



NHEP and DES Activities in the Lamprey River Watershed

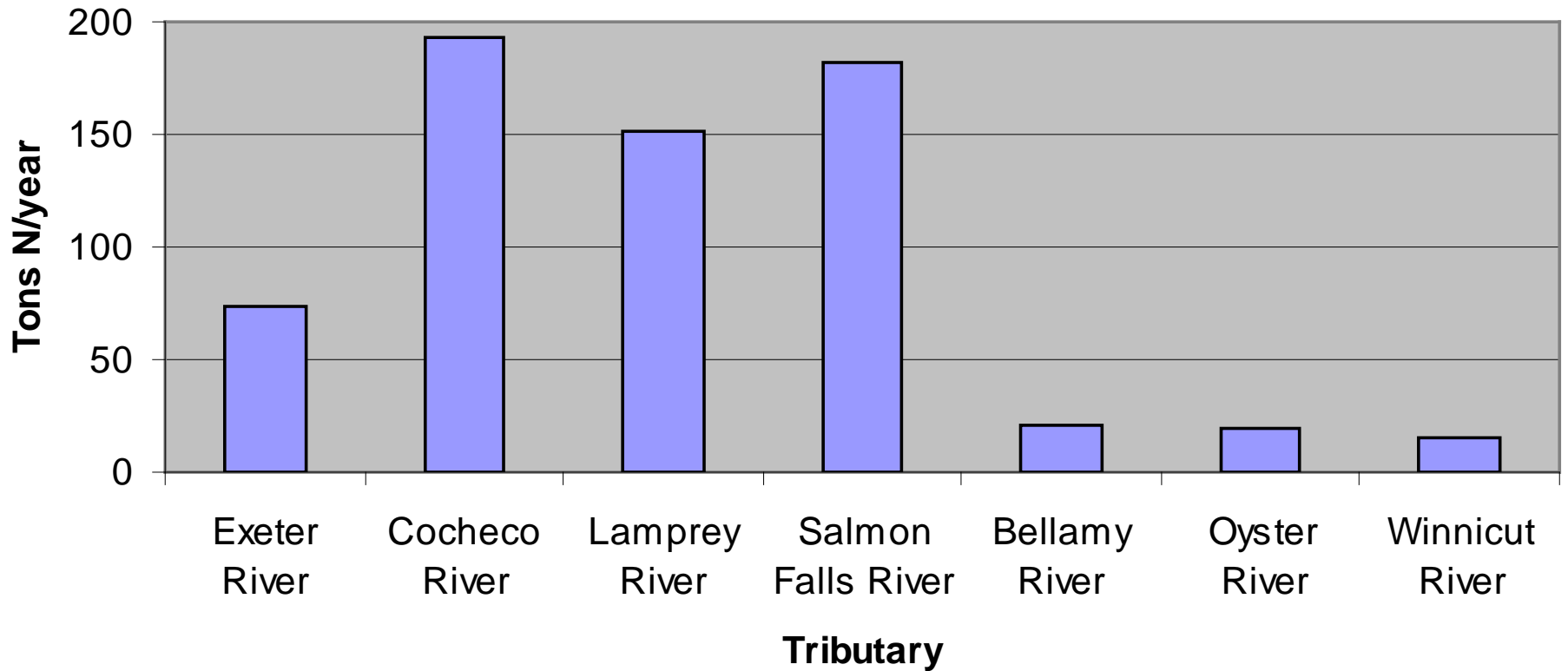
Phil Trowbridge, P.E.

