Dunkard Creek Fish Kill, Monongahela River
West Virginia/Pennsylvania

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Morgantown
Dunkard Ck Watershed
Ohio River Basin
Monongahela River
Dunkard Creek Watershed WV/PA

Milepoint 0 was established where Dunkard Creek crosses state line between Pennsylvania and West Virginia near Buckeye Church, West Virginia. Station WV 1 was randomly selected within the first mile of Dunkard Creek upstream of the state line. The remaining stations were then placed at 1 mile intervals.
BACKGROUND

• August 27\textsuperscript{th} visit to WV Fork
• WV Fork = 22,000–44,000 µS below Blacksville # 2 discharge (51,000 µS from pipe)
• WV Fork = 5,000 µS above discharge
• Seining survey done immediately above
  - only few fish found below discharge
  - noticed scales on fishes easily lost while handling
  - 22 species found above (5,000 µS)
• Two additional sites done above discharge
  - 22-23 species per site (5,000 µS)
Background

• Fish kill starts August 29
• Starts in main channel near Pentress below a reservoir
• Goes strong for 2 weeks
• 2nd kill starts above Blacksville #2 between Wadesville and St. Leo
• St. Leo facility on So. Fork of WV Fork
• 2nd kill below a beaver pond near St. Leo
• Kill persists into October

• Fish database great due to proximity to WVU
PURPOSE

• Briefly discuss the fish kill evaluation and preliminary estimates
• Report historic fish data at selected sites
• Compare past data with post kill collections
WVDNR role was to:

• use American Fisheries Society Fishkill Guidelines

• establish size groups of fish killed

• estimate the number of fish killed

• determine value of fish killed
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- 21 main channel sites
- 6 WV Fork sites
Fish Kill

- 20+ fish species
- Preliminary kill estimate: 15,000–22,000 in WV
Mussels

- 14 mussel species dead

- 100% mortality

- Was the last major stronghold for mussels in the Monongahela River drainage.

- May take generations to restore mussel population.
Historic Fish Data

- 11 surveys from 1959 - 2009
- 44 fish species
- 13 species of game fish, but most notably smallmouth bass and muskellunge.
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Lower Dunkard Creek
Mason-Dixon Park

2007 Cincotta - Dunkard Creek upstream Mason Dixon Park

Abundance

- Suckers: 350
- Minnows: 2580
- Gamefish: 50
- Darters: 441
- Other: 37

Electric seine with WVU class 2007
Mason-Dixon Park

- Post Kill Survey (Oct.)
  - 400-600 µS

- 1 sucker
- 16 minnows
- 0 gamefish
- 2 darters
- 0 others
Middle Dunkard Creek

Pentress

- 1983
- rotenone

- 1997
- rotenone
Middle Dunkard Creek

Pentress

• Post Kill Survey (Oct.)
  - 400-600 $\mu$S

ABUNDANCE
  - 1 sucker
  - 19 minnows
  - 0 gamefish
  - 0 darters
  - 0 others
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Dunkard at Miracle Run

- ELECTROFISHING ABUNDANCE
- 9 suckers
- 48 minnows
- 6 gamefish
- 21 darters
- 0 others
**Above Blacksville # 2 discharge – Aug. 27**

**WV Fork**
22 spp. seining

<table>
<thead>
<tr>
<th>Abundance</th>
<th>Suckers</th>
<th>Minnows</th>
<th>Gamefish</th>
<th>Darters</th>
<th>Other</th>
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<td>17</td>
<td>679</td>
<td>16</td>
<td>44</td>
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</table>

**Below discharge Oct. survey:**
- electofishing found fishes in reduced numbers
- reduced species
WV Fork Below Blacksville # 2

- **BEFORE ABOVE**
  - Seine abundance
    - 17 suckers
    - 679 minnows
    - 16 gamefish
    - 44 darters
    - 0 others

- **AFTER BELOW**
  - Electricity abundance
    - 11 suckers
    - 431 minnows
    - 1 gamefish
    - 6 darters
    - 0 others
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WV Fork at Wadestown

- **BEFORE - SEINE**
  - 16 suckers
  - 130 minnows
  - 20 gamefish
  - 94 darters
  - 0 others

- **AFTER - ELECTRICITY**
  - 24 suckers
  - 162 minnows
  - 20 gamefish
  - 367 darters
  - 0 others
Upper Dunkard - South Fork WV Fork

- Below beaver pond and St. Leo discharge
- 1 greenside darter

- Above beaver pond - Live area, which is below St. Leo discharge
- 3 suckers
- 1402 minnows
- 95 gamefish
- 110 darters
- 0 others
CONCLUSIONS

• Golden algae caused a major fish kill in the main channel Dunkard Creek WV/PA

• 15,000-22,000 fishes were est. killed in WV alone, which appears to be underestimated

• Fishes were essentially eliminated from main channel below Pentress dam

• Upstream from Pentress to at least Miracle Run some fishes survived in reduced numbers and species
CONCLUSIONS

• In the So. Fork WV Fork a second kill occurred below a beaver pond, but not above

• 2 nd incident was essentially a total kill in So. Fork until mitigated by flows from tributaries and the North Fork

• Fishes above the St. Leo discharge were apparently not appreciably affected

• Tributaries in WV contain most of the lost fishes, but a full recovery will probably take years to be realized
Questions?