Assessment of Methoprene in Marine Waters After Catch Basin Treatment with Altosid XR Briquets – Gregg Hunt

a) Study area – Beaufort County
   i) 600 sq mi
   ii) Many foreclosures in area
   iii) A lot of water and many small islands
b) WNV detected in 2003
c) Source of mosquitoes largely catch basins
   i) Plan - survey and treat all catch basins
   ii) 4000 storm water drainage ponds
   iii) Evaluated 3-day altosid briquets for treating catch basins
   iv) Switched to XR briquets due to manpower issues
d) Media attention led to concern from environmental groups as to the effect of altosid on marine organisms
e) STUDY #1 – is there an unintended effect of altosid on marine organisms?
   i) Study area – downtown business district for the city of Beaufort
      (1) Several different types of habitat
      (2) 234 catch basins
      (3) 16 outfall structures
      (4) Drain into a primary river
      (5) Tidal creek and tidal pond
      (6) Tides are typically 6-9 feet
   ii) Procedure
      (1) Locate and map catch basin
      (2) Treat with one briquet
      (3) Sample outflow water at 13 collecting sites after rainfall
      (4) Track concentrations of methoprene over time (ppt)
   iii) Results
      (1) Pretreatment – no methoprene detected
      (2) During the following 6 months
         (a) Methoprene was detected at only 4 sites
         (b) Amounts were in parts per trillion
      (3) 17” of rain in area
      (4) Toxicology studies
         (a) Crustaceans: Grass shrimp and …
         (b) Very sensitive non-target
         (c) Amounts of methroprene that affect shrimp during toxicology studies are much higher than that found during study
         (d) Methoprene degrades rapidly in sunlight