

# THE LOWER RAPPAHANNOCK REPORT CARD

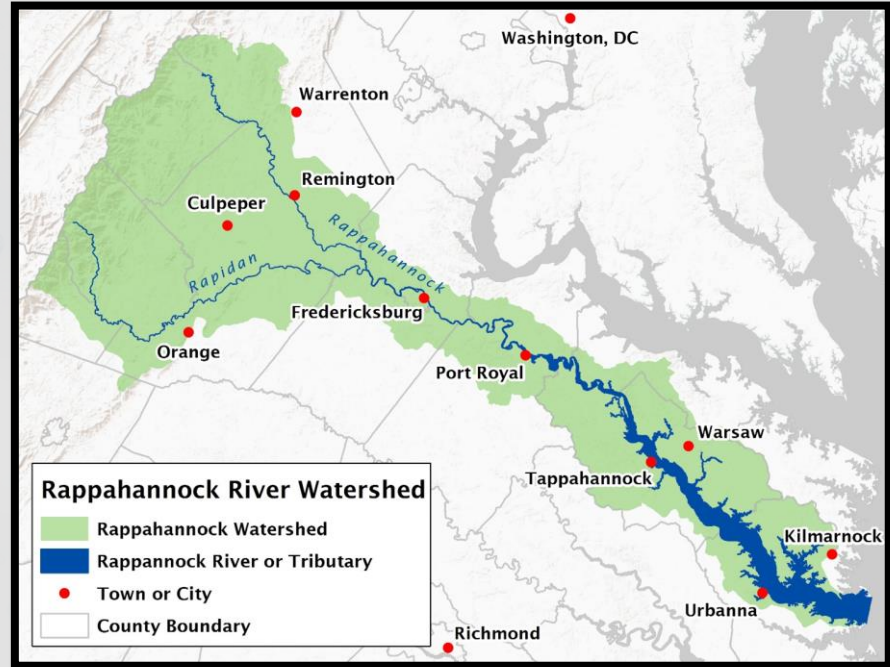
Adam Lynch  
Marisa Payne

Friends of the Rappahannock



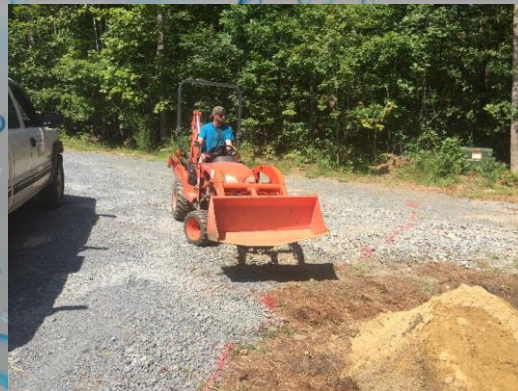
# Friends of the Rappahannock

- 501c(3) nonprofit
- Founded in 1985
  - Fredericksburg
  - Tappahannock
  - Culpeper
- Advocacy
- Education
- Restoration





