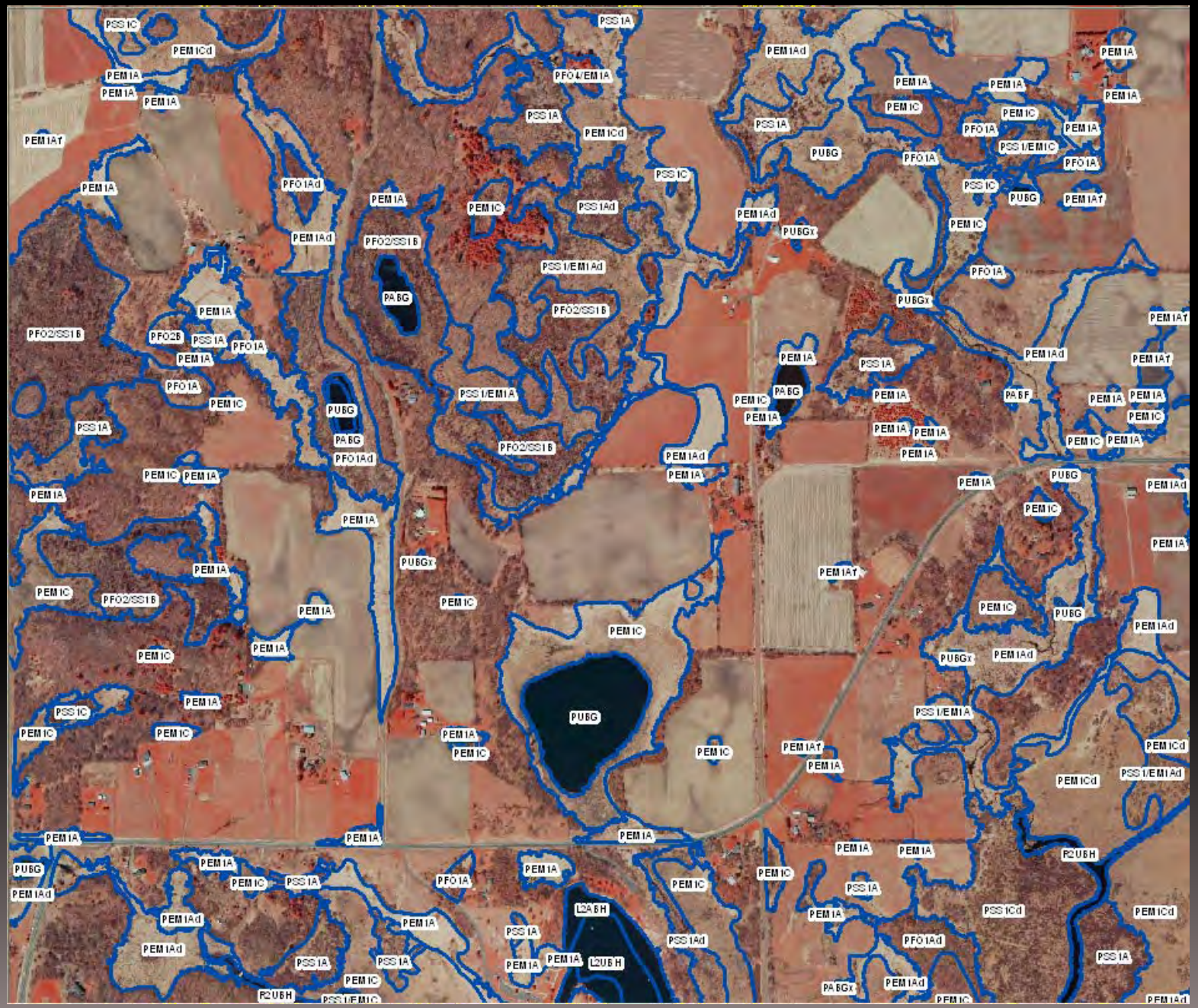
NATIONAL WETLAND INVENTORY UPDATE

Why do we need an NWI update?

