Impaired Waters and Wetland WQS - MN

ASWM Wetland WQ Standards Webinar
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Minnesota is fortunate to have an estimated 10.6[1] million acres of wetlands

[1] MN DNR 2011

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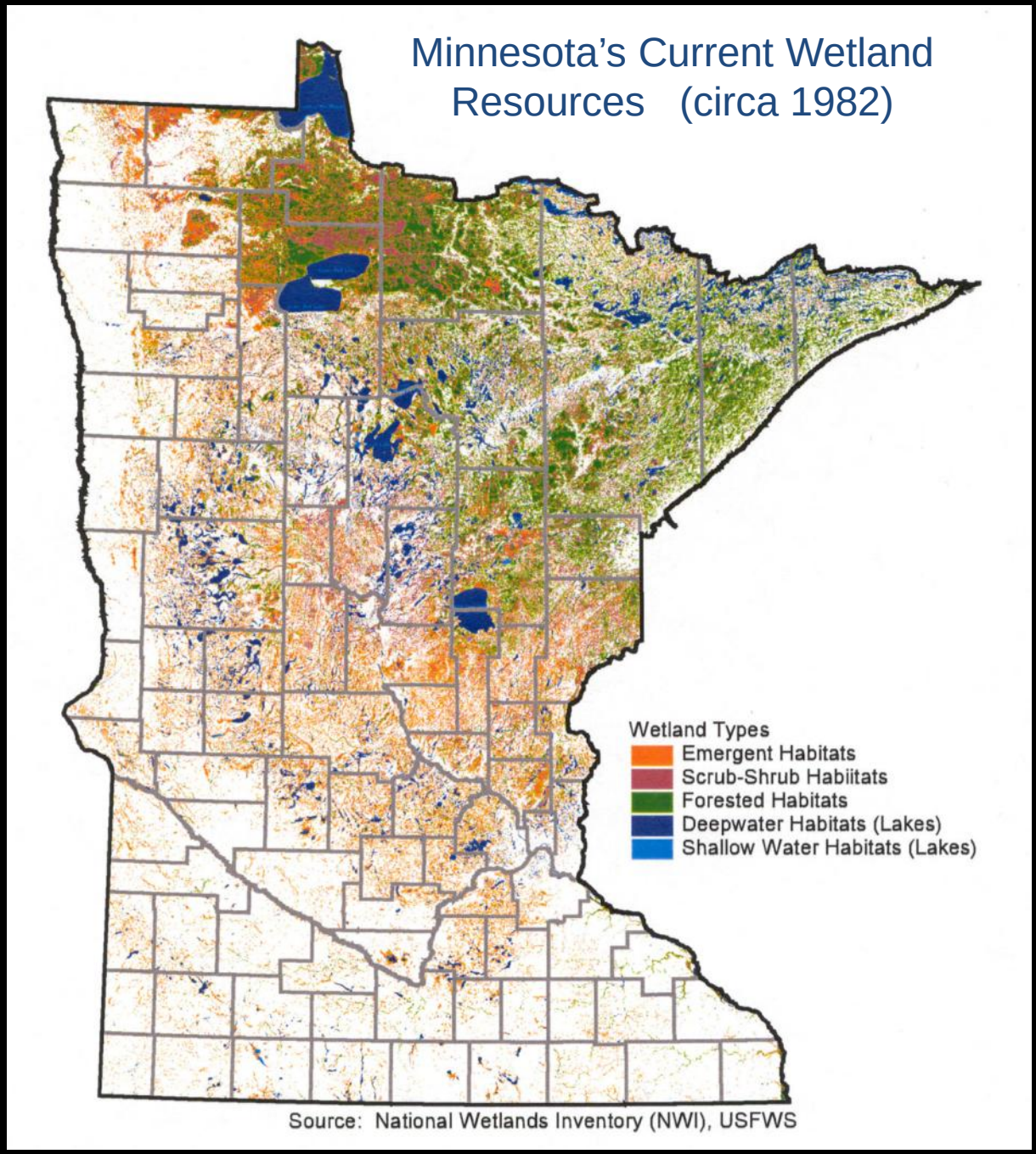

Wetland biological assessments

Assemblages monitored	Invertebrates and/or Plants
Assessment Tool	Index of Biological Integrity (IBI)
Geographic Framework	Level II Ecoregions
Impairment Determination	Deviation from regional reference conditions
Designated Use Assessed	Aquatic Life

