

# DELAWARE NATIONAL ESTUARINE RESEARCH RESERVE



*Promoting stewardship of the nation's coastal  
areas through science and education ...*

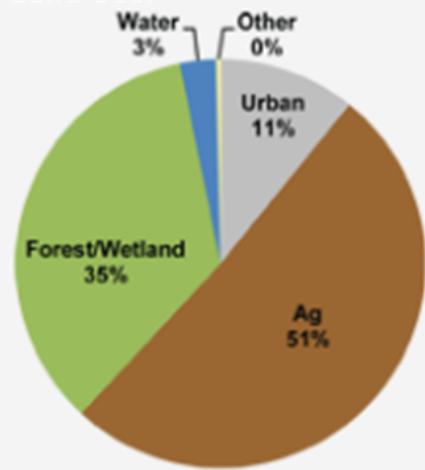
## Delaware Bay & Estuary's Vital Statistics

Size: 793 square miles

Population: 285887

Source: U.S. Census

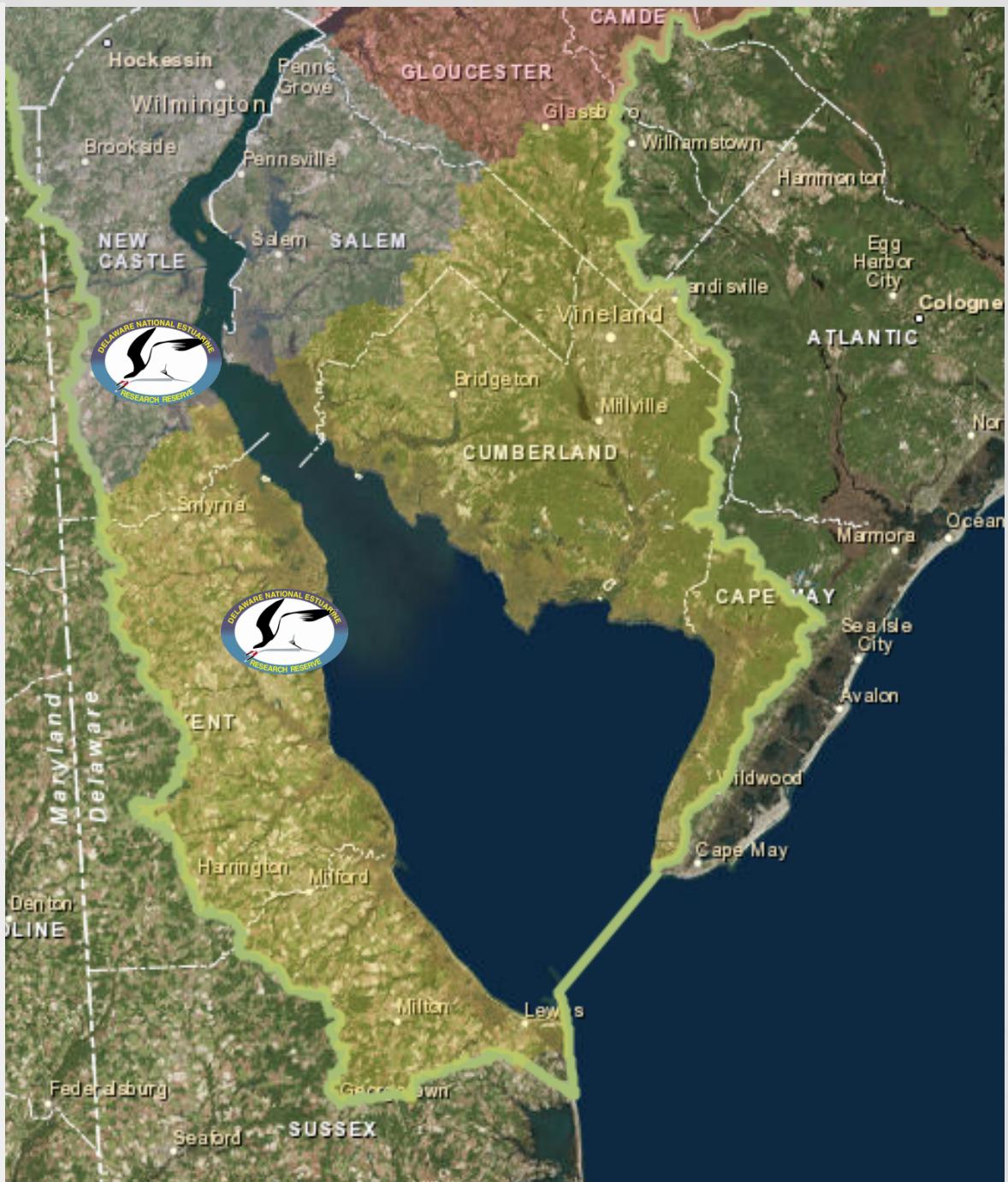
Land Use:

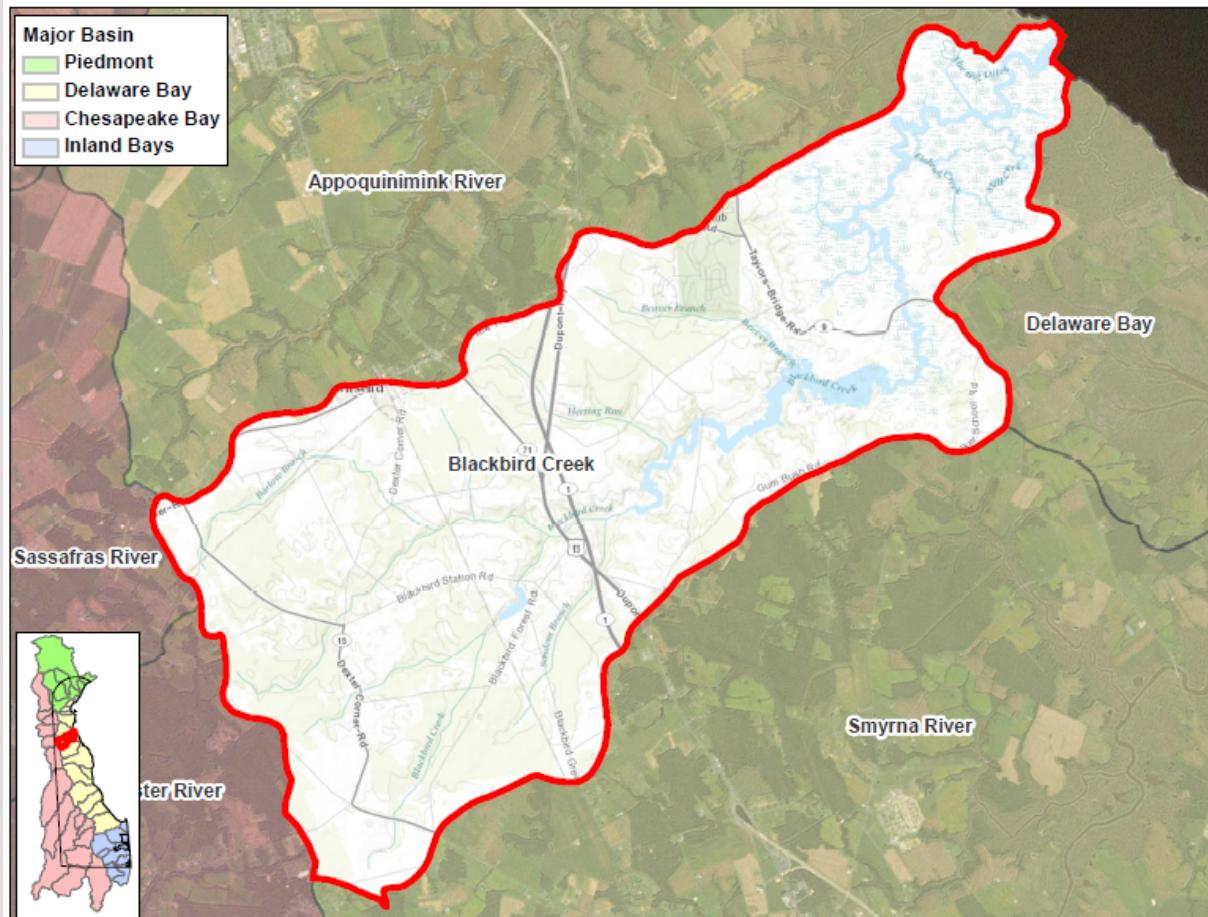


Source: NOAA Coastal Services Center (CSC), Coastal Change Analysis Program (C-CAP) Land Cover data based on analysis of Landsat 30m resolution imagery.