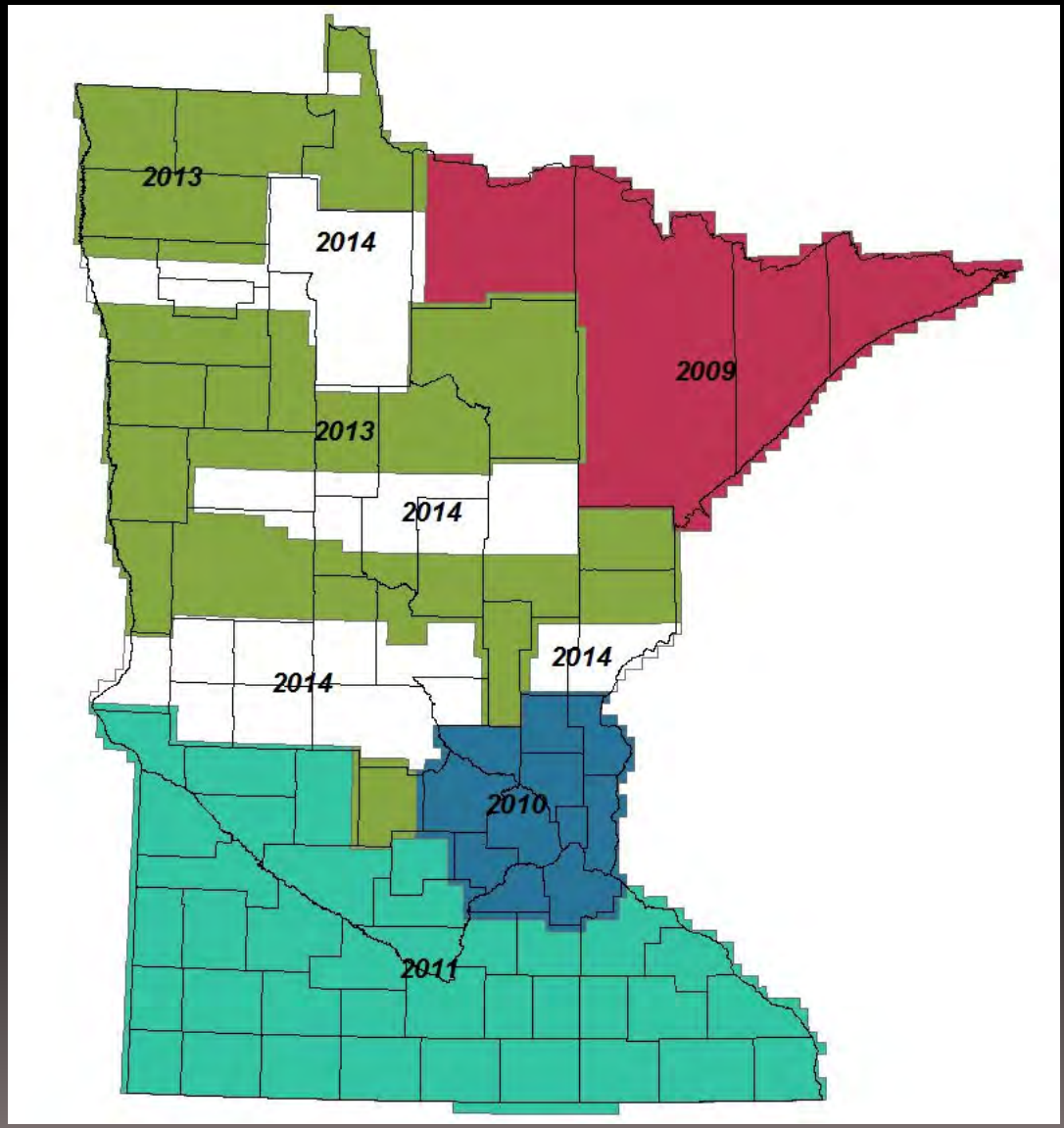
Some things have changed.


PSS1C
PEM1Cd
PEM1A
PEM1Ad
PEM1AT
PFO4/EM1A
PSS1A
PEM1C
PFO1A
PUBG
PSS1C
PSS1Ad
PFO1Ad
PFO2/SS1B
PABG
PSS1/EM1Ad
PFO2B
PUBGx
PSS1/EM1A
PFO1B
PABF
PUBGh
L2ABH
L2UBH
R2UBH
PSS1/EM1C
PSS1Cd
PEM1Cd

