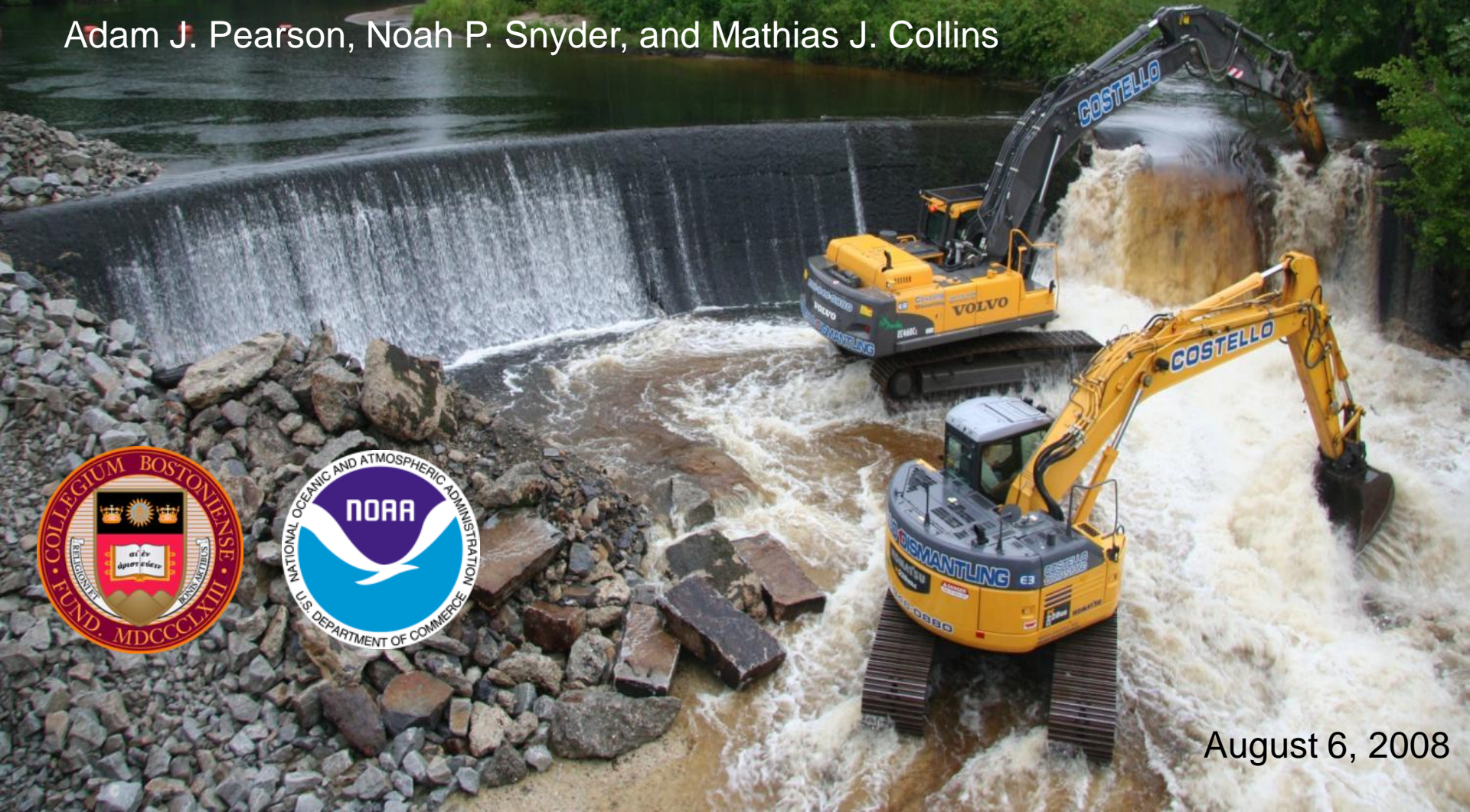


Geomorphic Response of the Souhegan River to the Removal of the Merrimack Village Dam, Merrimack, New Hampshire

Adam J. Pearson, Noah P. Snyder, and Mathias J. Collins



August 6, 2008

Acknowledgements

Boston College: Billy Armstrong, Liz Johnson,
David Santaniello, Peter Snajczuk, and Ben Wilkins



Motivation

- We investigate how hydrology, geology, and vegetation modulate observed processes and rates of river response to dam removal
- Chance to study the movement of a large mass of sediment with little to no downstream consequences



