WATER RESEARCH CENTER

ADVANCING KNOWLEDGE AND STEWARDSHIP OF FRESH WATER SYSTEMS THROUGH RESEARCH, EDUCATION, AND RESTORATION

Current Conditions and Restoration Goals

Brandywine Headwaters, White Clay Creek, Red Clay Creek, and Plum Run

John K. Jackson, Ph.D. Senior Research Scientist Aquatic Entomologist & Stream Ecologist



The Restoration Effort Delaware River Watershed Initiative

Measurable change in water quality a priority = opportunity and monitoring

Defined goals are local and quantified

Local projects are aggregated, BMP implementation maximized













WB

Creek













Headwaters WB Brandywine Cr

18 sq miles 18 miles of stream

High Quality Trout Stocking Fishery

> Impaired or degraded

Goal is Unimpaired



Headwaters WB Brandywine Cr

18 sq miles 18 miles of stream

High Quality Trout Stocking Fishery

> Impaired or degraded

Goal is Unimpaired

Phase 1 and 2 Sediment reduced 34% (1,193 tons) Phosphorus reduced 28% (3,920 lbs)



Headwaters WB Brandywine Cr

Phase 1 & 2

3,920 lbs of phosphorus = 96 truckloads <u>manure</u> per year

1,193 tons of sediment = 119 truckloads <u>sediment</u> per year





https://feedyardfoodie.wordpress.com/2013/03/28/march-madness/

White Clay Creek

17 sq miles 21 miles of stream

Exceptional Value Cold Water Fishery

Impaired

Goal is Unimpaired & Wild Trout



White Clay Creek

17 sq miles 21 miles of stream

Exceptional Value Cold Water Fishery

Impaired

Goal is Unimpaired & Wild Trout

Phase 1 and 2

Sediment reduced 44% (1,219 tons) Phosphorus reduced 38% (3,691 lbs)



Red Clay Creek

13 sq miles 18 miles of stream

Trout Stocking Fishery

Degraded or Impaired

Goal is Unimpaired & Wild Trout



Red Clay Creek

13 sq miles 18 miles of stream

Trout Stocking Fishery

Degraded or Impaired

Goal is Unimpaired & Wild Trout Phase 1 and 2

Sediment reduced 31% (471 tons) Phosphorus reduced 26% (1,327 lbs)



Plum Run

4 sq miles 5 miles of stream

Warm Water Fishery

Impaired

Goal is Unimpaired

Trout Stocking ____Fishery



Plum Run

4 sq miles 5 miles of stream

Warm Water Fishery

Impaired

Goal is Unimpaired

Trout Stocking Fishery

Phase 1 and 2

Sediment reduced 18% (44 tons) Phosphorus reduced 2% (15 lbs)



Headwaters BC White Clay Creek Red Clay Creek Plum Run

8,953 lbs of phosphorus = 224 truckloads <u>manure</u> per year

2,927 tons of sediment = 293 truckloads <u>sediment</u> per year







https://feedyardfoodie.wordpress.com/2013/03/28/march-madness/

WATER RESEARCH CENTER

ADVANCING KNOWLEDGE AND STEWARDSHIP OF FRESH WATER SYSTEMS THROUGH RESEARCH, EDUCATION, AND RESTORATION