Spring Imagery Acquisition

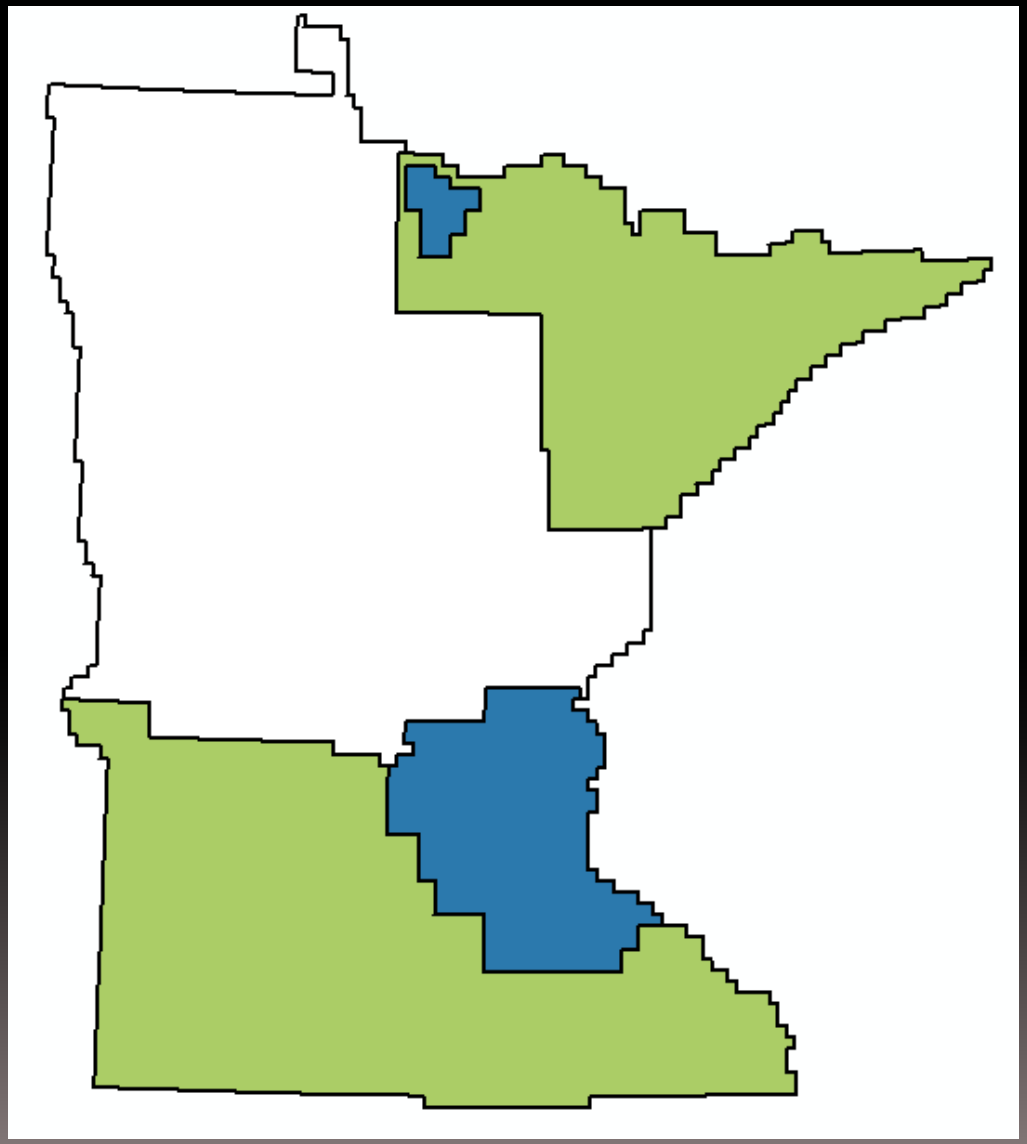
- 0.5-meter or 1-foot resolution

- Percent complete = 81.7%
- Percent pending = 18.3%



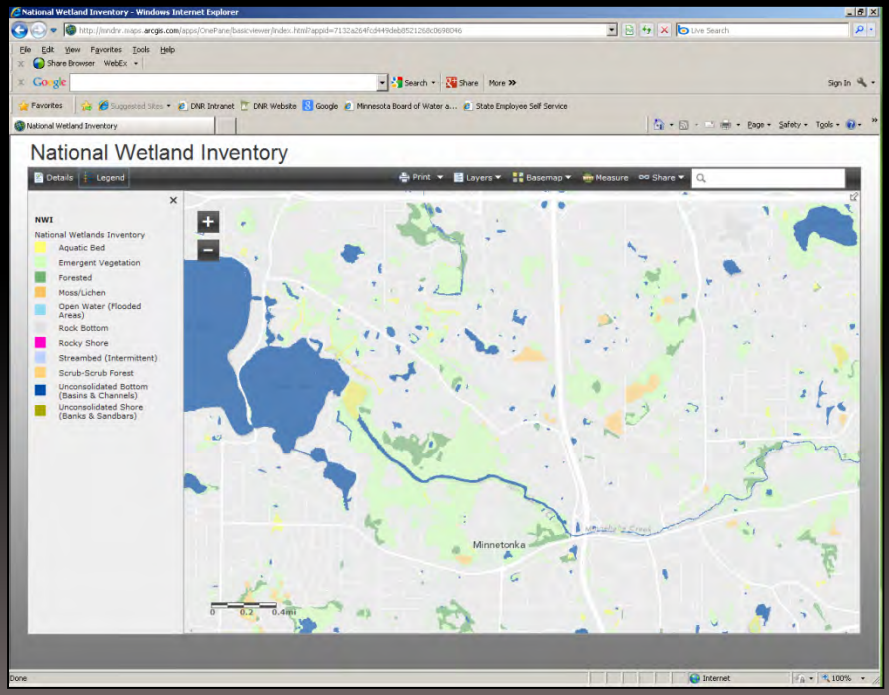
Wetland Mapping

- Complete = 9%
