



# Camden County Spaceport & The Satilla River

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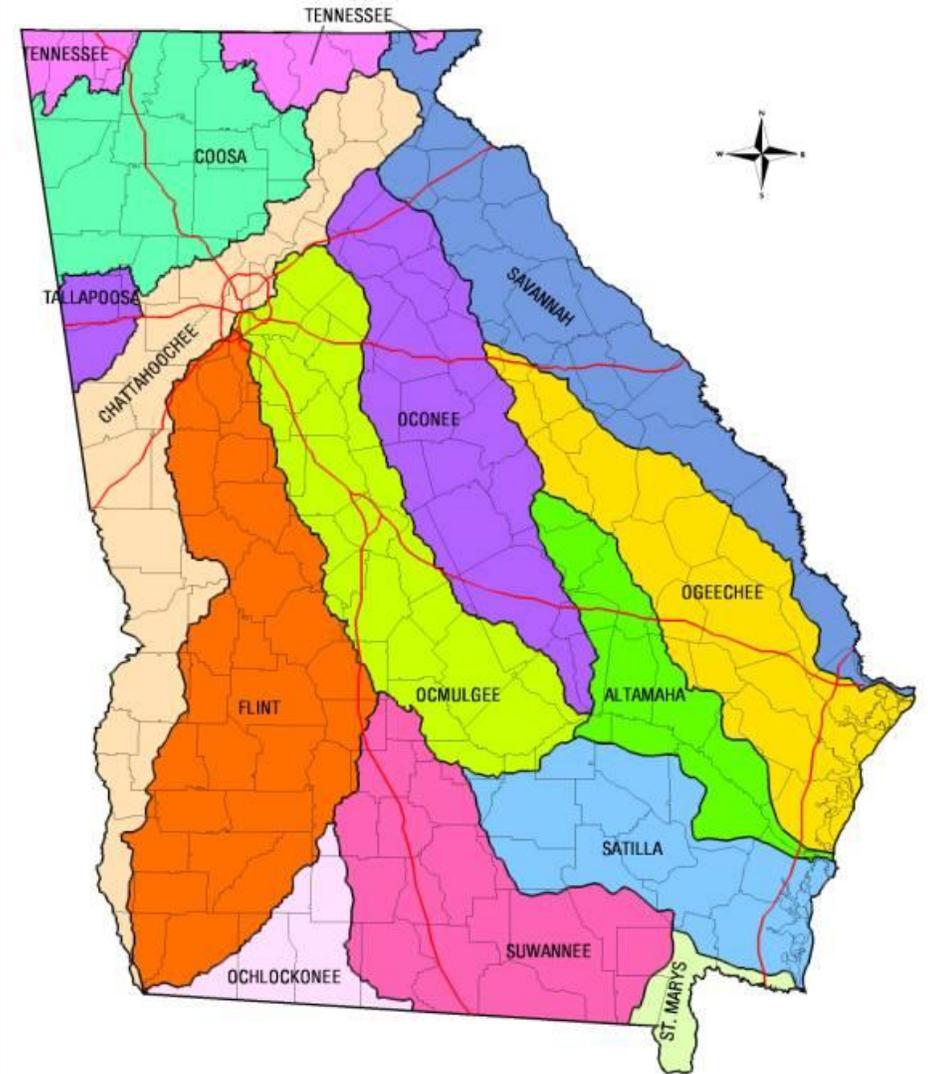
Satilla Riverkeeper

# Satilla Riverkeeper



- ▶ 501 (c)3 non-profit organization founded in 2004 with the mission to protect, restore and educate about the unique and beautiful Satilla River
- ▶ 260 mile long blackwater river within a 4,000 square mile watershed in the coastal plain
- ▶ Headquartered in Woodbine, GA along the banks of the Satilla River

