Seneca Valley Trout Unlimited Chapter Meeting

2-24-2020

Seneca Valley Fishing Opportunities

MARYLAND DEPARTMENT OF NATURAL RESOURCES

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Little Seneca Creek Management History

- **Prior to 1992** Put and take trout regulations – 5 trout per day
- **1992 - 2000** Catch and release
- **2000 – Present** Statewide wild trout regulations 2 trout per day

Little Seneca Creek Trout Stocking 2014-2019

- **May 2018** 50 adult rainbow trout
- **June 2017** 5000 rainbow trout fingerlings
- **May 2016** 2000 rainbow trout fingerlings and 5000 brown trout fingerlings
- **September 2015** 2000 brown trout fingerlings
- **May 2014** 3000 rainbow trout fingerlings 1500 brown trout fingerlings

2019 Sampling Efforts

- Temperature Logger Deployment
  - Loggers deployed at each of the fish sampling sites
  - June – August Index Period
- Benthic Macroinvertebrate Sampling
  - 3 sites
    - **SENC0002-2019** Above Clopper Road
    - **SENC0001-2019** Hoyles Mill Road
    - 500m upstream of confluence with Seneca Creek
- Fish Survey
  - 3 sites sampled qualitatively (1200+ seconds)
    - **SENC0002-2019** Above Clopper Road
    - **SENC0003-2019** Below Clopper Road
    - **SENC0001-2019** Hoyles Mill Road

Benthic Macroinvertebrate Sampling

SENC0002-2019 Above Clopper Road
N - 45
MBSS IBI – 1.33 (poor)

Fisheries Data
Richness = 9
EPT = # 0 Taxa 0
EPT/C = --
Dominant Family = Chironomidae, 62.22%
Scraper Filterer Ratio = 0
CPOM = 0.04
Diversity = 2.24
Equitability = 0.67
HBI = 7.74

Benthic Macroinvertebrate Sampling

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SENC0001-2019 Hoyles Mill Road
N – 69
MBSS IBI – 3.00 (fair)

Fisheries Data
Richness = 15
EPT = # 31 Taxa 7
EPT/C = 1.48
Dominant Family = Chironomidae, 30.44%
Scraper Filterer Ratio = 0.05
CPOM = 0.33
Diversity = 2.93
Equitability = 0.73
HBI = 5.46

Benthic Macroinvertebrate Sampling

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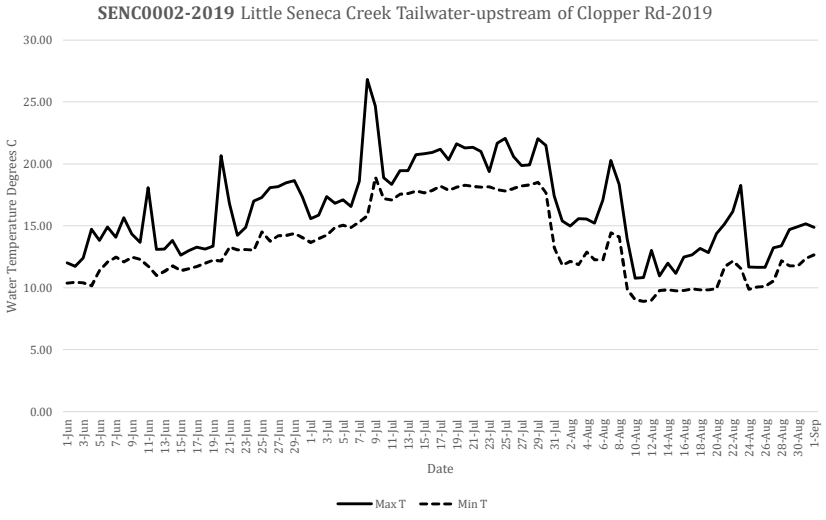
Upstream of Seneca Creek Confluence
N – 45
MBSS IBI – 4.00 (good)

Fisheries Data
Richness = 21
EPT = # 29 Taxa 12
EPT/C = 3.22
Dominant Family = Nemouridae, 22.22%
Scraper Filterer Ratio = 0.50
CPOM = 0.31
Diversity = 3.98
Equitability = 1.10
HBI = 4.06

Benthic Macroinvertebrate Sampling Summary

- N values were much lower than observed in other trout streams in the Piedmont
- No coldwater obligate species observed
  - Tallaperla and Sweltsa are stoneflies that have been shown to have the same cold water needs as trout.
  - Long-lived species indicative of high water quality
  - Observed in other catch-and-release fisheries
- Not enough macroinvertebrates for a self-sustaining trout population
- Instream habitat is dominated by shifting substrate and a lack of quality benthic macroinvertebrate habitat