- In-progress = 46%
- Pending = 45%



Project Schedule & Data Access

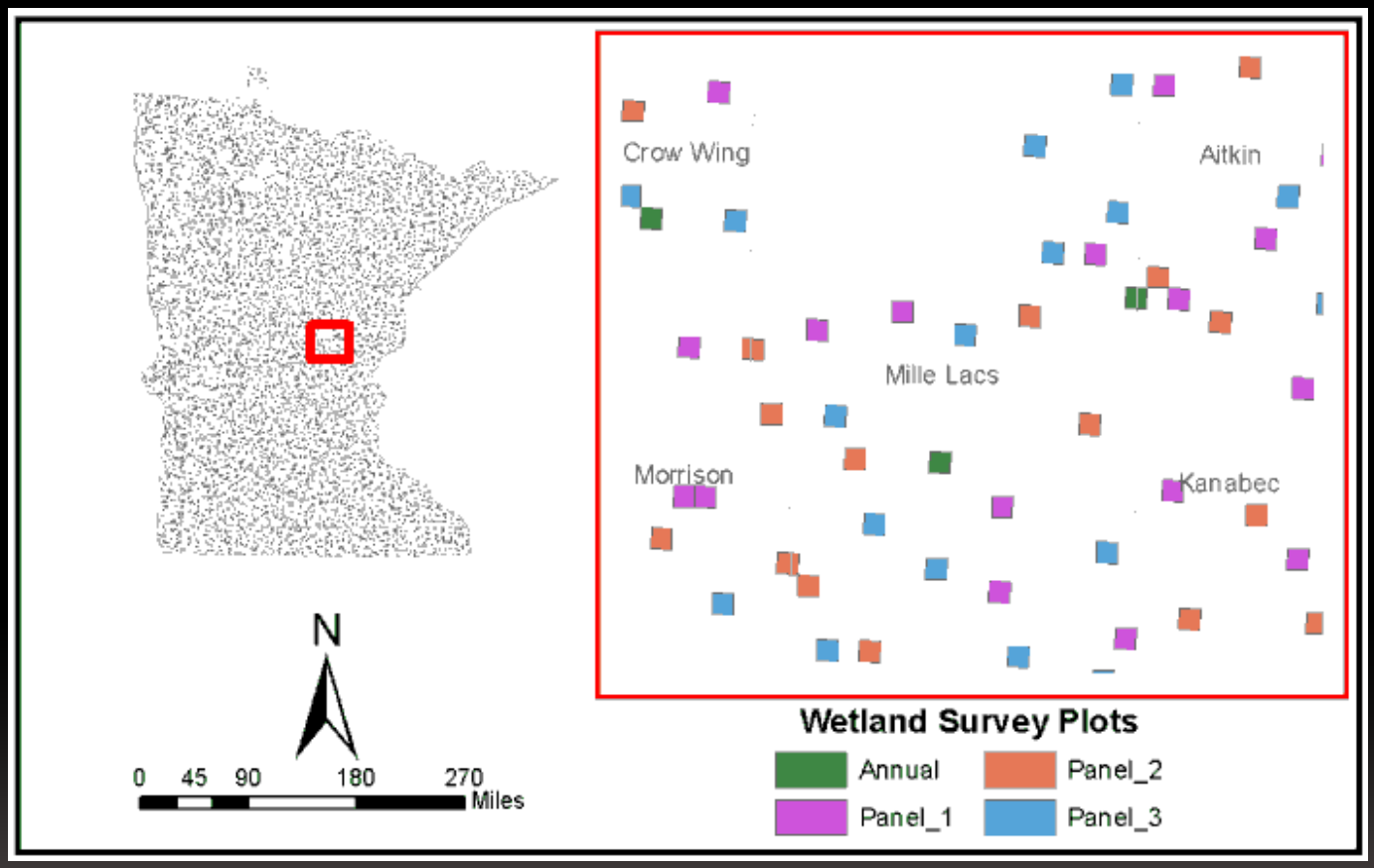
- Completion: 2019 (depending)
- Download from DNR Data Deli
- Also download through USFWS
- Online viewing at:



http://www.dnr.state.mn.us/eco/wetlands/map.html

WETLAND STATUS AND TRENDS

Wetland S&T Monitoring Program Design



- Random sample survey
- Remote sensing / GIS approach

- 4,990 primary sampling units
- 1-square mile each
- Acquisition on 3-yr rotation

Mapping Procedure

- Delineate
  - Hardcopy stereo imagery
  - Scanned & geo-referenced imagery
- Classify using a key
- Check against ancillary data
- Review
- Field verify
  - 94% feature accuracy
  - 89% class accuracy

Image: DNR Resource Assessment Office

Wetland Classification

Emergent (EM)

Scrub-Shrub (SS)

Unconsolidated Bottom (UB)

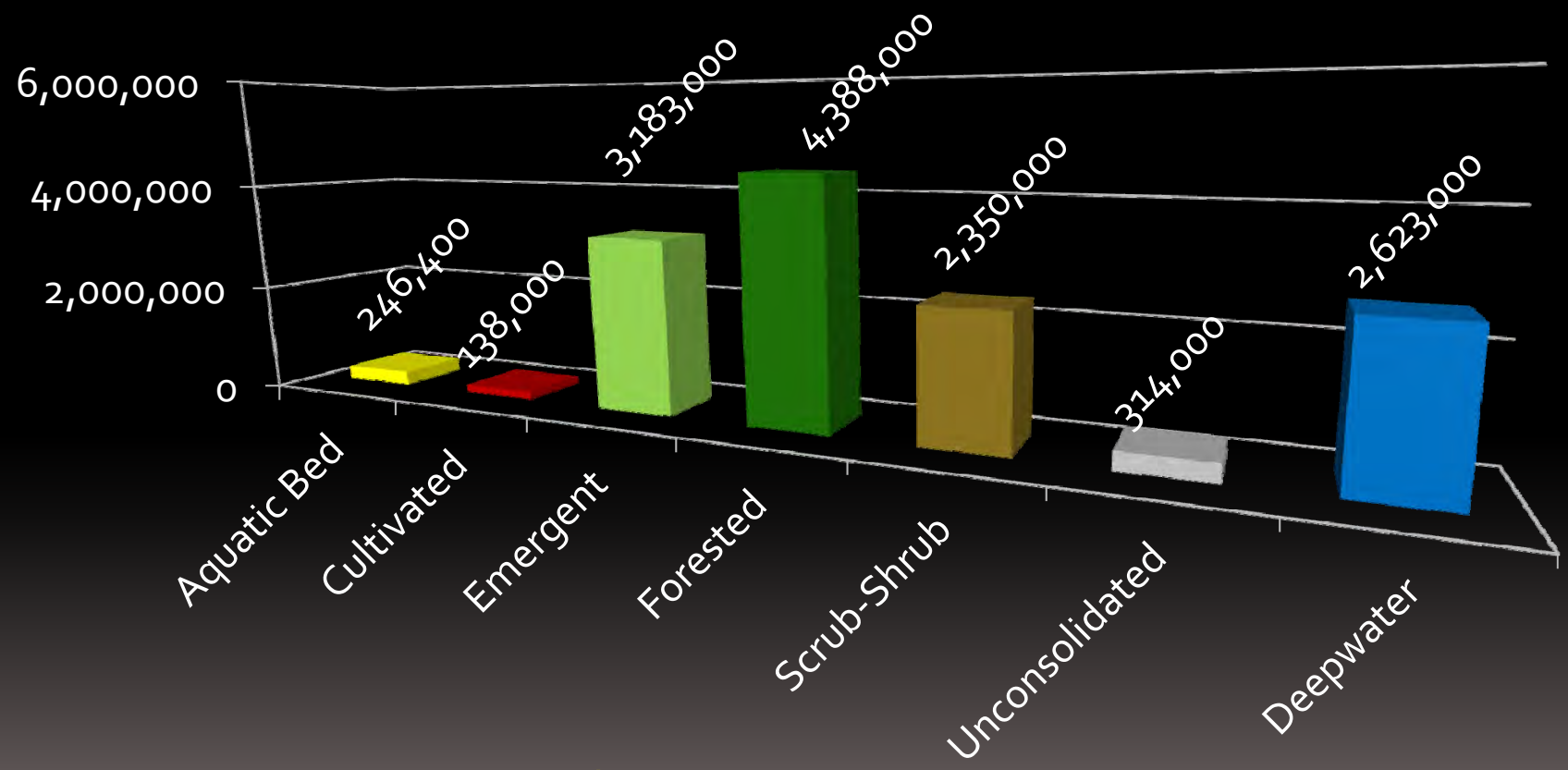
Forested (FO)

