

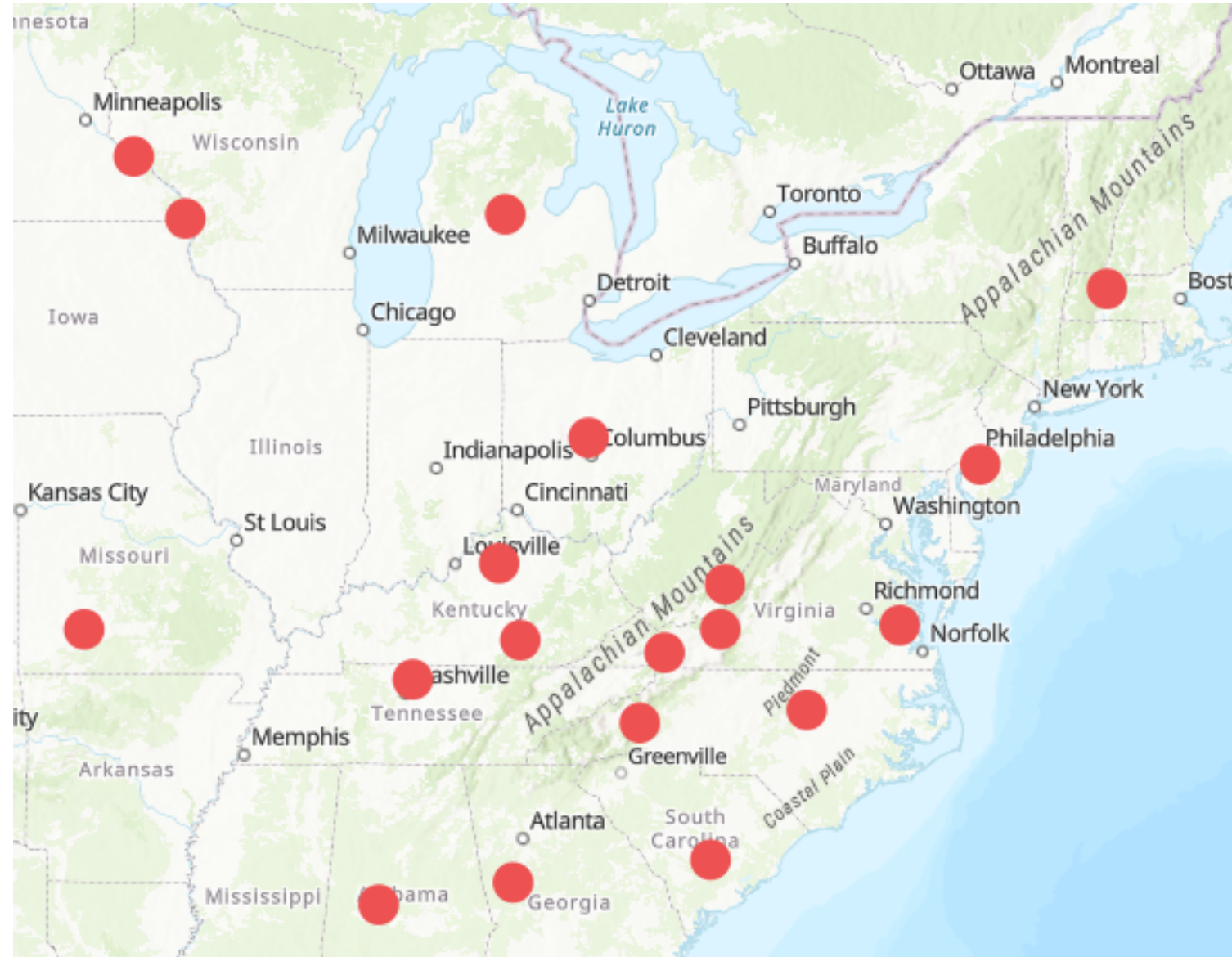
Atlantic Slope Freshwater Mussel Conservation at Virginia Fisheries and Aquatic Wildlife Center

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Current Propagation Facilities

