



Chesapeake Bay Program
Science. Restoration. Partnership.

Aug 7, 2024

Tied in Knots



Photo By: Diego Henriquez



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Invasive Species Management at Rock Creek Park

Introduction



Photo By: Diego Henriquez

The Chesapeake Bay

64,000 Square Miles

18.5 Million Residents

36,000 Species

Reynoutria japonica

Introduced in the 1880s

Originates in East Asia

Contributes to Sediment Pollution

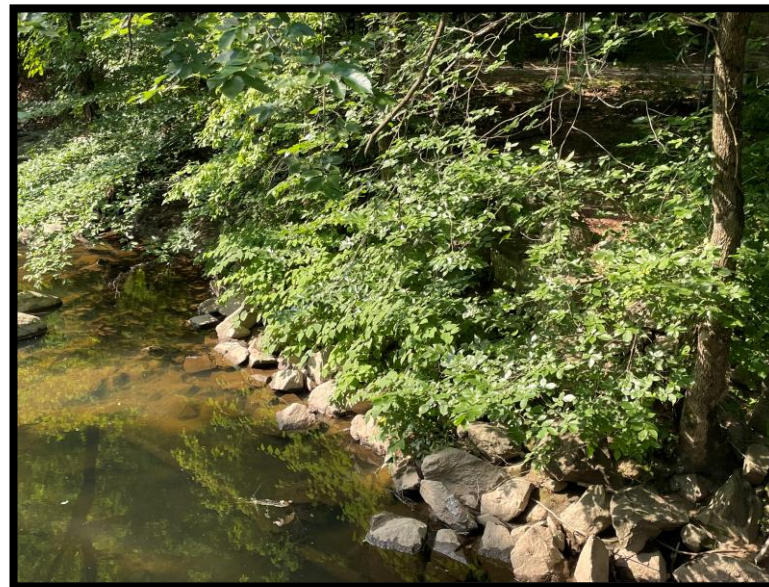
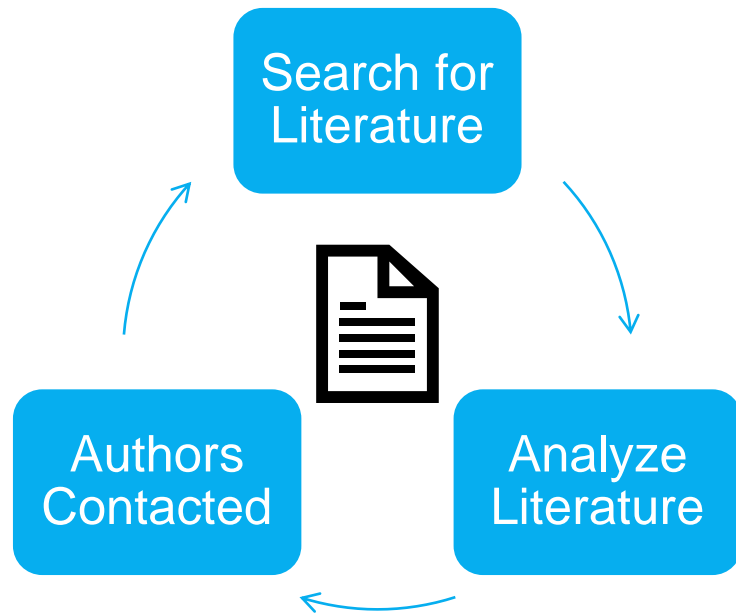


