

PARSONS CREEK – 2017 WATER QUALITY UPDATE

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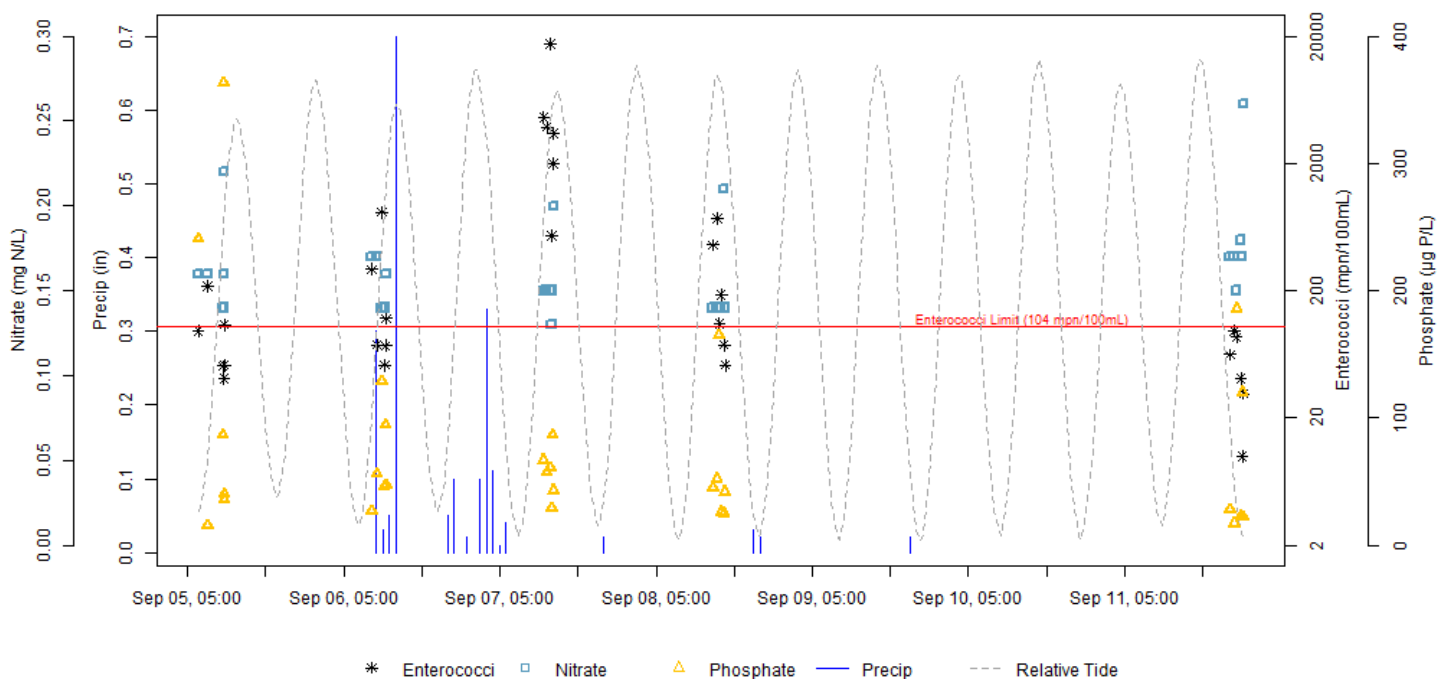
December 11, 2017

Annual Monitoring

- Ø Conducted annual monitoring of fecal indicator bacteria (FIB) at six established sites within the Parsons Creek watershed, plus three new sites at Eel Pond, Awcomin Marsh, and Harbor Road.
- Ø FIB highest (and exceeding criteria) at BCH11 and Harbor Road, in both wet and dry weather.
 - BCH11 has been a hotspot site for high FIB counts since monitoring began in 2008. Canine detection alerted to the presence of human waste at BCH11 in both 2013 and 2015.
 - Harbor Road is a new site with a complex mix of potential sources from the harbor and marsh. Further investigation and monitoring (including mtDNA analysis) is recommended.
- Ø Through the new health regulation requiring regular pump-outs and inspections, the Town has identified several malfunctioning septic systems, which may be contributing human waste to sites with elevated FIB (refer to attached map).
- Ø FIB lowest (and meeting criteria) at BCH08, supporting theory that BCH08 impacted largely by wildlife, not human sources.
 - Canine detection alerted to human fecal contamination at BCH08 in 2015, but 2016 mtDNA analyses reported no human, bird, or canine biomarkers at BCH08.

