



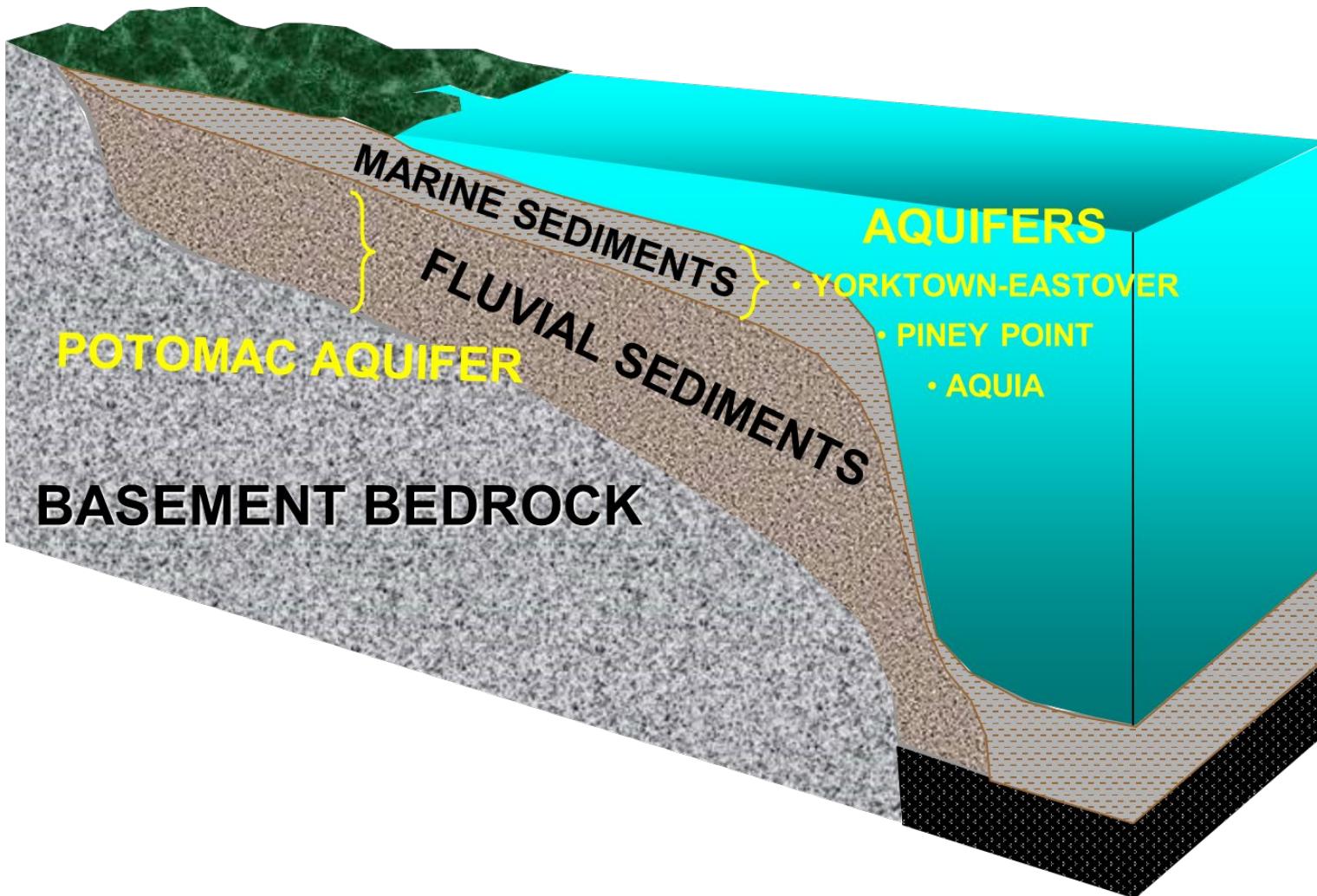


Virginia Coastal Plain Aquifer System

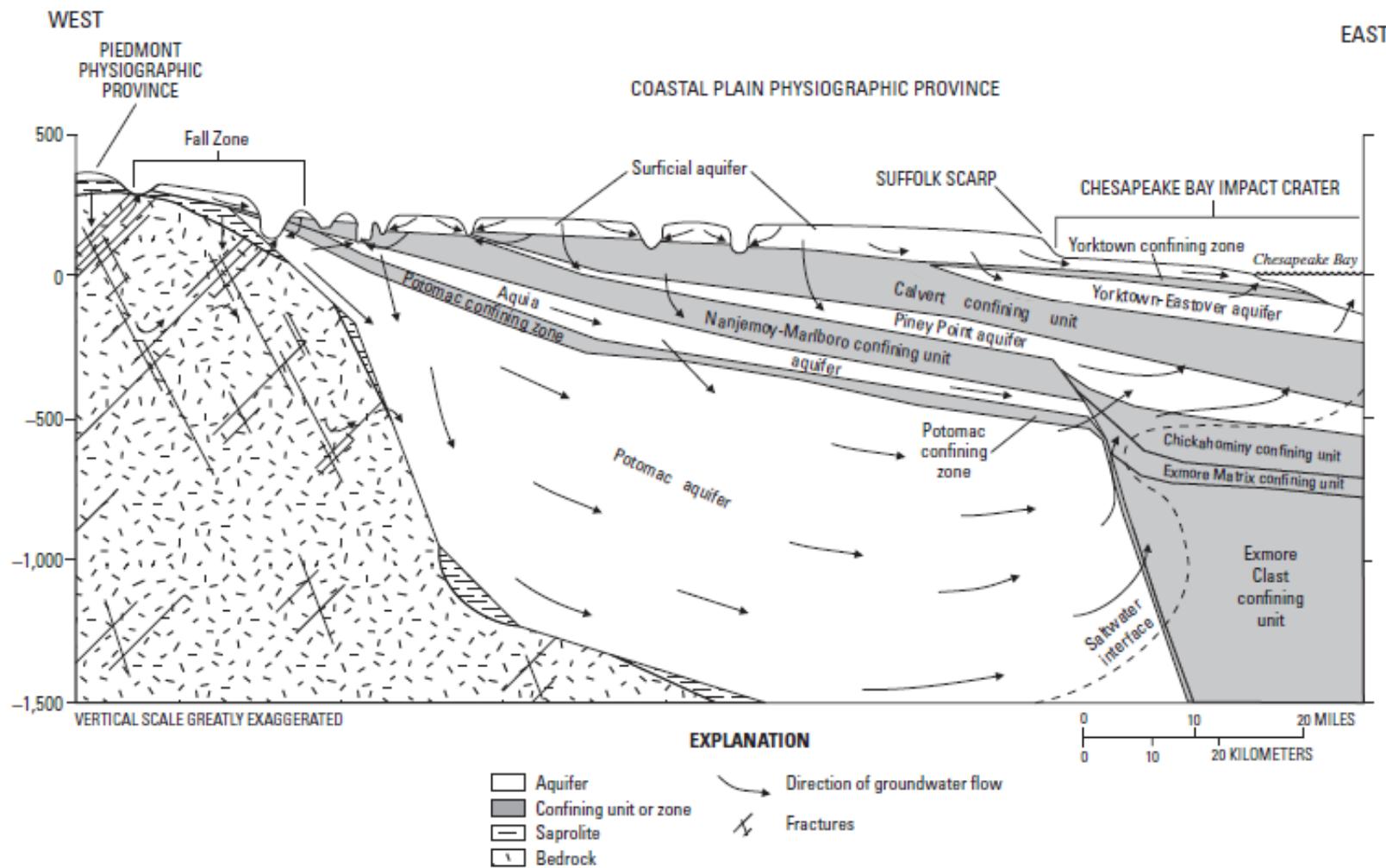
Potomac Aquifer Recharge Oversight Committee