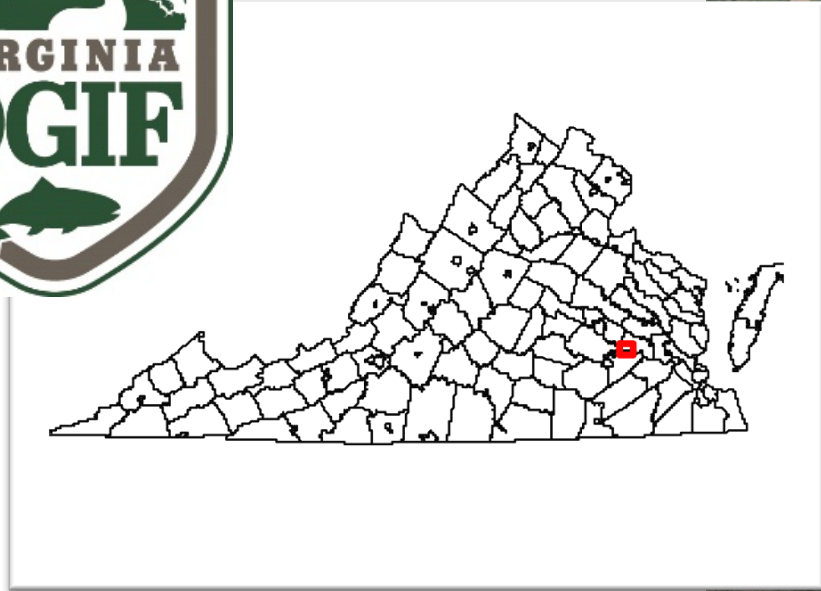
Funding Agency

- 6 State Agency
- 4 University
- 11 Federal Hatcheries
- 1 Zoo
- 1 NGO



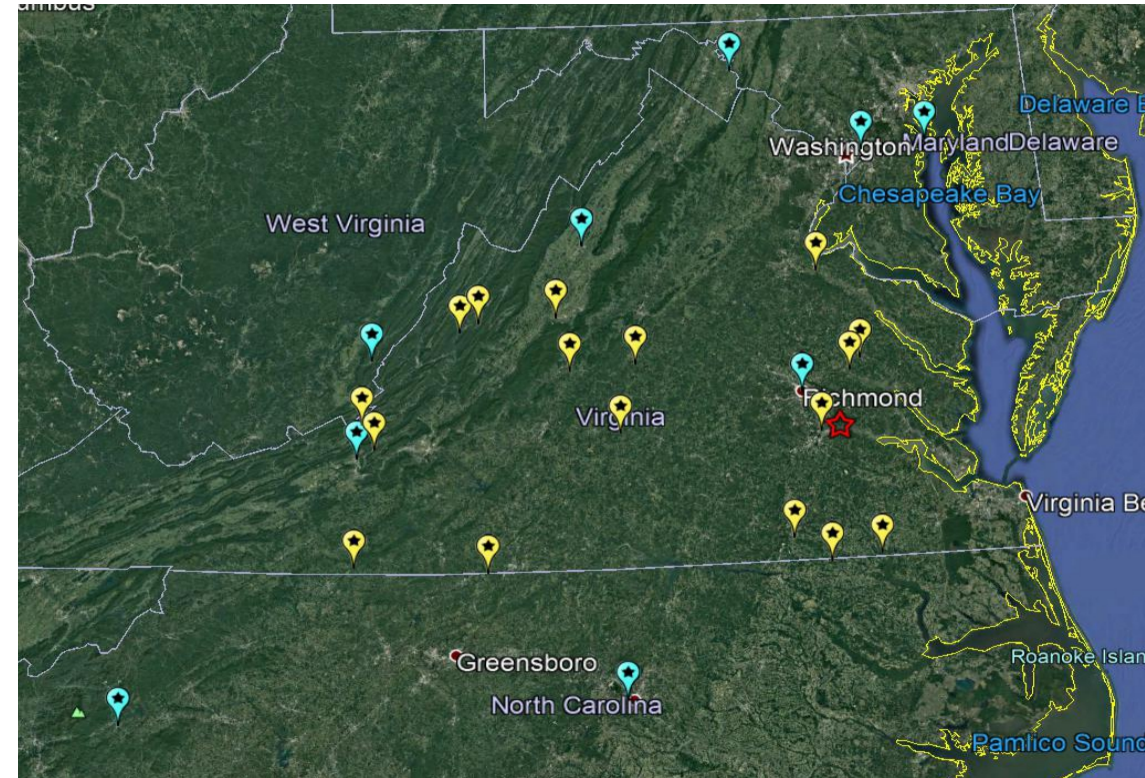
Virginia Fisheries and Aquatic Wildlife Center