Methods

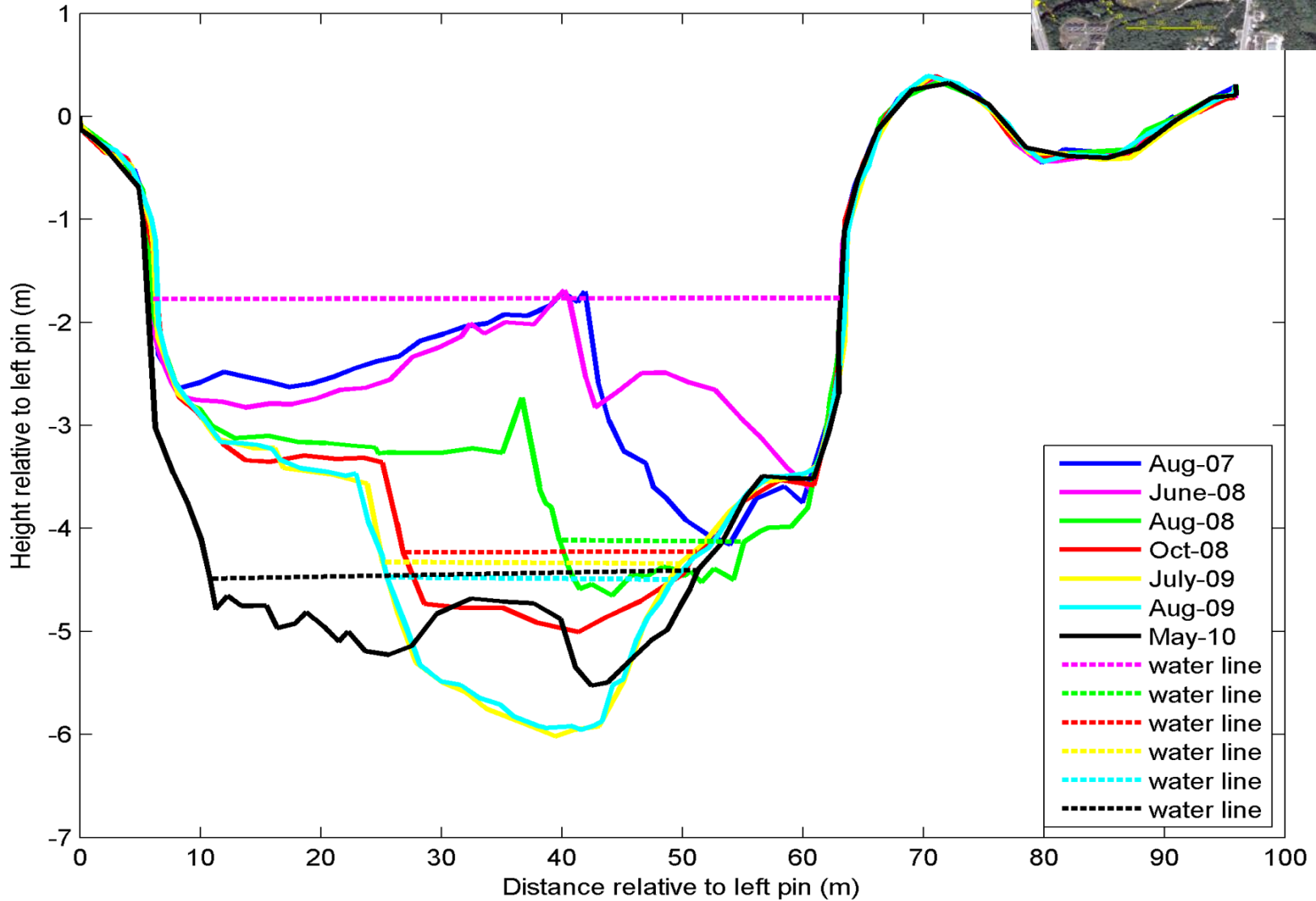
- Re-surveyed permanent cross sections and longitudinal profile
- Sediment sampling
 - Grain size
 - Dry Bulk Density
- Repeat Photography

