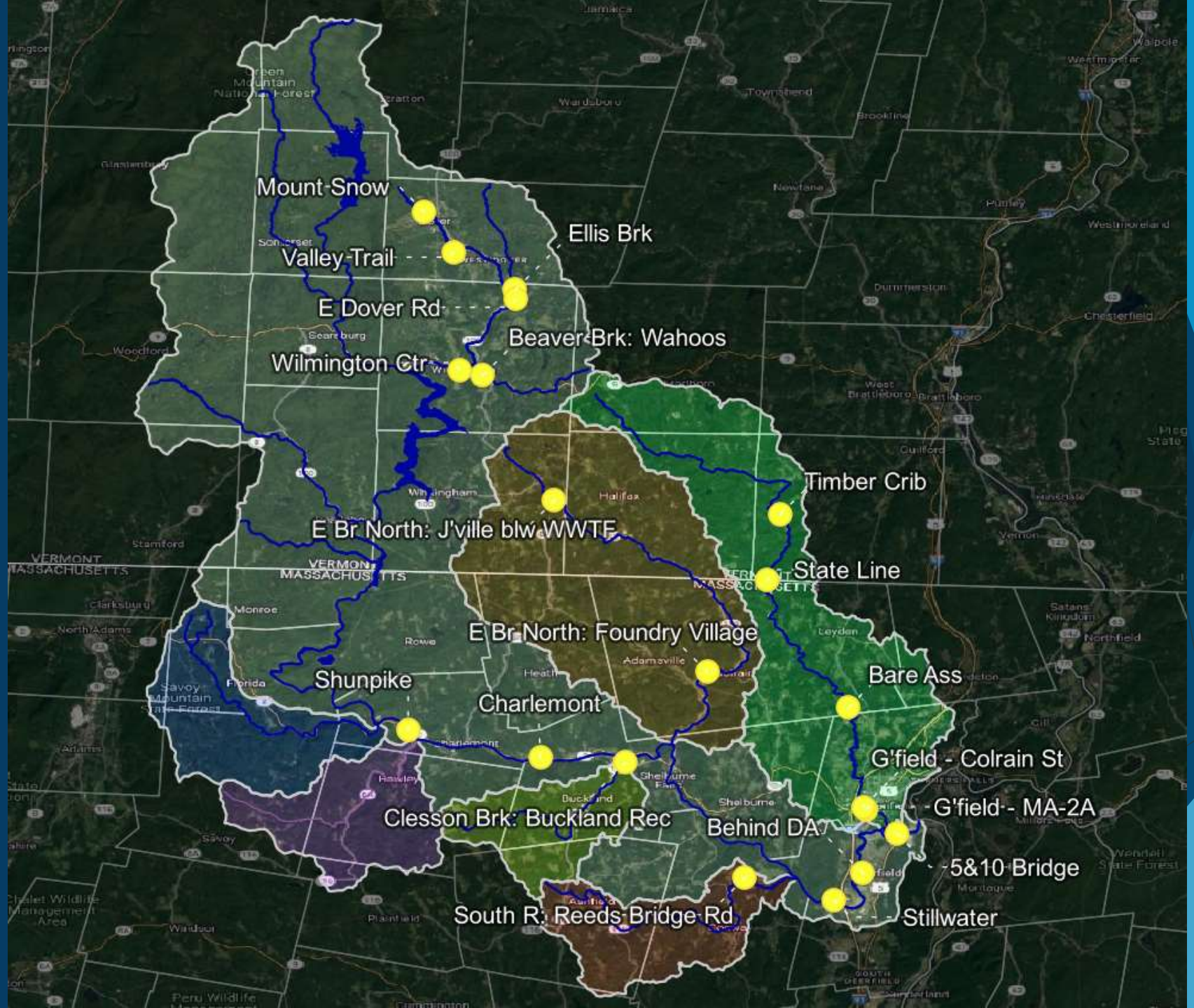
Deerfield River Watershed

Water Quality Report

2021-2022

Full Report
Coming soon!