# Friends of the Rappahannock



# The Lower Rappahannock Report Card

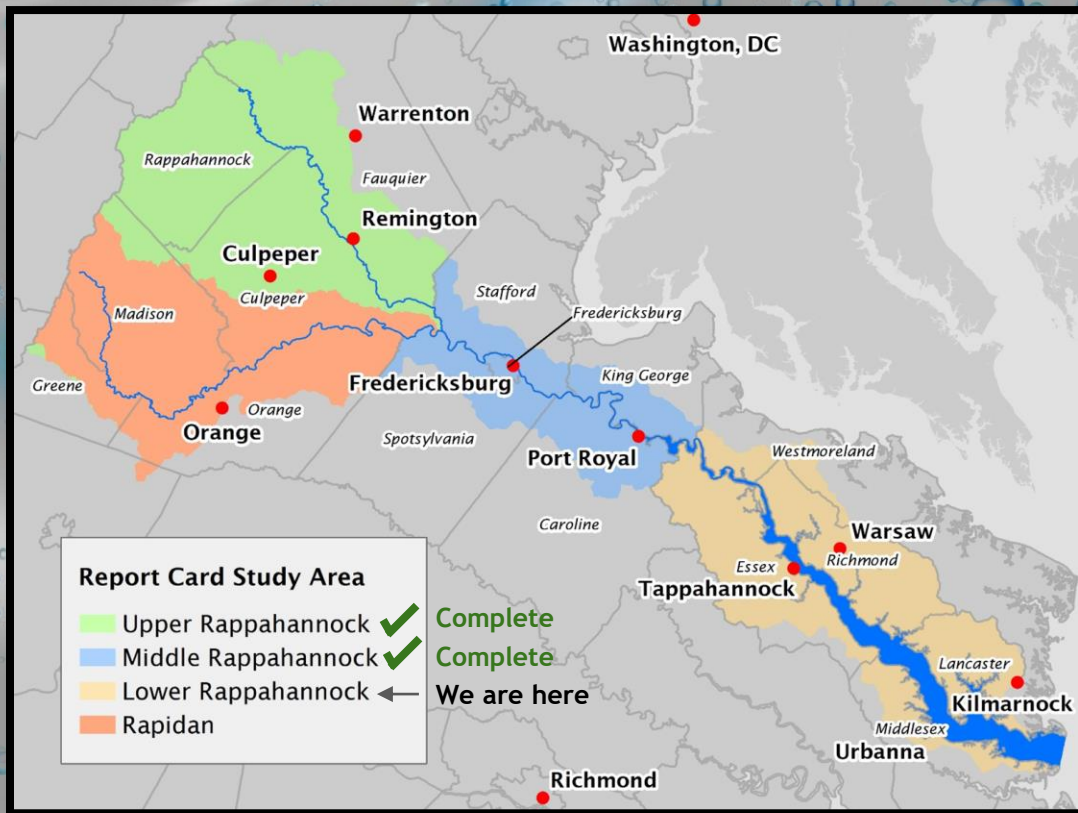
- Supported by the Keith Campbell Foundation and Virginia DEQ
- Developed between May - September 2021
  - Mostly considers data from between 2017-2020
- *Part of an ongoing program*

*[www.riverfriends.org/rappreportcard](http://www.riverfriends.org/rappreportcard)*



# Study Area + Phases

- Lower Rappahannock:
  - Westmoreland County
  - Richmond County
  - Lancaster County
  - Essex County
  - Middlesex County
  - Northumberland County
- 3rd of 4 Regions
- Repeated as funding, staff resources allow



## The Rappahannock Report Card Mission

- Establish **measurable, repeatable data indicators** which will inform the community about the condition of the Rappahannock River tributaries and watershed over time
- Produce targeted **recommendations for local citizens and leaders** to improve the health and beauty of the Rappahannock River
- **Inspire action** via on-the-ground stewardship projects and partnerships between and within local communities

## Report Card Methodology

- Eighteen tributaries were selected to form a representative sample of streams in the six counties of the Rappahannock River's tidal estuary
- Sixteen quantitative indicators were chosen to evaluate the tributaries, which address the following 4 subjects:

Human Health

Stream Ecology

Land Use

Estuary Condition



# Indicators

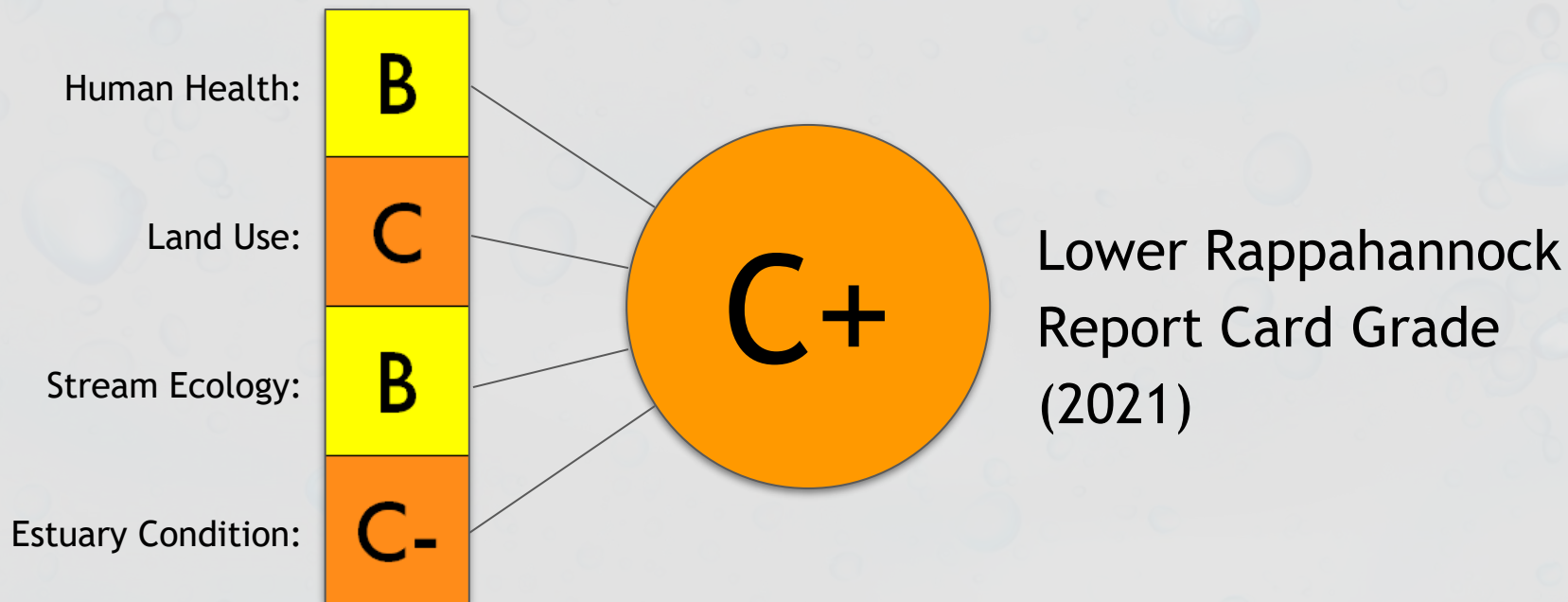
<u>Human Health</u>	<u>Land Use</u>	<u>Stream Ecology</u>	<u>Estuary Condition</u>
<b>Bacteria:</b> What percent of this watershed's streams have unsafe levels of bacteria?	<b>Forest-Impervious Ratio:</b> How much forest is present, relative to impervious surfaces?	<b>Aquatic Life:</b> What percent of this watershed's stream miles have aquatic life that is heavily disturbed?	<b>Aquatic Grasses:</b> How close are the average acres of SAV of the last 4 years to the watershed average?
<b>Fish Consumption:</b> What is this watershed's average fecal coliform score? What percent of streams are impaired for fish consumption?	<b>Open Space Protection:</b> What percent of undeveloped land in the watershed is protected?	<b>Open Space Protection:</b> What percent of this watershed's riparian areas are protected?	<b>Living Shorelines:</b> What percent of this watershed's WIP goal for living shorelines has been met?
<b>Contaminated Sites:</b> Does this watershed contain any active Brownfield or Superfund sites?	<b>Agricultural BMPs:</b> How many Ag BMPs have been installed per acre of farmland per year, using cost-share from an SWCD?	<b>Impervious Surfaces:</b> What percent of this watershed's riparian area is impervious?	<b>Dead Zones:</b> What is the average score for dissolved oxygen levels in the last 4 years?
<b>Recreational Health Risk:</b> Do any public access points have levels of bacteria unsafe for recreation?	<b>Residential BMPs:</b> How many residential BMPs have been installed per capita per year using cost-share from an SWCD?	<b>Forest Canopy:</b> What percent of this watershed's riparian area is forested?	<b>FOR Restored Oyster Reefs:</b> Does this watershed have any FOR restored oyster reefs?



# Data Sources

- **Virginia Department of Environmental Quality**
  - 2020 305(b)/303(d) Water Quality Assessment Integrated Report
- **Virginia Department of Health**
  - Department of Shellfish Safety
- **Virginia Department of Conservation and Recreation**
  - Shoreline Erosion Advisory Service
- **Environmental Protection Agency**
  - Cleanups in My Community
- **Virginia Geographic Information Network 1 meter land cover layer**
- **Virginia Institute of Marine Science**
- **Virginia Association of Soil and Water Conservation Districts**
- **United States Census Bureau**
- **United States Geological Survey**

