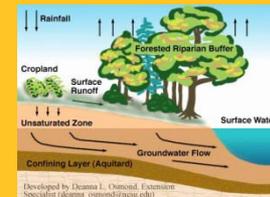




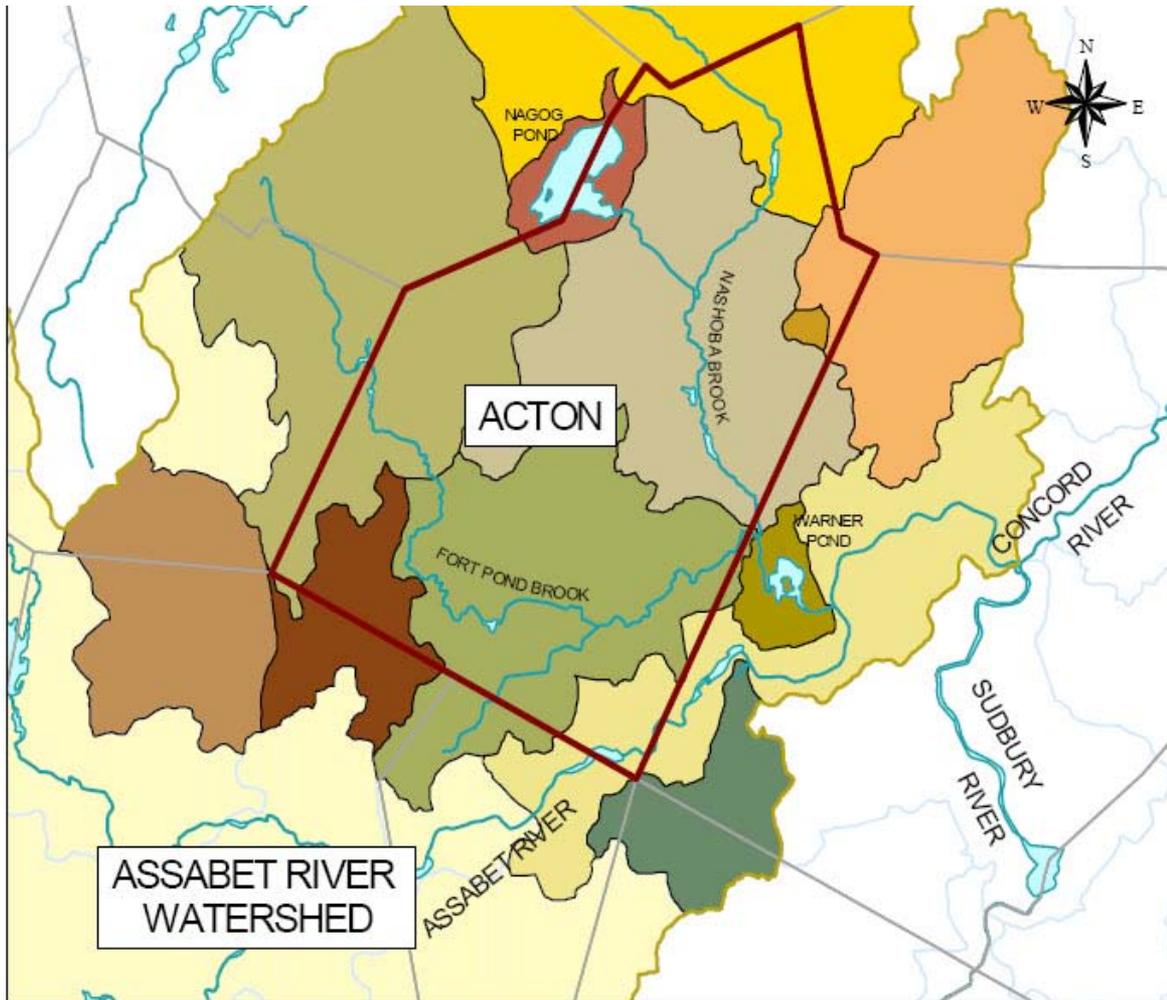
Storm water management in Acton *or* *complying with NPDES II*

WRAC, January, 2013





Acton watersheds (Assabet river)



- Storm water management is required under the US Clean Water Act
- Acton discharges and manages stormwater under an NPDES permit
- The permit requires Acton to promulgate a Stormwater ByLaw



Storm water in Acton - impacts streams and the groundwater





What and why?

