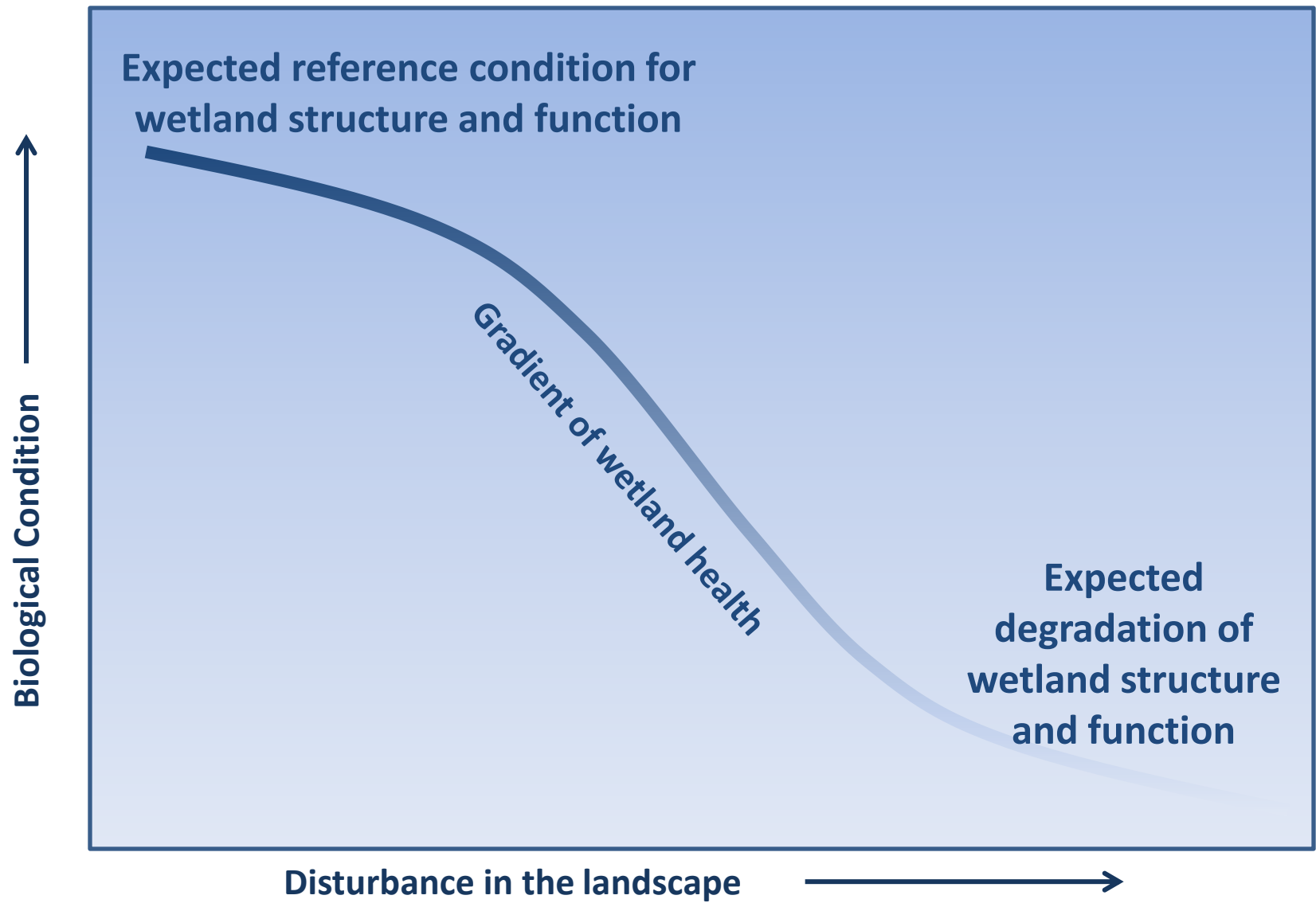


MACROPHYTES AS INDICATORS OF WETLAND HEALTH: CROSS-WALKING FEDERAL AND STATE METHODOLOGIES

Erica Hernandez and Kelly Reiss
University of Florida Center for Wetlands

June 4, 2012 INTECOL: International Wetlands Conference
Session 25: 2011 National Wetland Condition Assessment

BIOLOGICAL ASSESSMENT



Adapted from: U.S. Environmental Protection Agency Nutrient Criteria
Technical Guidance Manual Wetlands June 2008 EPA-822-B-08-001