Scott Kudlas
Office of Water Supply
Virginia Department of Environmental Quality
June 27, 2022

Virginia Coastal Aquifer System

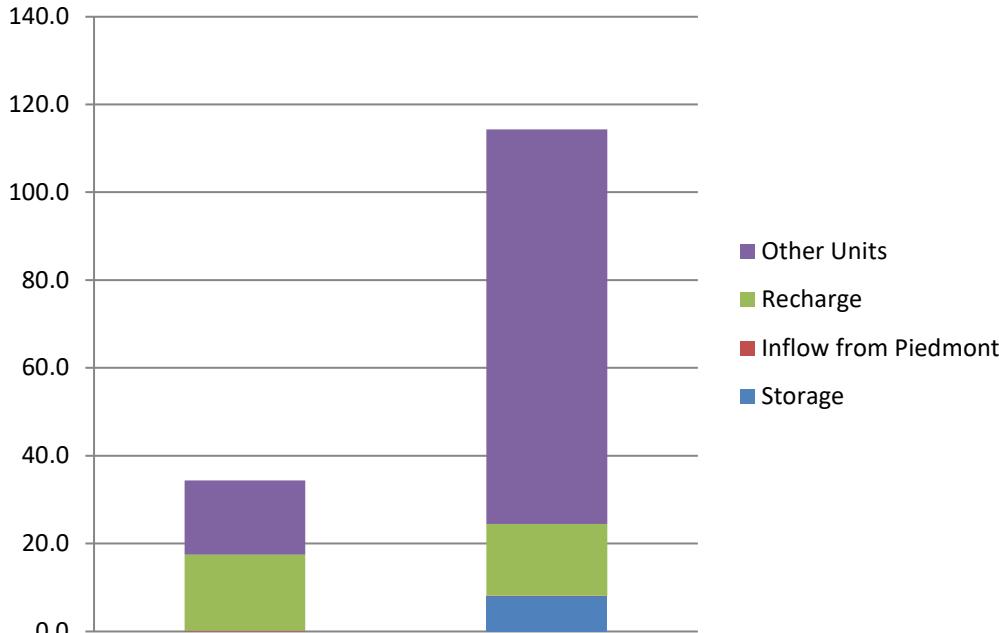


Hydrogeology of the Coastal Aquifer System