Aquatic Bed (AB)

Cultivated Wetland (CW)

Deepwater (DW)

Total Wetland Area for Baseline Sample

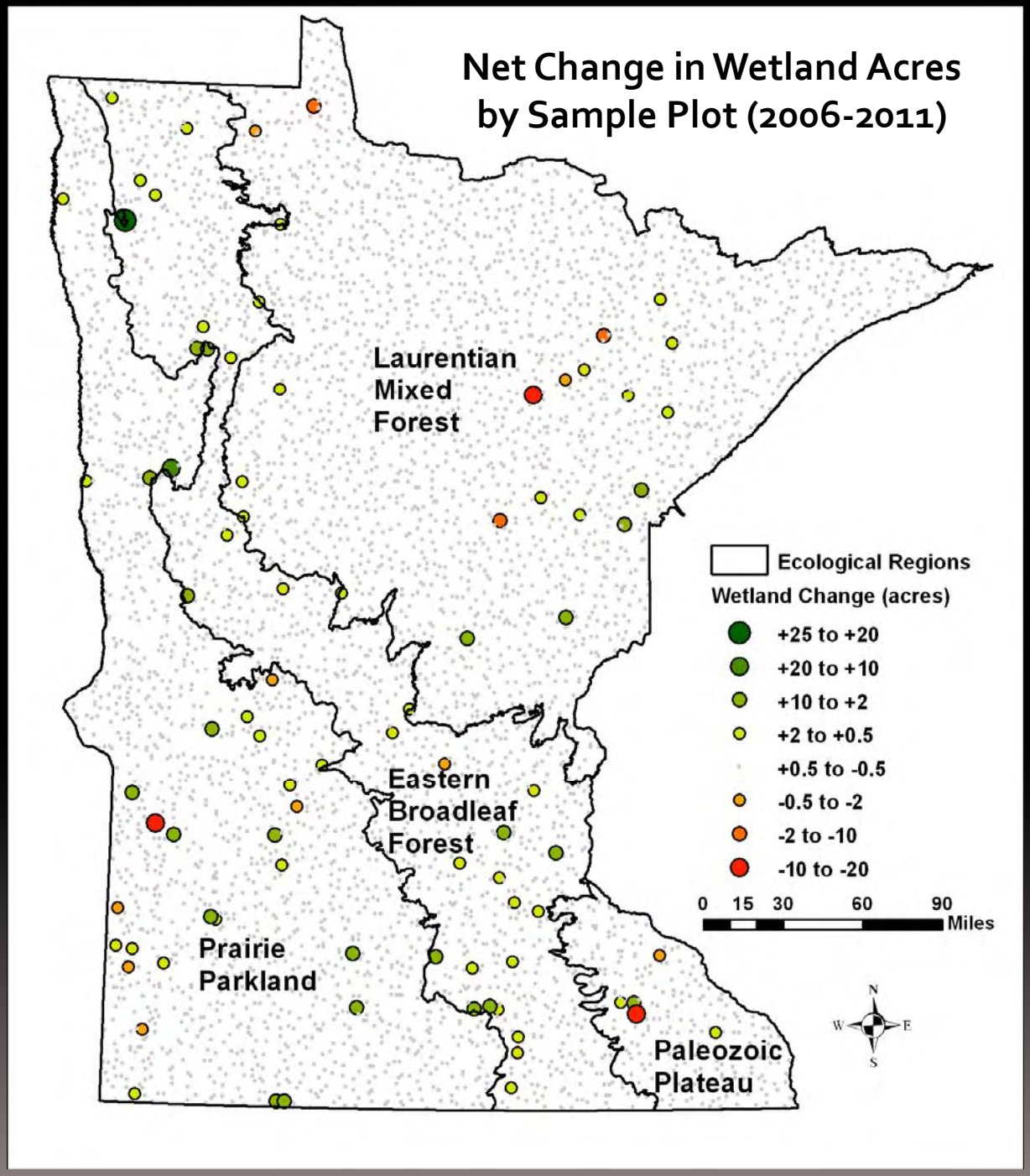


Wetland = 10,620,000 acres

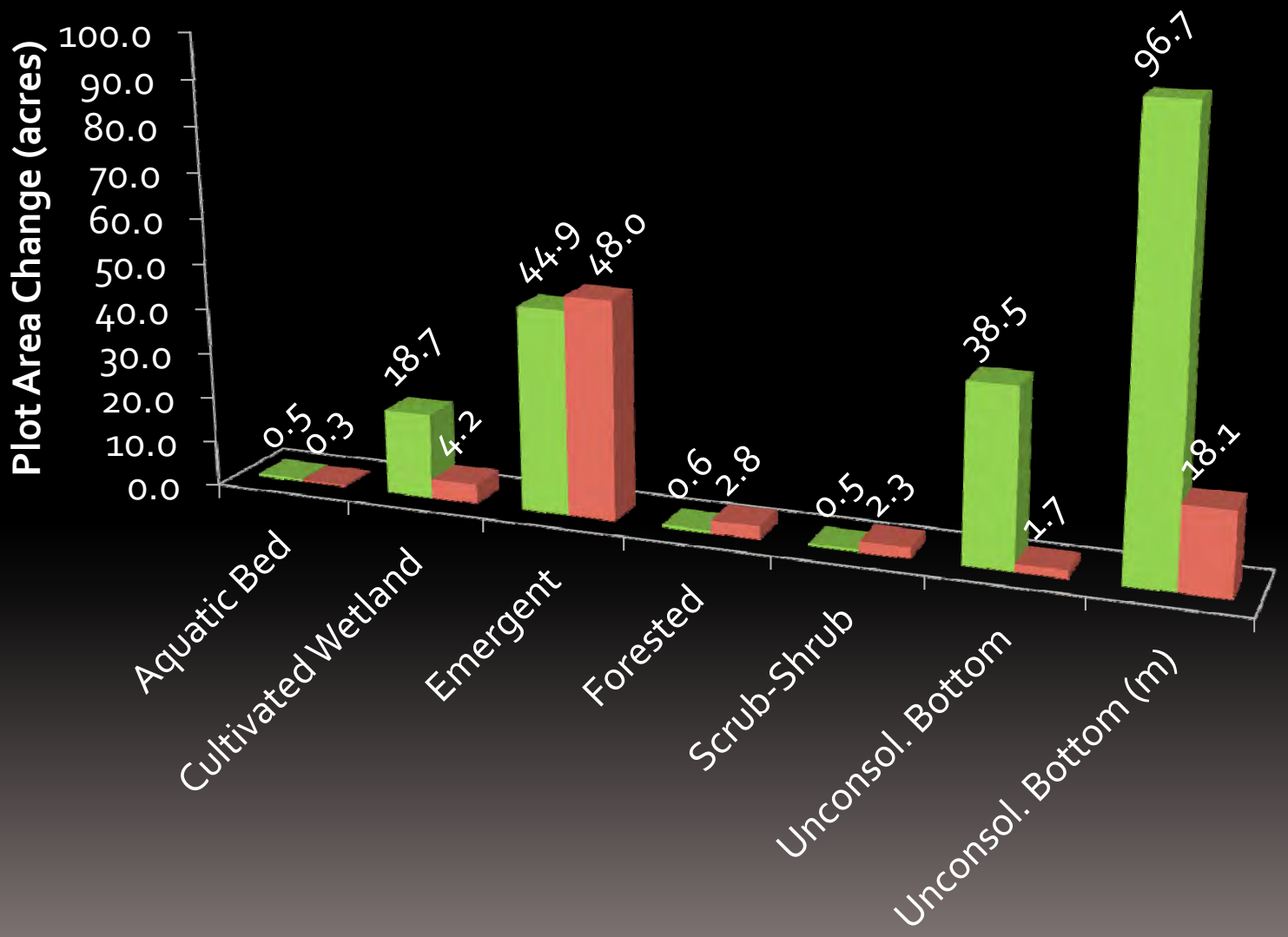
Wetland + deepwater = 13,240,000 acres

Change Detection

- Acquire new imagery
- Geo-reference imagery
- Overlay GIS features
- Digitize changes
- Review
- Field verify


Net Change in Wetland Acres by Sample Plot (2006-2011)
Laurentian Mixed Forest
Eastern Broadleaf Forest
Prairie Parkland
Paleozoic Plateau
Ecological Regions
Wetland Change (acres)
+25 to +20
+20 to +10
+10 to +2
+2 to +0.5
+0.5 to -0.5
-0.5 to -2
-2 to -10
-10 to -20
0 15 30 60 90
Miles
N
W
E
S