SENSITIVE



Photo: Karan A. Rawlins

TOLERANT



Photo: James H. Miller & Ted Bodner

FLORIDA WETLAND CONDITION INDEX VEGETATION METRICS

**WETLAND
STATUS**



OBLIGATE



EXOTIC

Photo: Dan Clark

**ALL IMAGES:
[HTTP://BUGWOOD.ORG](http://bugwood.org)**



C.C. 3.5

Photo: Paul Bolstad



C.C. 7.5

Photo: David Stephens



ANNUAL

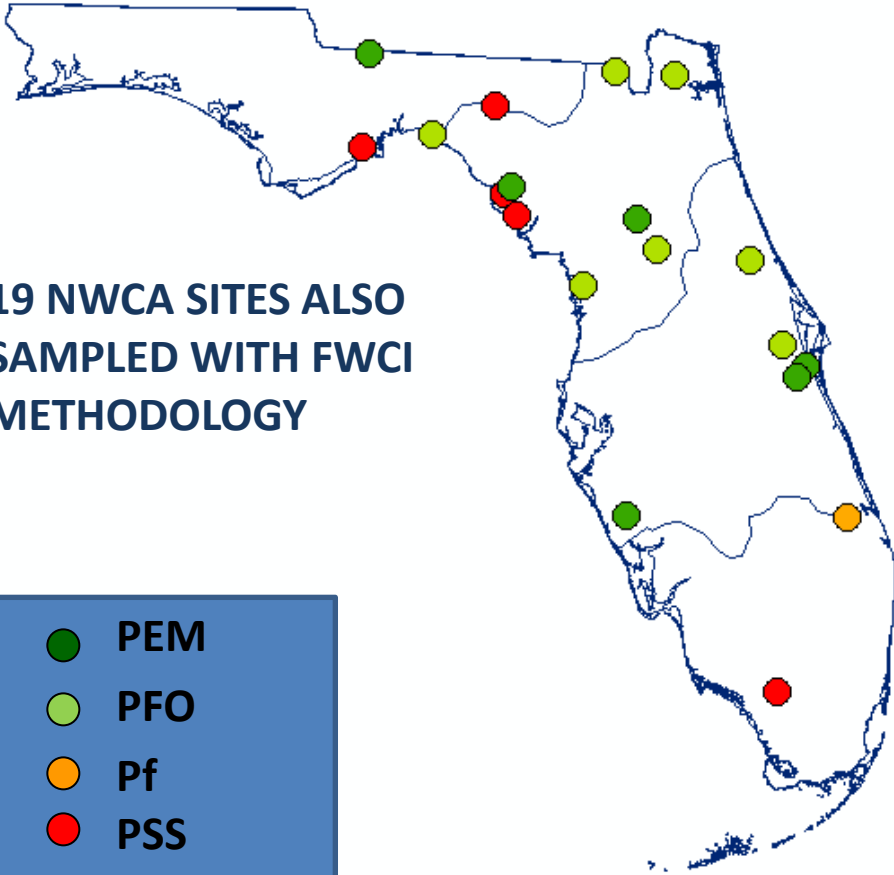
Photo: Joseph M. DiTomaso



PERENNIAL

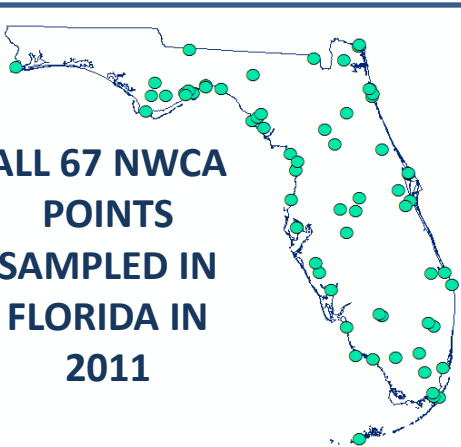