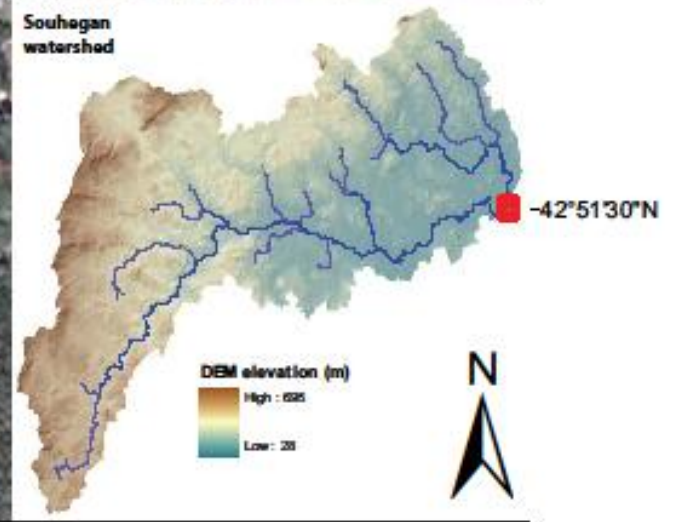


From Collins et al., 2007



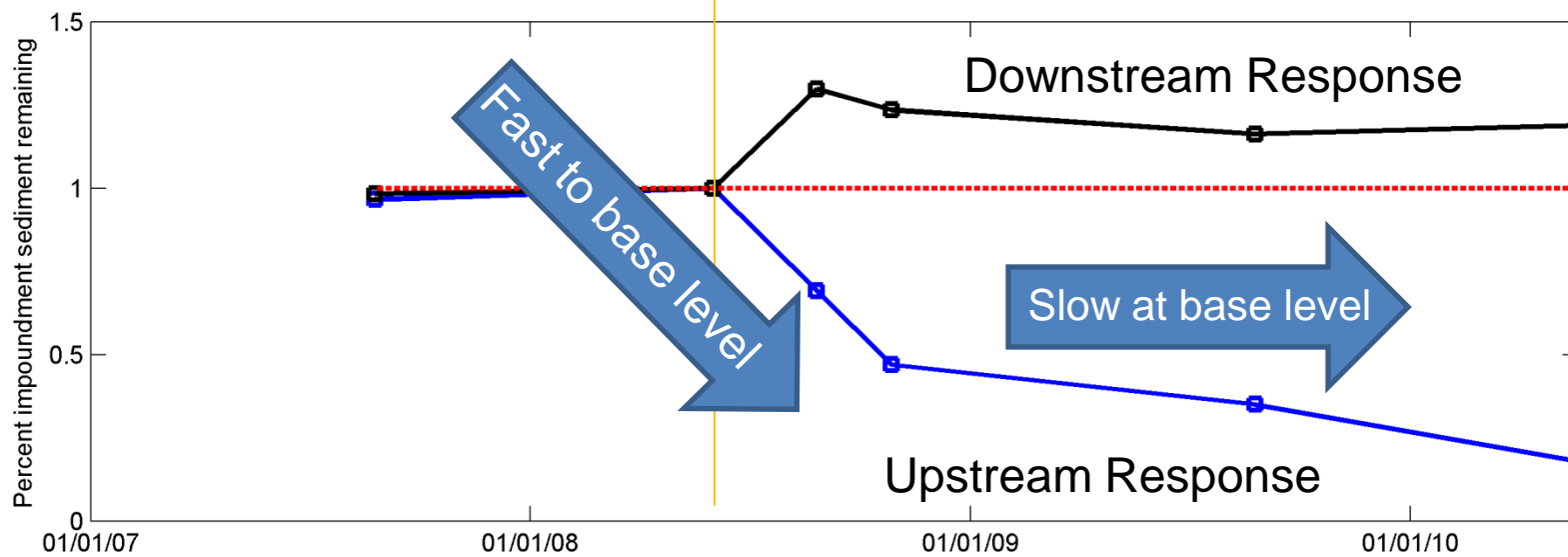
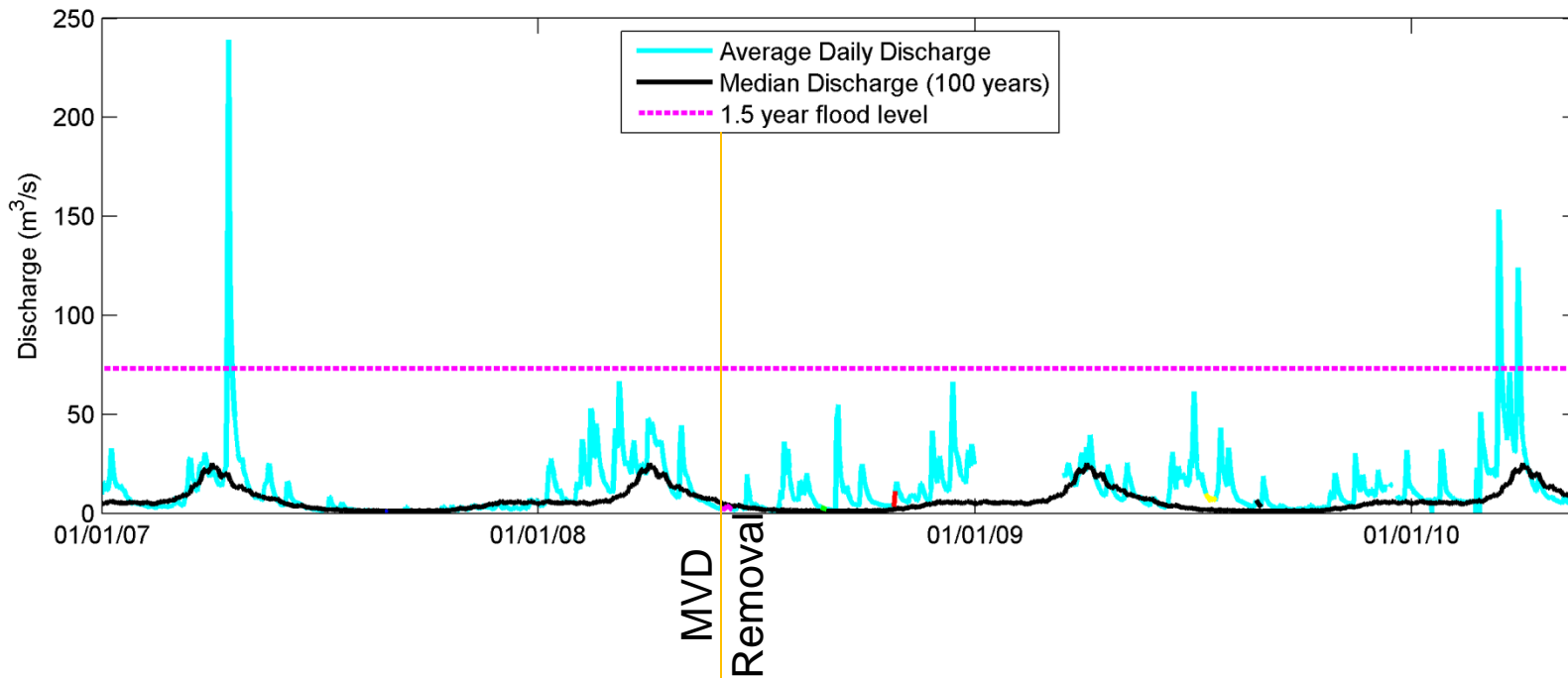
Upstream