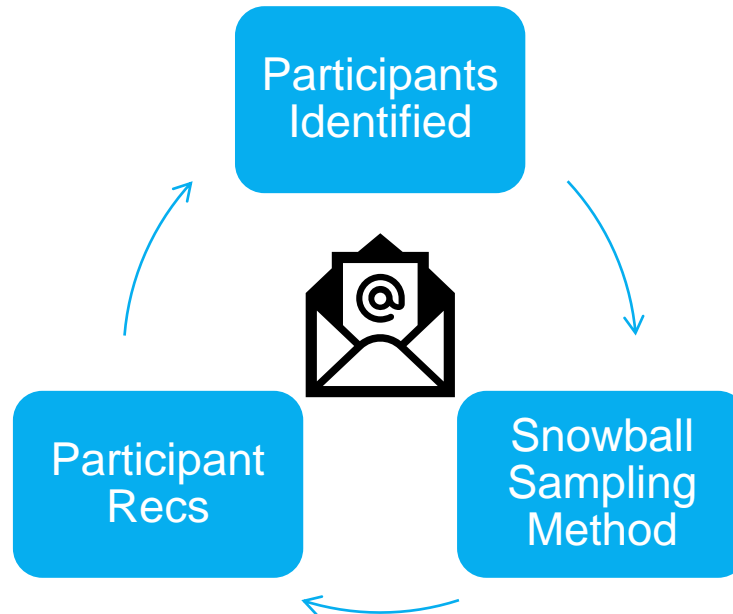
Photo By: Diego Henriquez

Methods

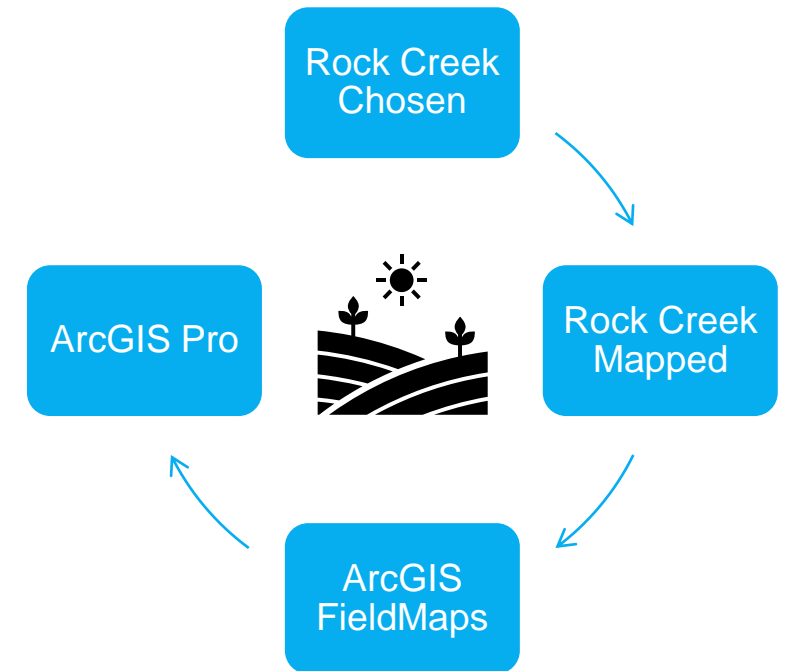
Literature Review



Contacting Experts



Field Work



Literature Review