Photo: Ohio State Weed Lab Archive

**19 NWCA SITES ALSO
SAMPLED WITH FWCI
METHODOLOGY**

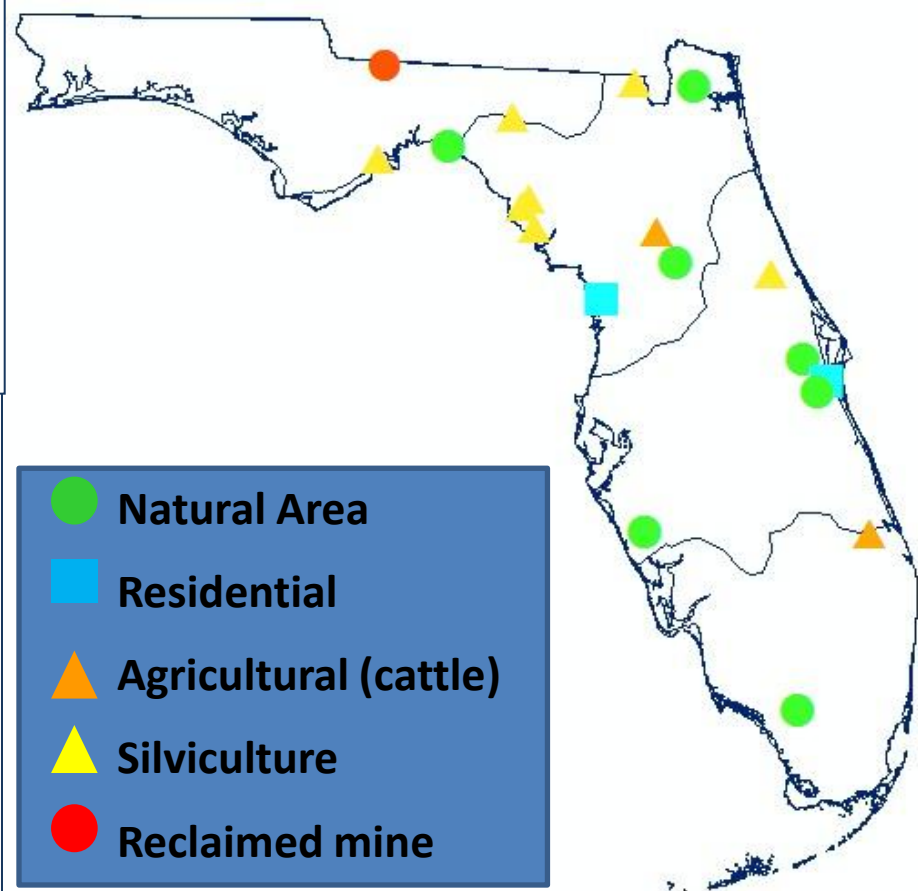


- PEM
- PFO
- Pf
- PSS

**ALL 67 NWCA
POINTS
SAMPLED IN
FLORIDA IN
2011**



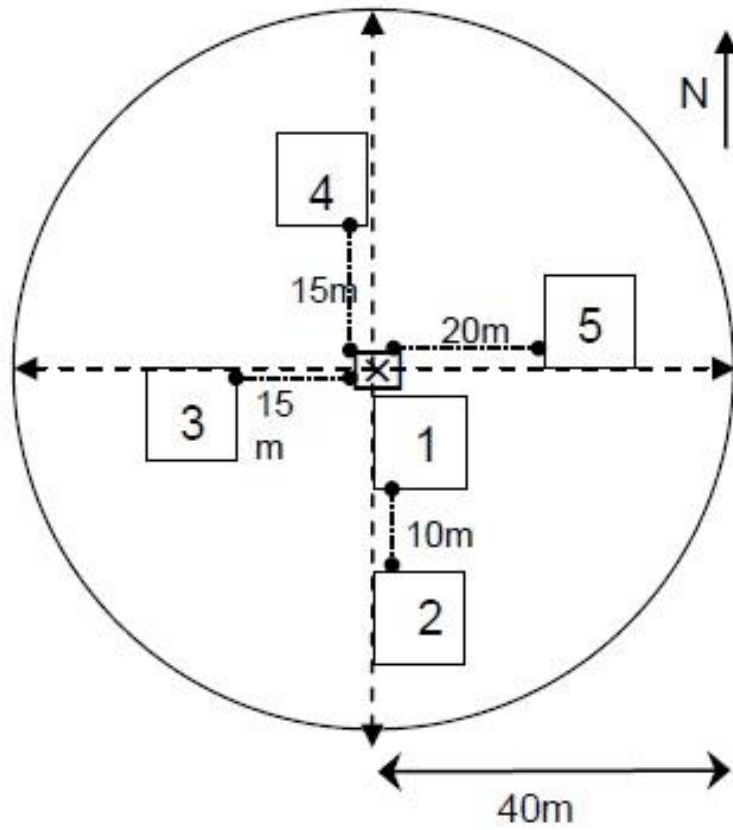
**SUBSAMPLE STRATIFIED BY
LANDUSE**



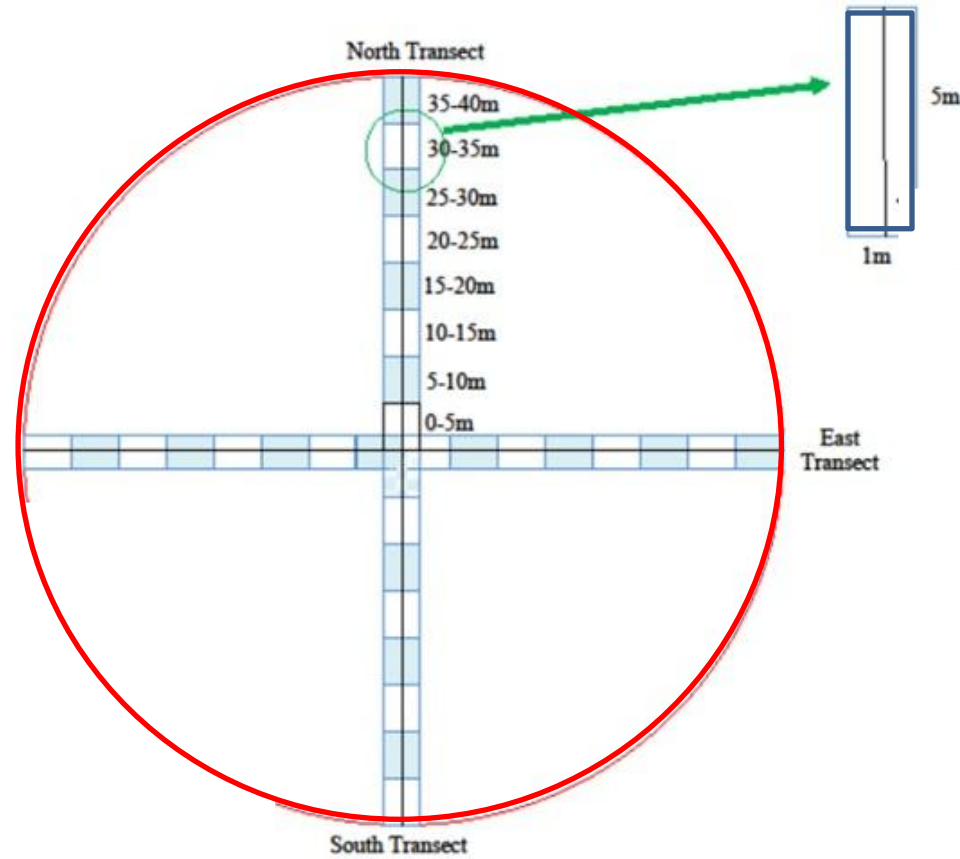
- Natural Area
- Residential
- ▲ Agricultural (cattle)
- ▲ Silviculture
- Reclaimed mine