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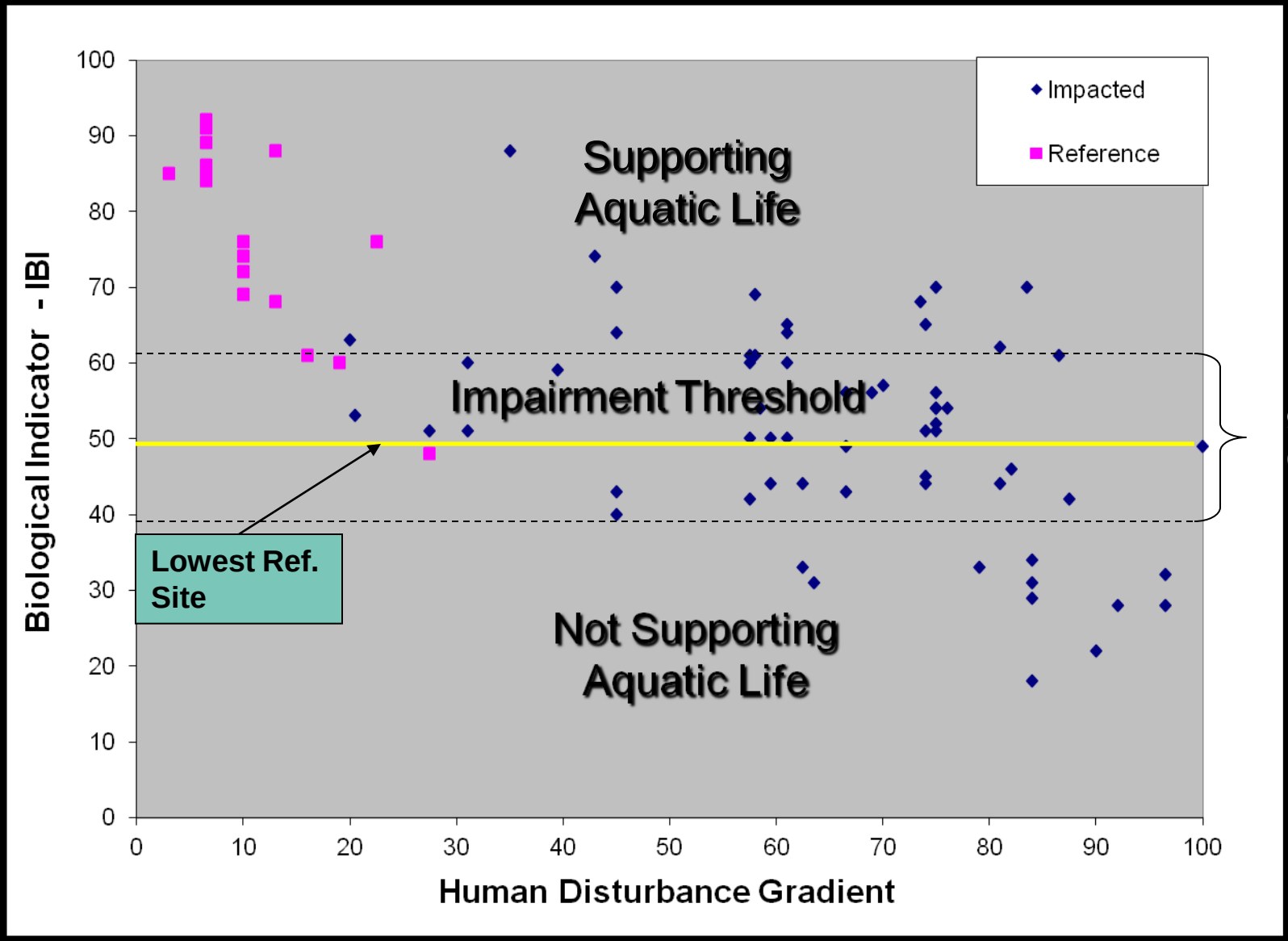