Background: Study Area







April 19, 2008



August 25, 2008



October 26, 2008

Gravel bar deposition



November 14, 2008





July 15, 2009



9/20/2009

McElwain St

Woodbury St

3

Loop Rd

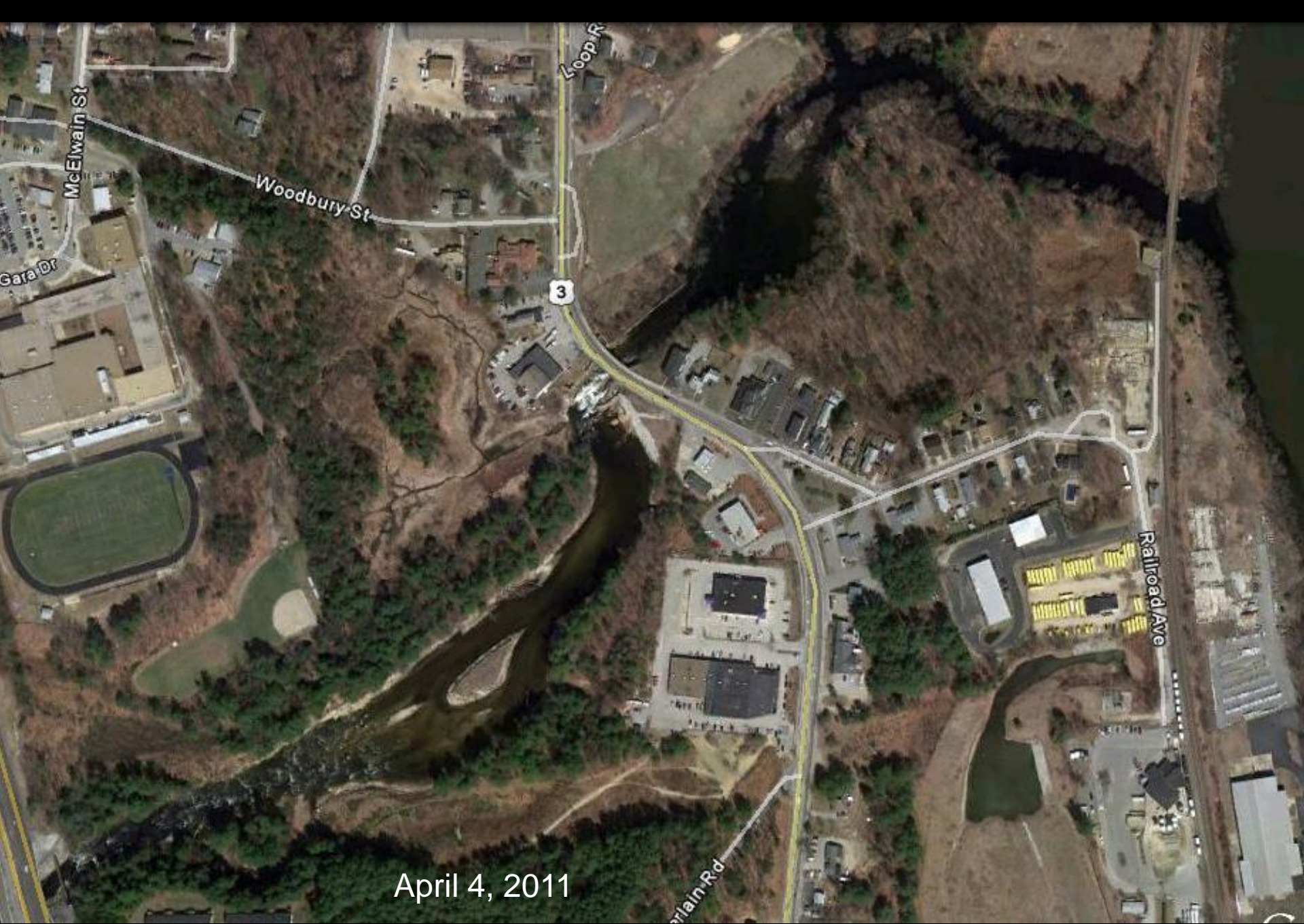
Railroad Ave

July 15, 2009 Image USDA Farm Service Agency

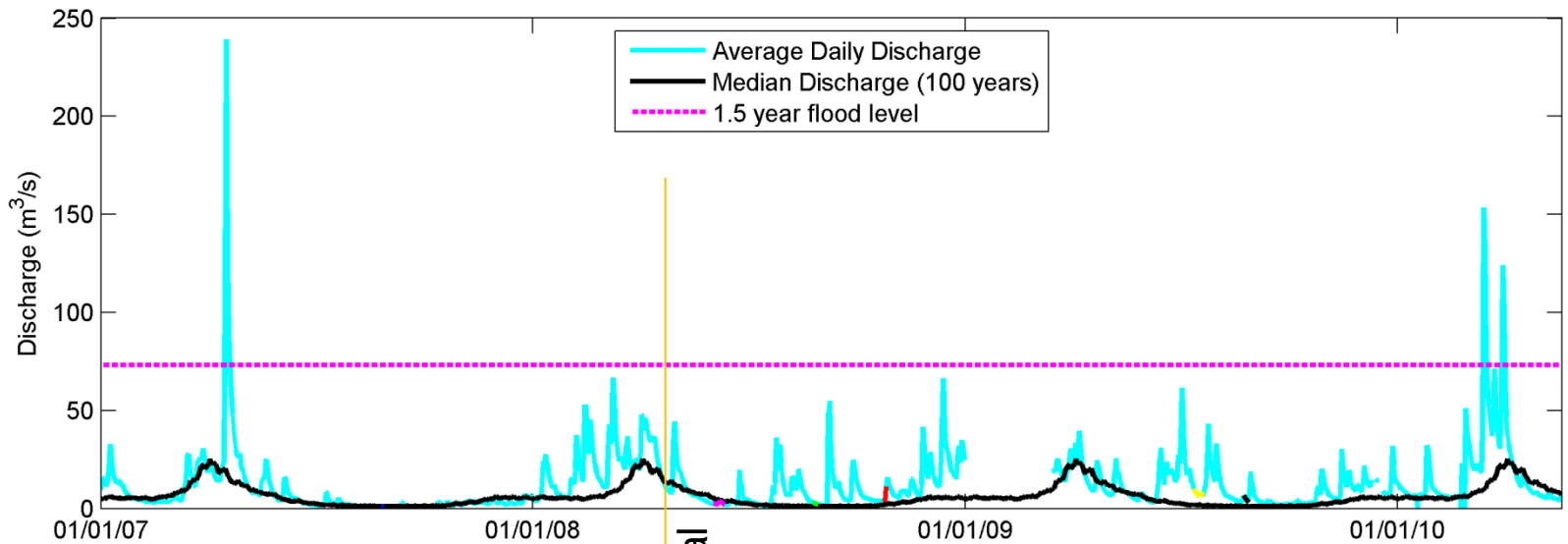
Denacook Tie233 m

McElwain Rd