## EPD 14 River Basins



# The Satilla River



Blackwater



Ecologically  
Diverse



Unique  
Landscape



Recreation



Commercial

# Spaceport Camden

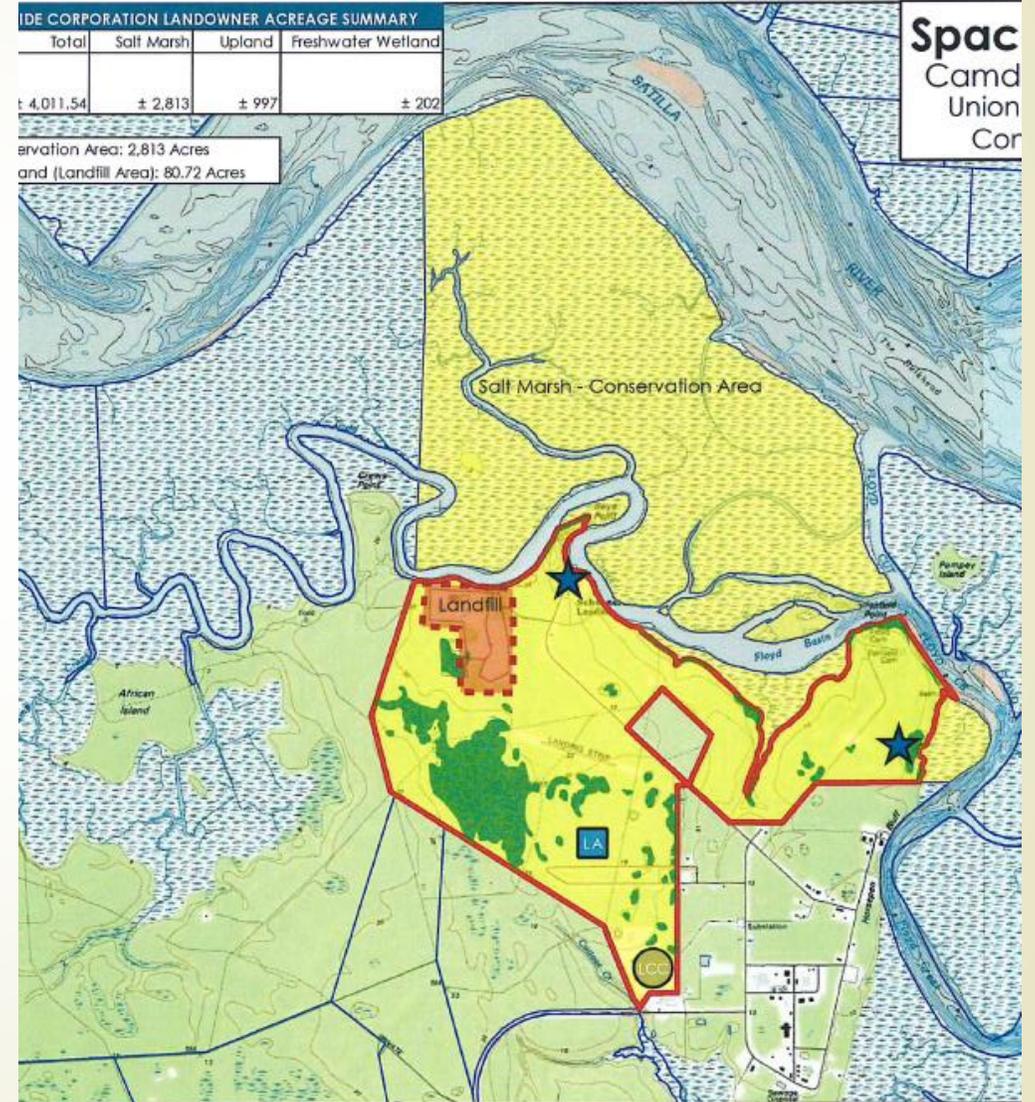


# Union Carbide (yellow) and Bayer properties

Union Carbide is option to purchase, interest in Bayer too

What will be the impact of these sites and their associated contamination (both known and unknown) combined with a Spaceport operation on surrounding communities and resources?

Who will be responsible for cleaning up current and future contamination and addressing its impacts?



# Union Carbide property

- ▶ Thiokol/Union Carbide/Dow Chemical (4,012 acres)
  - ▶ From 1962-1977 used for manufacturing and testing solid rocket motors, later specialty chemicals (tear gas) and ordnance items.
  - ▶ Sold to UCC in 1976 -1986 to manufacture Aldicarb (Temik).
  - ▶ Contains munition waste, explosives of concern (i.e. 40mm grenade unexploded ordnance) and pesticide waste in the soil. Closed in 2007. Investigations still ongoing.
  - ▶ Site of Thiokol explosion in 1971 where 29 people died and 50 injured.