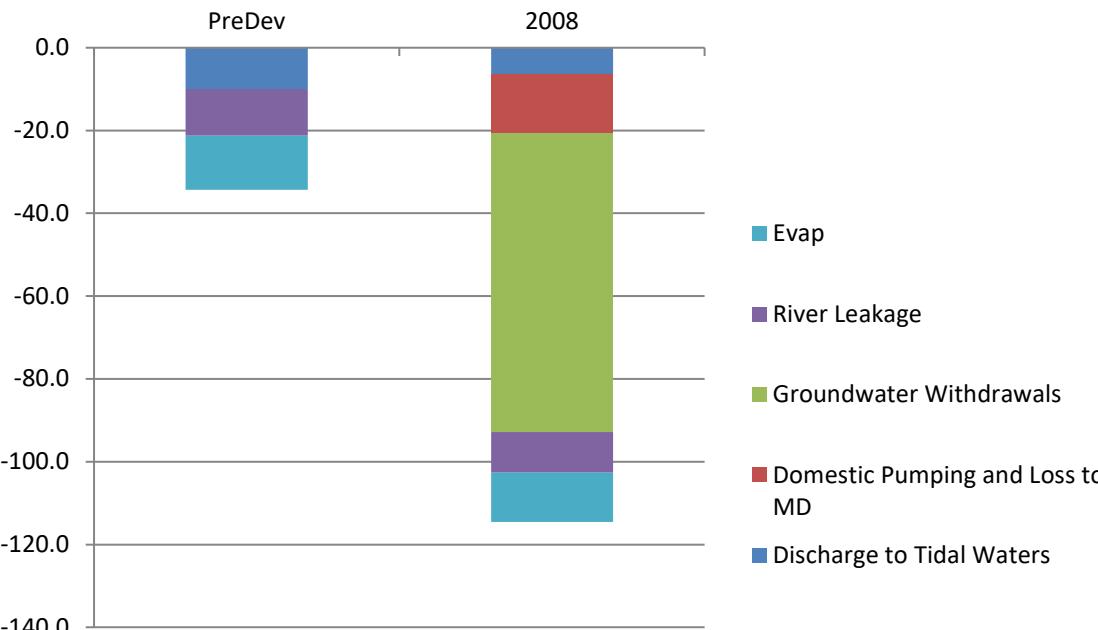


Potomac Aquifer Water Balance: Pre-Development vs. Modern

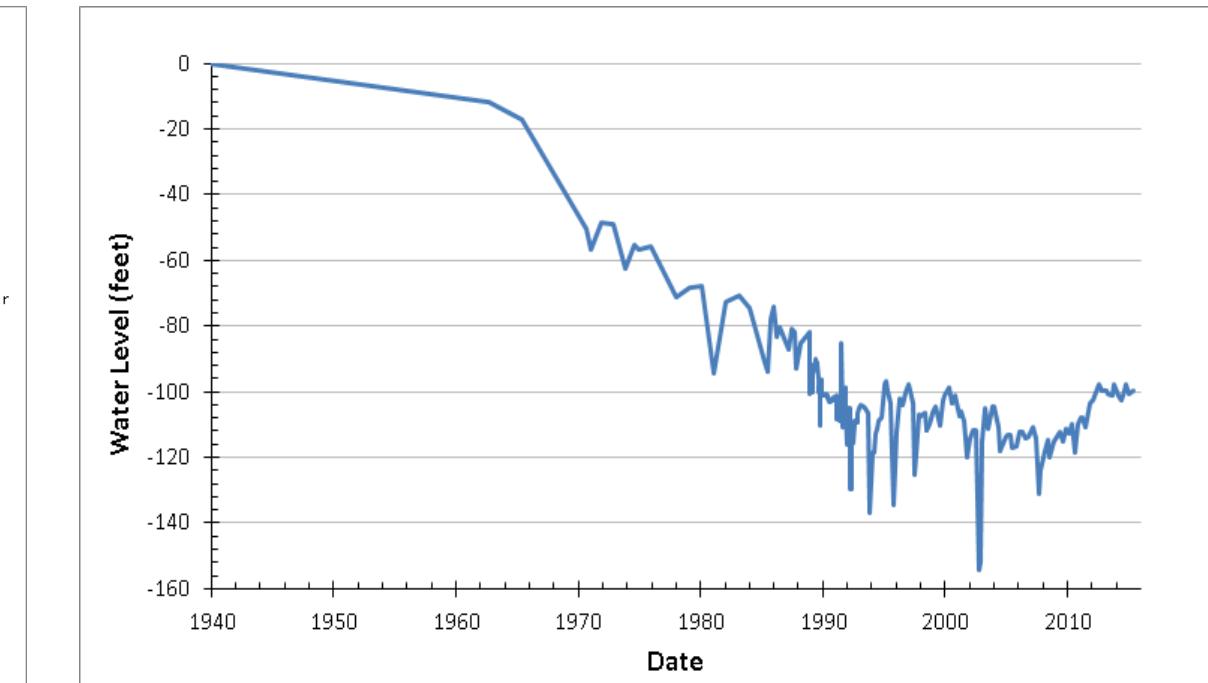
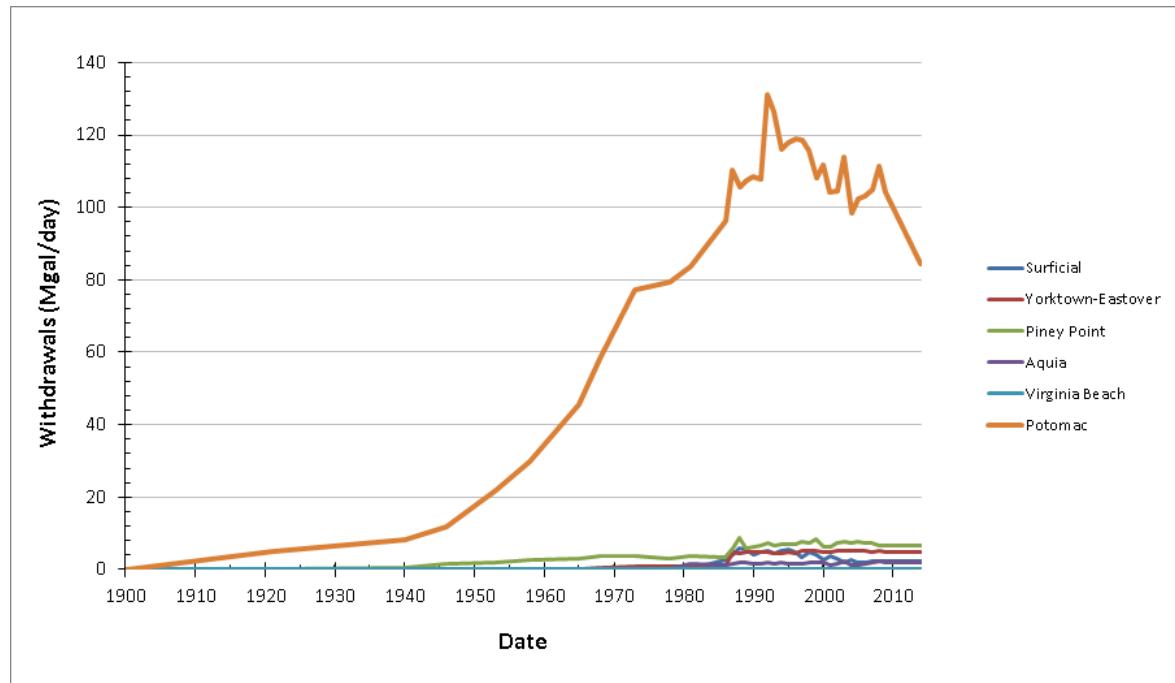
Inflows (MGD)