Wetland Gain & Loss in Plots by Type

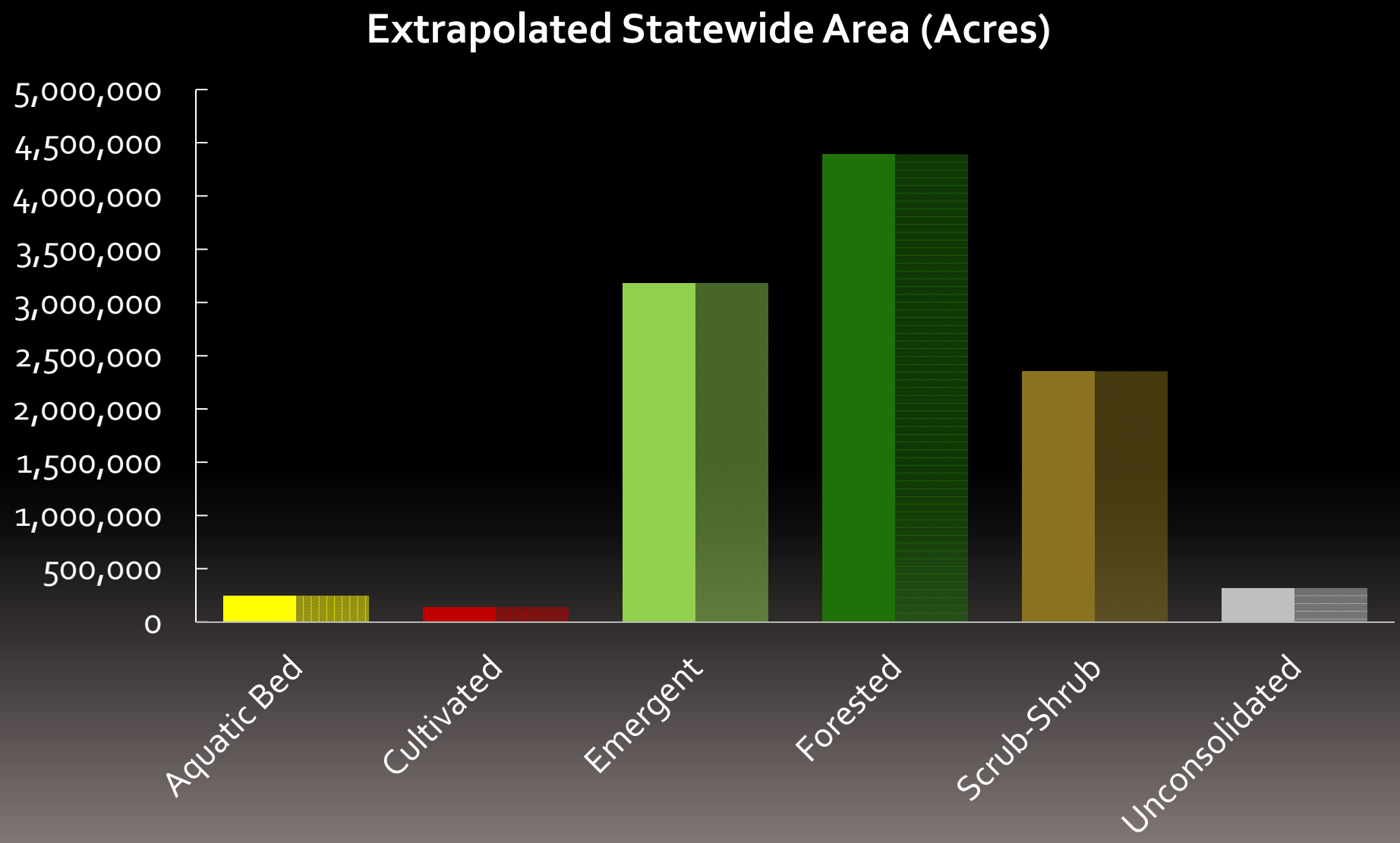


Extrapolated Statewide Wetland Change

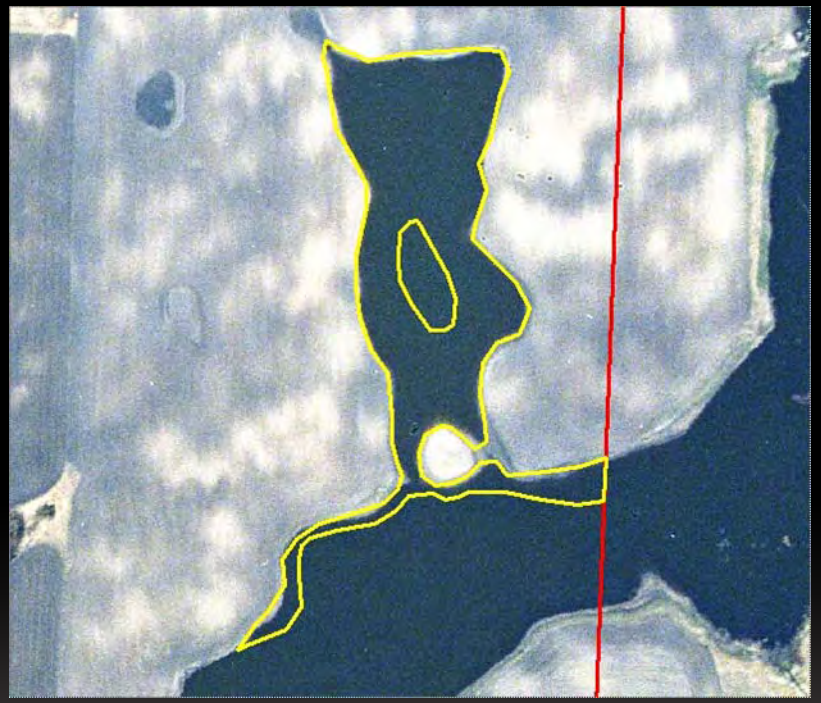
	Statewide Change (acres)
Gain	+3390
Loss	-1310
Net Change	+2080