# Overall Grade Summary





# Results by Watershed

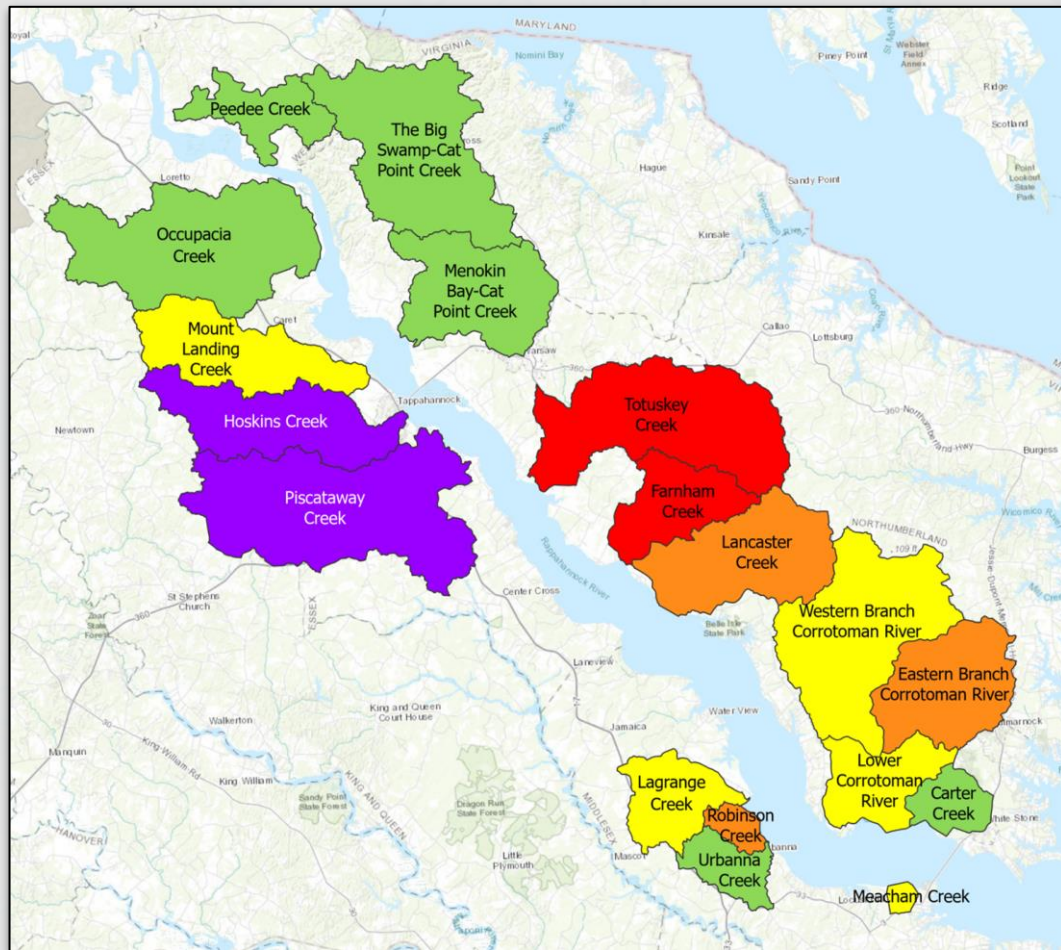
	Carter's Creek	Cat Point Creek - Upper	Cat Point Creek - Lower	Corrotoman - Eastern	Corrotoman - Western	Corrotoman - Lower	Farnham Creek	Hoskins Creek	Lagrange Creek	Lancaster Creek	Meacham Creek	Mount Landing Creek	Occupacia Creek	Peedee Creek	Piscataway Creek	Robinson Creek	Totuskey Creek	Urbanna Creek
Human Health	A	B	C+	B	C	A-	B-	C	B+	B+	B+	B+	A-	B+	B	B+	C+	A+
Land Use	C	D+	B+	C	B-	C-	C	C+	C	B-	C	B-	B-	D+	C+	D	C-	C
Stream Ecology	B-	B	B+	B	B+	B-	B+	B	B-	B	C	A-	B	C+	B	C+	B	B
Estuary Condition	B	C+	D+	D+	C	C	D	D	C-	C-	B	D+	D	D+	D	C	D+	C+
Overall Grade	B	C+	B-	C+	C+	C+	C+	C	C+	B-	B-	B	B-	C+	C+	C+	C	B-

## Fish Consumption

For watersheds above Tappahannock that do not host oyster habitat, the percent of total stream length that is impaired for fish consumption. For watersheds that host oyster habitat, the average fecal coliform score 2017-2020.

