DEP's SPA Program and BCG

Brief Update Summary

September 15, 2015

DEPARTMENT OF
ENVIRONMENTAL
PROTECTION
MONTGOMERY COUNTY • MARYLAND

Working together for a cleaner, greener county.

Special Protection Area (SPA) Program

- Implemented 1994

- SPA is "a geographic area where: existing water resources, or other environmental features directly relating to those water resources are of <u>high quality or unusually sensitive</u>; and proposed land uses would threaten the quality or preservation of those resources or features in the absence of special water quality protection measures which are closely coordinated with appropriate land use controls."

Special Protection Area (SPA) Program

- Currently 5 SPAs
  - Piney and Clarksburg originally created with very limited or no impervious caps (Clarksburg 10% cap on industrial on west side of I-270)
  - Environmental overlay zone added to Paint Branch in 1997 to restrict new development to 10% and then amended to 8% in 2007
  - Upper rock creek SPA established in 2004 with environmental overlay zone of 8%
  - Ten Mile Creek SPA added in 2014, with various IA levels established through overlay zones

Special Protection Area (SPA) Program

- March 2013 – Changes to County Code Chapter 19
  - Transfer of responsibility for BMP monitoring from developers to DEP
  - Regulation being finalized to establish fee that developers pay to cover monitoring costs
  - Fee reg introduced to County register June 2015; currently addressing comments and making some minor revisions

Biological Condition Gradient (BCG)

- **Final report** "Calibration of the Biological Condition Gradient (BCG) for Fish and Benthic Macroinvertebrate Assemblages in the Northern Piedmont region of Maryland" published last year, **August 29, 2014**

- a "scientific framework for characterizing biological response to anthropogenic stress"

Biological Condition Gradient (BCG)