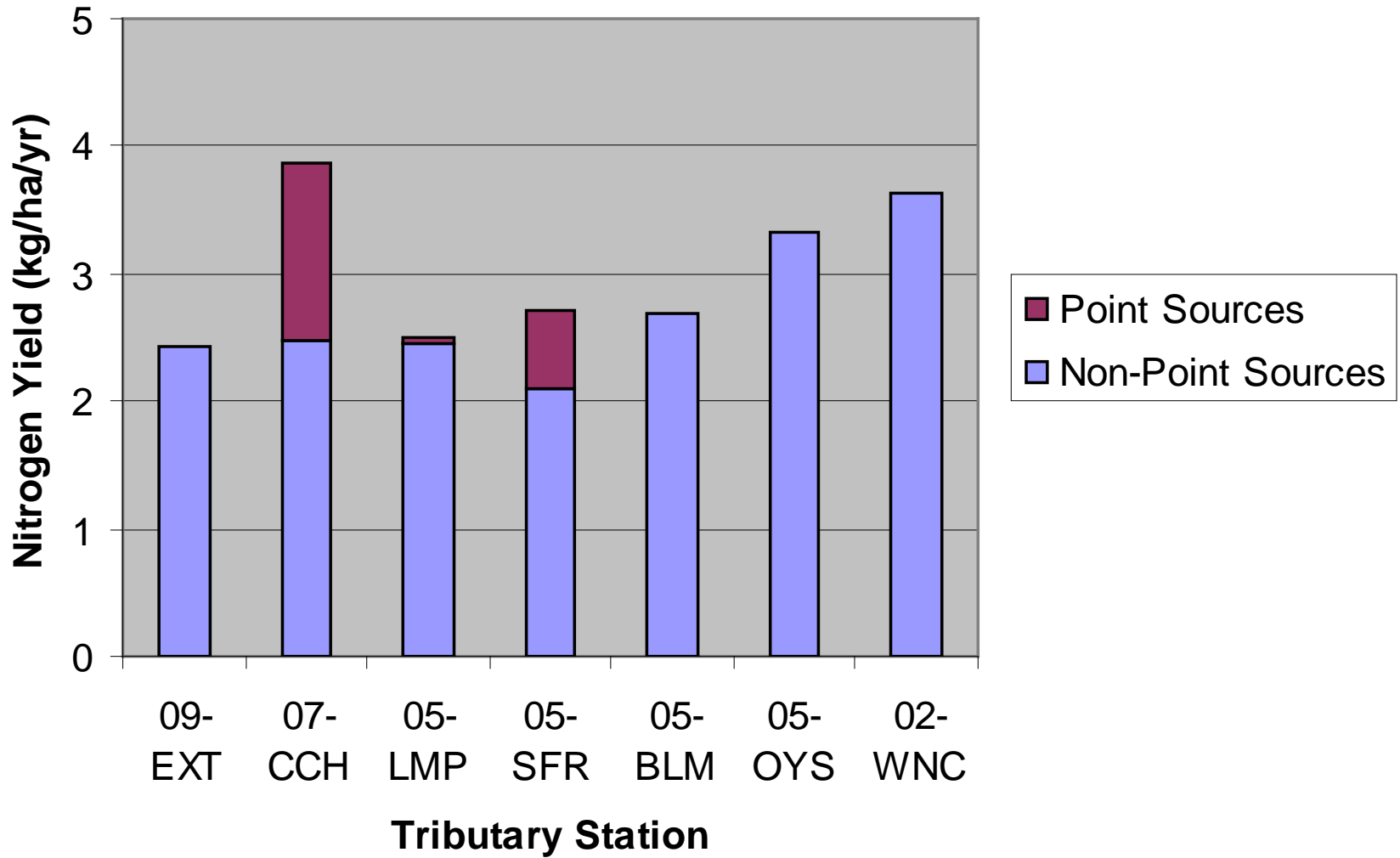
January 4, 2008

NHEP Activities

- Monthly monitoring at station 05-LMP (upstream of Newmarket Bridge)
 - Measurements by DES 2001-2007: Temp, conductance, pH, DO, turbidity, EC, TKN, NO₃, NH₄, TP, TSS
 - Measurements by UNH 2008-: Temp, conductance, TDN, PN, TSS
- Total nitrogen load at 05-LMP
 - TN concentrations, USGS stream flow transposed, LOADEST model
 - Reported in 2006 State of the Estuaries Report

