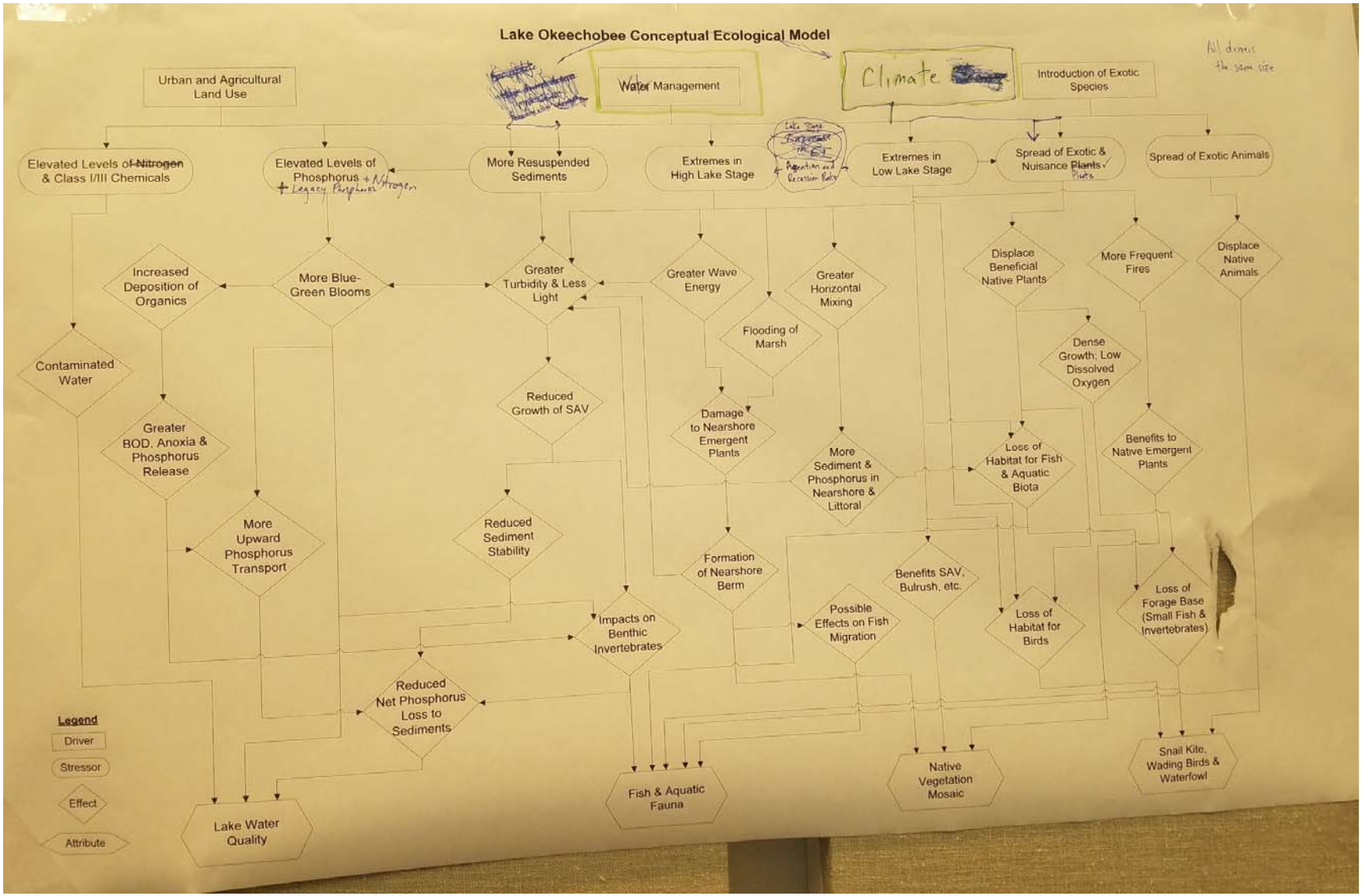
Lake Okeechobee

Lake Okeechobee CEM Updates

- Added Driver for Climate (natural and anthropogenic)
- Added Stressor – ascension and recession rates
- Modified Hypothesis Clusters CEMs to match Total Lake CEMS (same drivers and stressors)
- Scored Drivers and Stressors for Importance
- Follow-up meeting to update connection lines between Driver/Stressors/Processes/Attributes for weighting (importance/uncertainty)


Lake Okeechobee Conceptual Ecological Model
Urban and Agricultural Land Use
Water Management
Climate
Introduction of Exotic Species
Elevated Levels of Nitrogen & Class I/III Chemicals
Elevated Levels of Phosphorus + Legacy Phosphorus + Nitrogen
More Resuspended Sediments
Extremes in High Lake Stage
Extremes in Low Lake Stage
Spread of Exotic & Nuisance Plants
Spread of Exotic Animals
Increased Deposition of Organics
More Blue-Green Blooms
Greater Turbidity & Less Light
Greater Wave Energy
Greater Horizontal Mixing
Flooding of Marsh
Displace Beneficial Native Plants
More Frequent Fires
Displace Native Animals
Contaminated Water
Greater BOD, Anoxia & Phosphorus Release
Reduced Growth of SAV
Damage to Nearshore Emergent Plants
More Sediment & Phosphorus in Nearshore & Littoral
Dense Growth; Low Dissolved Oxygen
Loss of Habitat for Fish & Aquatic Biota
Benefits to Native Emergent Plants
More Upward Phosphorus Transport
Reduced Sediment Stability
Formation of Nearshore Berm
Benefits SAV, Bulrush, etc.
Possible Effects on Fish Migration
Loss of Habitat for Birds
Loss of Forage Base (Small Fish & Invertebrates)
Impacts on Benthic Invertebrates
Reduced Net Phosphorus Loss to Sediments
Legend
Driver
Stressor
Effect
Attribute
Lake Water Quality
Fish & Aquatic Fauna
Native Vegetation Mosaic
Snail Kite, Wading Birds & Waterfowl