

The History of Phragmites in the Eastern US With Some Implications for Mosquito Control - Bob Meadows

- a) What is the big deal
 - i) Huge problem in NE US
 - ii) Will takeover marsh areas
 - iii) Loss of species diversity
 - iv) Changes hydrology
- b) What happened
 - i) Started with a slow expansion
 - ii) Not quite sure why the sudden explosion
 - (1) Strain mutation?
 - (2) Anthropomorphic effects?
 - (3) Species introduction?
- c) Figuring out the problem
 - i) Genetic ecology - Saltonstall, 2002)
 - ii) Genetic mutations have occurred
 - iii) M-type introduced to area
 - iv) All Phragmites is now an introduced strain
- d) How did this happen
 - i) Ballast yard - areas where ships dumped ballast before taking on a load
 - ii) Introduction at Kaighn's Point NJ in the mid-1800s
- e) Problems
 - i) Introduced species
 - (1) Spread by rhizomes
 - (2) Mats become very thick
 - (3) Dry out the marsh
 - (4) Prevent growth of other species
 - (5) Raise marsh level
 - (6) Fills in small channels
 - ii) Native
 - (1) Less dense
 - (2) More species diversity within phrag stands
 - (3) Tend to be higher up in drainage area
- f) Telling the difference
 - i) Native
 - (1) Leaf sheaths loose
 - (2) Dark spots on stem
 - (3) Shorter
 - ii) Introduced
 - (1) Leaf sheaths tight
 - (2) Paler color
 - (3) Very tall and dense
- g) Mosquito issues
 - i) Introduced phrag is very difficult to walk through - hard to do surveys
 - ii) Need to mow inspection trails

- (1) Mowing creates open areas - does this increase access of mosquitoes and increase breeding
 - (2) Trail placement is critical
 - (3) Area accessed may not be representative of mosquito problem
- h) Dealing with Phrag-dominated marshes
- i) Mow - time consuming
 - ii) Burn - can be dangerous