- Town of Acton Bylaw Chapter “W” :
 - Regulates Post-Construction Stormwater Runoff
 - Required under NPDES Permit issued by US EPA to Acton
 - Companion Bylaw to the Acton’s 2010 Chapter U Bylaw
- Storm water runoff caused by impervious surfaces
 - All paved areas, rooftops, compacted soils
 - Impacts surface and groundwater quality
- EPA has mandated stringent storm water focus:
 - Reduce average percent impervious surfaces town-wide
 - Achieve reduction through “best management practices”
 - Monitoring of stormwater runoff points



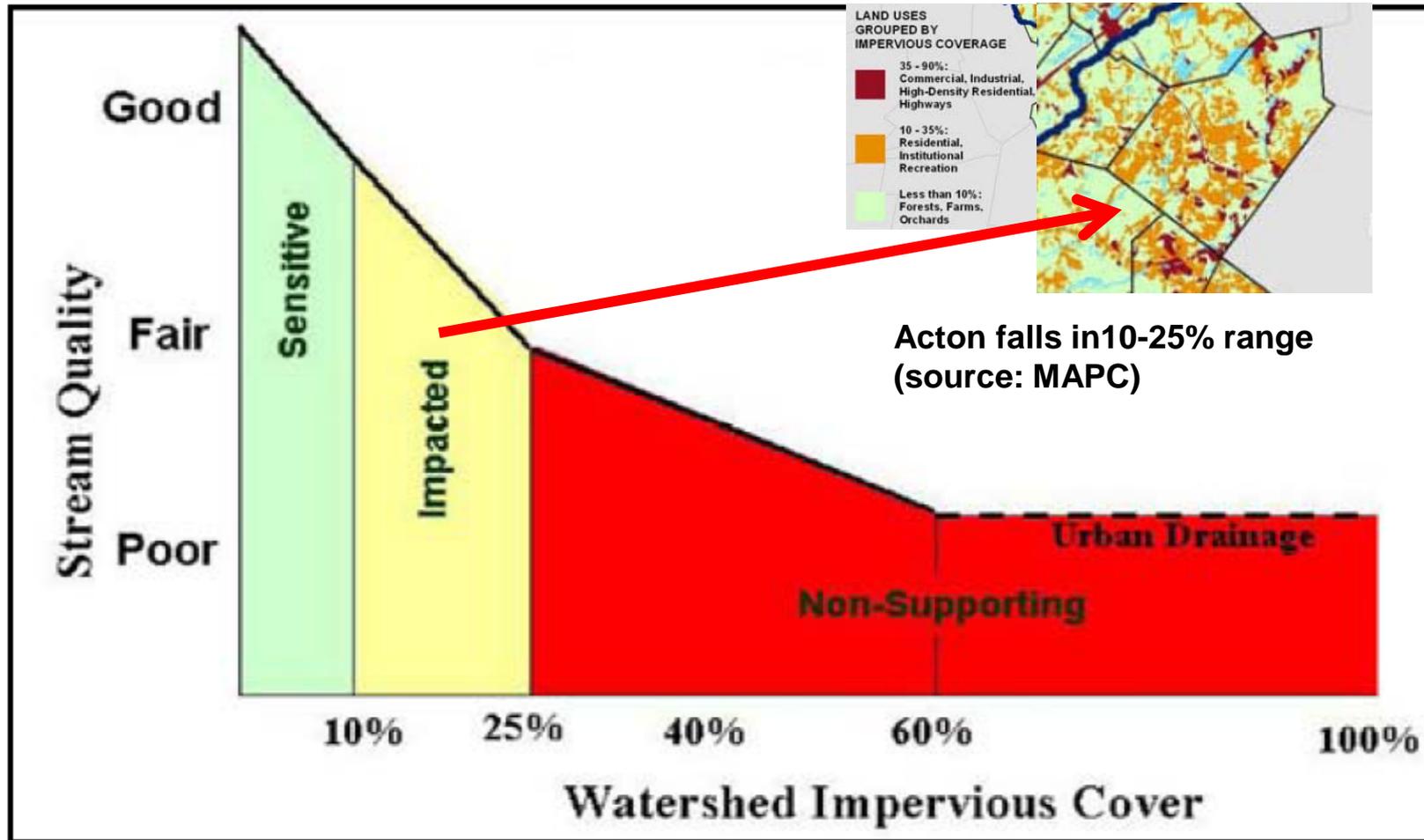
Impervious surfaces ..