Map

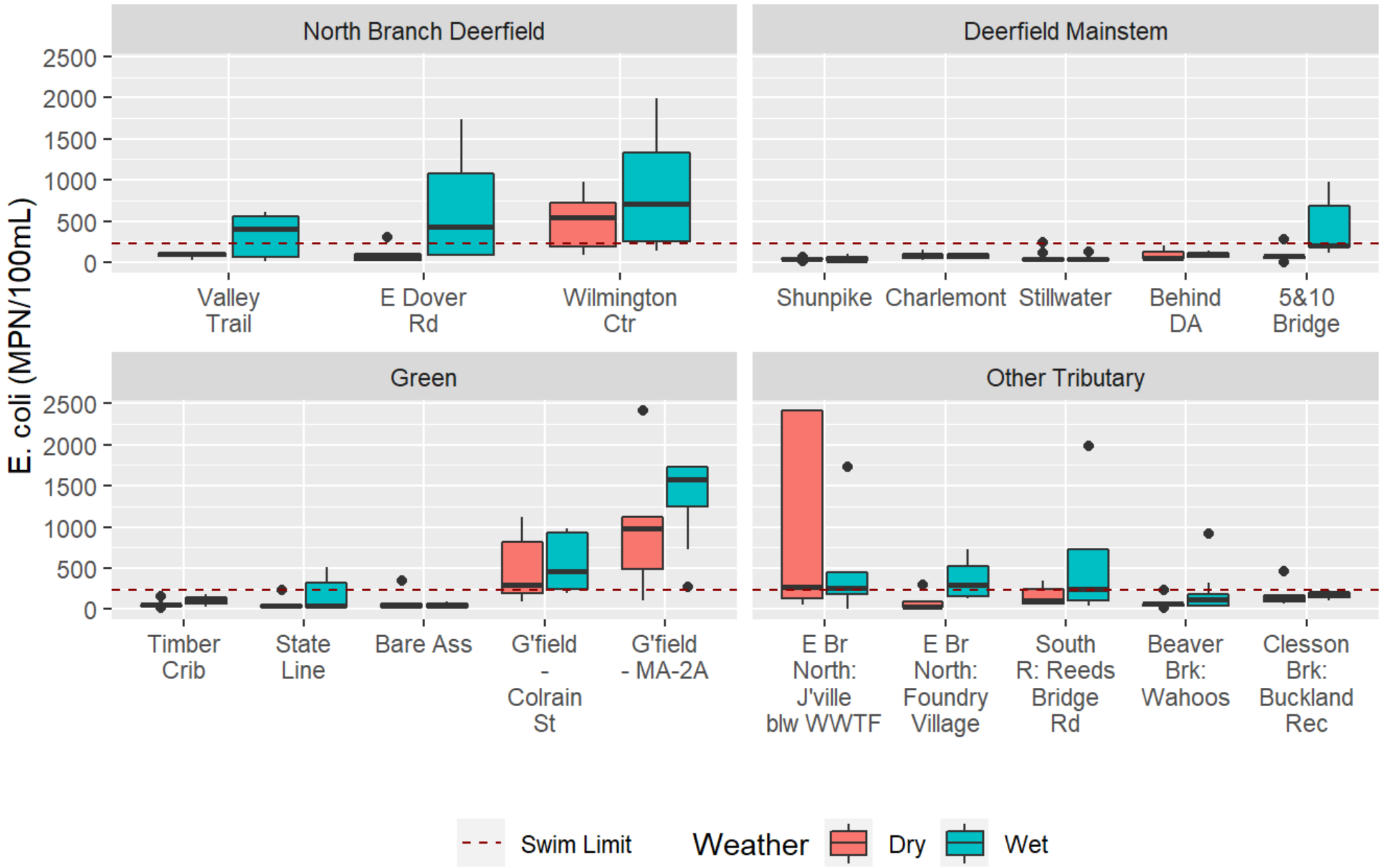

Mount Snow
Ellis Brk
Valley Trail
E Dover Rd
Beaver Brk: Wahoos
Wilmington Ctr
Timber Crib
E Br North: J'ville blw WWTF
State Line
E Br North: Foundry Village
Bare Ass
Shunpike
Charlemont
G'field - Colrain St
G'field - MA-2A
Clesson Brk: Buckland Rec
Behind DA
5&10 Bridge
South R: Reeds Bridge Rd
Stillwater