Signs present state “Danger – Unexploded Ordinance” or “Hazardous Waste”





# Hazardous Waste Sites

- ▶ Hazardous Waste sites include a 58 acre hazardous waste unlined landfill (UCC will retain) + 8 other solid waste management units including
  - ▶ Surface Storage of Empty Drums
  - ▶ Burn Area, Surface Disposal Area, Buried Nuchar Trench, Buried 2-Chlorobenzalmalononitrile (CS) Trench and Aldicarb Disposal Area
  - ▶ Acetone Pond and Borrow Pit
  - ▶ Aldicarb Disposal Area
  - ▶ Trench #1, Trench #2, Surface Disposal Area and Borrow Pit
  - ▶ Surface Disposal Area, Trip Flare Disposal #1, Drum and Trash Disposal
  - ▶ Trip Flare Disposal #2 and CS Disposal
  - ▶ Previous munition response areas
- ▶ Landfill includes both hazardous and nonhazardous waste; including Temik fines and toll/contract processing. Closed in 1988 with no complete record of waste
- ▶ Landfill sits 10-20 feet deep and below the groundwater surface

**Is the existing pollution on site too great to safely operate a spaceport?**

# Past and Future uses...

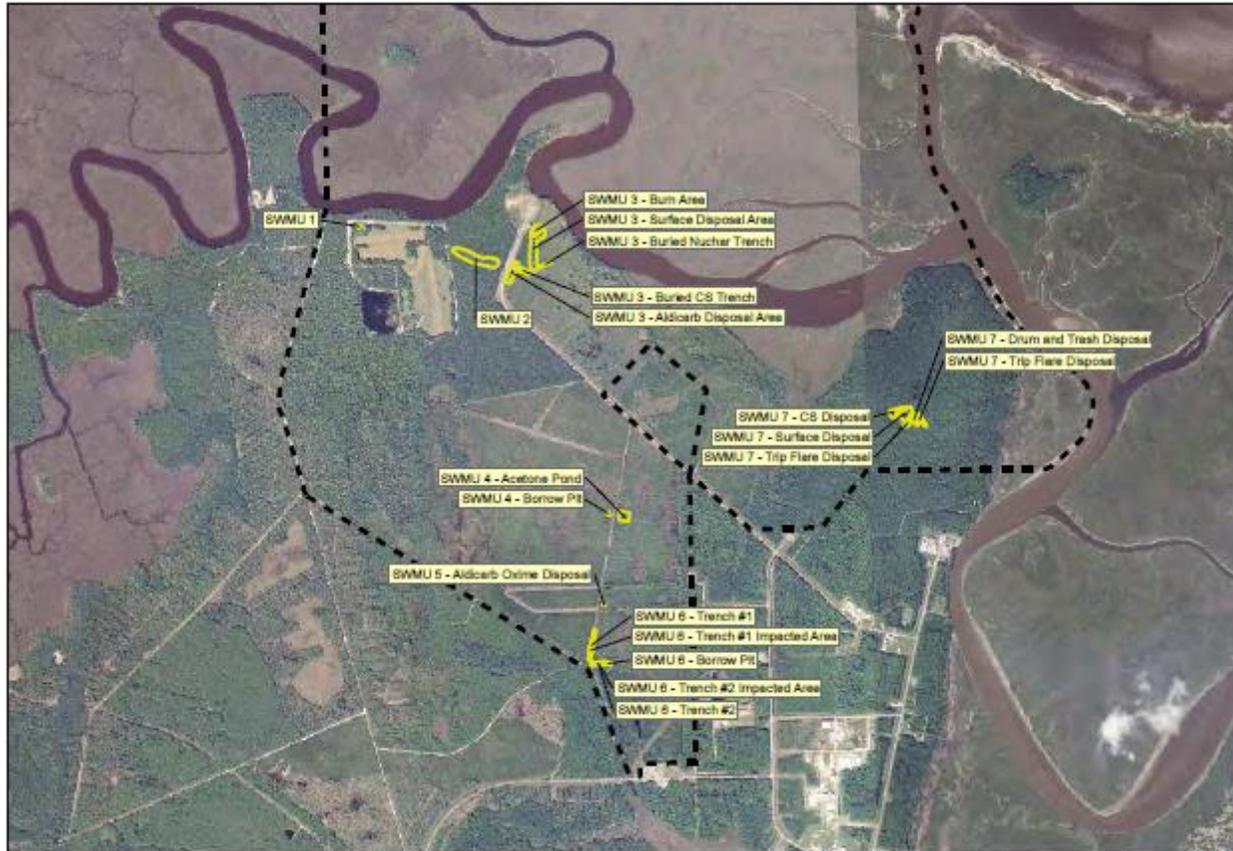


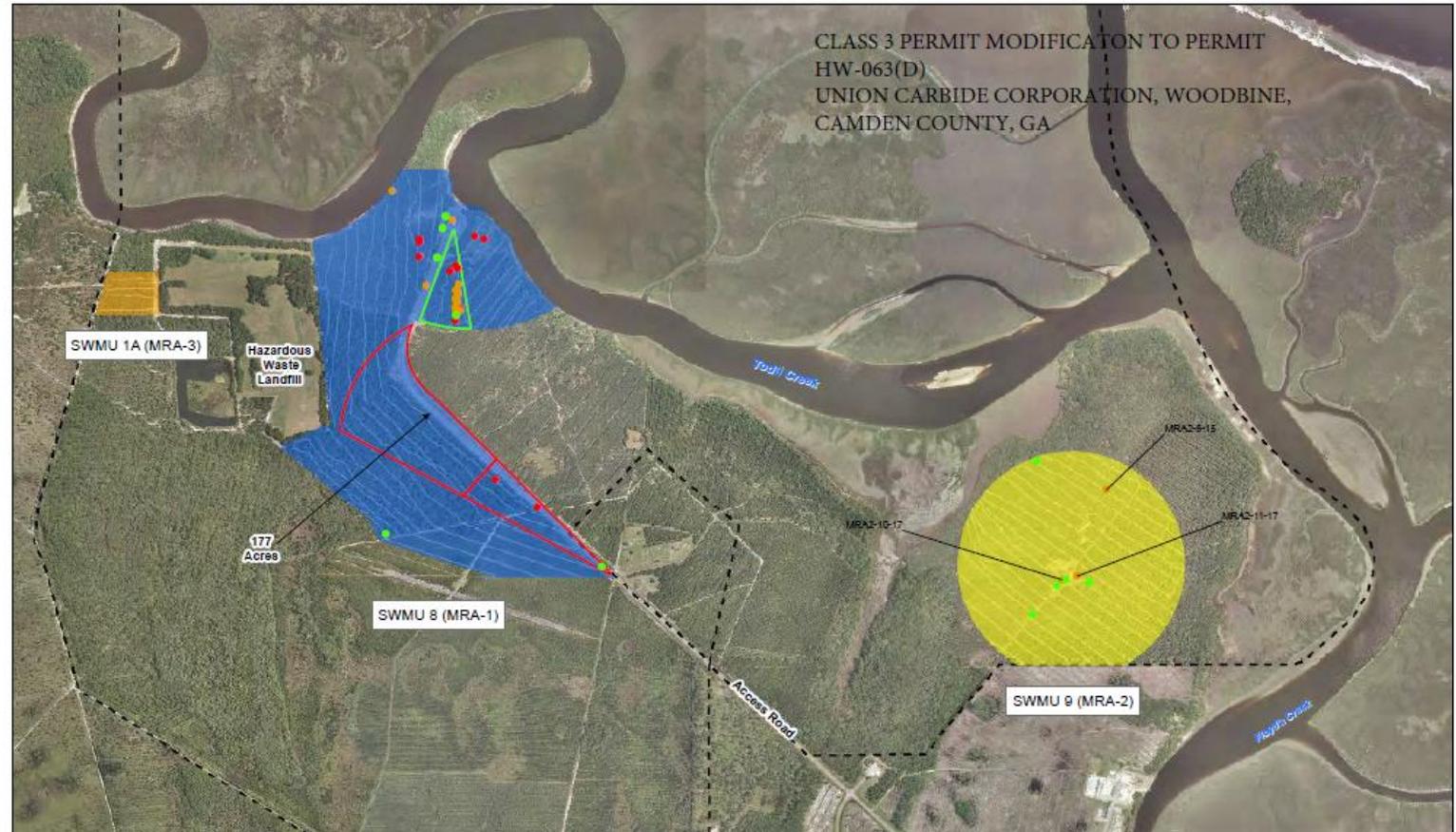
Figure 24-1  
SWMU Locations  
UCC - Woodbine Site  
Woodbine, GA



How will construction of a spaceport and its associated launches impact this contamination?