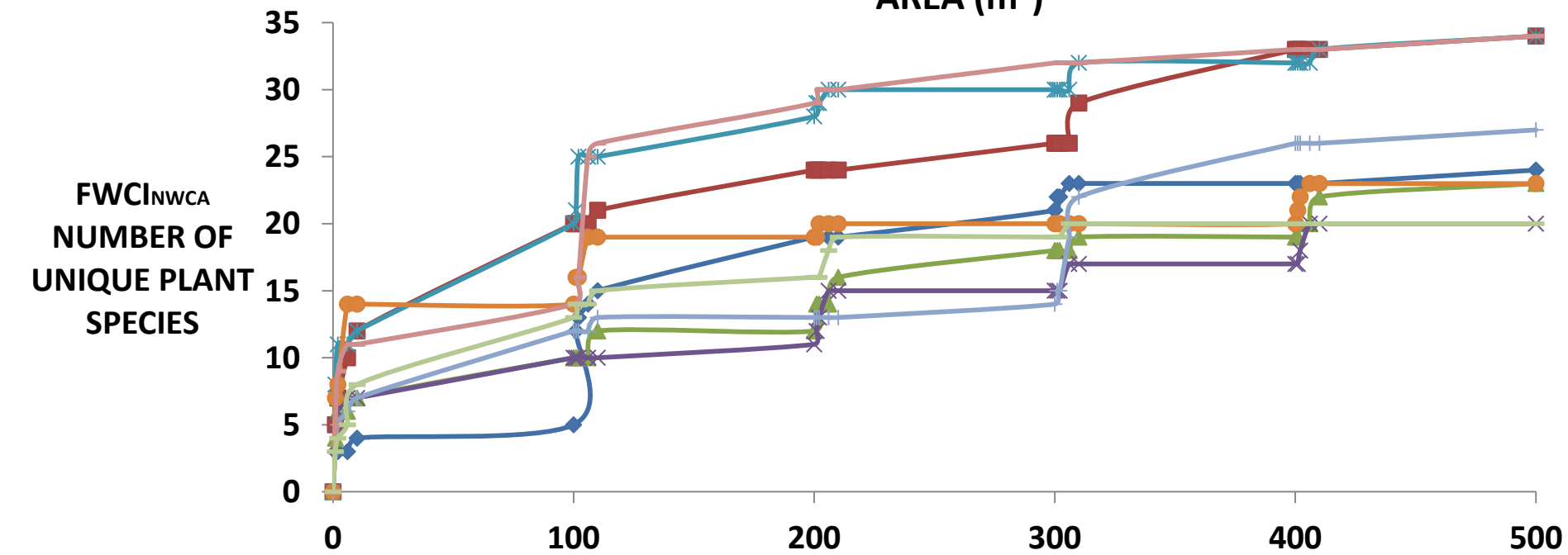
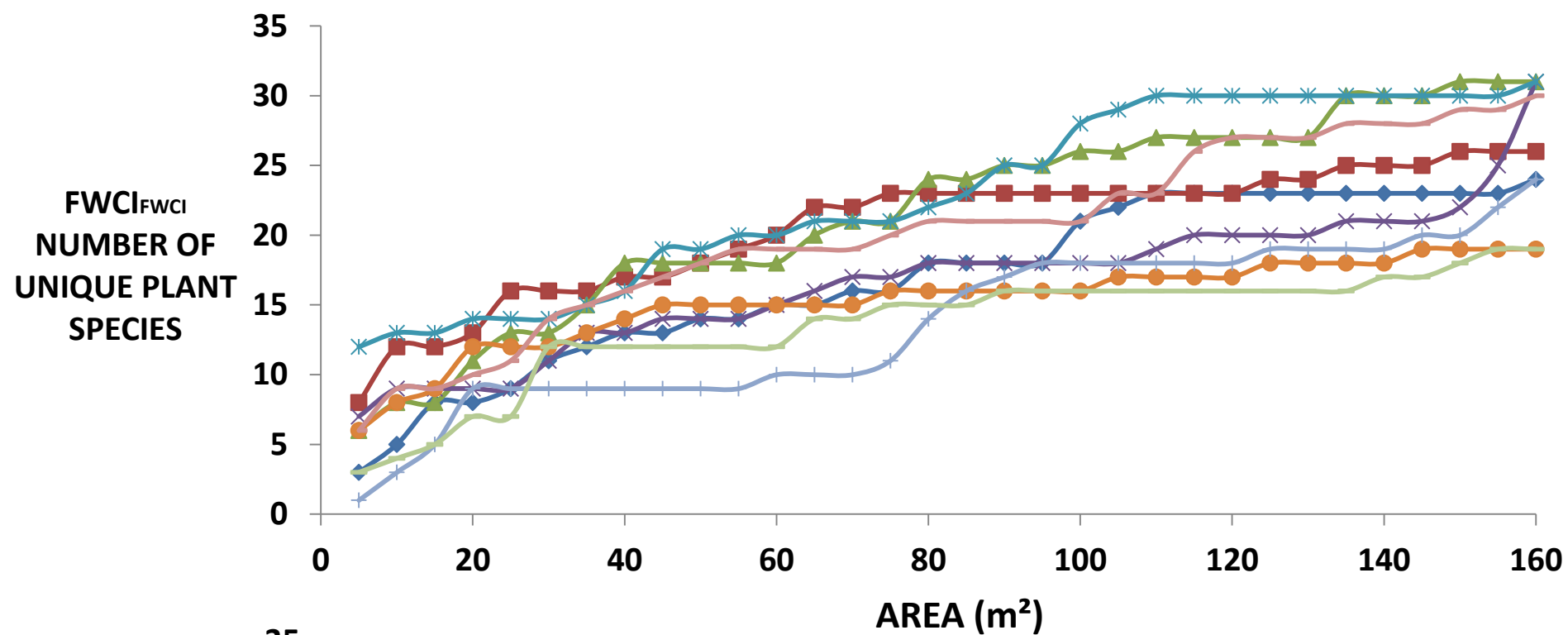
DATA COLLECTION