Outflows (MGD)

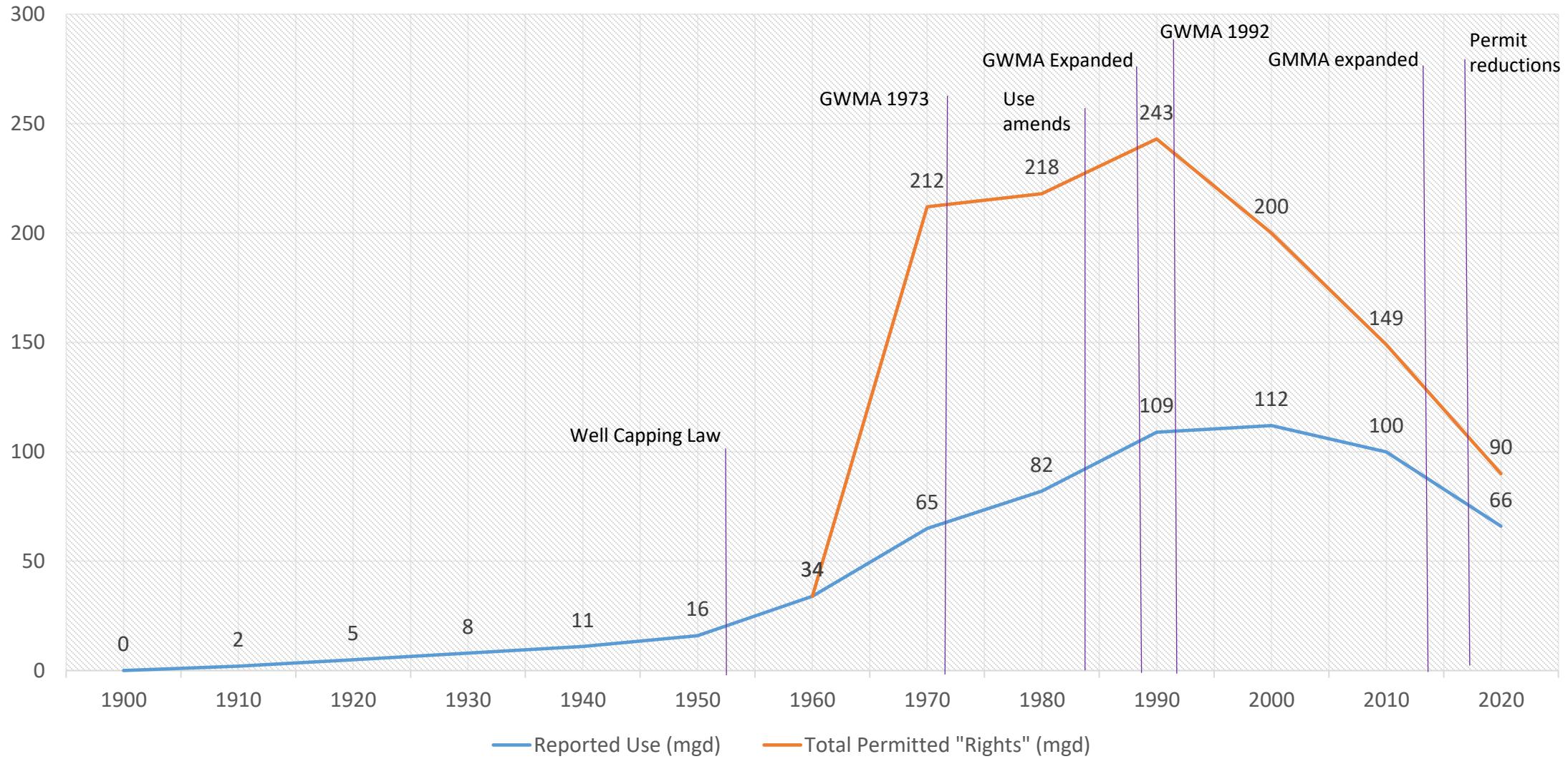


Increases in Withdrawal

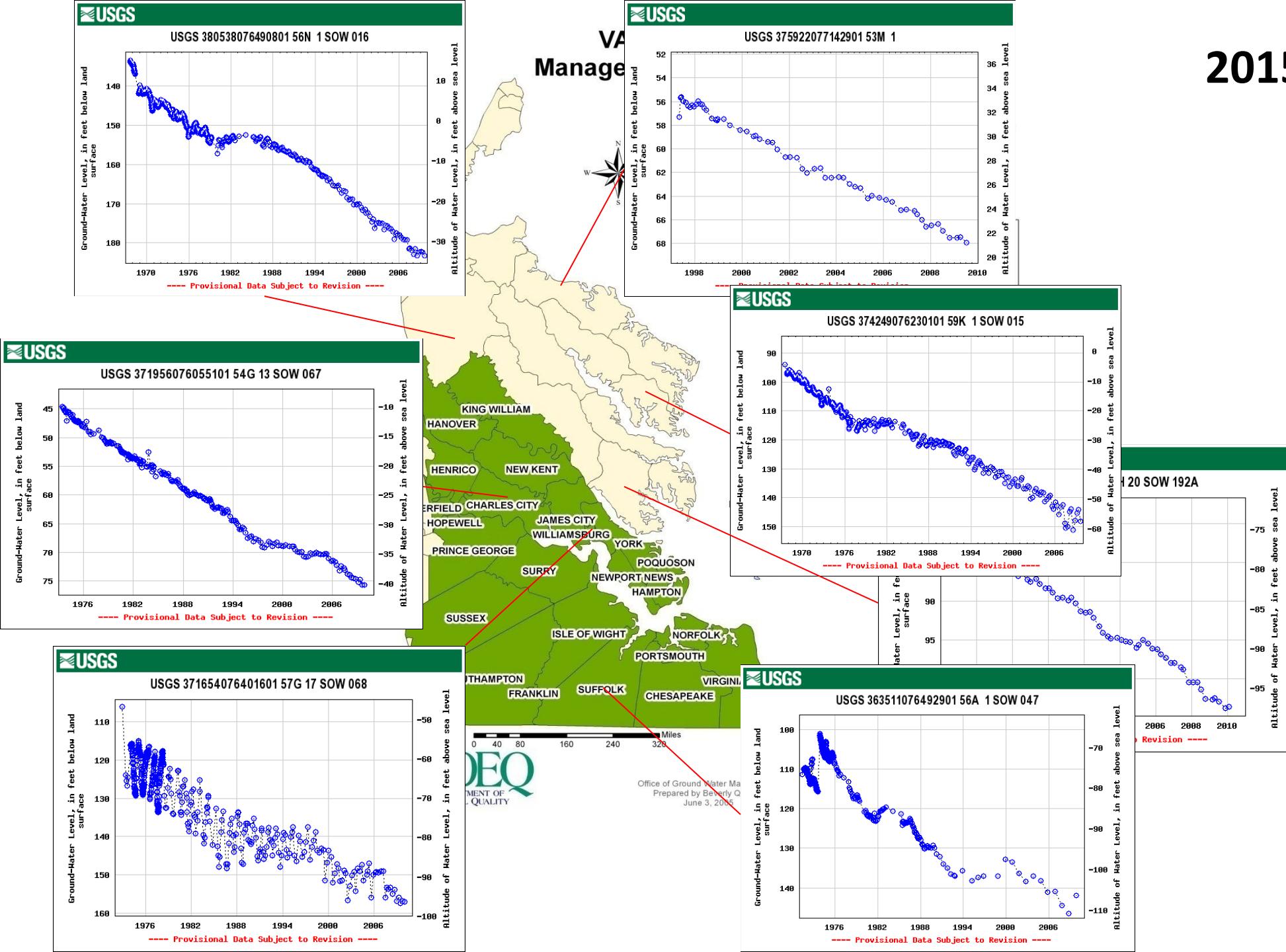


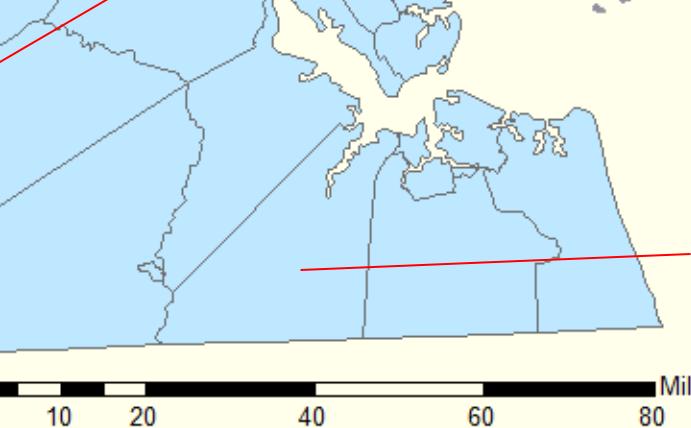
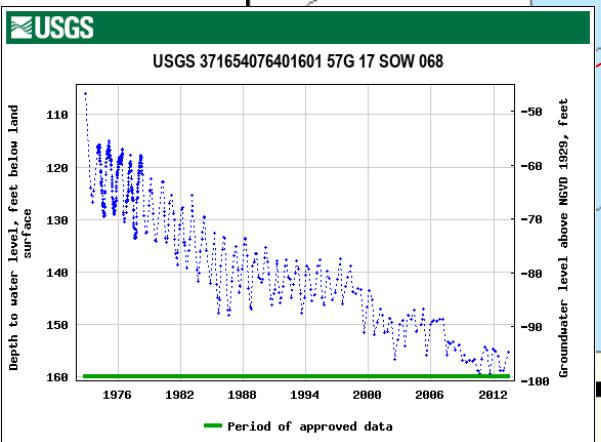