States: DE

Counties: DE: New Castle, Kent and Sussex





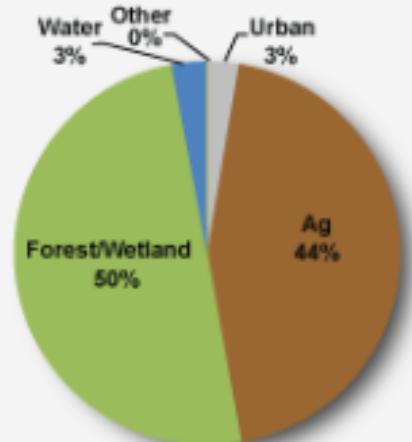
## Blackbird Creek's Vital Statistics

**Size:** 31 square miles

**Population:** 5465

*Source: U.S. Census*

### Land Use:



*Source: NOAA Coastal Services Center (CSC), Coastal Change Analysis Program (C-CAP) Land Cover data based on analysis of Landsat 30m resolution imagery.*

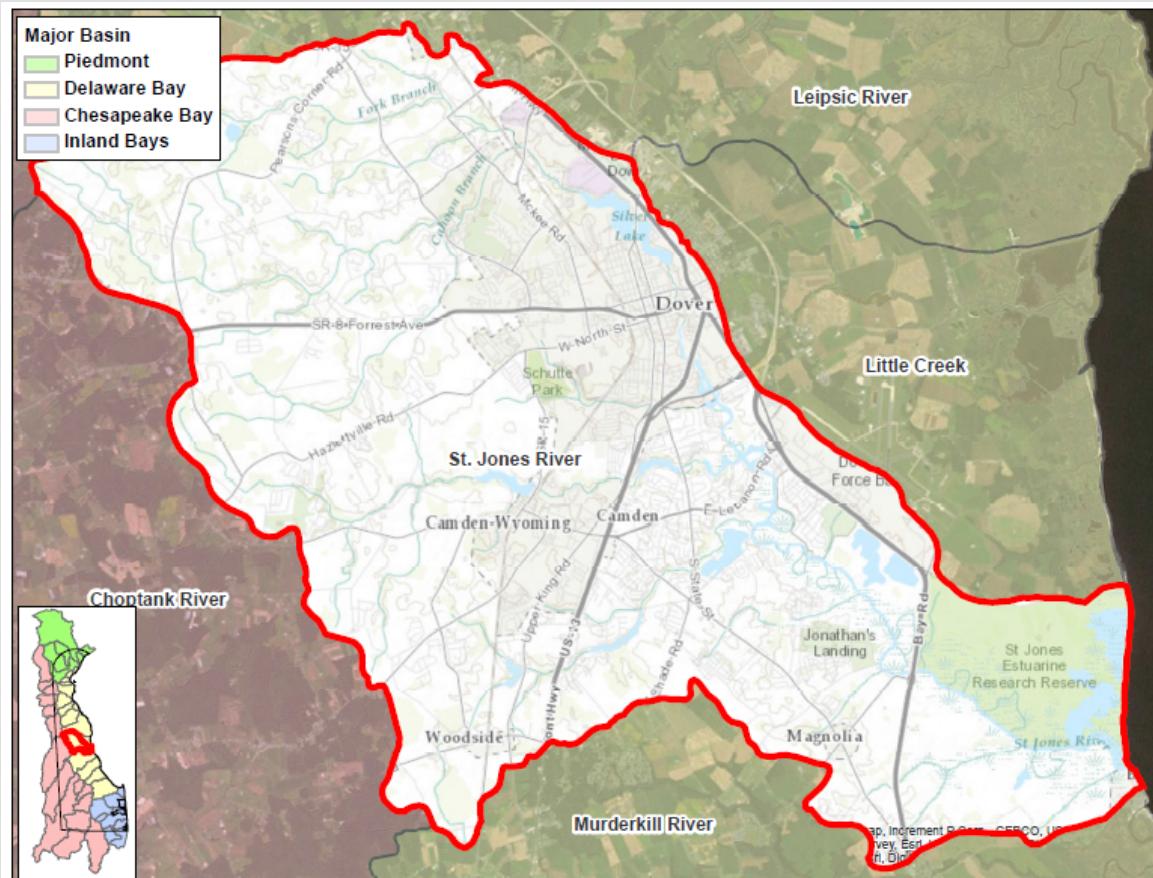
**States:** DE

**Counties:** DE: New Castle

# BLACKBIRD CREEK RESERVE



- Situated along 5.7 miles of low salinity brackish and freshwater tidal creek
- 1,087 acres in total
- 62 parcels held by 55 private landowners, the DNERR and Division of Fish and Wildlife