Storm Event

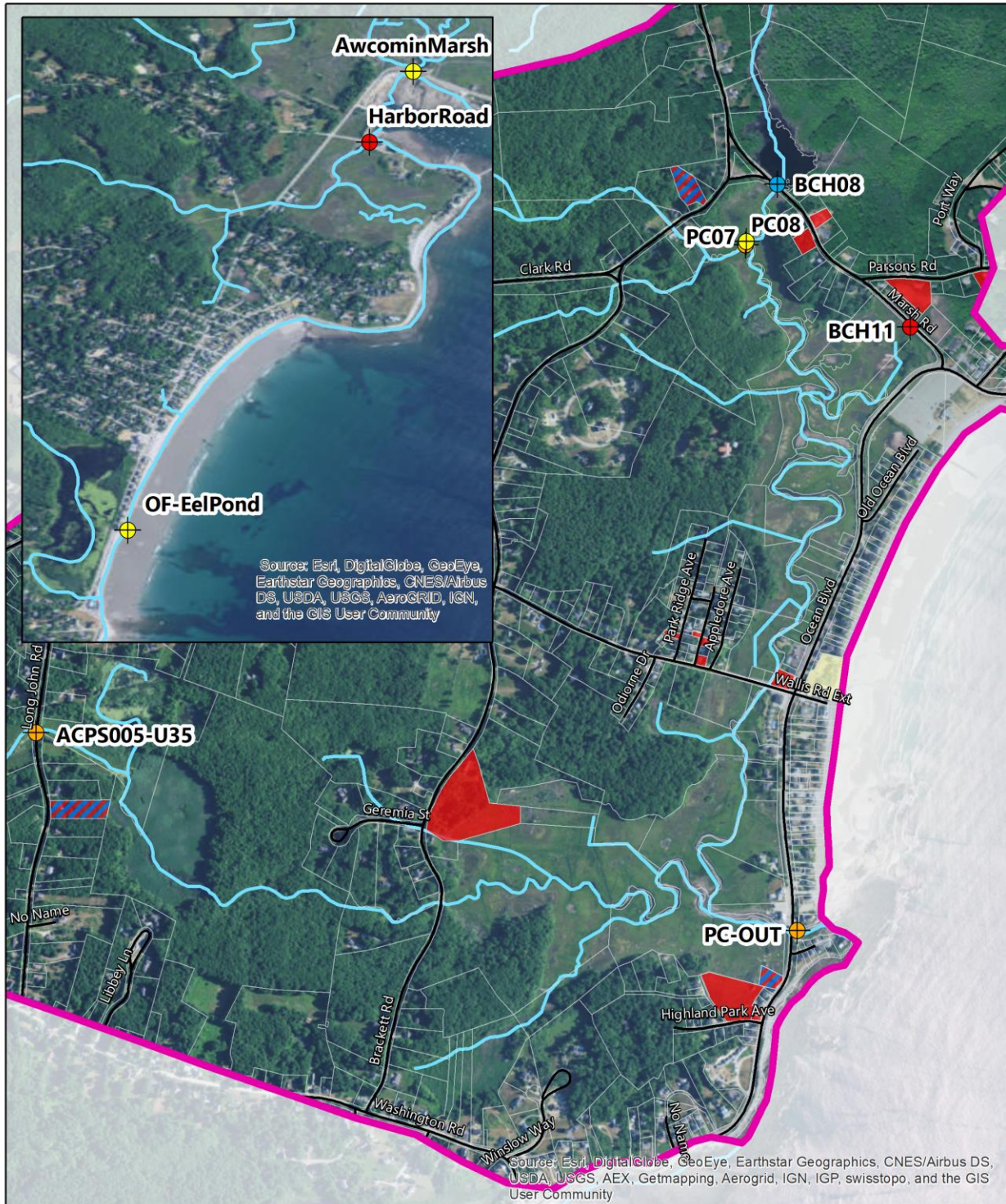
- Ø Conducted intensive sampling before, during, and after a large storm event (1.93” on 9/6-9/7) at six established sites within the Parsons Creek watershed.
- Ø FIB spiked immediately following the storm (increasing over 3,000%) and recovered 4 days later.
 - FIB increase following the storm highest at BCH11 (17,329 mpn/100mL).
- Ø Nitrate remained relatively unchanged (despite large volumes of incoming water); suggests large, possibly human-derived nitrate sources mobilized during storm event.
- Ø Phosphate diluted and quickly recovered at most sites, except at BCH11 and ACPS005-U15 (suggest large, possibly human-derived phosphate sources mobilized during storm event).



Next Steps & Recommendations

- Ø Continue septic system evaluations & pump-out enforcement (currently under modification)
- Ø Continue annual monitoring to track any improvements following septic system replacements
- Ø Post and maintain a wet-weather advisory at beach
- Ø Consider updating the 2011 Parsons Creek Watershed Management Plan (apply for grant funds)

Public Forum to discuss these results in more detail is tentatively scheduled for Thursday, January 18, 2018 at the Rye Public Library.



Parsons Creek, Rye, NH - 2017 Results