Total Nitrogen Load from Tributaries

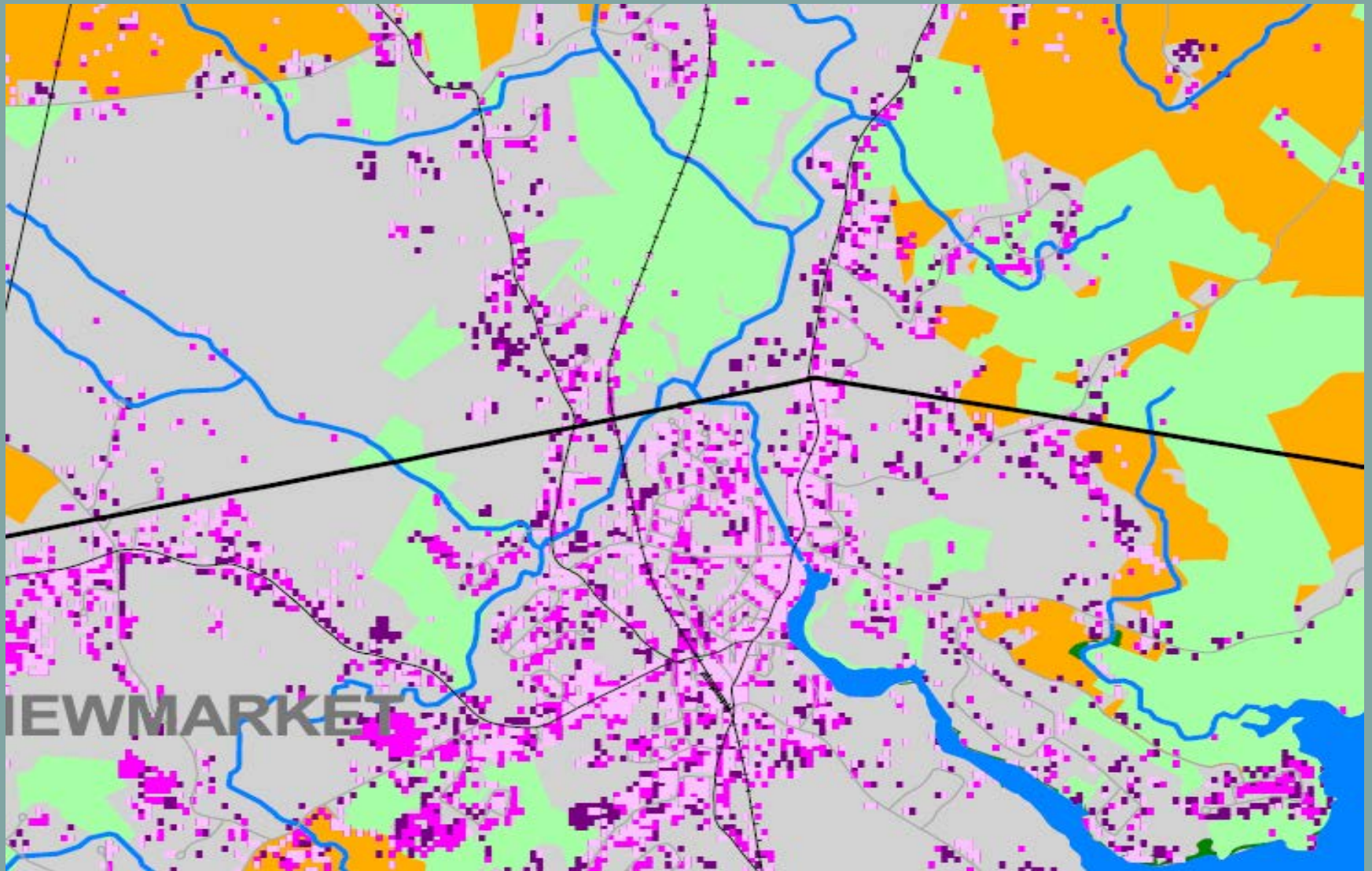




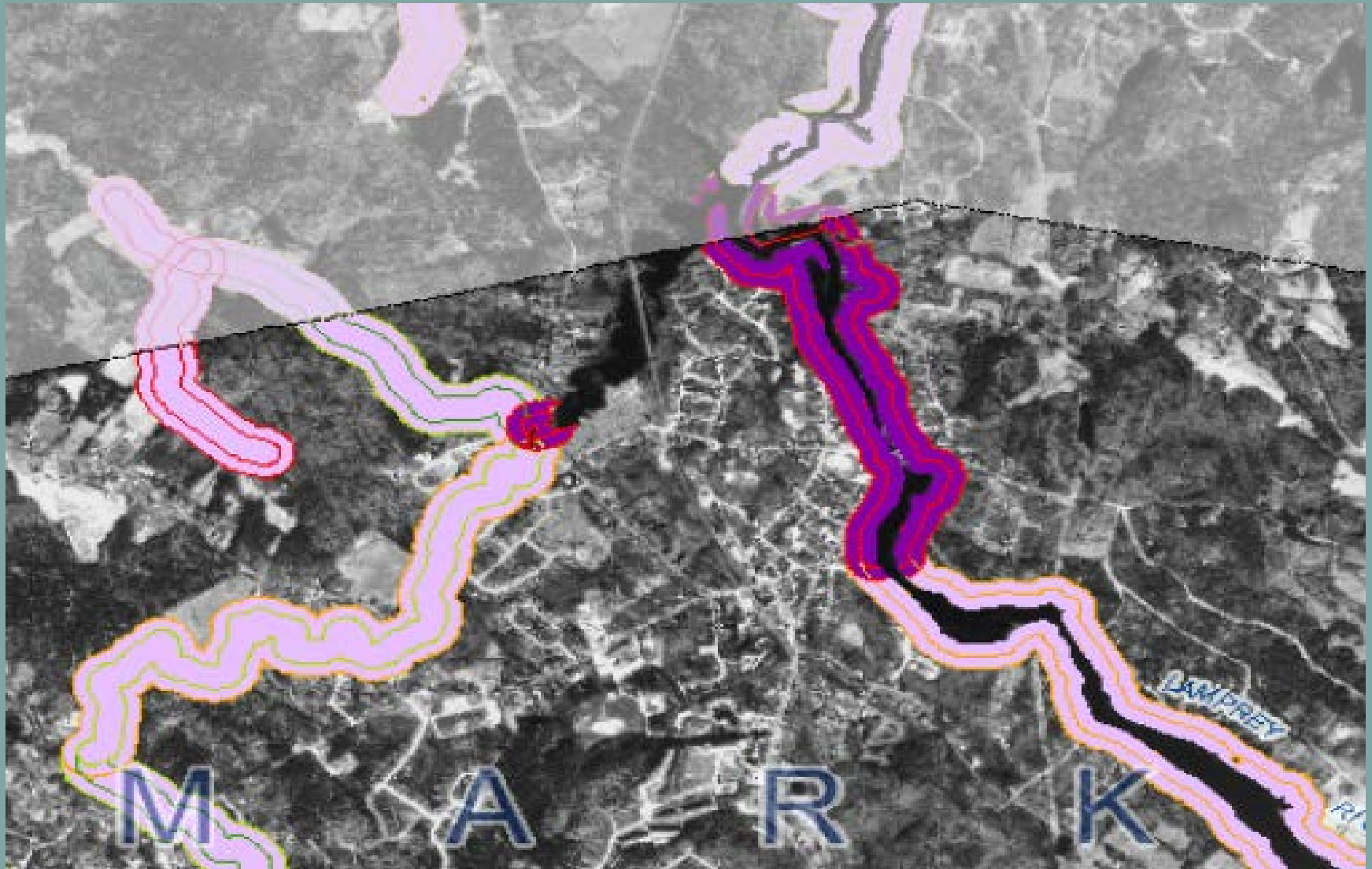
NHEP Activities (cont.)

- Impervious surface maps for 1990, 2000, and 2005 (30 m pixel size)
- Riparian buffer characterization for 2nd order and higher streams
- Source files available on GRANIT
- Town maps (in pdf) available at:
<http://www.nhep.unh.edu/resources/maps.htm>

Impervious Surfaces in Newmarket



Stream Buffers in Newmarket



NHEP Activities (cont.)