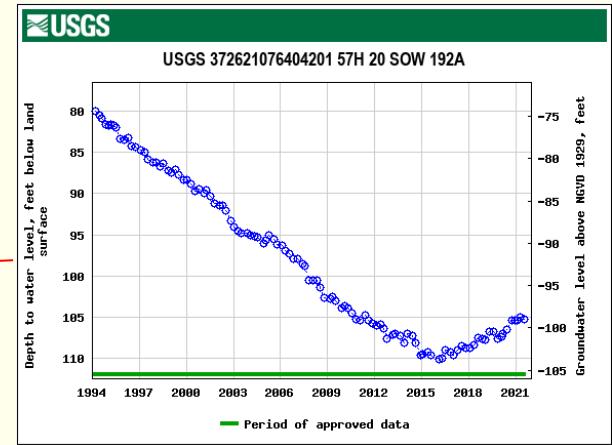
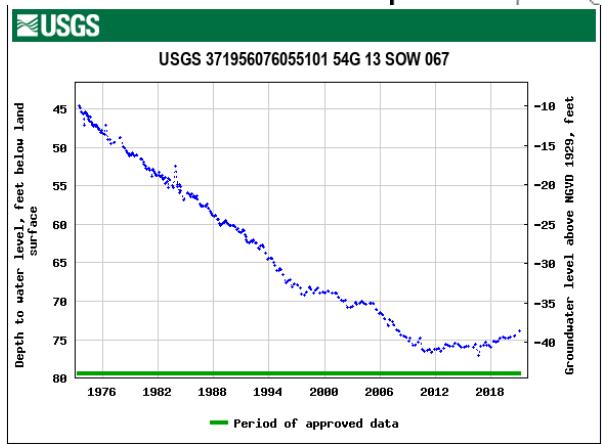
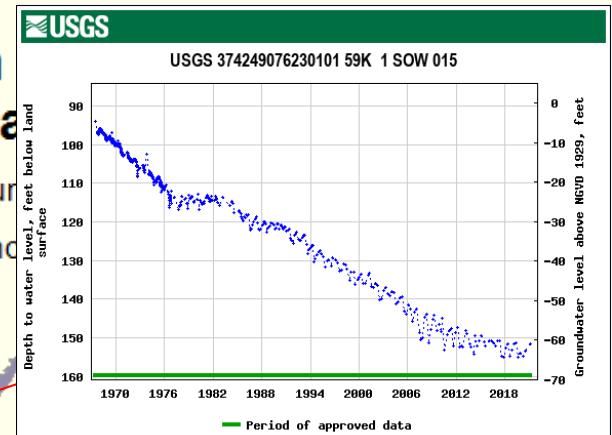
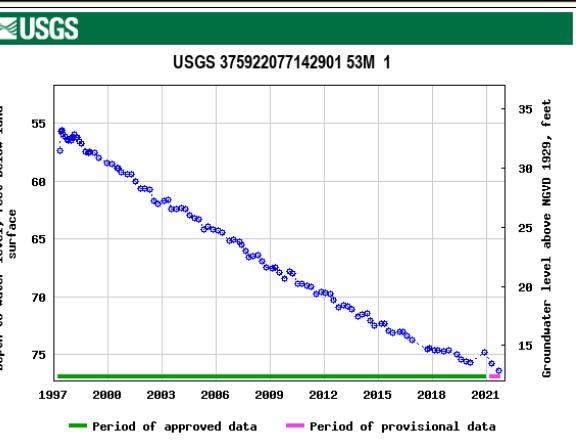
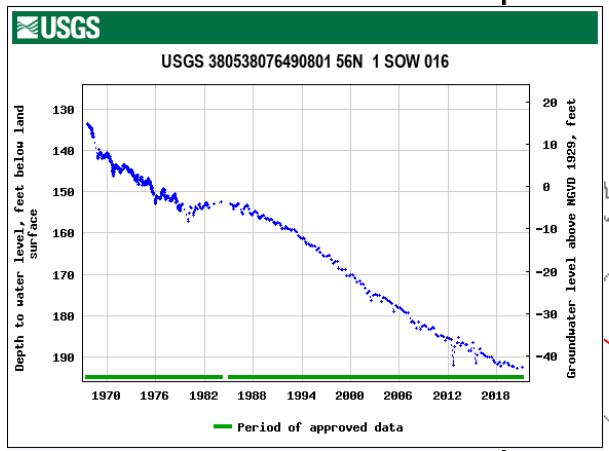
Decreases in Groundwater Level