Harrison Lake National Fish Hatchery



VFAWC Propagation Overview

- Produced 9 million juveniles, 14 species
- Released 218,227 mussels of 9 species
- Supplied 405,475 mussels to researchers
- Built *in vitro* lab in 2019
- Able to produce 1-3 million mussels/year

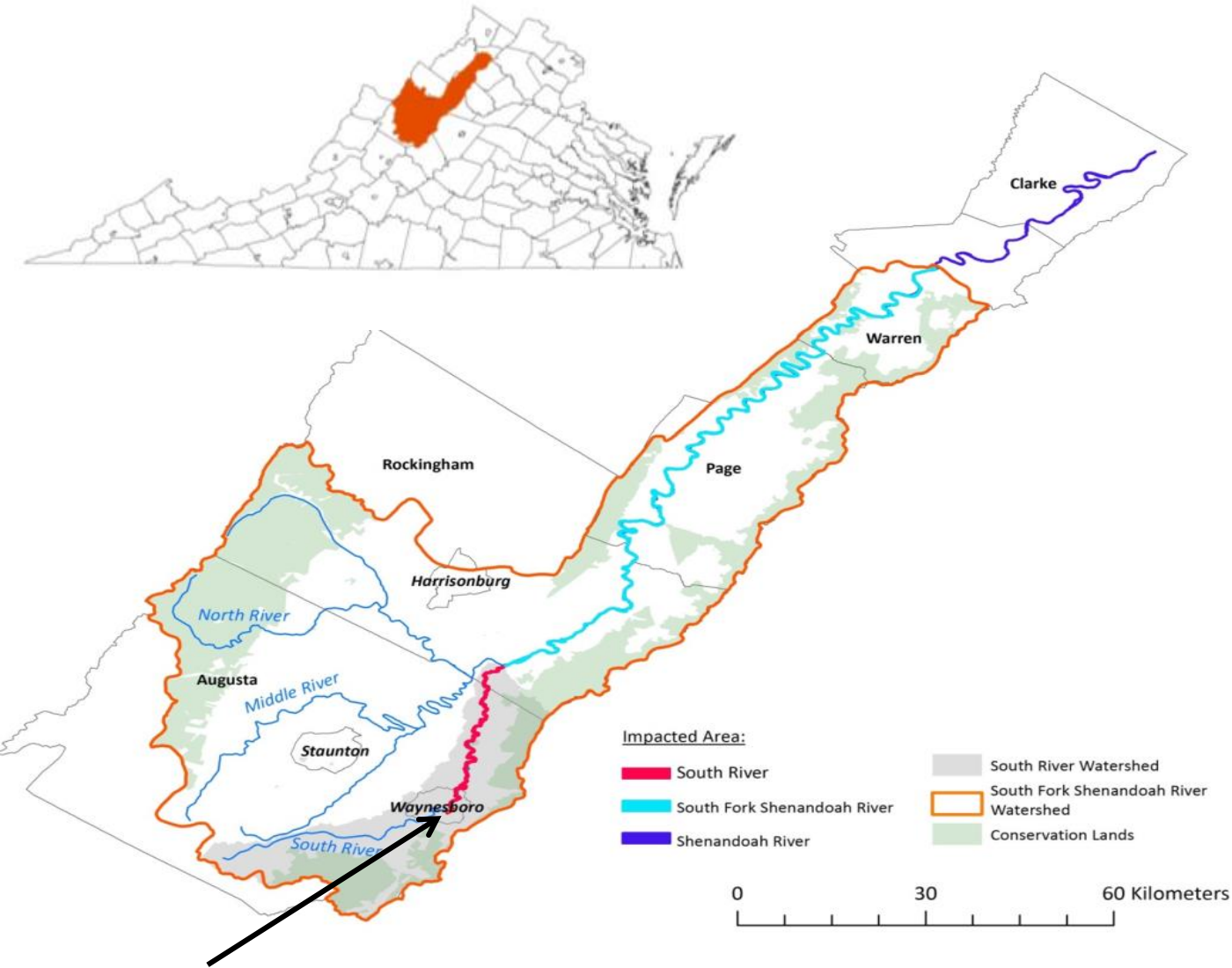


2019 VFAWC Projects

- **South River NRDAR***
- **Dominion***
- **Dan River- NFWF***
- Brook Floater Multistate
- USFS James spiny mussel
- Green Floater Diet study
- Anacostia Watershed Society