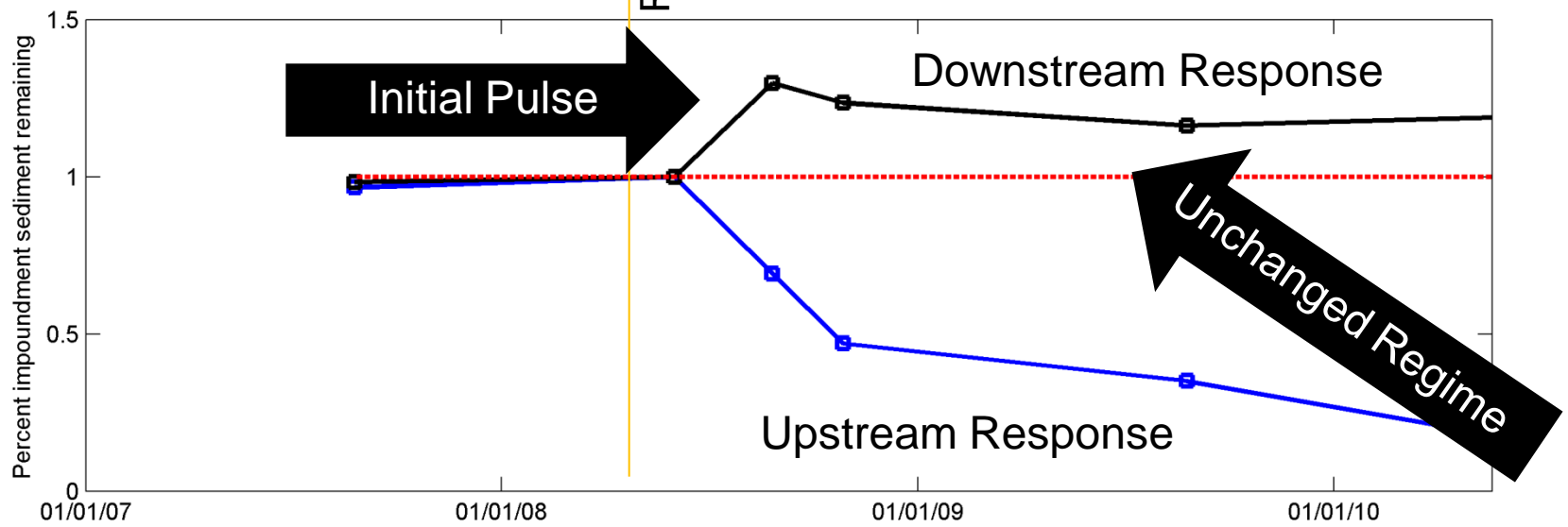
©2010 Google



April 4, 2011



MVD
Removal





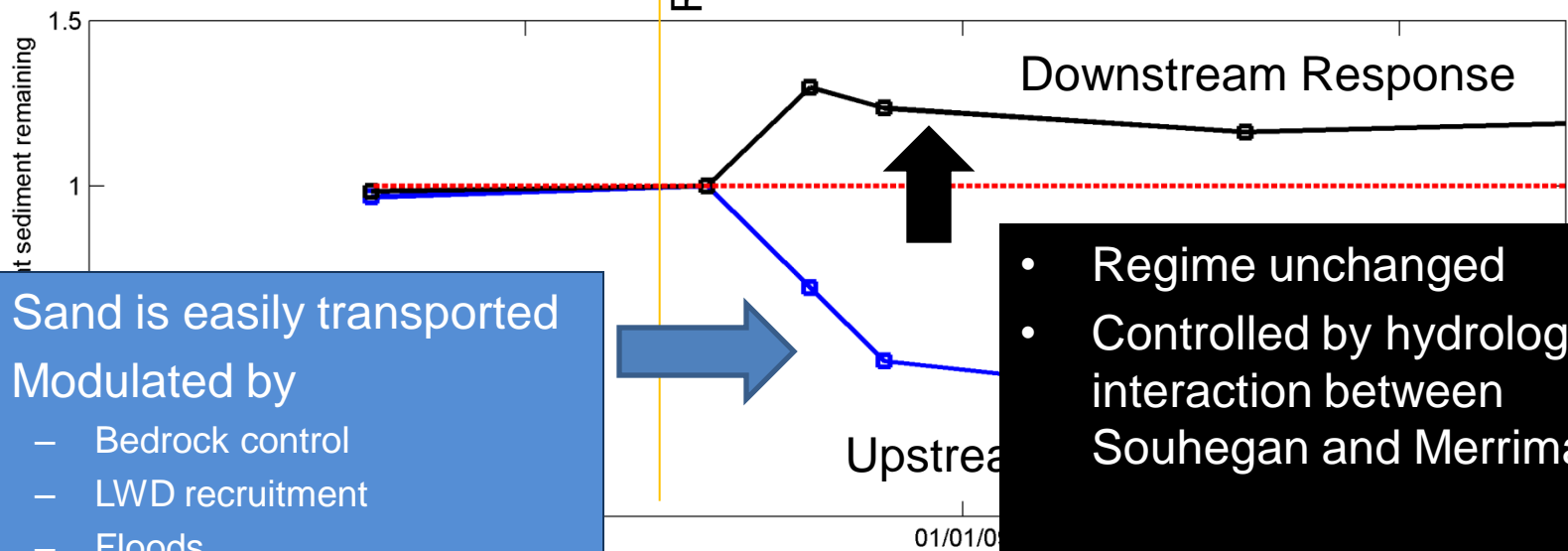
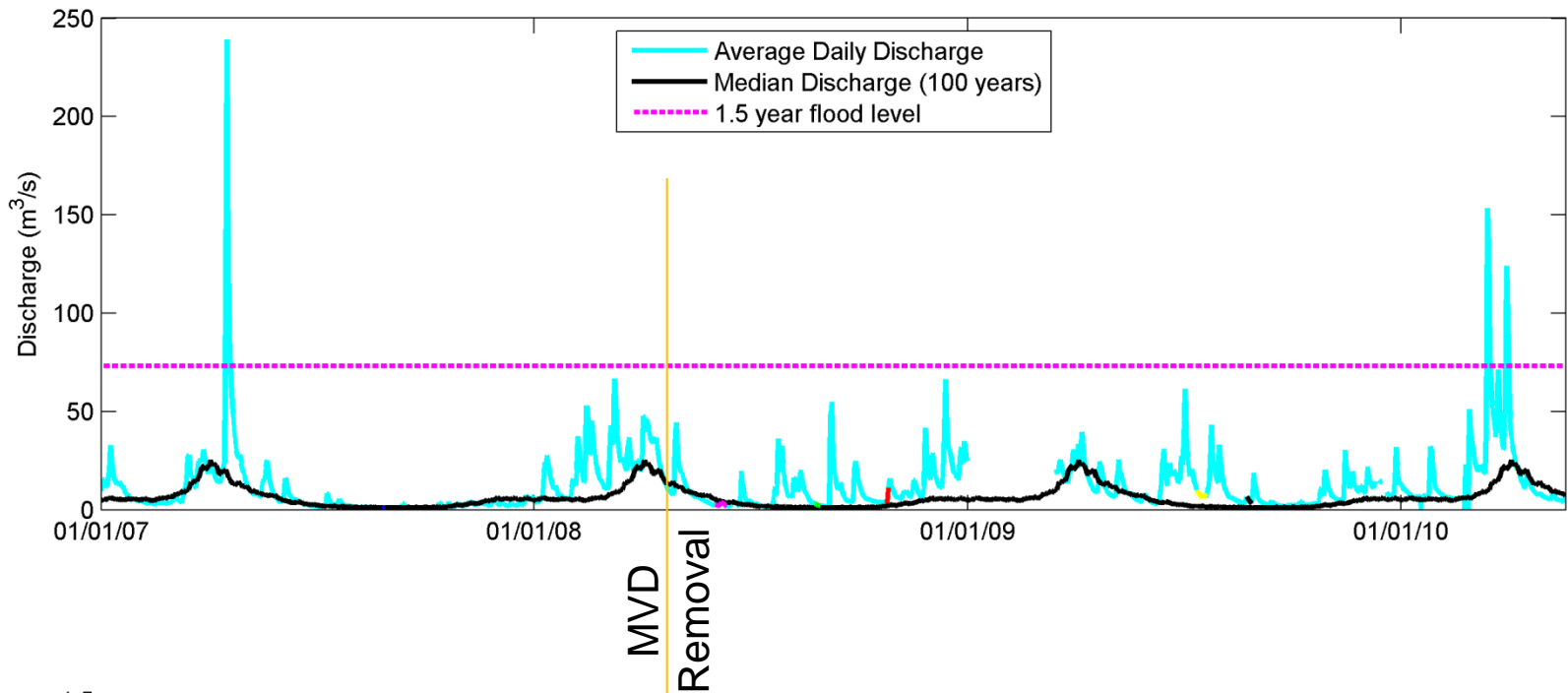
June 8, 2008