E. coli Bacteria

- Used to determine level of risk for recreation
  - Primary contact
    - < 235 MPN org/100mL
  - Secondary contact
    - <625 org/100 mL
- Indicator organism
- Sources: Agricultural & urban runoff, failing septic, leaking sewer, pet waste, wildlife, etc.
- Increased levels after rainfall

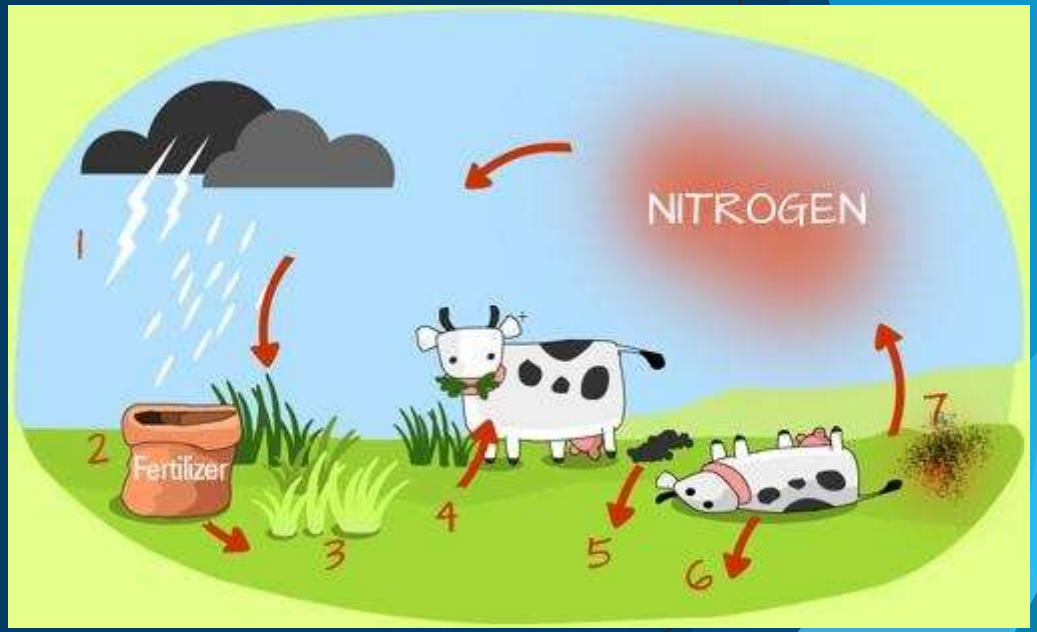