Detrimental Effects



- Increases Streambank Erosion by 3 cm.
- Biodiversity Reduction

Competitive Advantages



- Rhizome System
- Spreads Through Fragments

Role of Climate Change



- Current Extent
- Range Expansion
- Challenges

Photo By: EDDMaps

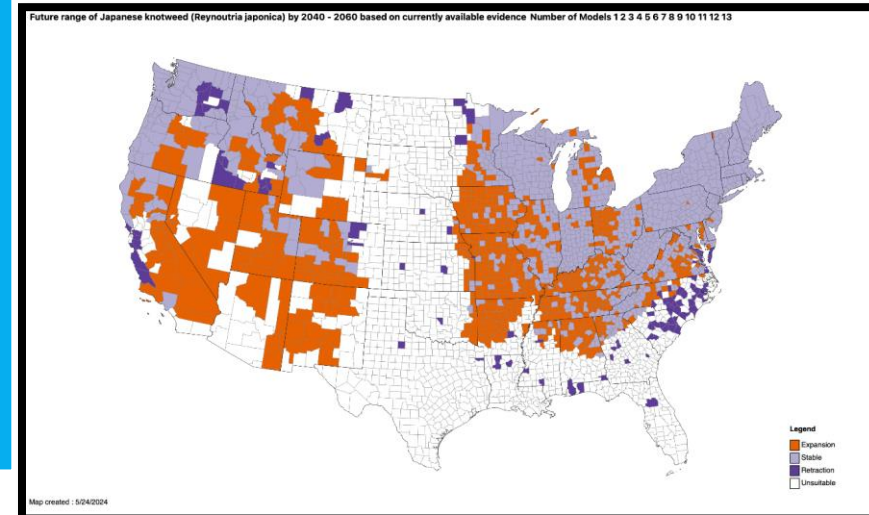
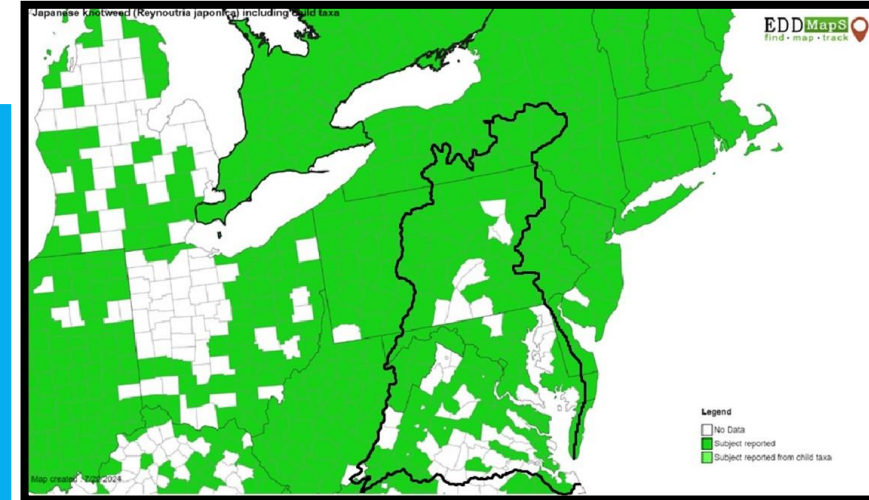
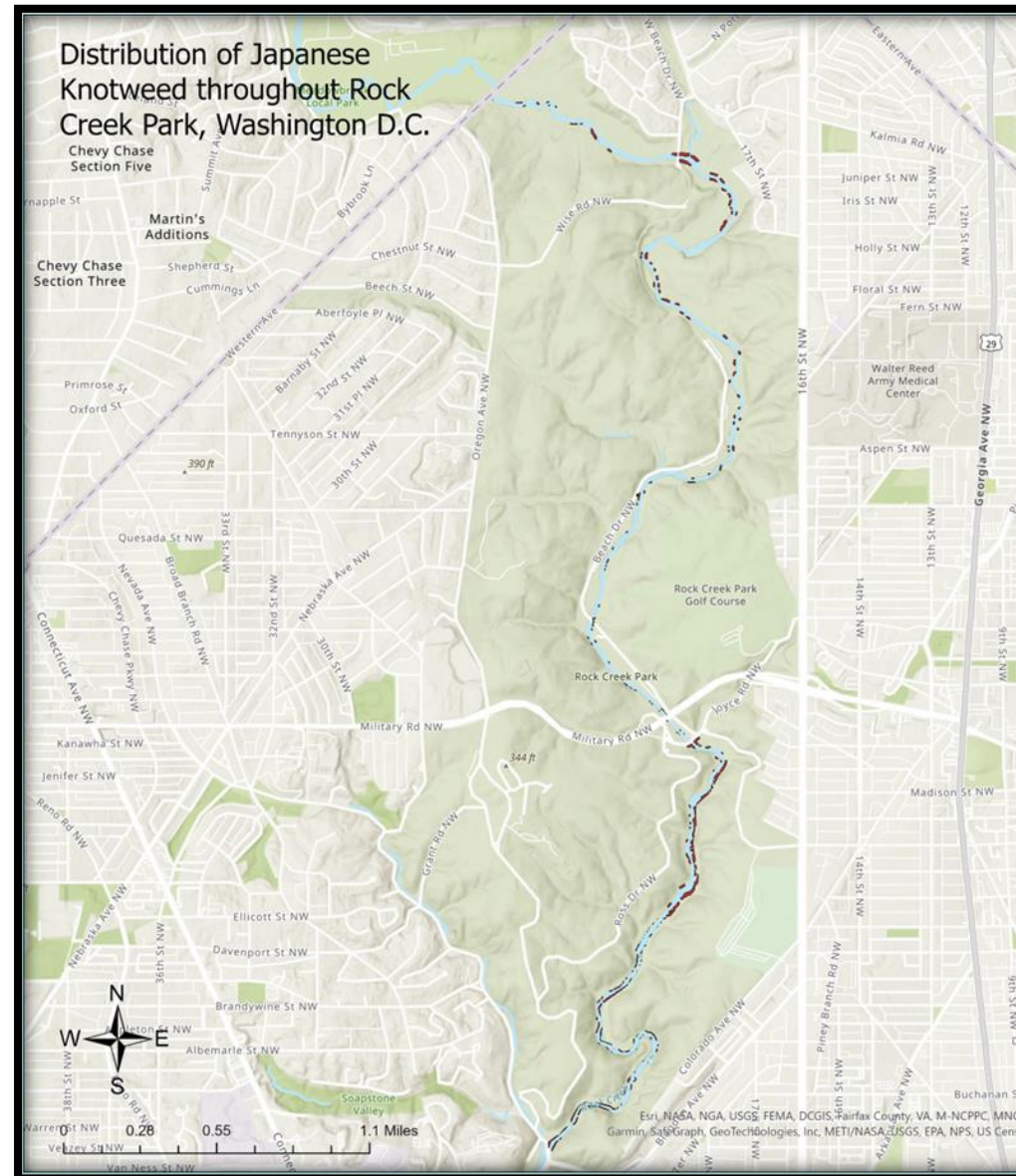