Percent statewide wetland change = +0.02%

Time 1 versus Time 2 Area by Wetland Type



Wetland Gain - Agriculture



Becker
360 th

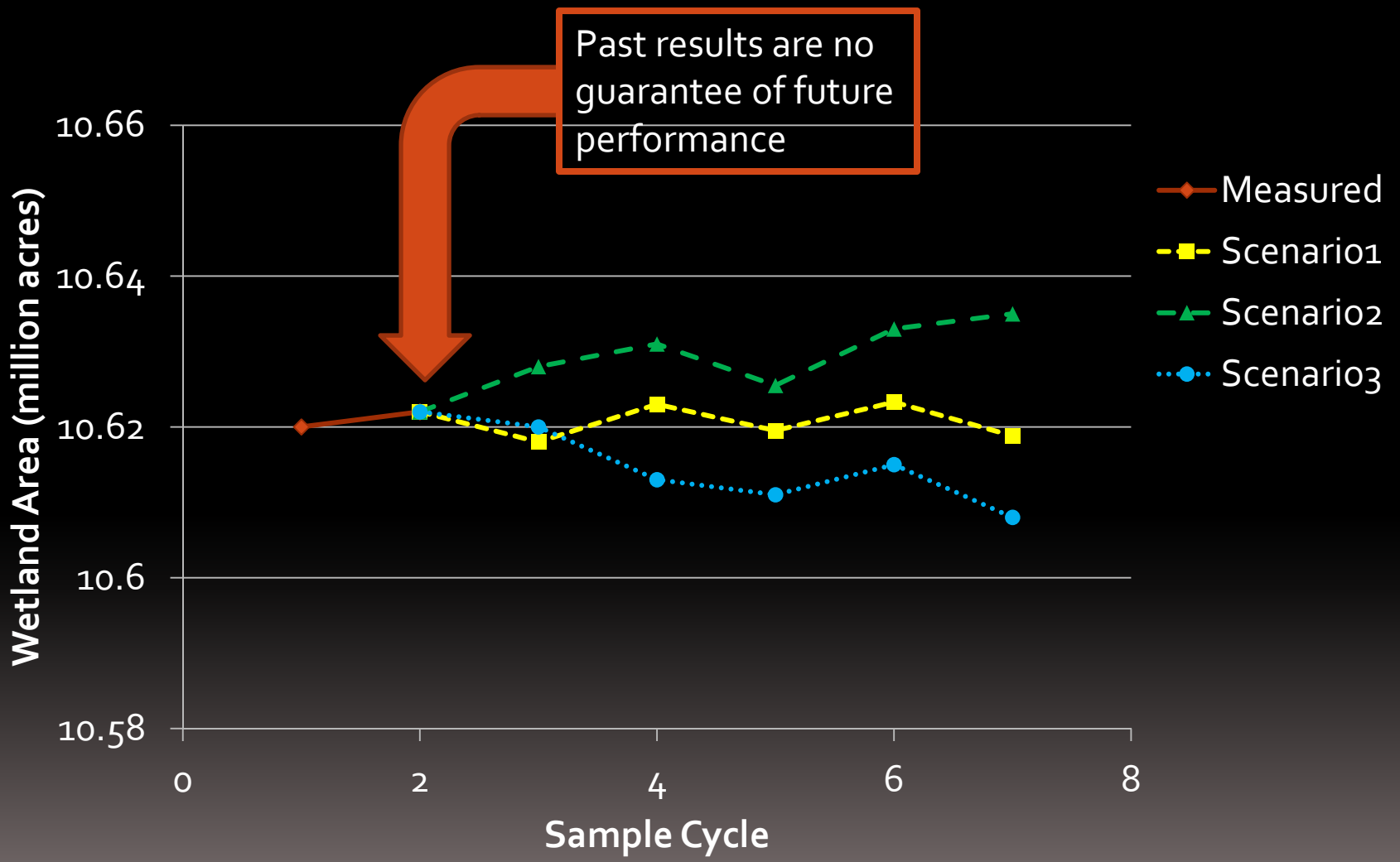
Wetland Loss - Agriculture

Wetland Loss – Rural Development

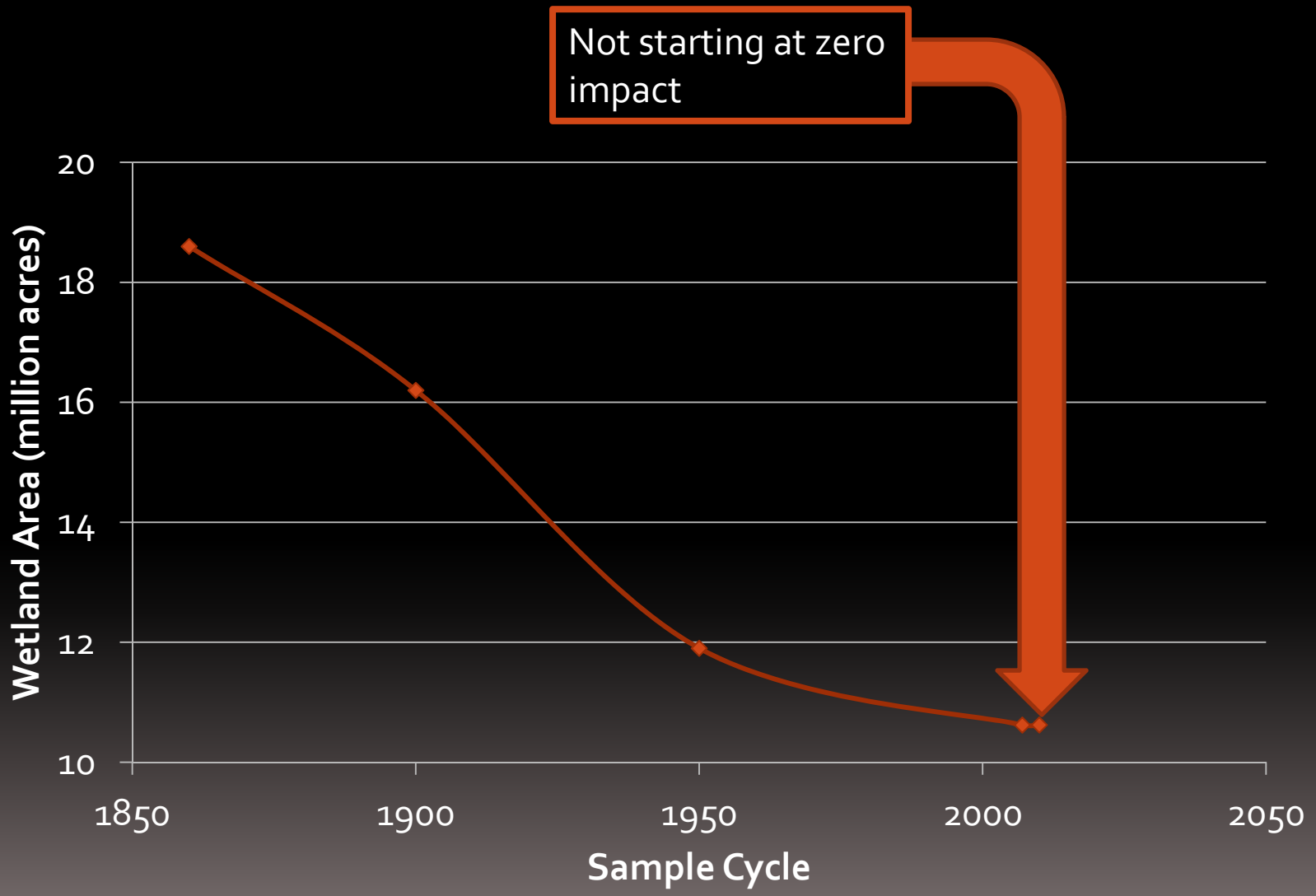
Wetland Trend Summary

- Gains were slightly larger than losses
- Expressed as % statewide, change is very small
- Types gained are different from types lost
- Causes for gains are not always apparent
- Almost all change occurred in rural areas

What Comes Next



What Came Before



http://www.dnr.state.mn.us/eco/wetlands/wstm_prog.html