E. coli Results by Site and Weather

2021-2022



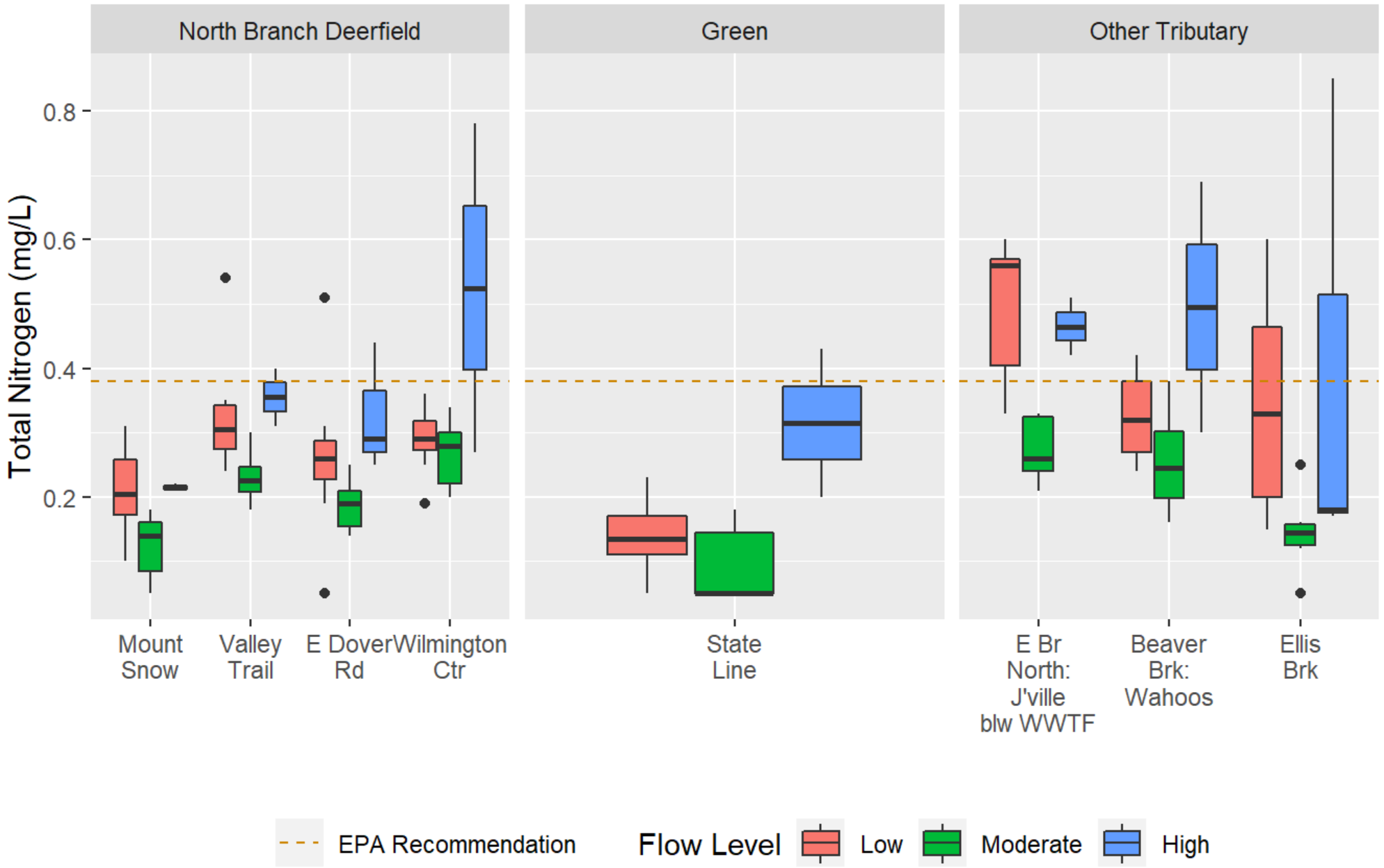
Total Nitrogen

- Nutrient affecting plant growth
  - Controlling nutrient in saltwater ecosystems
- Counts all forms of nitrogen including nitrates, nitrites, ammonia, etc.
- Sources: Agricultural runoff, wastewater, failing septic
- Very mobile, less affected by rain