NWCA

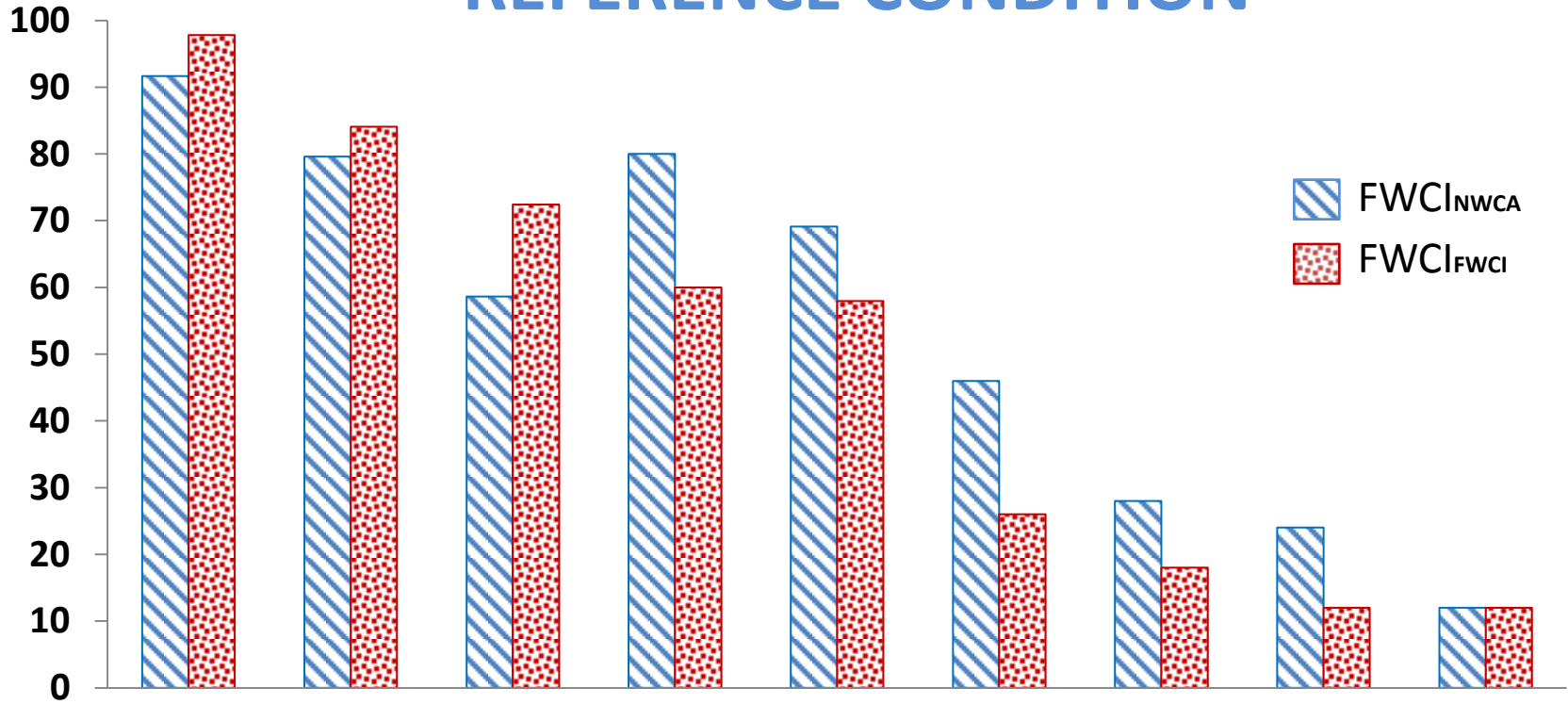


FWCI





WETLAND SCORES AS PERCENTAGE OF REFERENCE CONDITION



PFO1

PEM1

PFO2

PFO3

PFO4

PEM2