Photo By: EDDMaps

Spread of Knotweed in RCP

- 10 miles of streambank
- 3.66 miles infested
- That's 34%

- 260,303 ft² infested
- That's six acres!



Shaded Areas
Represent Presence of
Knotweed

Photo By: ArcGIS Pro

Knotweed in Upper RCP

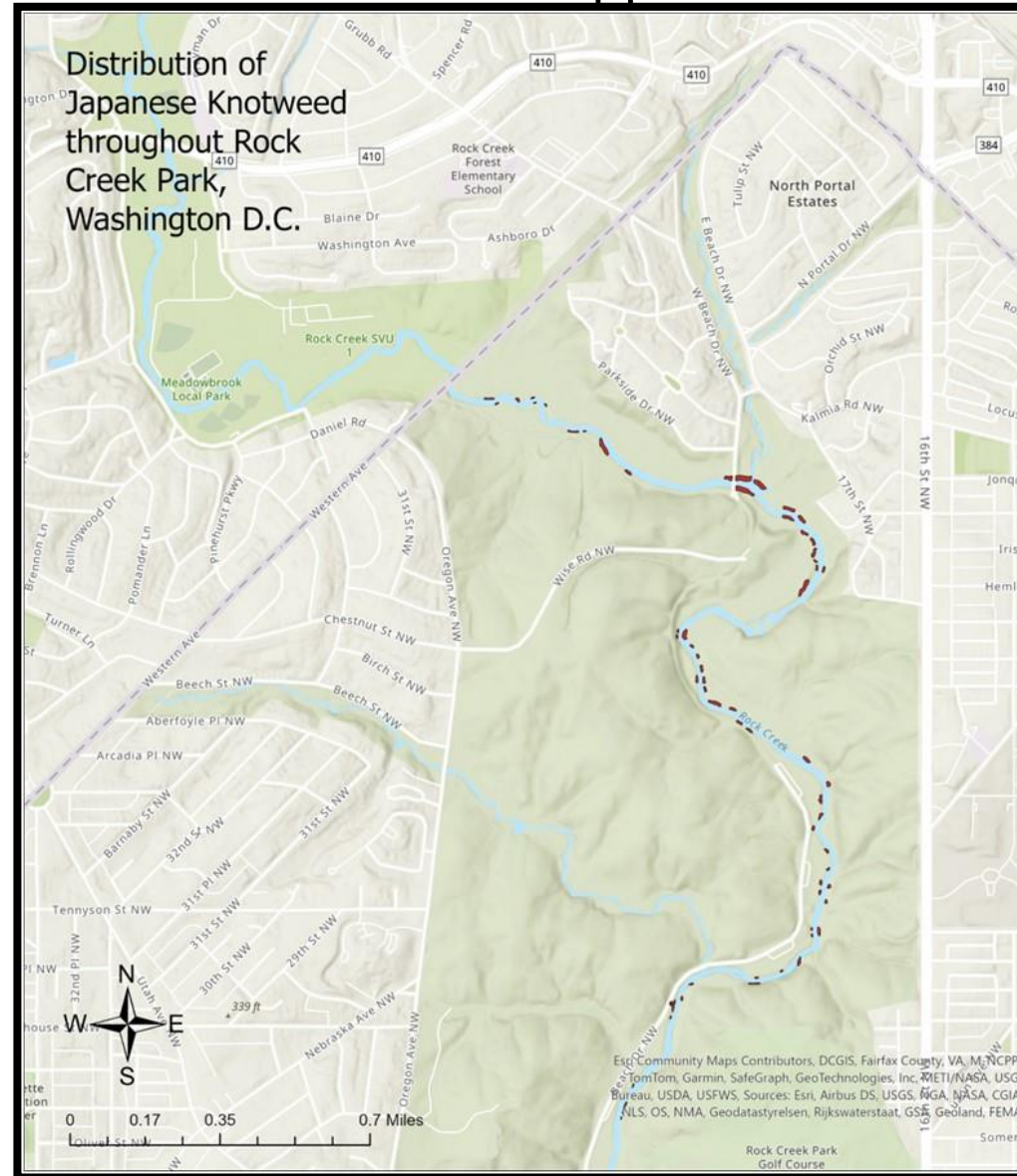
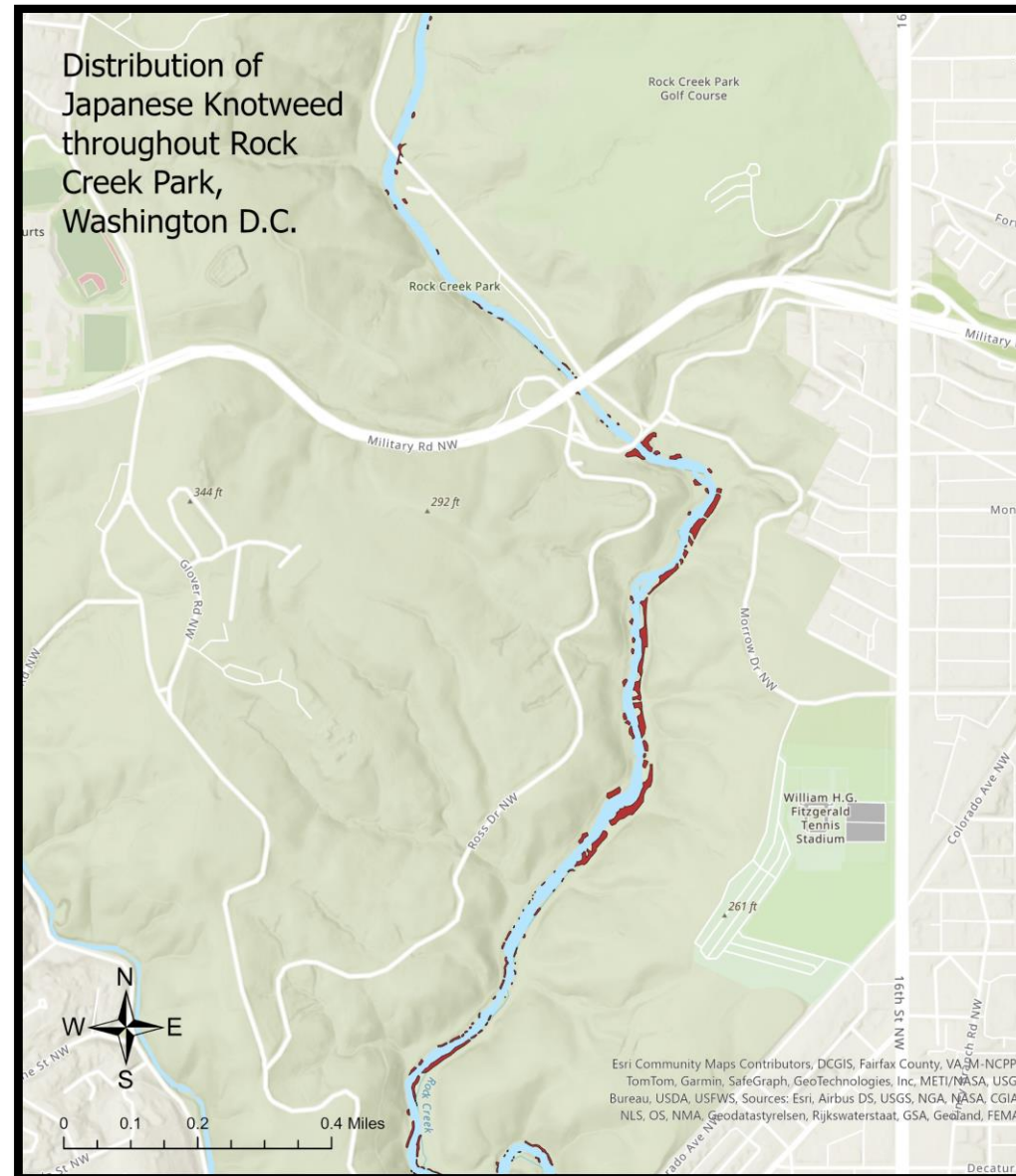