Example Kelly's Corner Source: Google Maps



Have a direct impact on stream quality



Watershed IC vs. stream quality. (Source: Center for Watershed Protection: Impacts of Impervious Cover on Aquatic Systems)



Leading to increasing stormwater runoff in Acton

- Stormwater collects and runs off from impervious surfaces
- Collected by stormwater system



Standing stormwater – Great Rd



- Enters MS4
(municipal separate storm sewer system)
- ... reducing groundwater recharge

Photos: R Beck, 11-09



... and directly impact surface waters

- Runoff to surface waterways adds load and pollutants to streams and ponds
- ... adds to rising wetland levels
- ... makes storm water system challenging to maintain



Great Rd runoff to Ice Pond



Wetland – Charter Road



Silted MS4 outfall



WRAC Bylaw Development Process

- Began working on Bylaw Fall 2010
- Evaluated sample bylaws and bylaws developed by several representative towns
- Systematic process for bylaw development:
 - Agree on philosophy and protection goals
 - Review possible regulatory approaches
 - Developed set of regulations appropriate to Acton's environment, water resources, and land use
 - Special focus on groundwater protection
 - Goal was to achieve protection without putting undue pressure on residential homeowners



Key Features of Bylaw

- All development projects will require a stormwater permit
- Minor permits, which are granted without review, cover projects with small impact (<15% impervious cover in zones 1-2; <25% impervious cover other parcels)
- Major permits require an application/review process. Proposed administrative authority will be the WRAC
- Certain types of activities are exempted (see section 3.2)



Key Features of Bylaw (cont)

- Mass Stormwater Handbook is the basic document governing assessment of impacts and design of mitigating measures
- Where a site cannot effectively comply, there is a provision for alternative offsite approaches and in some cases variances
- Structural solutions will require maintenance plans and reporting (section 9)
- Monitoring is a part of the bylaw
- The goal is for the bylaw to be self-funding through the permitting fee process



What will Acton get?

- Compliance with EPA NPDES Permit
- Improved surface and ground water conditions
- Better long term safeguarding of water supply
- Improved maintenance of storm water system





Consequences of no action

- Town in violation of Clean Water Act
- EPA typical actions:
 - comprehensive monitoring requirements
 - extensive program activities required
 - inspections and oversight
 - financial penalties





Cost and Benefit Scoreboard

- **** To be reviewed ****

Benefits:

- **Compliance with US EPA**
- Long term protection of Acton water supply
- **Improved surface water quality**
- Improved land use mix (keep impervious surface ratio to 15% townwide)

Costs:

- **Permit review costs (self funded)**
- Town staff review time
- **Permit application cost to landowner/developer**
- Ongoing maintenance cost to property manager