- **Community Technical Assistance Program:** consulting assistance in areas of buffer ordinance development, wetlands protection, stormwater management, and land conservation planning
- **Annual Local Grants Program** for towns, conservation groups and watershed organizations to implement management plan
- Support for land conservation projects

DES Activities

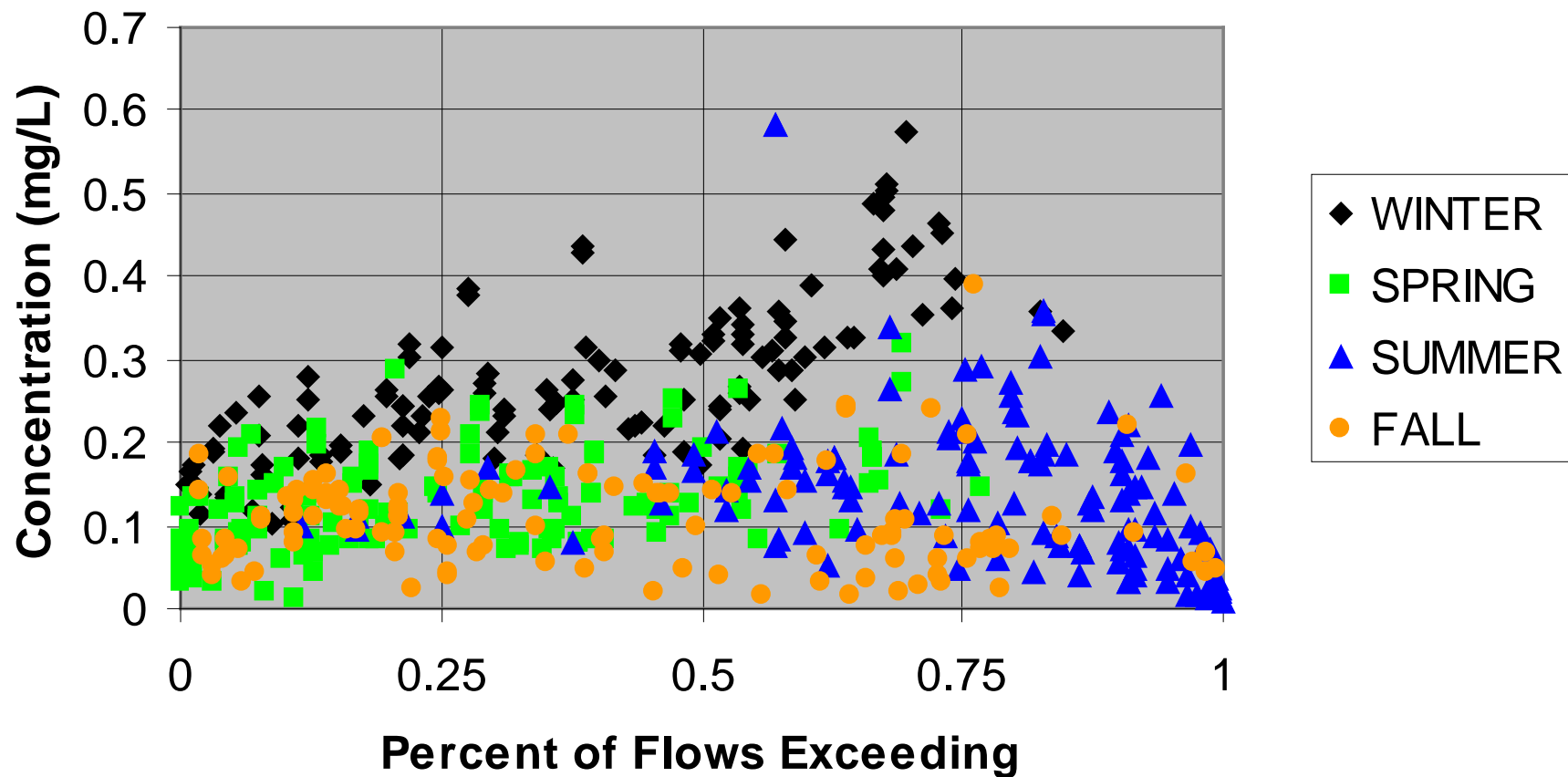
- Volunteer River Monitoring Program
 - www.des.nh.gov/wmb/VRAP/
- Volunteer Lake Monitoring Program
 - Onway Lake, Governors Lake and Pawtuckaway Lake
 - www.des.nh.gov/wmb/vlap/
- Rivers Management and Protection Program
 - Designated River segment in Lee and Durham
 - www.des.nh.gov/rivers/designriv.htm
 - Protected Instream Flow Pilot Project
 - www.des.state.nh.us/rivers/instream/lamprey.asp

DES Activities (cont.)