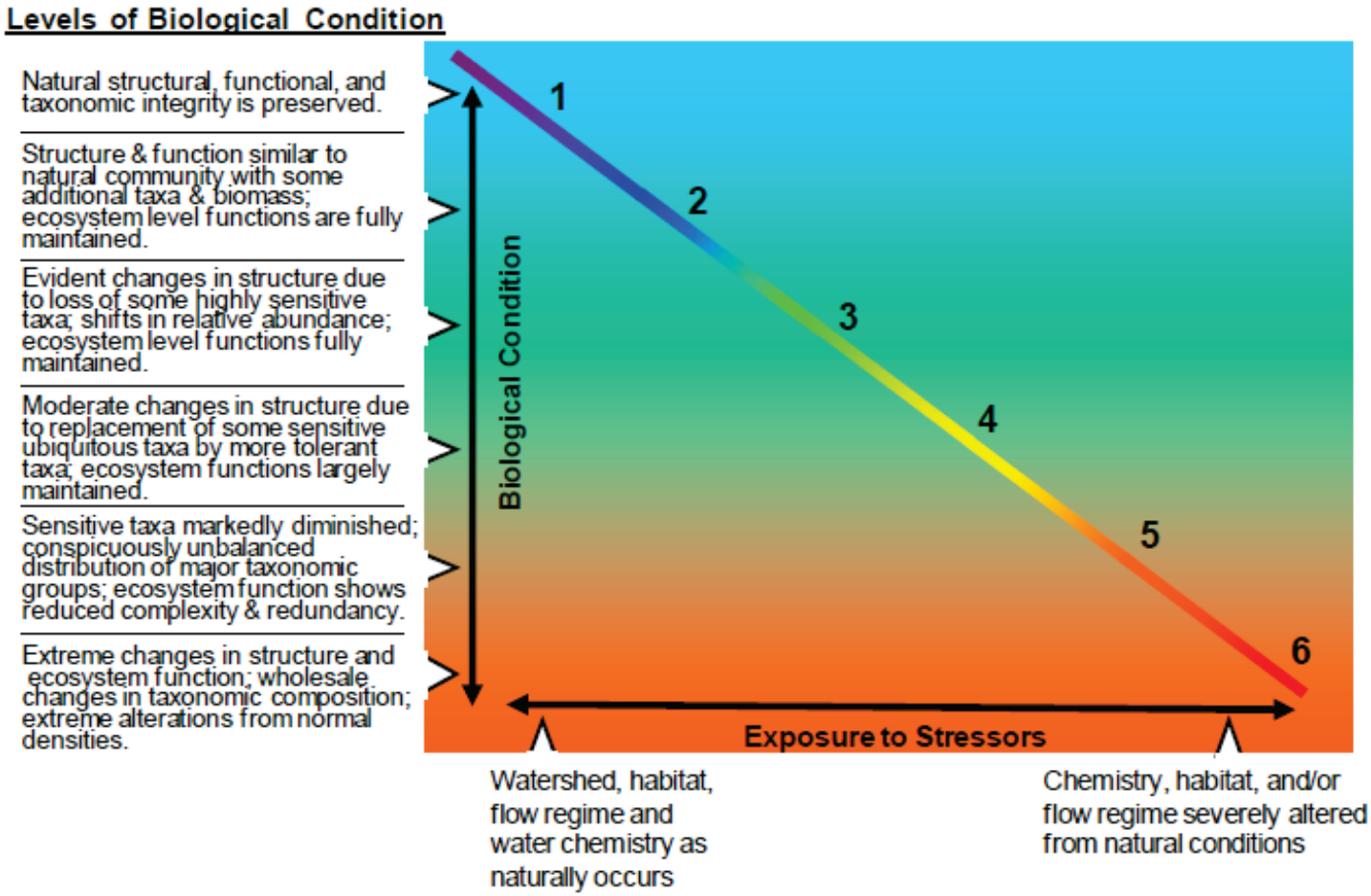
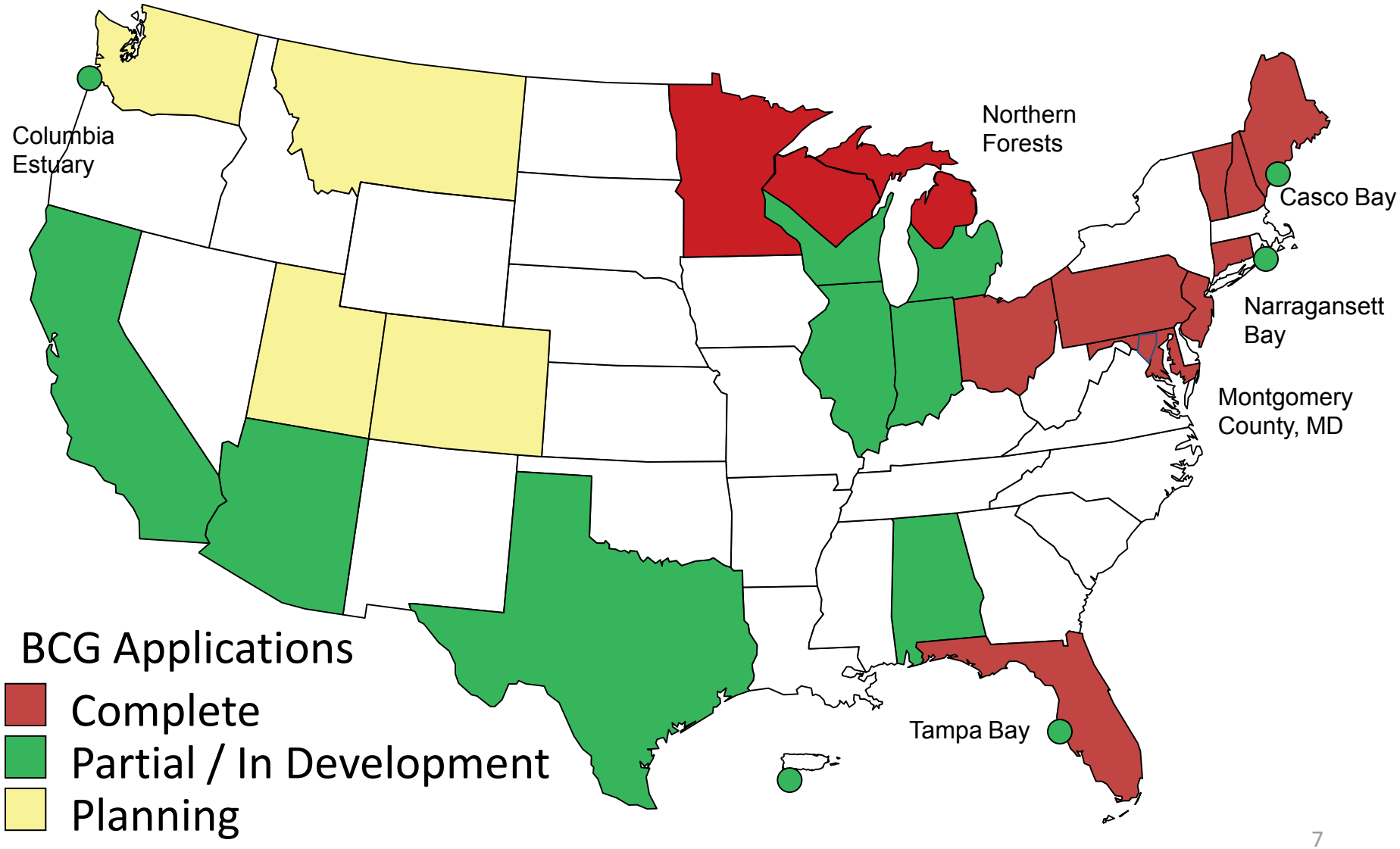