Temperature Monitoring



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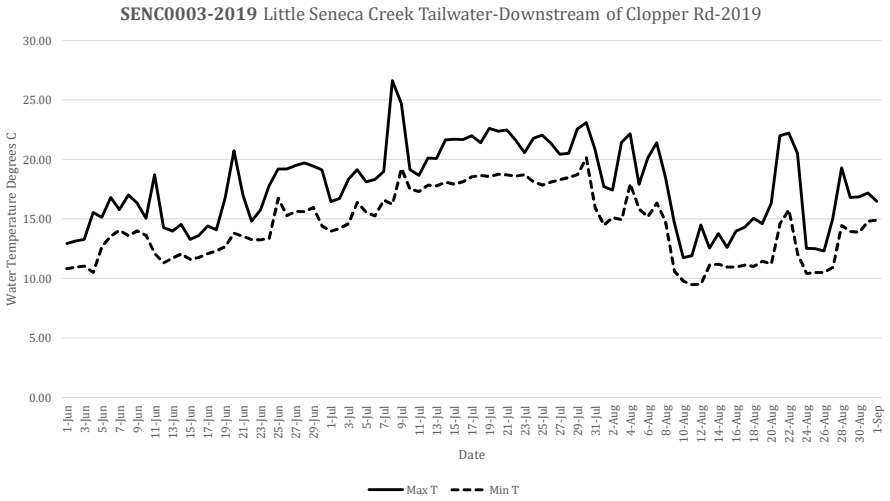

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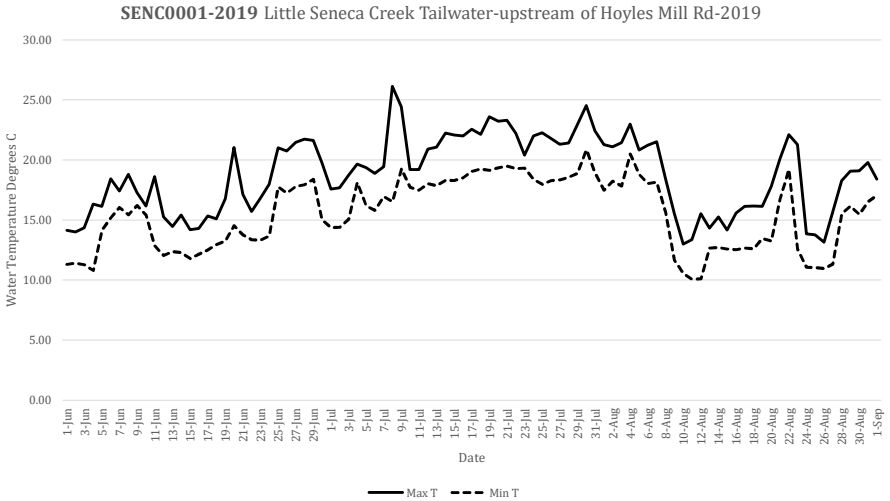
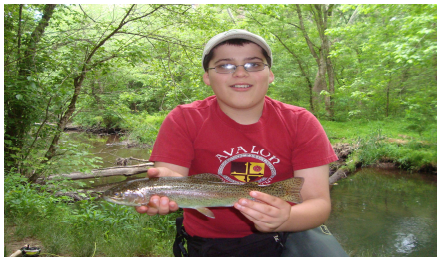


Temperature Monitoring Summary

- Water temperatures are generally within the range to support trout
- Since summer temperatures are mitigated by the bottom release on the dam, summer temperatures tend to stay relatively cool/cold
- Spillover events do occur, but generally do not last long enough to be lethal for the trout

Fish Survey




Fish Survey - 2005

- **SENC0002-2005** upstream of Clopper Road
  - 1 brown trout adult
  - 1 brown trout young-of-the-year
  - 11 rainbow trout fingerlings
- **SENC0003-2005** downstream of Clopper Road
  - 0 brown trout adults
  - 0 brown trout young-of-the-year
  - 25 rainbow trout fingerlings

Fish Survey - 2010

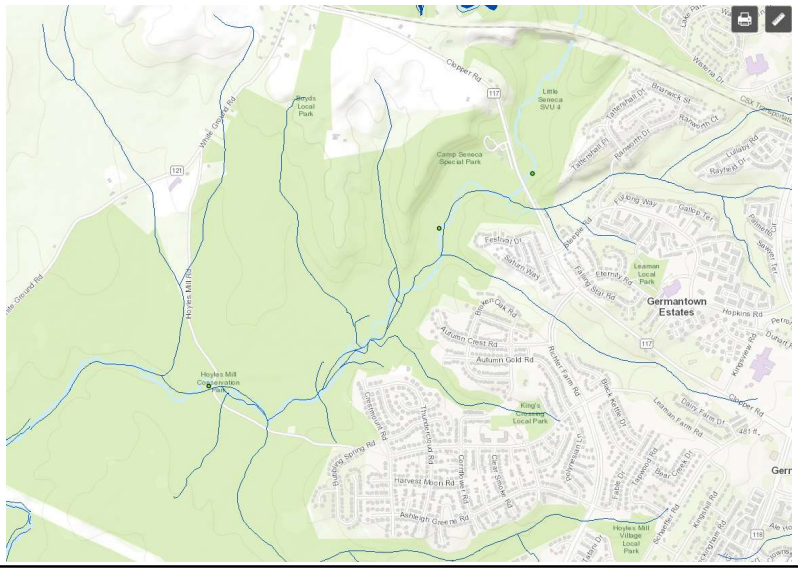
- **SENC0002-2010** upstream of Clopper Road
  - 1 brown trout adult
  - 0 brown trout young-of-the-year
  - 6 rainbow trout fingerlings
- **SENC0003-2010** downstream of Clopper Road
  - 0 brown trout adults
  - 0 brown trout young-of-the-year
  - 1 rainbow trout adult
  - 44 rainbow trout fingerlings
- **SENC0001-2010** Hoyles Mill Road
  - 3 brown trout adults
  - 0 brown trout young-of-the-year
  - 4 rainbow trout fingerlings