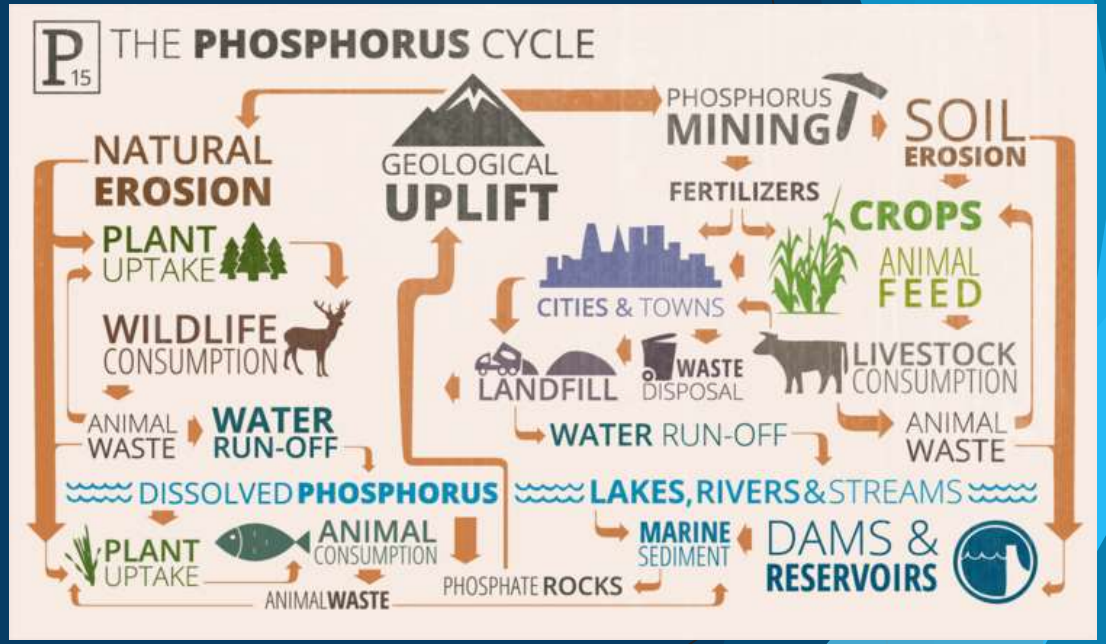
Total Nitrogen Results by Site and Flow

2021-2022



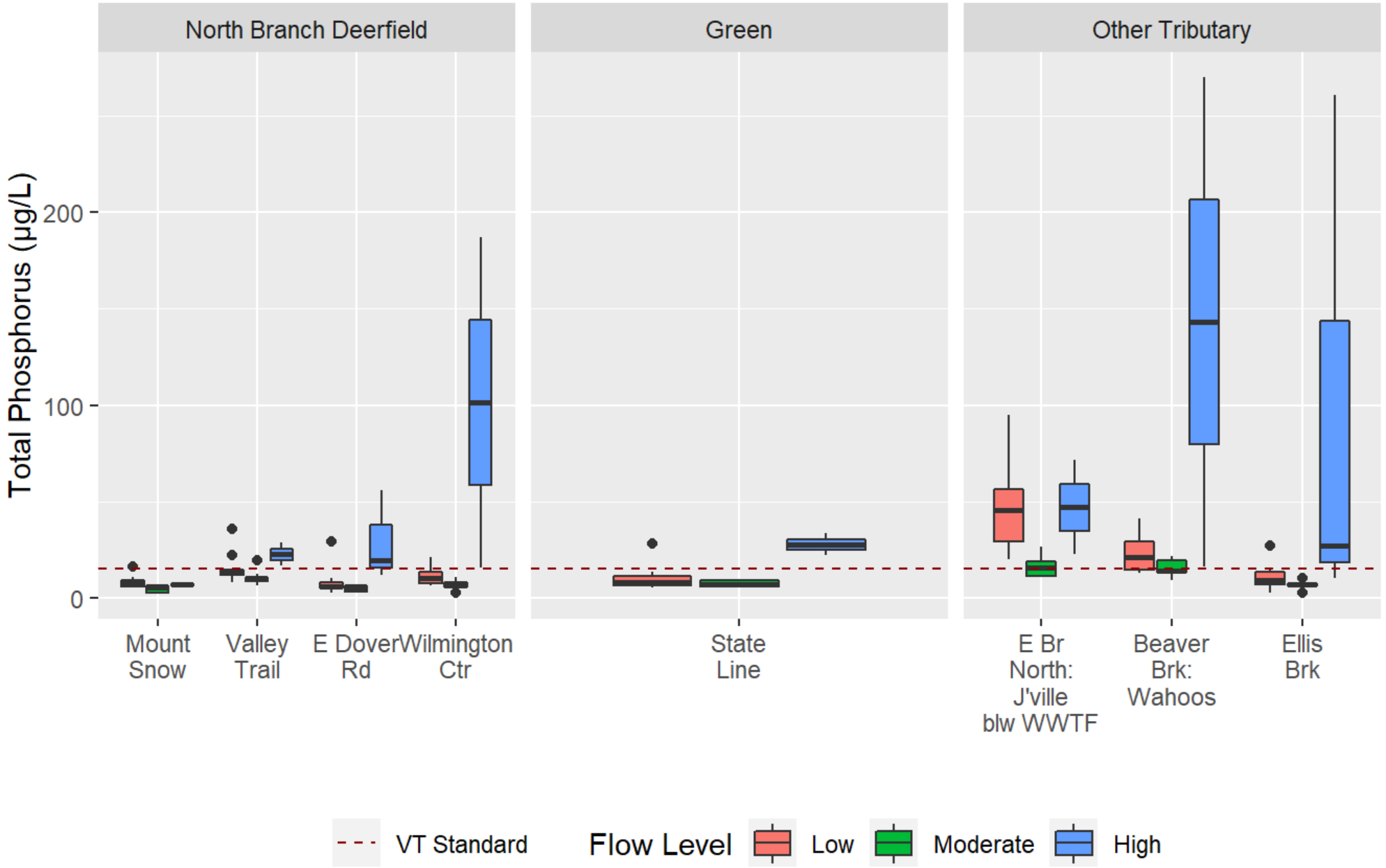
Total Phosphorus

- Nutrient affecting plant growth
  - Controlling nutrient in freshwater ecosystems
- Counts all forms of phosphorus including organic and inorganic, dissolved and suspended
- Sources: Agricultural runoff, wastewater, failing septic
- “Sticky,” transported with sediment, levels affected by rain/turbidity