August 27, 2008

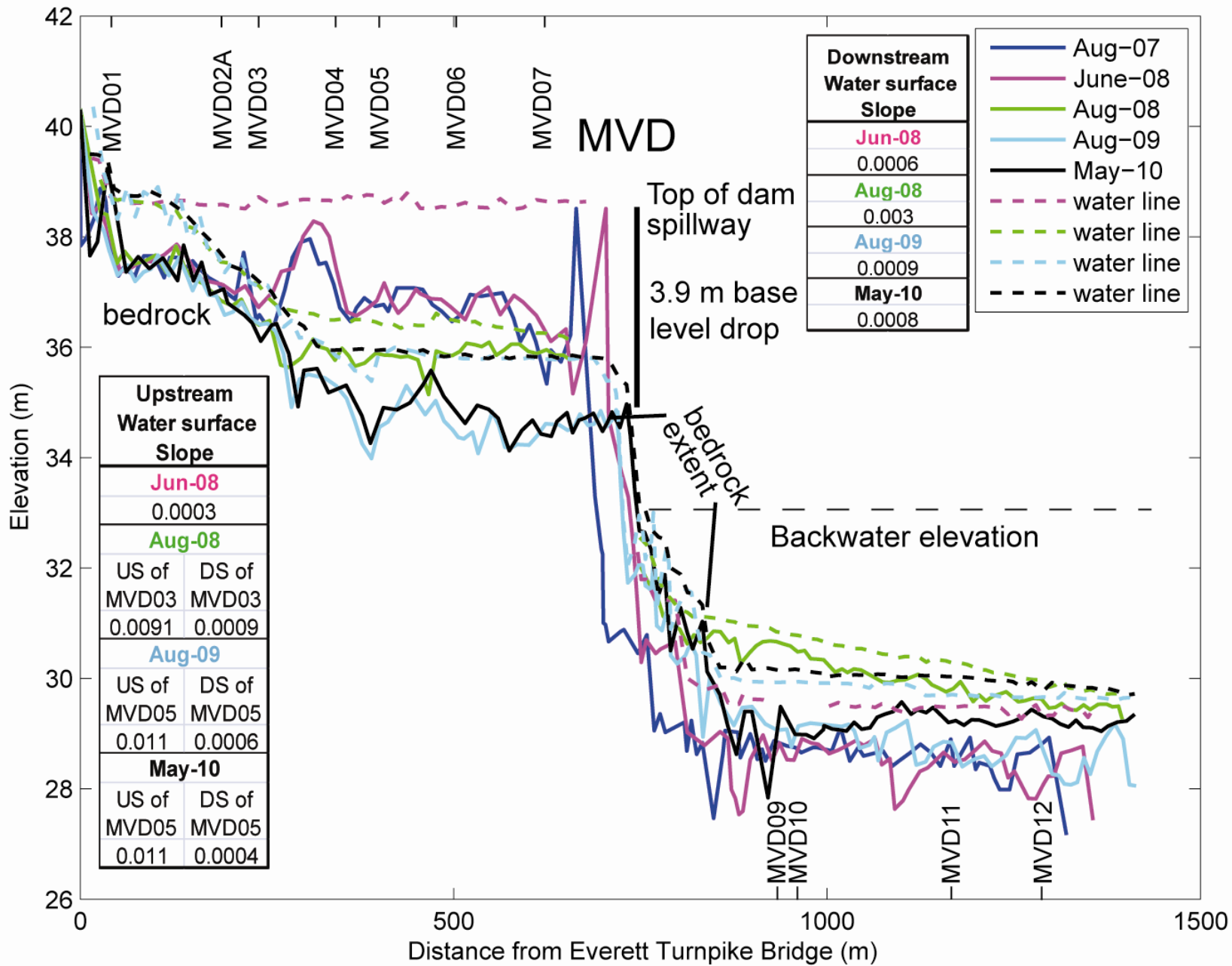


July 15, 2009



- Sand is easily transported
- Modulated by
 - Bedrock control
 - LWD recruitment
 - Floods

- Regime unchanged
- Controlled by hydrologic interaction between Souhegan and Merrimack





Questions?