PEM3

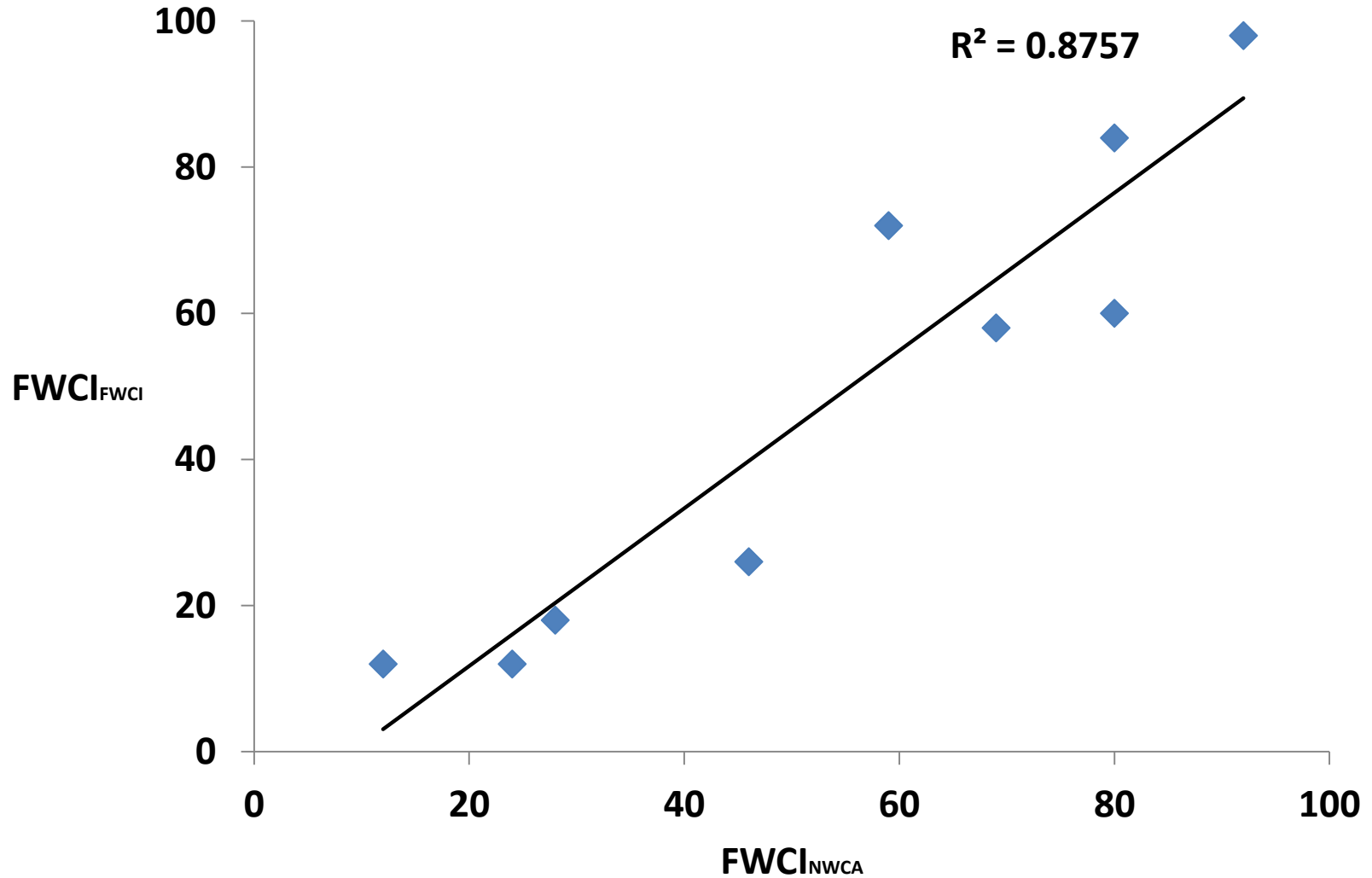
PEM4

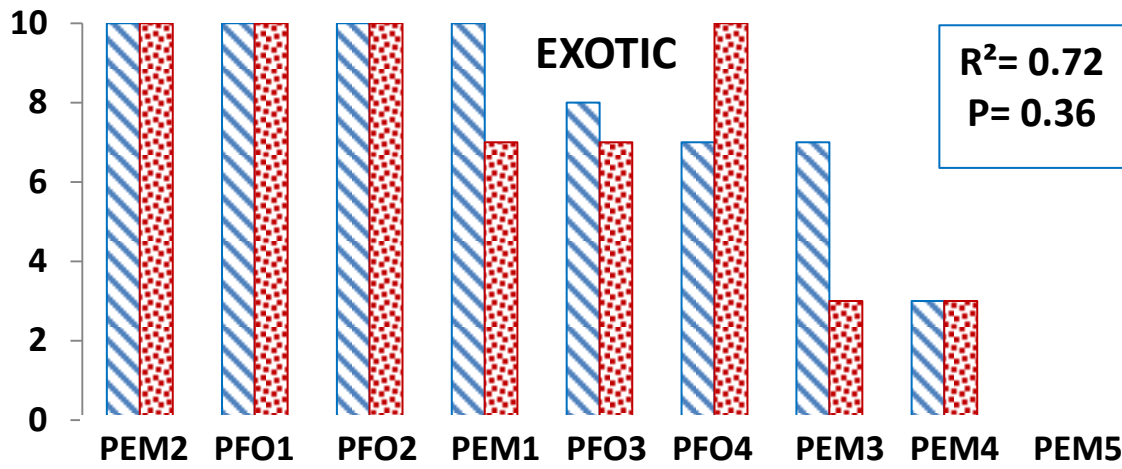
PEM5



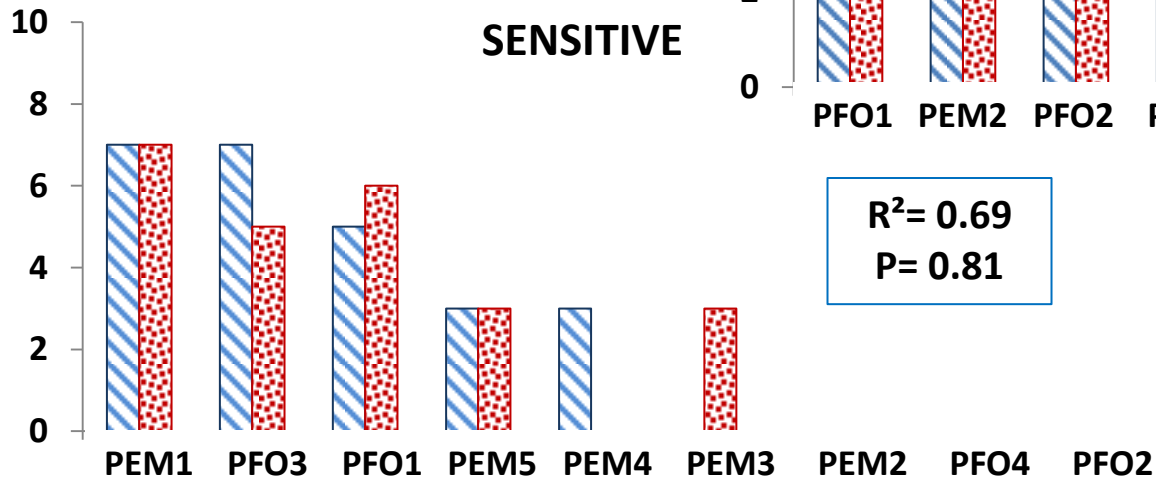
