Gov. McWherter denies variance

• 1989 Sept  EPA issues a NPDES permit with concurrence of TN

• 1990 Aug  Champion begins modernization project

• 1992    TN intervenes in CPL relicensing
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1992</td>
<td>J. Yost dismisses all challenges to EPA permit</td>
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<td>1994</td>
<td>EPA issued permit expires</td>
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<td>1996</td>
<td>May NC issues DRAFT NPDES Permit</td>
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<td>June TN objects to permit</td>
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<td>Dec EPA Region 4 issues final approval</td>
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<td>Dec TWRC enlists AG to take legal Action</td>
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1997 Jan  TN sues NC in NC state court
      Champion, NC, TN, EPA and
      conservation groups agree to
      settlement negotiations

Dec  Parties sign settlement agreement
     NPDES valid 1997 thru 2002
     lawsuit settled
Anticipated Needs

- Reduce instream color in Tennessee
  25 apparent / 12 tru

- Reduce color pondage to < 25,000 lbs/per
• Expert Panel Recommendations
• Status of biological recovery (IBI)
• Status of recreational use (FSI)
• Monitoring, Assessment, and Inventory Surveys
  • Water Quality
  • Benthic Organisms
  • Instream Color
  • Primary Productivity
  • Fish (IBI)
  • Contaminants – fish flesh, sediment, and ground water
  • Toxicity – effluent, sediment, instream
  • Effluent Monitoring
  • Photographic surveys
  • Biomarker Enzymes in Fish
THEN AND NOW

1974          2004

EFFLUENT COLOR

400,000 lbs/day to < 42,000 lbs/day

INSTREAM COLOR

800 color units to < 40 color units
FISH SPECIES

11 species to 40 species
MOLLUSC SPECIES

0 species to 9 species
WHITEWATER PADDLERS

12 / season to > 80,000 / season

6.4 million dollars / year
SPORT FISHING

None to Trophy Smallmouth Bass
DIOXIN

Chlorine bleaching to Oxygen delignification
Reference Data and Materials

- U.S. Environmental Protection Agency
- U.S. Geologic Survey
- Environmental Associates (EA) Inc.
- University of Tennessee
- University of North Carolina
- American Paper Institute
- Carolina Power and Light (Progress Energy)
- Tennessee Department of Health and Environment
- Tennessee Department of Environment and Conservation
- Tennessee Wildlife Resources Agency
- North Carolina Department of Natural Resources
- North Carolina Department of Game and Fish
- Oak Ridge National Laboratory
- Watters State Community College
- STORET
- The Nature Conservancy
- Virginia Tech