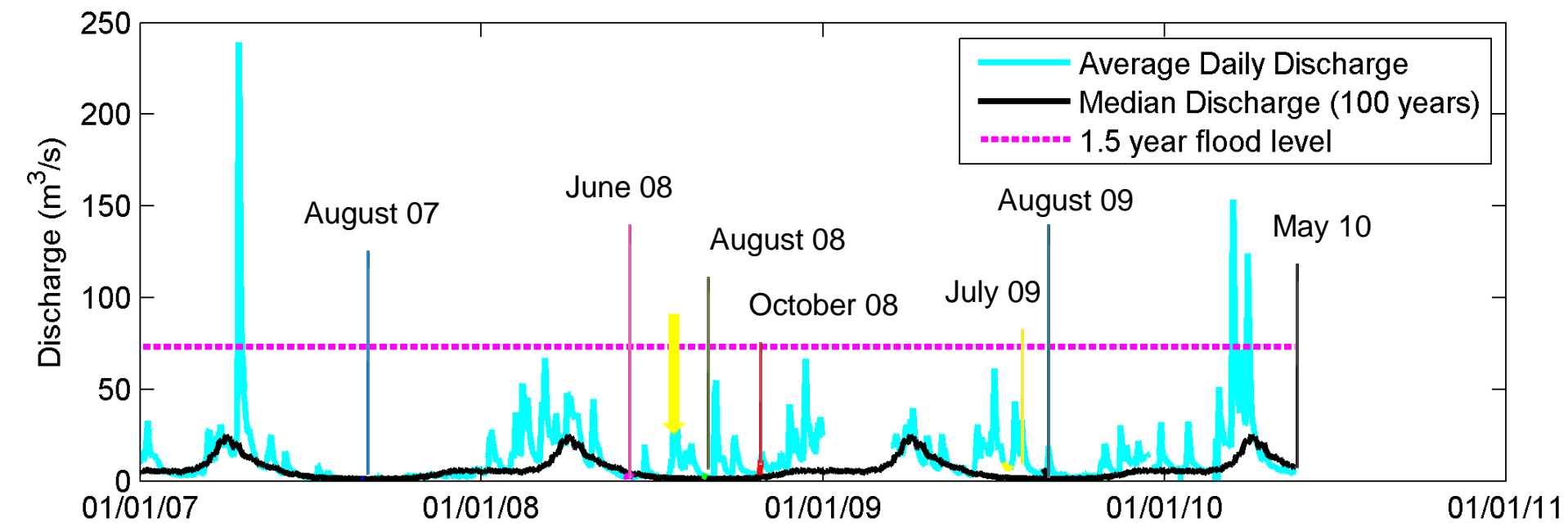
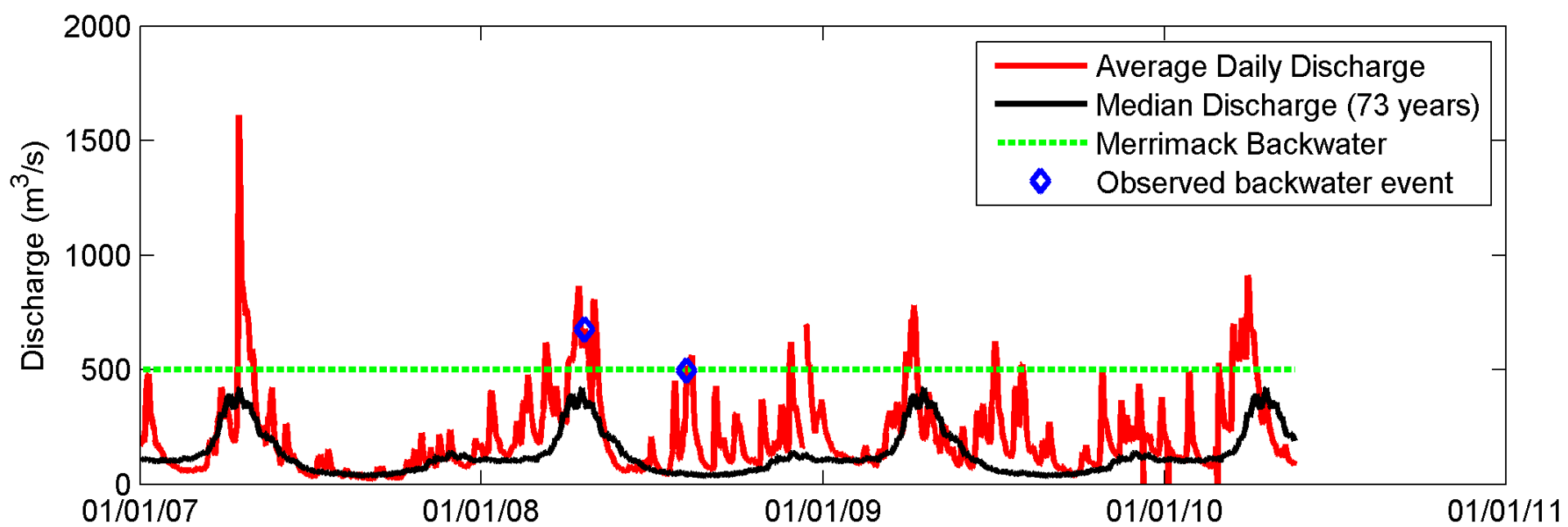


October 27, 2008

A photograph of a river or backwater area. In the foreground, several bare, dark tree trunks and branches frame the view. The water is dark and reflects the sky and trees. In the background, a wooded bank with some houses is visible under a clear blue sky.

April 19, 2008

Merrimack
Backwater



August 8, 2008

Merrimack Backwater