Figure 2. The Biological Condition Gradient (BCG), modified from Davies and Jackson 2006. The BCG was developed to serve as a scientific framework to synthesize expert knowledge with empirical observations and develop testable hypotheses on the response of aquatic biota to increasing levels of stress. It is intended to help support more consistent interpretations of the response of aquatic biota to stressors and to clearly communicate this information to the public, and it is being evaluated and piloted in several regions and states.

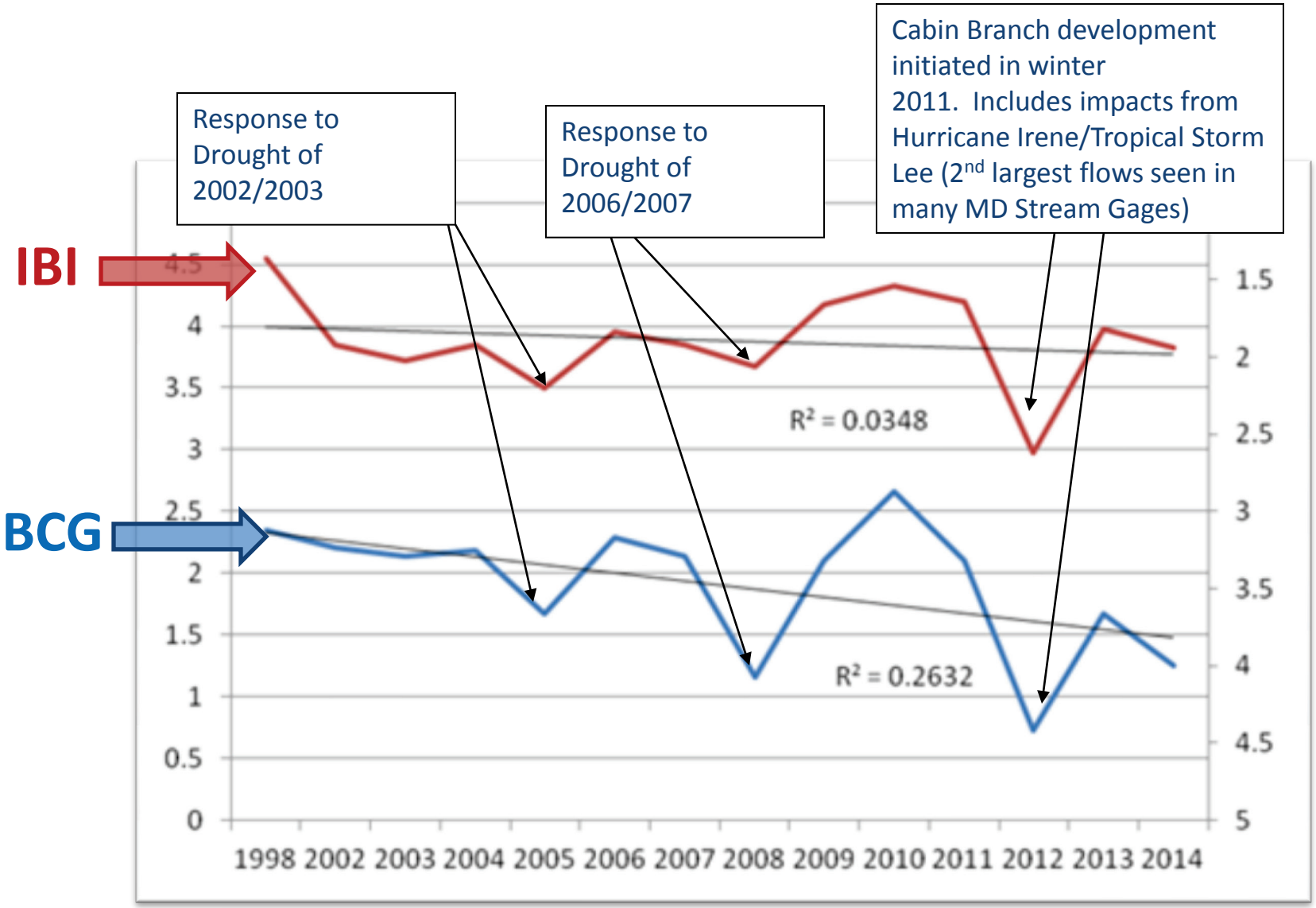
Biological Condition Gradient (BCG)