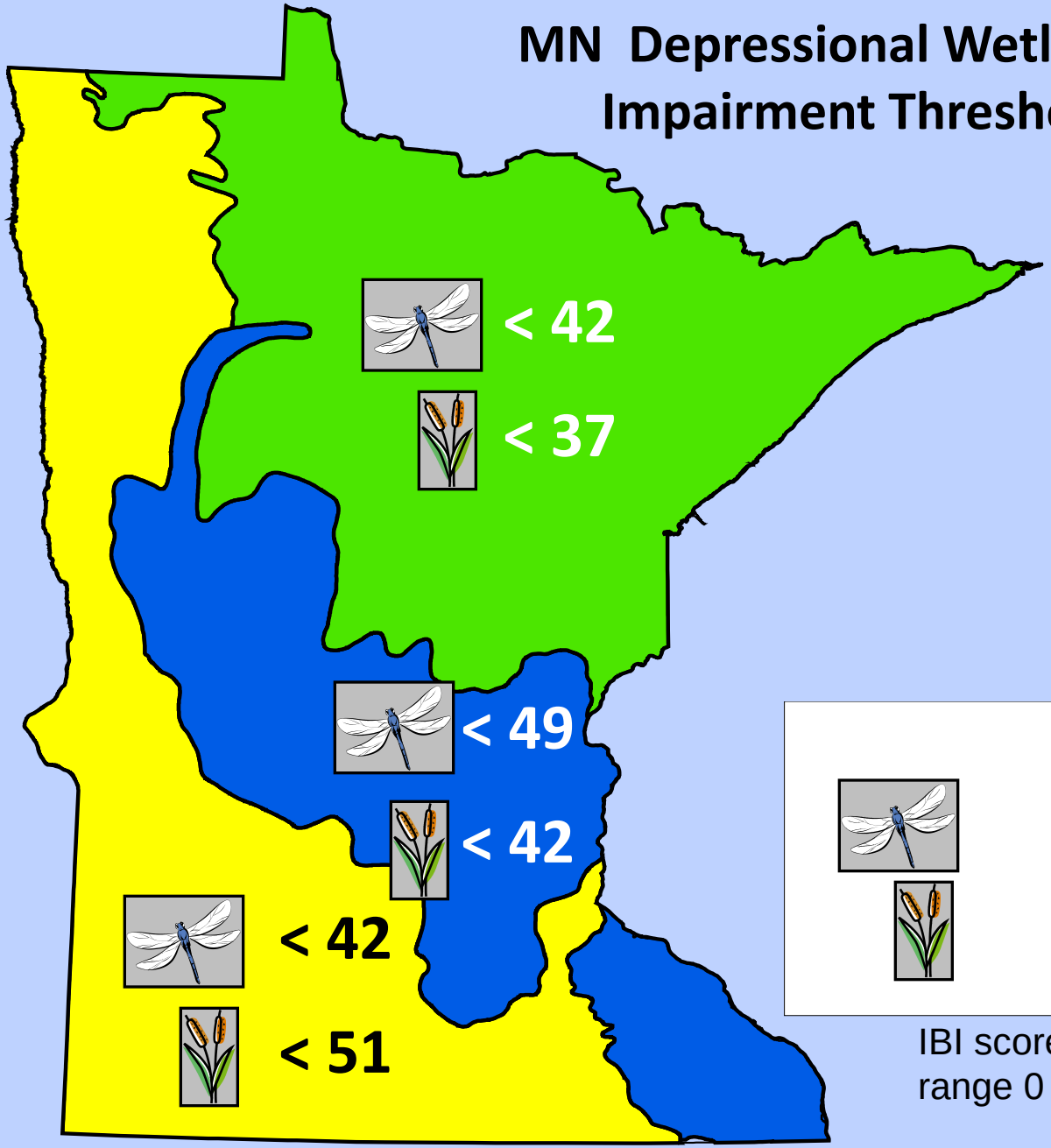
Wetlands
not assessed (or listed)

