Upstream land care practices that can sustain and improve downstream wetlands

Improve estimates of impact
- Model runoff from "smart growth"
- Measure the volume of outflows to streams and lakes
- Monitor both N & P (reactive forms, not just TN and TP) in runoff;
- Calculate N loading, not just concentration
- Use realistic data to predict climate change

Reduce runoff—aim for no net increase in runoff to Swan Ck (Mpls example—zero impact development)
- Install rain barrels and rain gardens; use boulevards as sumps for runoff
- Harvest stormwater (capture & store in underground tanks for use in irrigation as needed)
- Require permeable hardscaping (streets, sidewalks, patios)
- Create green roofs
- Use root wads to stabilize eroding creek banks

Reduce N and P at the sources
- Ban lawn fertilizers
- Plant native vegetation; no height restrictions for yard vegetation (big bluestem is ok)
- Minimize pesticide (herbicide, insecticide) use and tax users
- Dispose of pet feces responsibly; enforce no-manure-on frozen soil
- Require timely clean-up of leaf litter and centralized composting for sale
- Promote and reward no-till agriculture and cover crops; aim for high nutrient efficiency

Treat runoff before it reaches streams that flow to wetlands and lakes
- Establish broad buffers around fields and urban hardscapes to absorb runoff
- Install woodchip digesters to intercept and treat agricultural and street runoff; maintain them
- Establish a treatment wetland at the outflow of NEN to Swan Ck—on NEN land, not downstream

Form a watershed association (WA) to link upstream/downstream neighbors w/ all stakeholders
- WA tracks operation of infrastructure, reports to maintenance crew
- Provides information to public in a timely manner
- Enforces rules with carrots/sticks
- Rewards compliance; large rewards for exceeding goals
- Establish a stakeholder rule-enforcement group that reports to the Mayor

Provide a community Stewardship Center to facilitate green living (Colorado Springs example)
- Prairie garden and demonstration plots for native landscaping
- Farmer's market; CSA

Minimize vehicle traffic
- Facilitate mass transit
- Provide secure bike racks; trail to connect to Capital Trail

Reminders of environmentally-friendly status/zero-impact goal
- Name streets for native species
- Name natural features and provide interpretive information—native trees, hills, ponds, streams

In a September 2016 call for students to devise green infrastructure to manage urban stormwater, EPA said, *"Green infrastructure decreases pollution to local waterways by treating stormwater where it falls and keeping more polluted runoff out of sewer systems. Green infrastructure features include green roofs, permeable materials, rain gardens, and rain harvesting systems."*