Fish Survey - 2010

Fish Survey - 2010

Fish Survey - 2010

Fish Survey - 2019



Fish Survey - 2019

- **SENC0002-2019** upstream of Clopper Road
  - 0 brown trout adult
  - 0 brown trout young-of-the-year
  - 1 adult rainbow trout
  - 1 rainbow trout fingerling (TIC)
- **SENC0003-2019** downstream of Clopper Road
  - 0 brown trout adults
  - 0 brown trout young-of-the-year
  - 0 rainbow trout adults
  - 0 rainbow trout fingerlings
- **SENC0001-2019** Hoyles Mill Road
  - 1 brown trout adult
  - 0 brown trout young-of-the-year
  - 0 rainbow trout fingerlings
  - 1 rainbow trout adult

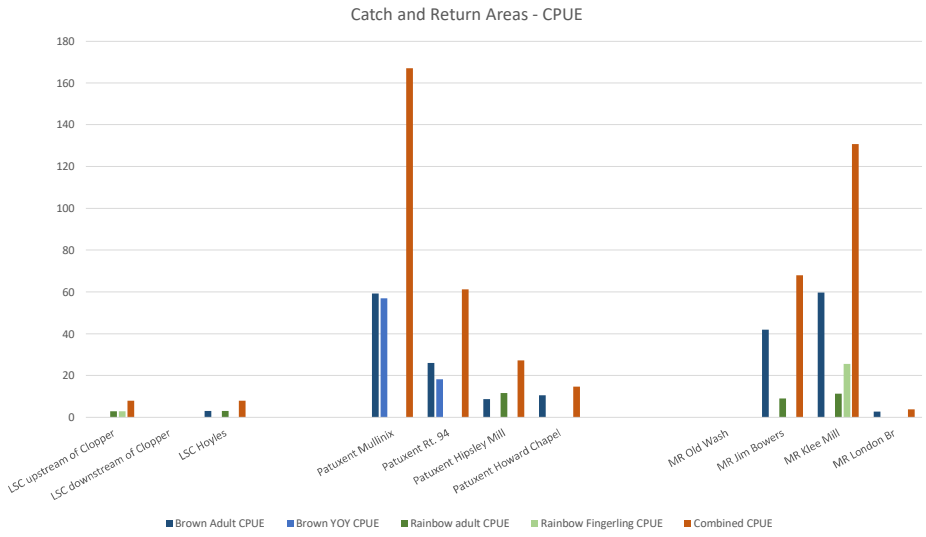
Fish Survey - 2019

Fish Survey - 2019

Special Regulation Area Comparison

Location	Brown adult N	Brown Adult CPUE	Brown YOY N	Brown YOY CPUE	Rainbow adult N	Rainbow adult CPUE	Rainbow fingerling N	Rainbow Fingerling CPUE
LSC upstream of Clopper	0	0	0	0	1	2.972749794	1	2.972749794
LSC downstream of Clopper	0	0	0	0	0	0	0	0
LSC Hoyles	1	3	0	0	1	3	0	0
Patuxent Mullinix	26	59.16561315	25	56.89001264	0	0	0	0
Patuxent Rt. 94	10	26.04920405	7	18.23444284	0	0	0	0
Patuxent Hipsley Mill	3	8.695652174	0	0	4	11.5942029	0	0
Patuxent Howard Chapel	4	10.61946903	0	0	0	0	0	0
MR Old Wash	0	0	0	0	0	0	0	0
MR Jim Bowers	14	42	0	0	3	9	0	0
MR Klee Mill	21	59.76284585	0	0	4	11.38339921	9	25.61264822
MR London Br	1	2.764976959	0	0	0	0	0	0

Special Regulation Area Comparison



Summary

- Pros for Little Seneca Creek
  - Public access
  - Acceptable water temperatures
- Cons for Little Seneca Creek
  - Small size
  - Inconsistent flows and low 1.73 cfs minimum flow requirement
  - Poor benthic macroinvertebrate community
  - Poor trout habitat
  - Poor trout holding capacity

Summary

- Maryland DNR has already tried to manage Little Seneca Creek as a Catch and Release fishery with poor results
- No statistically significant difference in fish population between C&R regulations and statewide wild trout regulations on Little Seneca Creek
- Maryland DNR does not want to supplement another Catch and Release fishery with adult fish – already have 2 within 30 minutes of Little Seneca Creek
- Maryland DNR does not want to advertise Little Seneca Creek as a special management area when there low numbers of fish and not desirable angling habitat or flows for year-round fishing opportunities

Questions?