Reported v. Total Permitted/"Rights"



2015



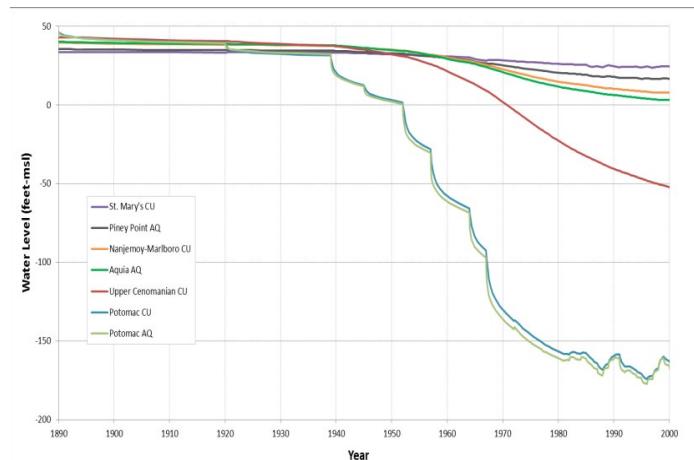


ce: VA Hydro

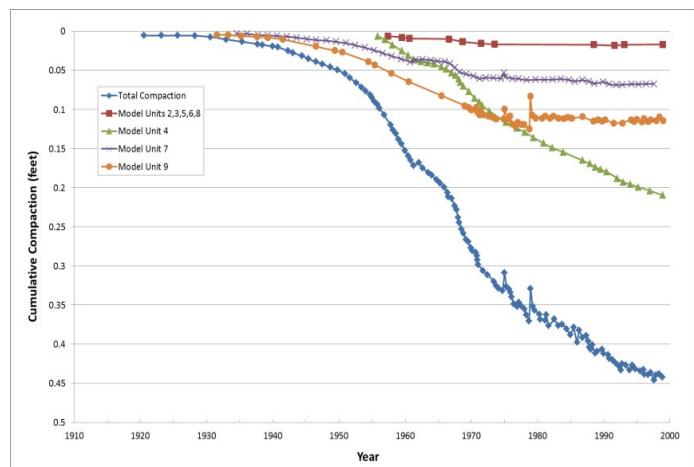
10 20 40 60 80

Mi

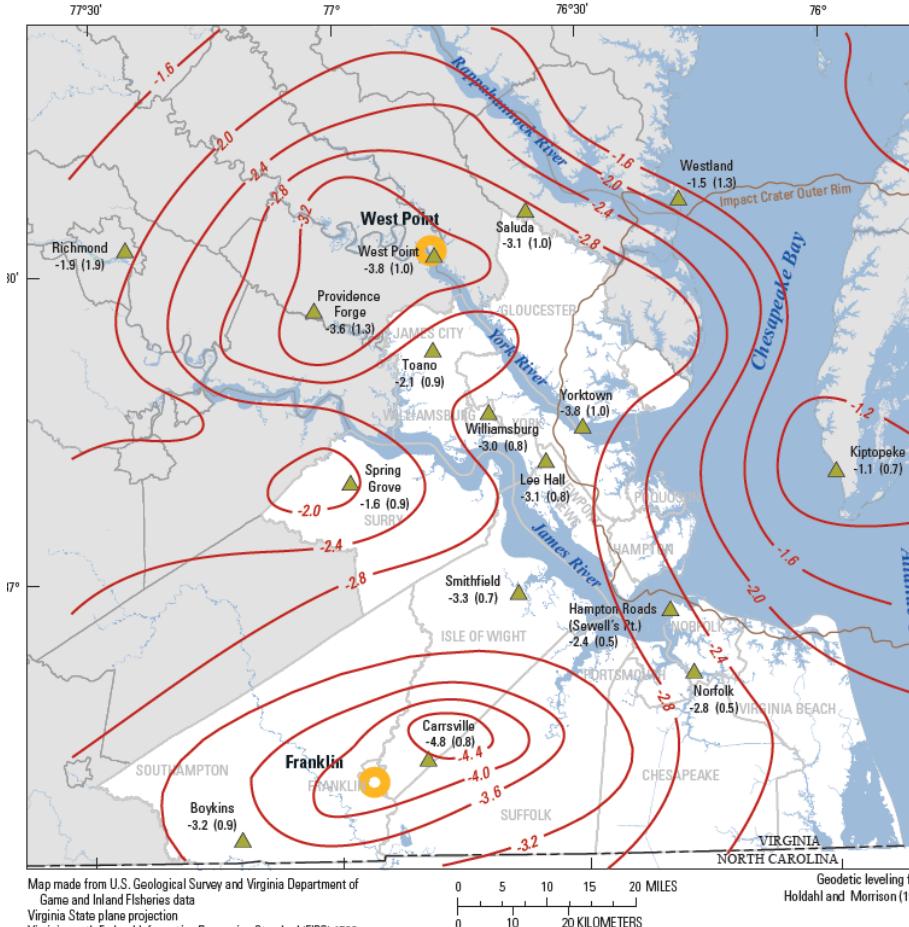