Grade	Fish	Oyster
<b>A</b>	0%	100-90
<b>B</b>	0-20%	90-80
<b>C</b>	20-40%	80-70
<b>D</b>	40-60%	70-60
<b>F</b>	>60%	<60

Sources: VADEQ 2020 305(b), VDH DSS



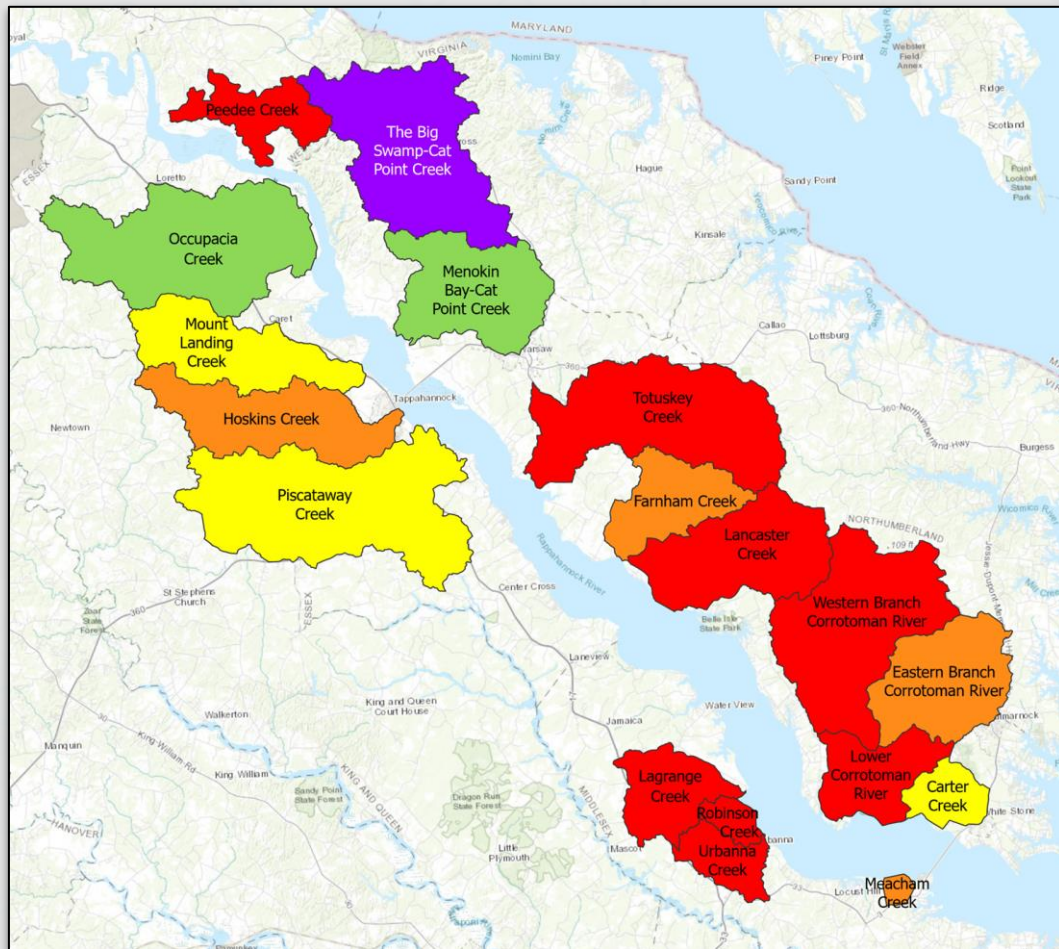


## Open Space Conservation

The percent of open spaces (undeveloped land) that are currently under protection by government ownership, easement, or Resource Protection Area.