Biological Condition Gradient (BCG)

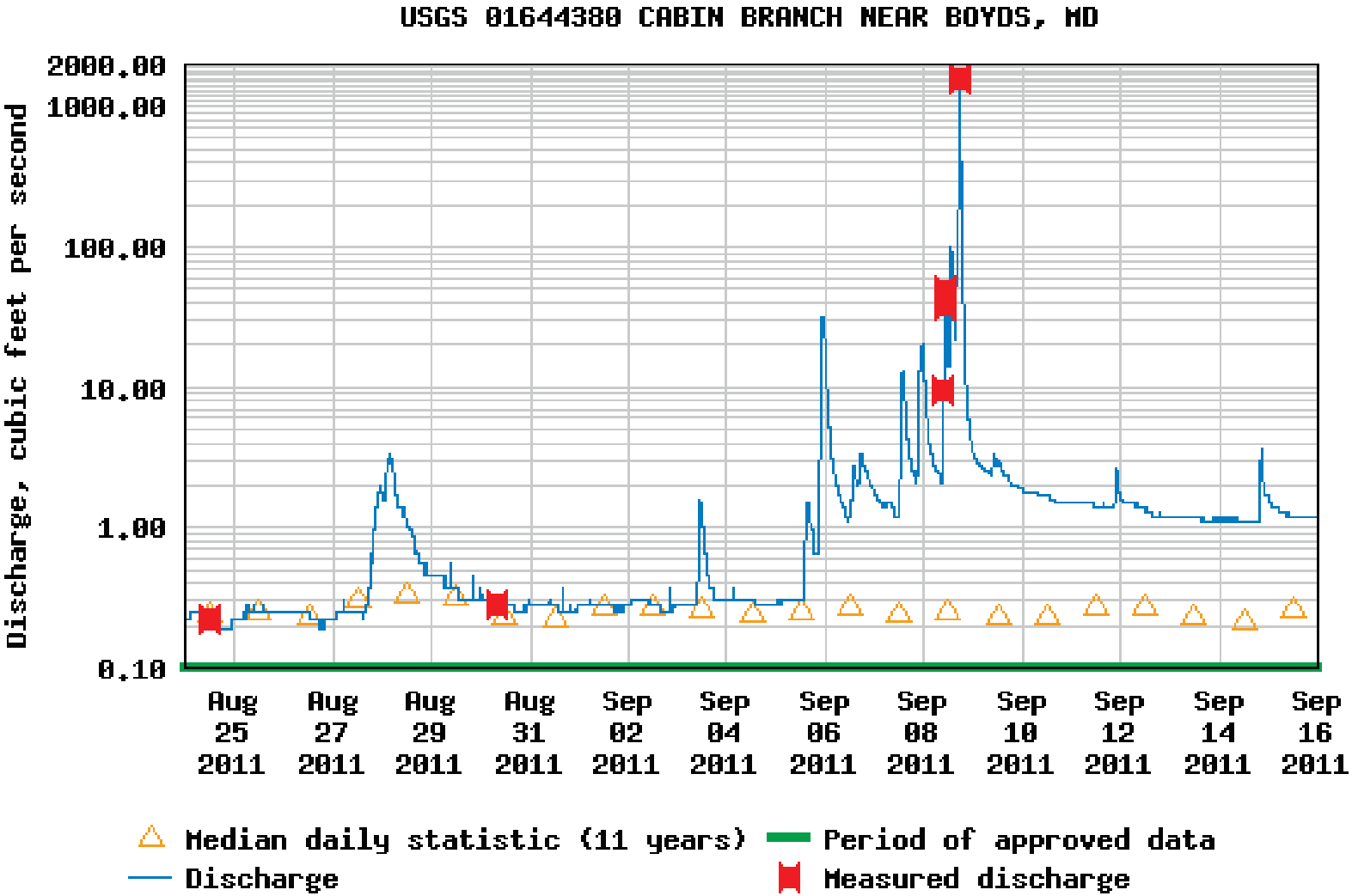
- **How Does BCG compare to IBI?**
  - BCG results are very similar to IBI
  - BCG appears to better characterize streams with larger drainage areas
  - Plots trends more confidently
  - Finer scale, but less noise in results
  - Shows more strongly that <u>developed sites are less resilient to recover</u> from major impacts

