NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

PENNSYLVANIA FISH & BOAT COMMISSION

2018 PROGRESS REPORT: REDD COUNT SURVEY

Delaware Tailwaters Fisheries Investigation Plan: A Joint Project of the New York State Department of Environmental Conservation and the Pennsylvania Fish and Boat Commission 2018-2020

March 28, 2019

Delaware Tailwaters Fisheries Investigation Plan, 2018 - 2020

Delaware Trout Redd Count Survey Plan, 2018 - 2020

2018 Progress Report Redd Count Survey

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The New York City (NYC) reservoir tailwaters in the upper Delaware River Basin (Delaware Tailwaters) are an increasingly popular destination water for wild trout fishing. The New York State Department of Environmental Conservation (NYSDEC) and Pennsylvania Fish and Boat Commission (PFBC) have agreed supporting a Joint Fisheries Investigation Plan[1] (Plan). This Plan identifies information most urgently needed to inform a new fisheries management plan and a set of strategies to collaboratively obtain that information over the next three years, 2018 – 2020. Brown trout redd counts were conducted in the West Branch during the fall of 2017. Rainbow trout red counts were conducted in the tributaries during the spring of 2018 and canceled for main stem reaches due to high water. Brown trout redd counts scheduled for fall 2018 were canceled due to persistent high water[2]. Findings within this progress report are considered provisional and subject to modification pending additional analysis, scrutiny and review over the duration of the Plan lifespan.

Brown trout redds formed in the West Branch during the 2017 fall spawning season were documented by NYSDEC and PFBC fisheries staff. Kayaks were used to access the entire river; probable spawning areas were checked by wading riffle/runs until it was believed that all redds were counted or no redds were found. It is unknown when the river was last surveyed using this method. A total of 756 redds were recorded between Stilesville and the Hale Eddy bridge at 48 locations. Between the Hale Eddy bridge and Balls Eddy Launch 315 redds were observed at 20 locations. Five redds were observed at two locations between the Balls Eddy launch and Junction Pool on the Delaware River (Table 1). It should be noted that the fall of 2017 was extremely dry and very few fish were observed spawning in the West Branch tributaries, which might account for the high number of redds observed in the West Branch. Historical records showed a majority of spawning was occurring within the no-kill section in Deposit and no redds were observed downstream of the Balls Eddy launch. The last extensive redd count occurred on the West Branch during the fall of 1997 from the Stilesville bridge to Balls Eddy launch, accessing just the sites where historically redds were observed. A total of 184 red were counted at 12 sites from Stilesville to the Hale Eddy bridge and 100 redds were counts at 7 sites between Hale Eddy and the Balls Eddy launch. On the East Branch the last full scale redd count occurred at 25 locations during the fall of 1994. There was no attempt to count redds during the fall of 2017 on the East Branch. Brown trout redd counts in the tributaries and in the East and West branch main stem reaches were to be counted during the fall of 2018. Unfortunately, all fall redd counts were canceled due to unfavorable river conditions (i.e., high flows). Reservoir releases (Pepacton & Cannonsville Reservoirs) were maxed out for the entire month of November, canceling an ability to conduct redd counts on the East and West Branch Delaware Rivers. Additionally, Pepacton Reservoir was spilling at times during the month of November.

[1] http://www.dec.ny.gov/outdoor/112782.html

[2] http://www.dec.ny.gov/docs/fish_marine_pdf/dfipcreel.pdf

Table 1. Counts of brown trout redds on the West Branch, November 2017.

Section	Redd Counts
Stillesville - Hale Eddy Bridge	756
Hale Eddy Bridge - Balls Eddy Launch	315
Balls Eddy launch - Junction Pool	5
Total	*1076*

Occurrences of rainbow trout redds formed during the 2018 spring spawning season were documented as a voluntary collaboration with interested sportsmen's clubs and individual citizens. Based on previous experiences of presumed rainbow trout spawning locations, potential spawning locations were identified within the first 0.5 miles of tributaries to the upper Delaware River tailwaters. A total of 21 tributaries were assessed for redd occurrences within the first half mile of each tributary (Table 2). Eighty-two redds were observed in total. Oquaga Creek, tributary to the West Branch, had the single highest redd count. Read Creek, tributary to East Branch, had the second highest redd count. Most of the other tributaries surveyed typically had less than 10 redds observed. Assessment of potential rainbow trout redd construction in the East and West branches main stem reaches were not completed. Unfavorable river conditions (i.e., high flows) prevented any possibility for positive redd identification. Volunteers noted several tributaries surveyed had unsuitable bottom substrates (i.e., large cobble) for redd construction within the first 0.5 miles surveyed. This condition was found in Roods Creek, Sands Creek, Cadosia Creek, Campbell Brook, and Hoolihan Creek. All future redd assessments within these tributaries will exclude the first 0.5 mile of stream, allowing the volunteers to focus on more favorable redd habitats further upstream.

Table 2. Counts of rainbow trout redds, April 2018.

Water	Redd Counts
West Branch	
Cold Spring Creek	1
Oquaga Creek	22
Sherman Creek	0
Roods Creek	0
Balls Creek	5
Sands Creek	0
Shehawken Creek	1
Total	*29*
East Branch	
Campbell Brook	0
Trout Brook	2
Baxter Brook	4
Morrison Brook	1
Read Creek	17
Fish Creek	6
Peas Eddy Brook	0
Cadosia Creek	6
Total	*36*
Delaware River	
Equinunk Creek	0
Abe Lord Creek	9
Bouchoux Brook	4
Hoolihan Creek	0
Basket Creek	4
Hankins Creek	0
Total	*17*

Observations

- Fall 2017 redd counts occurred when flows were 154 cfs at the USGS Hale Eddy gauge.
- We predicted that presumed adequate flows at the USGS Hale Eddy (using 2011-present data) might occur roughly 50% of the time during the spring and fall redd count periods.
- It takes 2-3 days for two staff to adequately count redds on the West Branch, it might take 3-4 days on the East Branch.
- Timing of peak redds varies from year to year, utilize a known spawning area to gage when peak red development has occurred.
- Volunteer redd counts on tributaries yielded useful data that could not have been otherwise obtained.