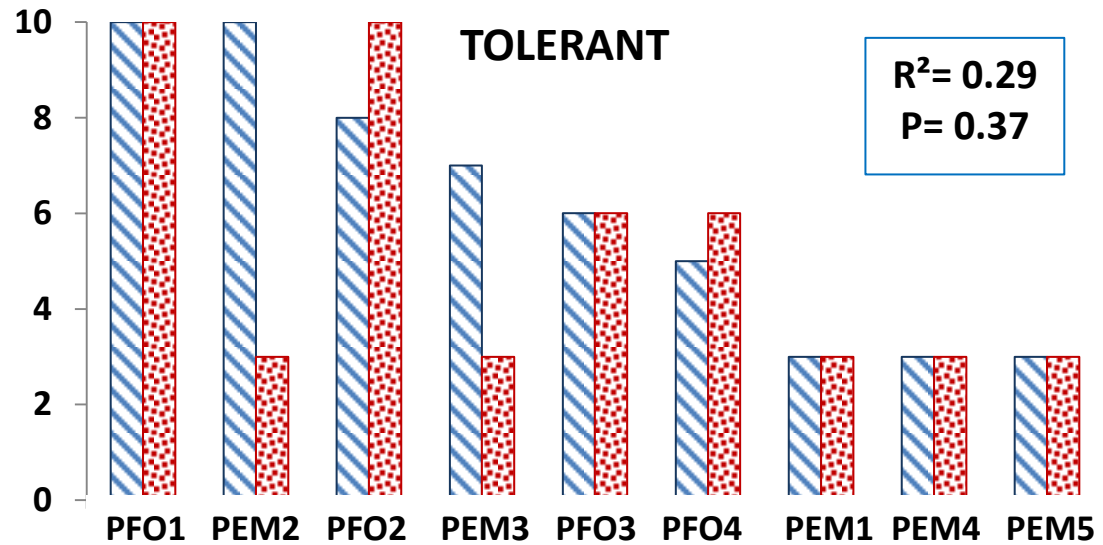
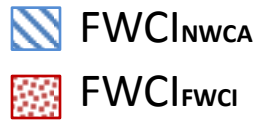
-  Natural Area
-  Residential
-  Agricultural (cattle)
-  Silviculture