Subsidence Reflects Groundwater Level



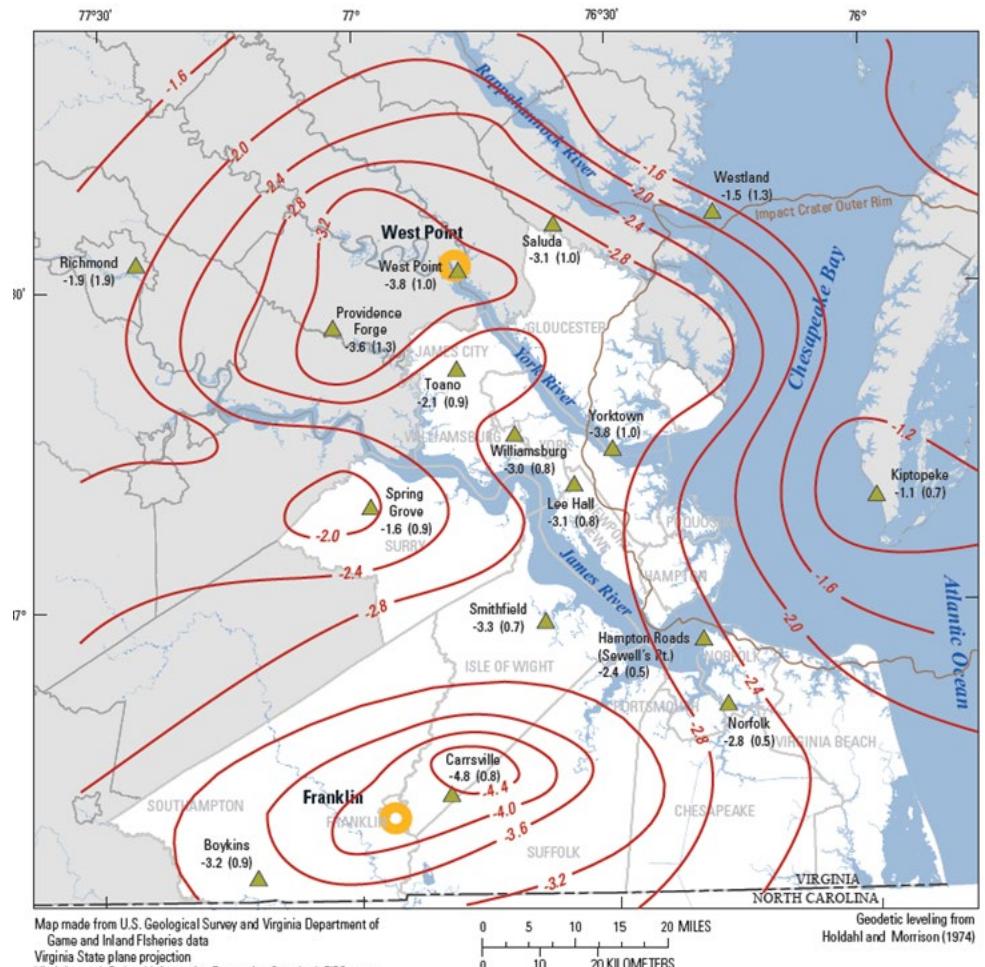
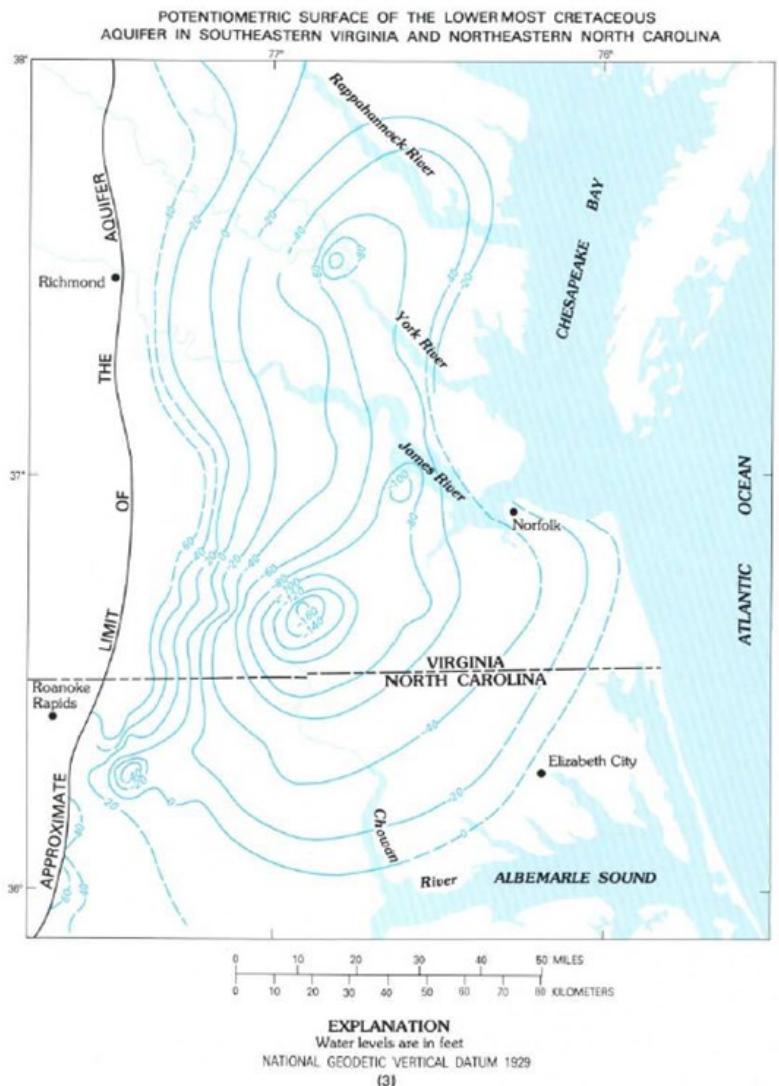
VAHydro-GW simulated water levels at the Franklin



