An Integrated Marsh Management Project at Wertheim National Wildlife Refuge: Evaluation after 3 Years – Dominick Ninivaggi (Suffolk County DPW)

a) Environmental impact statement approved March 2007
b) Regional perspective
    i) Successfully used in 6 states with control levels of 90-100%
        (1) Maryland
        (2) NJ
        (3) Delaware
        (4) Connecticut
        (5) Rhode Island
        (6) Massachusetts
    ii) Never done in New York
    iii) Programs seem to work well at reducing use of pesticides AND reducing mosquito numbers
c) Suffolk County has a resource focus
d) Goal: rehabilitate ditched marshes
    i) Needed to develop resources
    ii) Need to create a plan
    iii) Need permits
    iv) Need to show positive impact
        (1) Reduced mosquito populations
        (2) Reduced phragmites
        (3) Increased wildlife use
        (4) Fish using site
    v) Need to show minimal negative impacts – minimal damage to wetland
    vi) Return to "natural" system
e) Plan features
    i) Tidal creeks
    ii) Ponds
    iii) Shallow connectors
    iv) Filling select ditches
    v) Smoothing and blading of area
f) Measures of success (USFWS protocols)
    i) Many many parameters were measured
    ii) 2 managed areas, 2 reference sites
    iii) Prime focus
        (1) Mosquito larvae
            (a) Frequency of larvae in dips
            (b) Amount of area breeding
            (c) Likelihood of finding larvae – cluster analysis
            (d) Used targeted sampling
        (2) Vegetation
            (a) Primarily phragmites
            (b) Mapping and photography
    iv) Also looked at:
        (1) Nekton
        (2) Birds
        (3) Invertebrates
        (4) Salinity/water table

(5) Marsh accretion

g) Results
   i) Mosquitoes
      (1) Reduced larvicide treatments
      (2) Found fewer larvae compared to reference sites
   ii) Vegetation
      (1) Reduction of phragmites
      (2) Increased high marsh vegetation
   iii) Bird use increased
   iv) More fish using marsh
   v) Did not increase appreciably the amount of open water
   vi) Not all measures were easy to analyze
h) See data posted on web site