Photo By: ArcGIS Pro

Knotweed in Central RCP



Shaded Areas
Represent Presence of
Knotweed

Photo By: ArcGIS Pro

Knotweed in Lower RCP

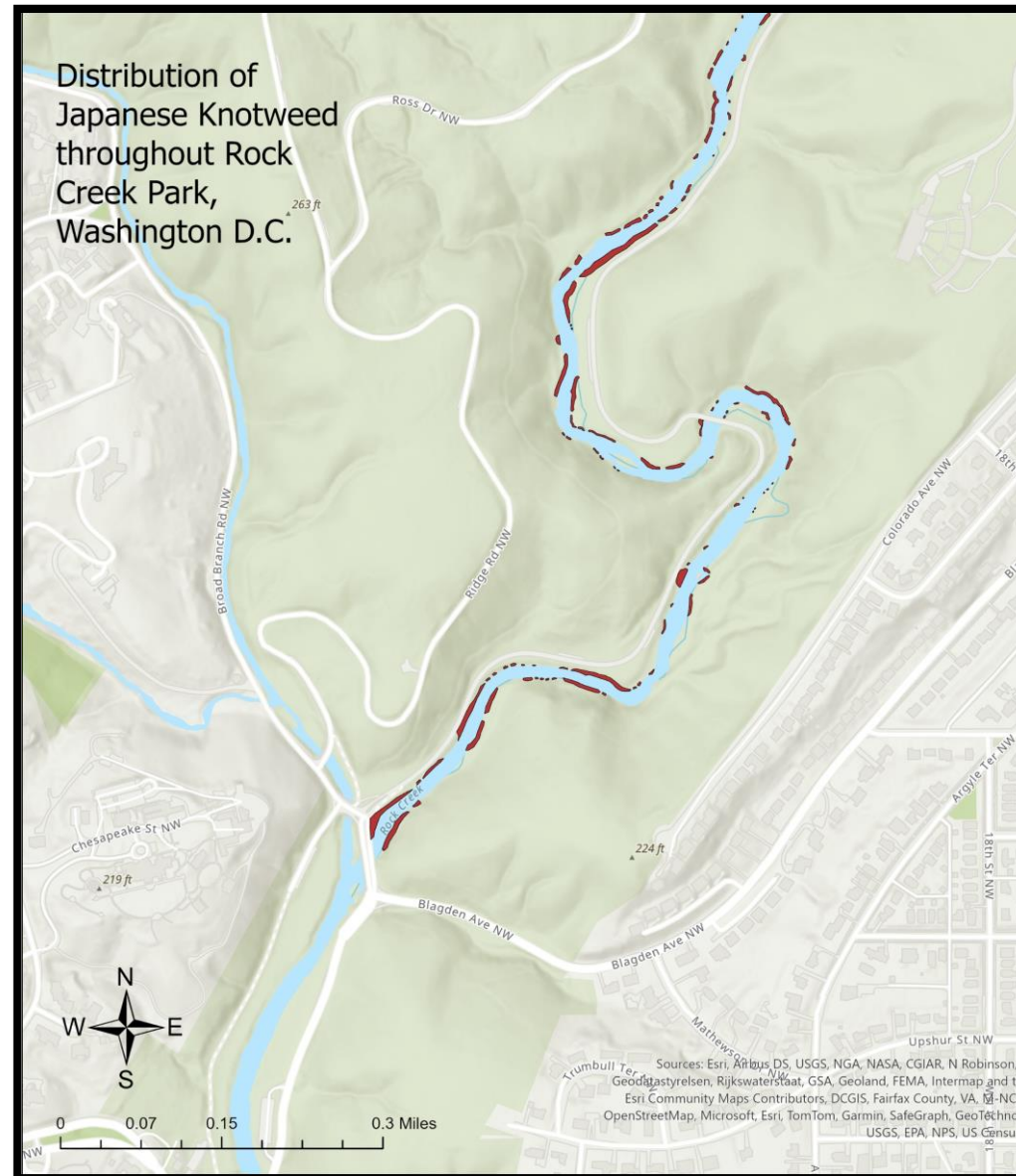


Photo By: ArcGIS Pro

Cost

\$20,262

17,774 ft.