Total Phosphorus Results by Site and Flow

2021-2022

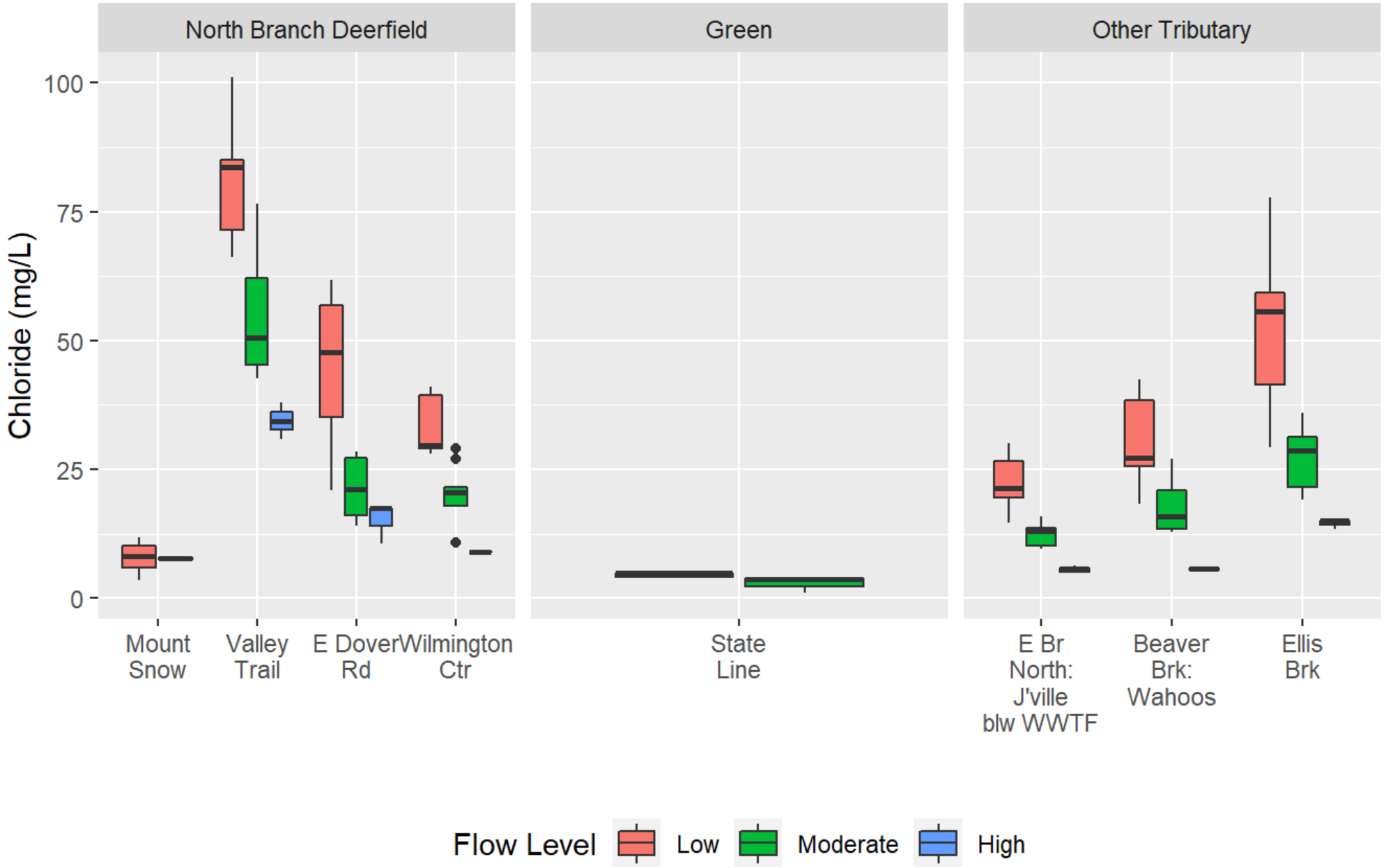


Chloride

- Naturally found in both salt and fresh water
- Chloride ions separate from chloride salts such as sodium chloride (table salt), potassium chloride or magnesium chloride
- Can also come from water softener discharge, wastewater effluent, or fertilizers
- Concentrations tend to be higher in areas with lots of pavement and other treated surfaces.
- High chloride concentrations in fresh water systems can stress or kill aquatic plants and animals
- No specific standards in either Vermont or Massachusetts
- US EPA recommends:
  - < 860 mg/L for acute toxicity or
  - < 230 mg/L for chronic toxicity.