COMPARISON OF FINAL SCORES AS PERCENT OF WETLAND REFERENCE CONDITION

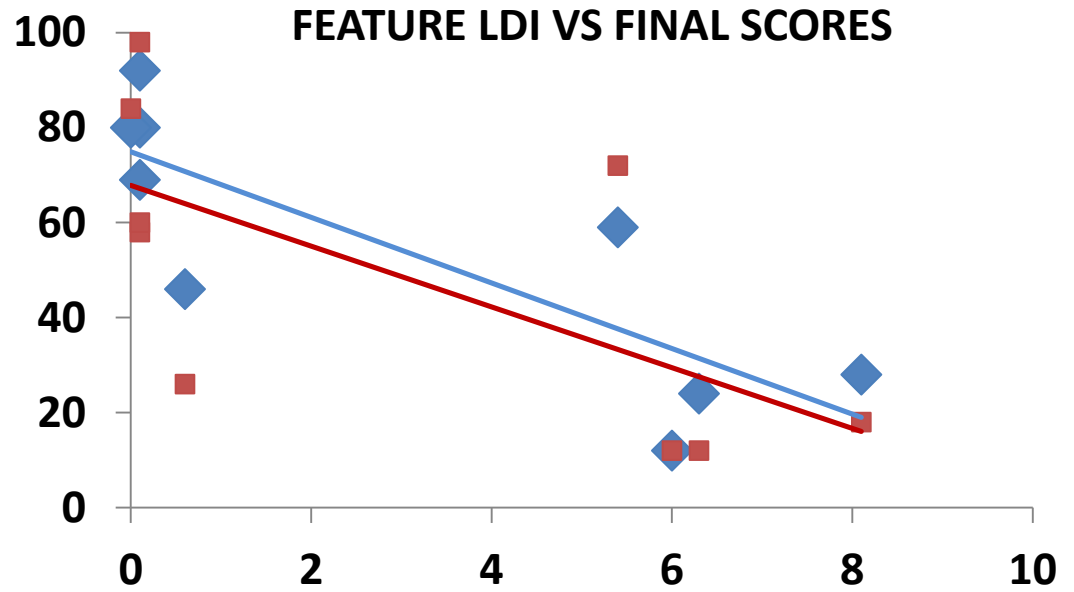




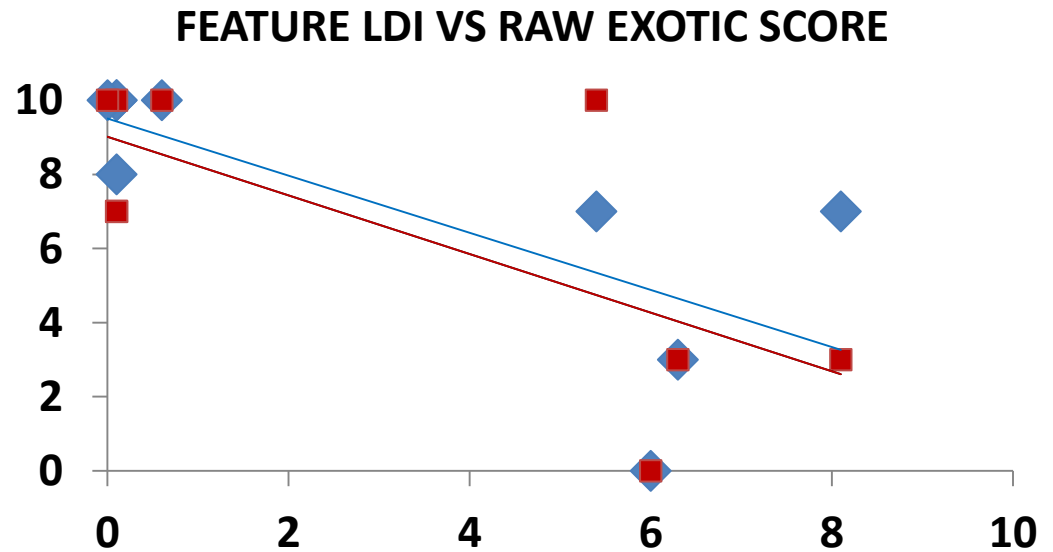
COMPARING RAW SCORES



COMPARING RESULTS WITH OTHER INDICES



◆ FWCI_{NWCA}
■ FWCI_{FWCI}



PEM1

FWCI_{NWCA} 20 species

FWCI_{FWCI} 31 species

FINAL SCORE

FWCI_{NWCA} 80

FWCI_{FWCI} 60

Exotics

FNWCA 10 FFWCI 7

A:P

FNWCA 10 FFWCI 3

PEM4

FWCI_{NWCA} 23 species

FWCI_{FWCI} 31 species

FINAL SCORE

FWCI_{NWCA} 24

FWCI_{FWCI} 12

SENSITIVE

FNWCA 3 FFWCI 0

CC

FNWCA 3 FFWCI 0

FWCI_{NWCA} 34 species

FWCI_{FWCI} 31 species

FINAL SCORE

FWCI_{NWCA} 28

FWCI_{FWCI} 18

Exotics

FNWCA 7 FFWCI 3

TOLERANT

FNWCA 7 FFWCI 3

SENSITIVE

FNWCA 0 FFWCI 3

PEM3





FUTURE PLANS FOR ANALYSIS



2012 FIELD WORK TEMPORAL VARIATION



2011 FLORIDA NWCA FIELD CREW



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