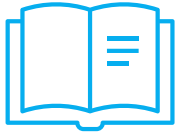
Photo By: Japanese Knotweed Eradication

Benefit

13,226,277 lbs

653 lbs/\$

Limitations



Lack of Literature



Inaccurate GPS Tool



Access Issues



No Standard Soil Loss Data

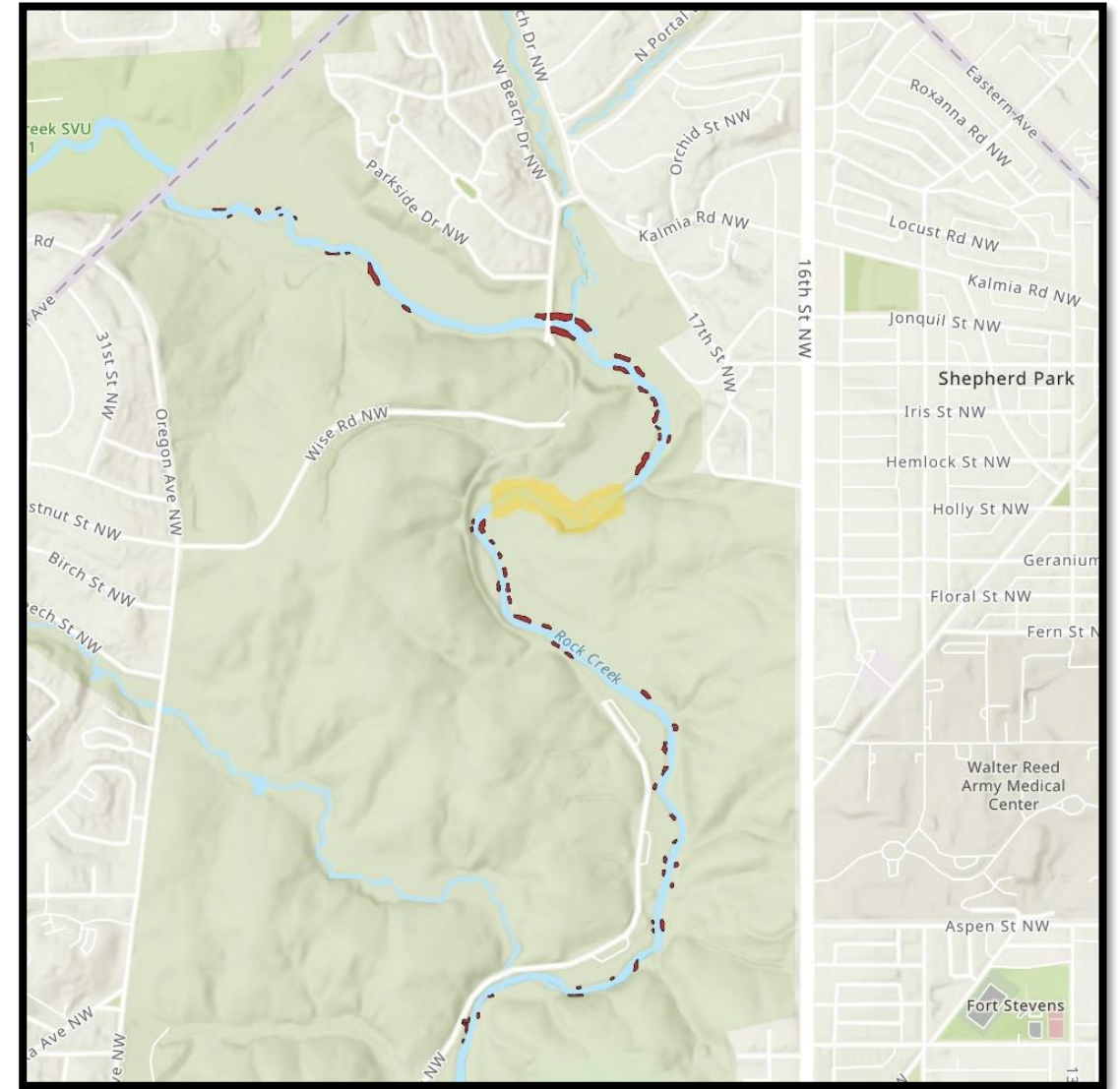
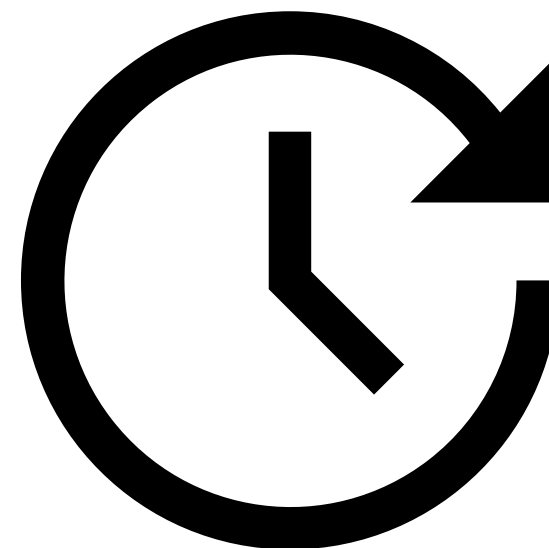


Photo By: ArcGIS Pro



Conclusions



Further
Research





Photo By: Diego Henriquez

Where there is a will, there is a way!

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