Chloride Results by Site and Flow

2021-2022

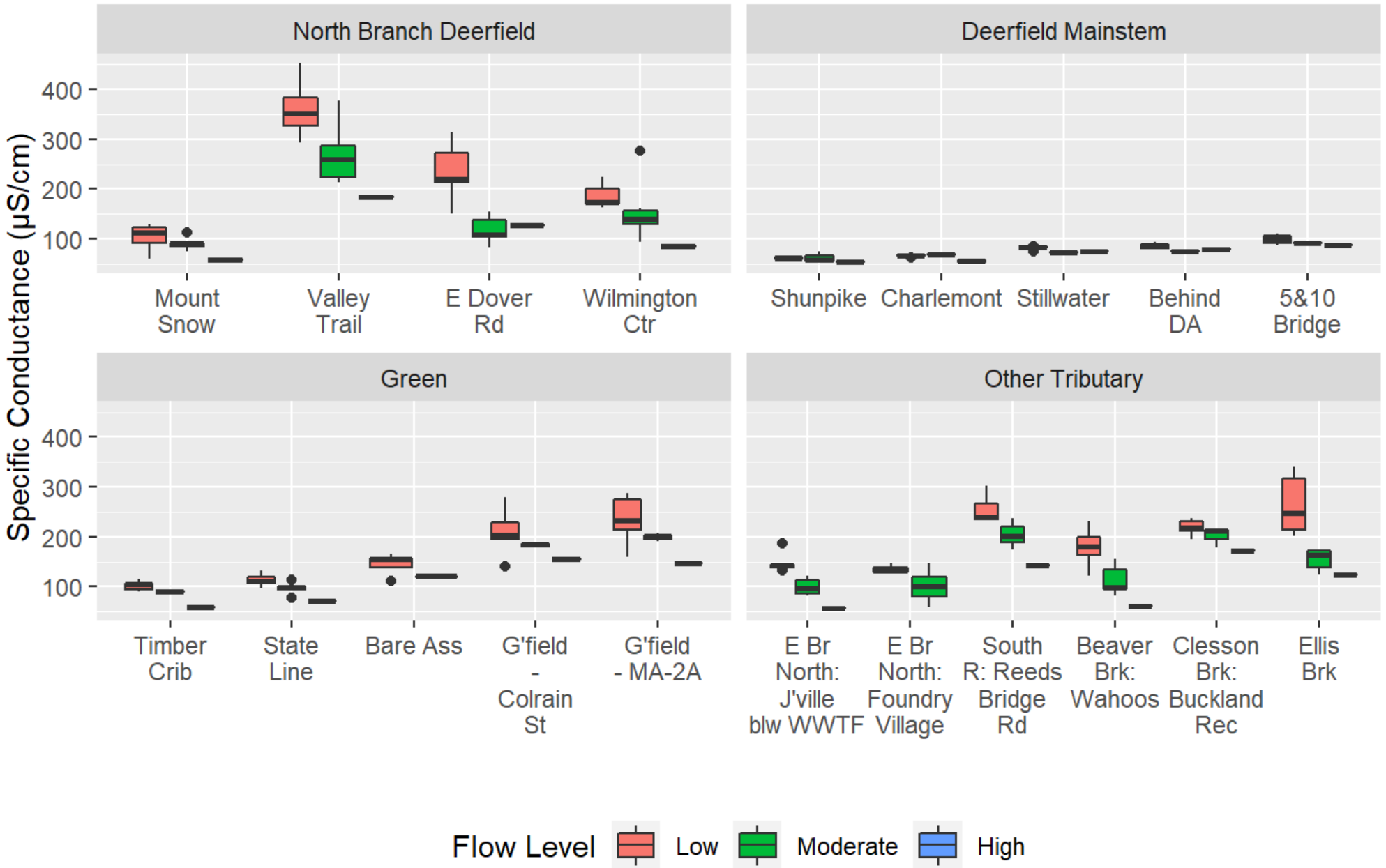


Specific Conductance

- General monitoring parameter
- Measures how many ions are dissolved in the water
- Sources: Road salt, runoff, geology, etc.
- Tends to become diluted with rain
- May catch areas impaired by parameters not otherwise monitored
- Specific Conductance
  - Adjusted for temperature
- Conductivity
  - Temperature specific

Specific Conductance Results by Site and Flow

2021-2022



Turbidity

- Turbidity is a measure of how murky or cloudy water is.
- Clay, silt, finely divided inorganic and organic matter, algae, soluble colored organic compounds, and microscopic organisms
- Turbidity is a measured by the intensity of light scattered by particles suspended in a water sample. It is measured in nephometric turbidity units (NTU). Typically, low flowing, clear water have turbidity values of 10 NTU or lower.
- Massachusetts:
  - “These waters shall be free from color and turbidity in concentrations or combinations that are aesthetically objectionable or would impair any use assigned to this Class.”
- Vermont:
  - 10 NTU in Class A & cold water
  - 25 NTU in warm water fishery Class B

Turbidity Results by Site and Flow

2022