Cabin Branch



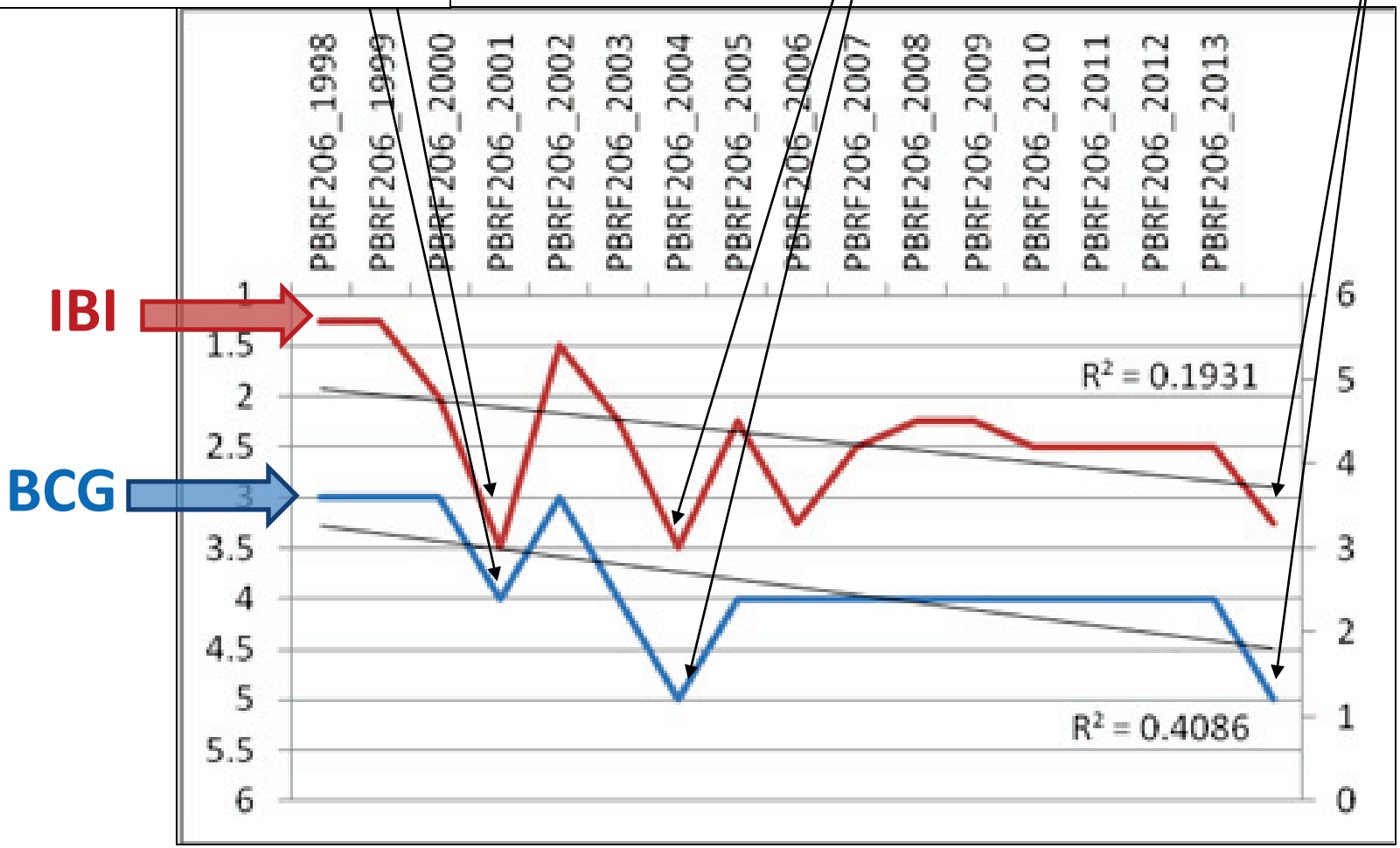
Cabin Branch

Hurricane Irene/Tropical Storm Lee



Right Fork Paint Branch

Decline after developments initiate: Hunt/Lion Den Property, Hunt/Miles Property (2 largest properties to be developed in this drainage area)

Decline after several developments initiate: Allnutt/Peach Orchard Estates, Briar Cliff Manor West, Cedar Ridge Community Church Includes drought conditions of the early 2000s.

Large debris dam formed, degrading upstream habitat and serving as a fish blockage.