- Biomonitoring Data/Models
 - www.des.nh.gov/wmb/biomonitoring/
- Data repository for water quality samples (Environmental Monitoring Database)
 - www.des.nh.gov/OneStop.htm

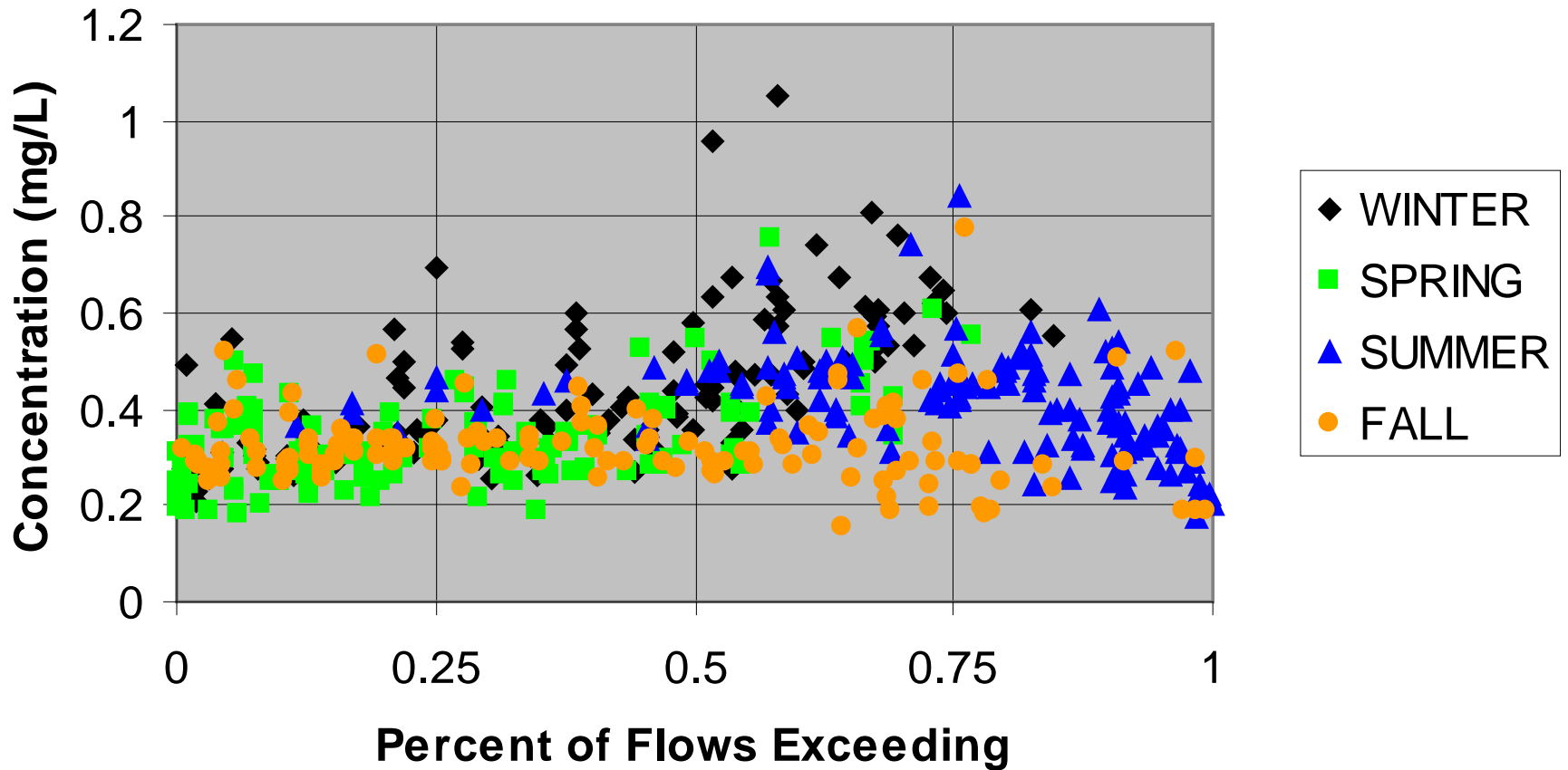
Flow Duration-Concentration Curve