Grade	Definition
<b>A</b>	>30%
<b>B</b>	20-30%
<b>C</b>	15-20%
<b>D</b>	10-15%
<b>F</b>	<10%

Sources: VGIN 1 meter land cover layer, National Conservation Easement Database



## Forest Canopy Cover

The percent of riparian buffer (area within 300 feet of any perennial stream, marsh, lake, or river) that is classified as forest cover.

Grade	Definition
<b>A</b>	>90%
<b>B</b>	80-90%
<b>C</b>	70-80%
<b>D</b>	60-70%
<b>F</b>	<60%

Source: VGIN 1 meter land cover layer



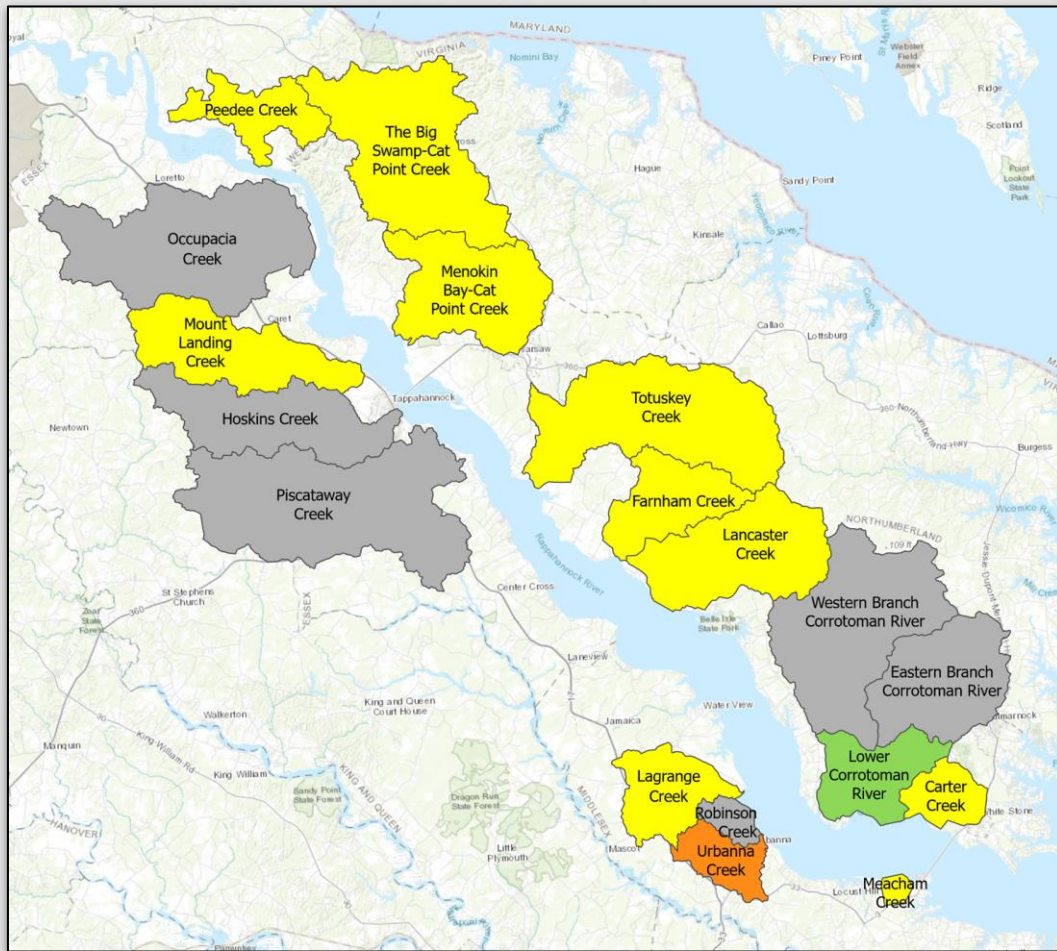


## Aquatic Grasses

The deviation of the last 4 years' average acres of submerged aquatic vegetation (SAV) from the baseline (10 year) average.

Grade	Definition
<b>A</b>	>1, Much higher than average
<b>B</b>	0 - 1, Higher than average
<b>C</b>	-1 to 0, Lower than average
<b>D</b>	-2 to -1, Much lower than average
<b>F</b>	<-2, Extremely below average
<b>NA</b>	Insufficient data

Sources: Virginia Institute of Marine Science



# Questions?

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