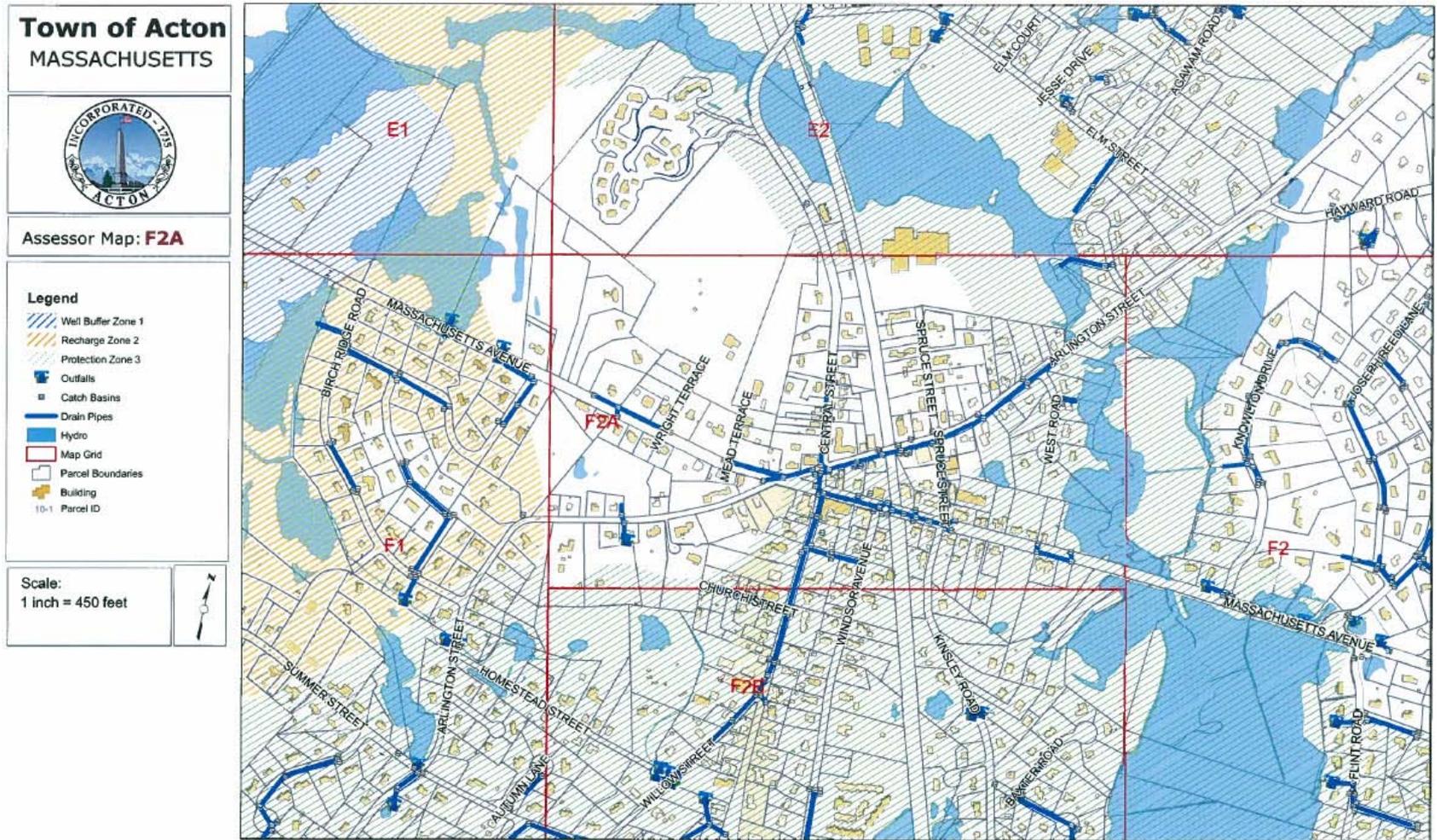




APPENDIX - Background



Partial map of storm water system



Blue lines = storm water system

Blue boxes = outfall



Storm water measure in recent Acton projects helps

- Constructed wetland at Staples plaza
- Storm water retention and infiltration at Franklin Place





What you can do ...



- Never dump anything down a storm drain
- Reduce usage of phosphorus and nitrogen-rich fertilizers and pesticides
- Pick up pet wastes and dispose of properly
- Adopt low impact development measures to reducing your storm water runoff:
 - Rain barrels, pervious paving, rain gardens
- Report spills and hazardous conditions
- Non-phosphate car washing
- Use a drip pan when changing oil