# Investigation of contamination still ongoing at UCC...

- ▶ Currently extensive contamination is maintained on site because cleanup is costly
- ▶ Limiting exposure to reduce risk to human and nature.
- ▶ **Now that its being proposed for commercial use will this material be cleaned up first? If not, how can we be assured it won't mobilize?**



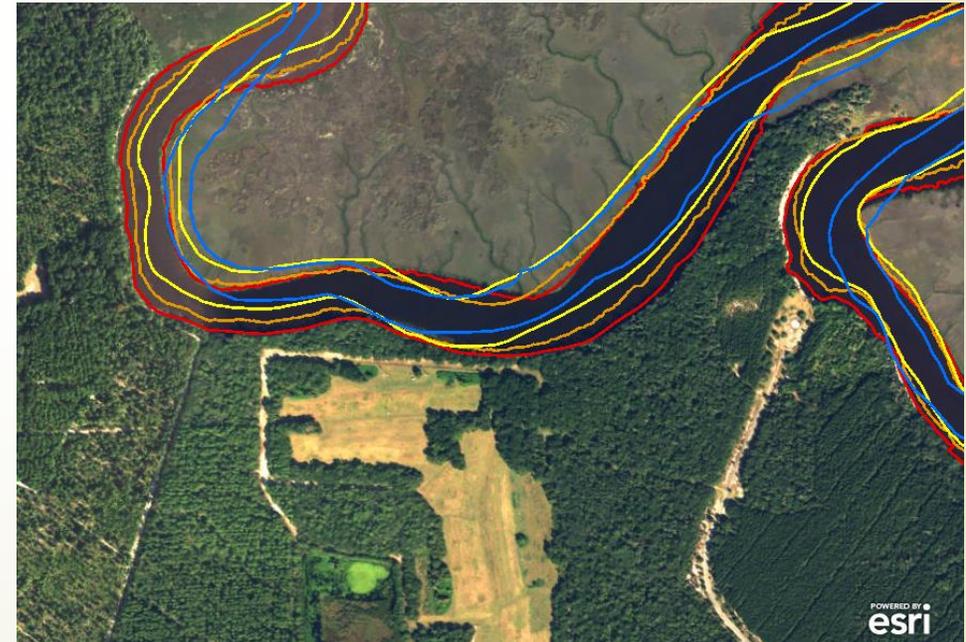
# Landfill Groundwater Contamination

- ▶ Groundwater contamination and downward vertical movement of contaminated water and general flow towards Todd Creek detected in groundwater wells
- ▶ Chemicals of concern in the plume include volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), herbicides, and inorganic chemicals
- ▶ Per the environmental covenant, the 4,000 acre UCC property can only be used for **non-residential purposes due to potential for human exposure from “hazardous waste or hazardous constituents”** and prohibits activity in the capped areas. It also restricts the extraction or use of groundwater on the property, and prohibits its use as drinking water
- ▶ **How will the human and ecological risk factors change with the groundwater now that the property may be used for other uses not analyzed for?**



# Todd Creek

- ▶ Bank is eroding at 1.5 feet per year towards the closest landfill cell which lies only 270 feet from the bank
- ▶ We have witnessed monitoring wells that have fallen into Todd Creek
- ▶ Company has 'trigger points' for bank stabilization action and preliminary plans for a groin structure



**What impact will launch vibrations have on this eroding bank next to landfill?**



# Bayer property

- ▶ Began pesticide (Aldicarb/Temik) manufacturing pesticide and solvents in 1976 - 2012
- ▶ Currently unclear as to what extent the extent, severity and responsibility of contamination is on the site as investigations still underway.
- ▶ **Who will be responsible for current contamination, future contamination and any unknown contamination that may be found?**



# Other Environmental Concerns

What will the impacts of constructing a rocket launch station, associated regular launch activity (48 events per year), and potential catastrophic events have on...

- ▶ Seafood industry (i.e. oyster leases nearby)
- ▶ Recreational use in the intracoastal waterway, river and sound
- ▶ Health of world renowned and productive marsh system
- ▶ Water quality (surface and ground) impacts from spent or spilled fuels, runoff, etc.
- ▶ Public access and preservation of the historical and ecologically important areas such as Floyd Planation, Cumberland Island National Seashore and Jekyll Island State Park



We must consider the risk of contaminating tidal marshes, wetlands, wildlife and fisheries habitat, waterways, drinking water sources and people. We must consider the impacts on tourism, recreational destinations, residential areas and other private property that would occur in the area of impact.



Questions?