COMPAC simulated aquifer-system compaction at Franklin

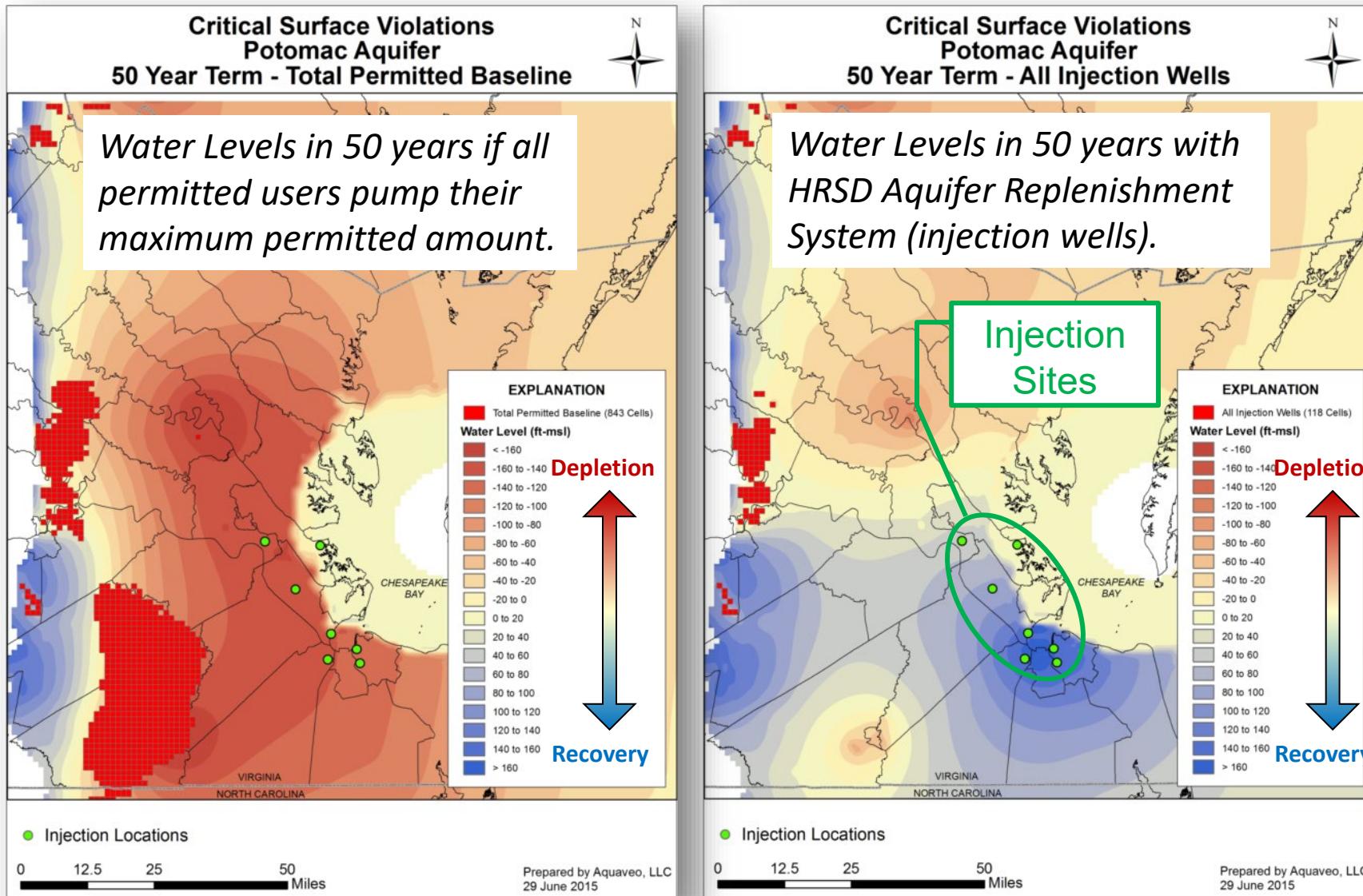


Land elevation change rates from 1940 - 1971 (mm/year)
Negative elevation rates indicate subsidence



Groundwater Modeling Results

Potomac Aquifer water levels before and after injection



Questions?