South River NRDAR



Injured Area

- Shenandoah River
 - 35 miles
- South Fork Shenandoah River
 - 100 miles
- South River
 - 24 mile

Settlement 2017

- 4 million for mussel restoration

Former DuPont Facility, Waynesboro, VA

South River- Production

Species	Broodstock collection	Number produced
<i>Alasmidonta undulata</i>	Cacapon, WV	88
	South River, VA	384
<i>Alasmidonta varicosa</i>	Cacapon, WV	6,671
<i>Lampsilis cardium</i>	Cacapon, WV	79,960
<i>Lasmigona subviridis</i>	Back Creek, WV	70,904
	Cacapon, WV	4,382
<i>Strophitus undulatus</i>	South River, VA	2,041*
	Cacapon, WV	11,367*
Total		175,765
Project Total (2018, 2019)		235,707

*- produced using in vitro methods

South River- Releases

Species	Release River	Number released	Size (mm)
<i>Alasmidonta varicosa</i>	South River	585	30
<i>Alasmidonta undulata</i>	South River	226	29
<i>Lampsilis cardium</i>	South Fork Shenandoah	3,210	26
<i>Lampsilis cariosa</i>	South River	1,000	30
<i>Strophitus undulatus</i>	South River	315	35
Total		5,336	
Project Total		5,366	



Mussels produced at Virginia Fisheries Aquatic Wildlife Center, 2019

Mussel Species	Number of Juveniles
<i>Alasmidonta undulata</i>	472
<i>Alasmidonta varicosa</i>	6,671
<i>Elliptio complanata</i>	0
<i>Fusconaia masoni</i>	0
<i>Lampsilis cariosa</i>	56,037
<i>Lampsilis cardium</i>	79,960
<i>Lasmigona subviridis</i>	87,177
<i>Lampsilis radiata</i>	18,434
<i>Ligumia nasuta</i>	133,303
<i>Parvaspina collina</i>	33,497
<i>Strophitus undulatus</i>	13,408
<i>Utterbackiana implicata</i>	709,771
	1,138,730



Dan River- Production 2019

Species	Number produced
<i>Lampsilis cariosa</i>	56,037
<i>Lasmigona subviridis</i>	11,891
Total produced in 2019	67,928
Project Total	706,505



Dan River- 2019 Releases

Species	Number released	Size (mm)
<i>Lampsilis cariosa</i>	23,838	30
<i>Lasmigona subviridis</i>	7,831	28
<i>Villosa constricta</i>	2,780	28
Total released 2019	39,910	
Project Total	90,094	



Mussels released from Virginia Fisheries Aquatic Wildlife Center, 2019

Species	Number	Mean Length (mm)
<i>Alasmidonta varicosa</i>	340	32
<i>Alasmidonta varicosa</i>	245	32
<i>Alasmidonta undulata</i>	226	33
<i>Lampsilis cardium</i>	3,210	26.2
<i>Lampsilis cariosa</i>	26,230	30
<i>Lampsilis radiata</i>	10,284	48.1
<i>Lasmigona subviridis</i>	7,826	33.3
<i>Parvaspina collina</i>	795	38.1
<i>Strophitus undulatus</i> *	315	34
<i>Utterbackiana implicata</i>	9,840	33.6
<i>Villosa constricta</i>	2,780	26.4
	62,091	



VFAWC Summary

- Capable of producing millions of mussels a year
- Stocking 40,000-70,000 mussels/year
- Developing *in vitro* methods
- Provide propagation guidance
- Assist with mussel surveys and monitoring
- Collaboration with VCU research faculty
- Restoring populations is a reality with several species



Thank you