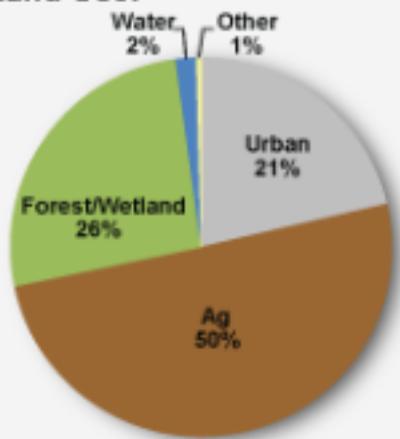
## St. Jones River's Vital Statistics

**Size:** 90 square miles

**Population:** 68323

*Source: U.S. Census*

**Land Use:**



*Source: NOAA Coastal Services Center (CSC), Coastal Change Analysis Program (C-CAP) Land Cover data based on analysis of Landsat 30m resolution imagery.*

**States:** DE

**Counties:** DE: Kent

# ST JONES RESERVE

An aerial photograph of the St Jones Reserve. The image shows a mix of agricultural fields, wetland areas with intricate waterway patterns, and a coastal area leading to the Delaware Bay. In the distance, a city and an airport are visible. The sky is clear and blue.

- Situated along 5.5 miles of medium salinity tidal river estuary and Delaware Bay subtidal bottom and near-shore waters
- 5,119 acres in total
- 69 parcels held by 63 private land owners, the DNERR and two other state agencies

# GENERAL PRIORITIES FOR DELAWARE NERR

- Coastal Resiliency
  - Habitat Management/Protection
    - Wetlands
    - Invasive species
  - Sea level rise and climate change
    - Coastal Planning
    - Coastal storm impacts

# RESEARCH & MONITORING



*Provide observations, data and tools to understand the past, present and future of our coastal areas*

# STEWARDSHIP



Promoting stewardship of our  
estuarine and coastal resources

# EDUCATION & OUTREACH



*Advancing environmental literacy through  
education and outreach*

# COASTAL TRAINING PROGRAM



*Supporting decision makers who need accurate,  
timely information about their changing  
environment*

# ESTUARY PRINCIPLE 1

- Estuaries are interconnected with the world ocean with major systems and cycles on earth
  - Food webs, nutrient cycles, hydrologic cycles
  - Affected by changes to global systems like climate
  - Interface with watersheds and are affected by air quality outside of the watersheds

## ESTUARY PRINCIPLE 2

- Estuaries are dynamic ecosystems with tremendous variability within and between them in physical, chemical, and biological components.
  - Various geologic origins and morphologies
  - Change slowly over hundreds to thousands of years
  - Can also change quickly, i.e. tides and storm events
  - The dynamic system makes it difficult for organisms

## ESTUARY PRINCIPLE 3

- Estuaries support an abundance of life, and a diversity of habitat types
  - Vital nursery and spawning grounds
  - Diverse habitat types (oyster reefs, mangroves, salt marshes)
  - Specialized plants and animals adapted to estuarine conditions
  - Rich food source for a variety of organisms

## ESTUARY PRINCIPLE 4

- Ongoing research and monitoring is needed to increase our understanding of estuaries and to improve our ability to protect and sustain them.
  - We gather research in the Reserves like SWMP
  - Technology plays an important role in the collection of our data
  - Research is interdisciplinary
  - Research projects have to be carefully designed to account for a variety of interacting factors

# ESTUARY PRINCIPLE 5

- Humans, even those living far from the coast, rely on goods and services supplied by estuaries.
  - Social services and cultural values to humans
  - Flood protection to coastal communities
  - Significant economic value

# ESTUARY PRINCIPLE 6

- Human activities can impact estuaries by degrading water quality or altering habitats; therefore, we are responsible for making decisions to protect and maintain the health of estuaries.
  - Human activities affect the biological, chemical, and physical components
  - The quality of goods and services to humans depend on the health of the ecosystem
  - Humans can use knowledge to make informed decisions
  - Organizations and agencies are charged with protecting and conserving these resources
  - Actions can be taken to maintain the estuarine health

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<http://de.gov/dnerr>  
<http://estuaries.noaa.gov/>