Dissolved Inorganic Nitrogen



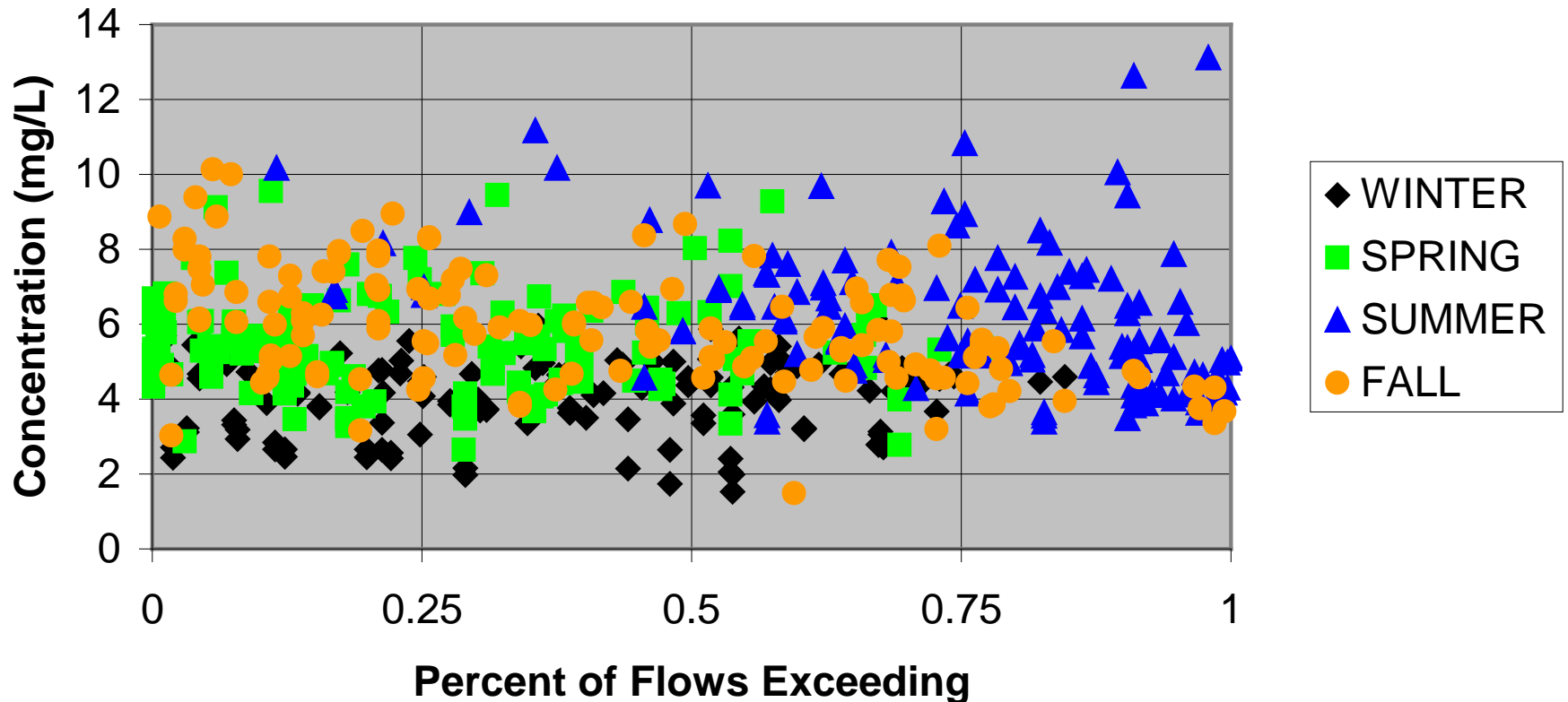
Flow Duration-Concentration Curve

Total Dissolved Nitrogen



Flow Duration-Concentration Curve

Dissolved Organic Carbon



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