

WILLAND POND

Water Quality Issues and Status

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Surface Water Quality

- DES administers Water Quality Standards
- Water Quality Standards include
 - Designated uses: Aquatic life & Recreation
 - Criteria to support the uses (data/assessment)
- **NOT JUST CHEMICALS** - biology, hydrology, aquatic habitat, microbiology, water level, are all considerations for WQS
- DES maintains a catalog of all NH waters
- DES assesses all waters for which there are data every 2 years

What's the process for impaired waters

- Willand Pond does not support either aquatic life or recreation: its impaired
 - See Natalie Landry's memo
 - High water level damages aquatic habitat
 - Cyanobacteria bloom made recreation unsafe
- Willand Pond will be on the "impaired waters list" for 2008

Impaired Waters

- 1000 or so statewide
- Must be restored
 - DES has enforcement powers
 - DES also administers a small grant program
 - Sometimes takes a long time
 - Best restoration prospects are cooperative projects with local initiatives

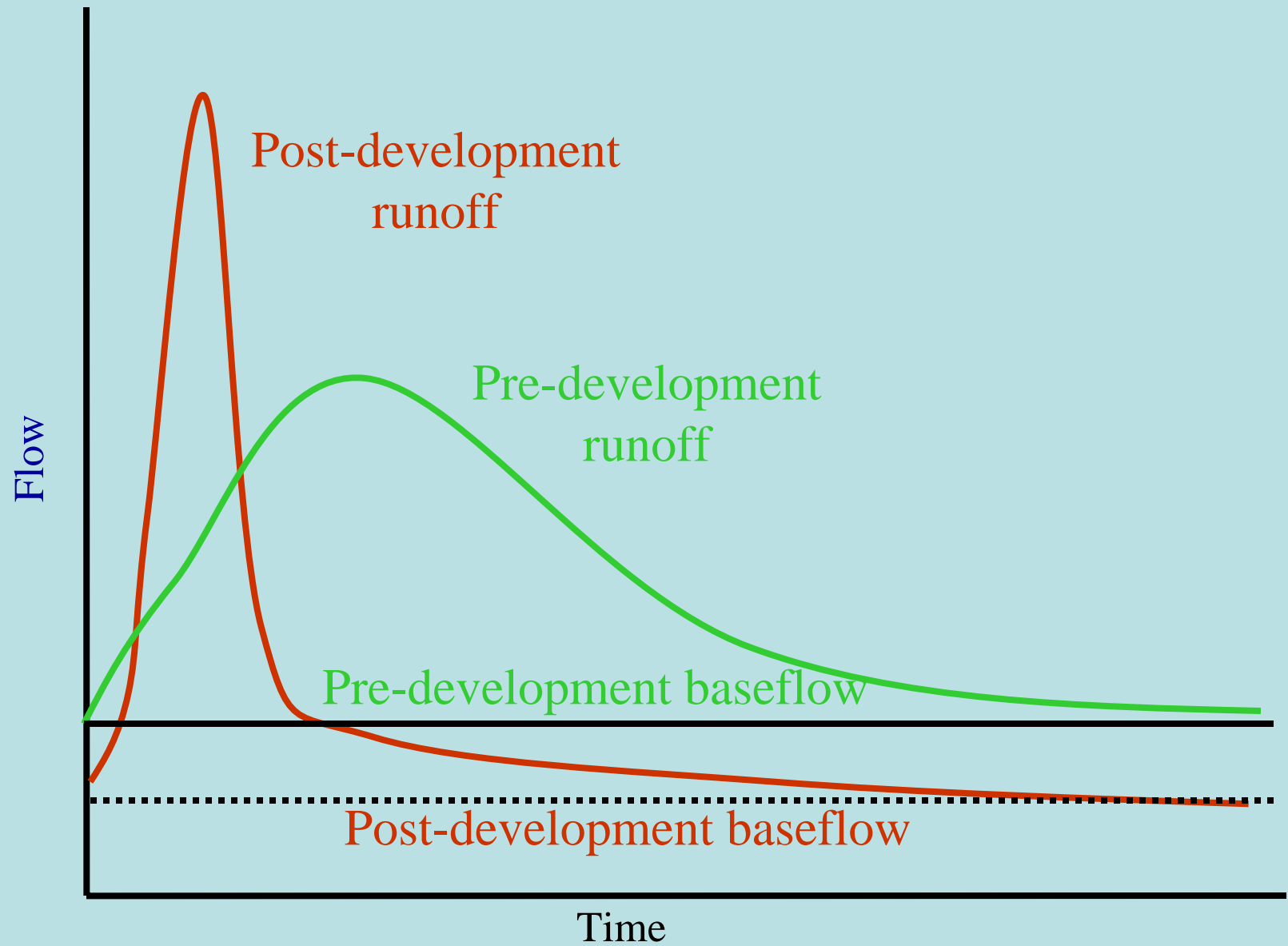
Willand Pond's WQ Problem

- Too much water in, too little water out
= high water in the Pond
- Too many nutrients (mostly P) coming into the pond
= higher concentrations in the Pond
= good conditions for cyanobacteria bloom

LANDSCAPE CHANGE AND WATER QUALITY

WATER QUALITY CHANGES from DEVELOPMENT

- Changed Hydrology
 - More runoff volume, less infiltration
 - Increased peak runoff rates
- Increased runoff nutrient concentrations
 - P concentrations can be ~ 5x
- Habitat modifications



Cyanobacteria Results

- 7/12 Pea Soup color (anabaena dominant)
 - Advisory posted/not OK for recreation
- 8/27 cyanobacteria no longer dominant
- 9/26 cyanobacteria sparse
 - OK for recreation

ACTION ITEMS

- Cities
 - Plan and design outlet channel
 - Implement "no additional runoff volume and nutrient loading" for site plan review
 - Monitor Willand Pond
 - Apply for 319 grant
 - Begin planning retrofit projects
 - Educate the public
- DES
 - Technical assistance
 - Enforcement if appropriate