- Not depressional wetlands
- Created stormwater ponds
- Farm ponds
- Commercial or industrial treatment ponds
- Permitted and mitigated treatment systems in natural wetlands
- Waters assessed as lakes

Impairment Threshold



MN Depressional Wetland IBI Impairment Thresholds



IBI scores
range 0 -100

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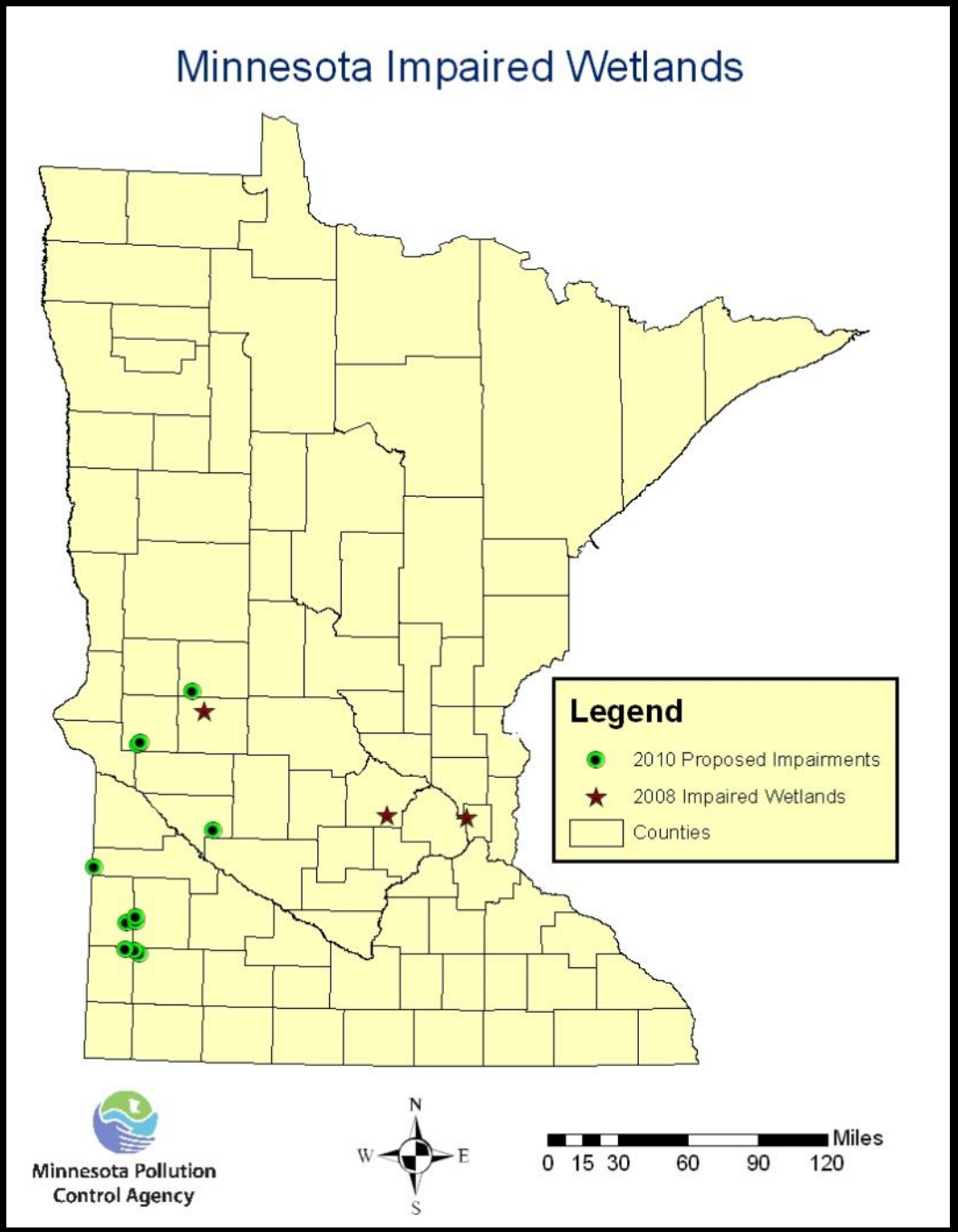
Wetland Biological TMDLs

- Listing criteria: impairment of narrative biol. criteria (invertebrate & plant IBIs)
- Hydrologically connected to impaired lake or stream
- Restoration project management to occur with a Watershed focus



Issue: Discriminating Shallow Lakes from Depressional Wetlands

- Problem – MN has developed trophic and nutrient standards for lakes (including shallow lakes) but not wetlands (depressional wetlands)
- No definitive definition of lake vs. wetland based on morphology
  - MN currently uses a series of narrative factors to differentiate shallow lakes and depressional wetlands
- MN wetland listings are based on wetland biological indicators
  - Local interests frequently petition the MPCA to delist shallow lake listings
    - based on nutrients and trophic indicators
    - Assert the waterbody is really a wetland and should be treated as such.

Lake or Large Depressional Wetland??

Weight of evidence approach

Wetlands and Cl listings

Chloride salts are frequently used in winter as de-icing compounds. High levels of chloride (Cl) can harm aquatic organisms by interfering with osmogregulatory capabilities.

- The MPCA has previously listed impaired streams for exceedances of numeric chloride standard
- MPCA is preparing to begin listing lakes for Cl exceedances in 2012
- Wetlands are being treated similar to lakes for chloride.
  - A minimum of 5 samples collected w/in a 3 yr period
  - 2 or more exceedances of numeric Cl standard (230 mg/l) would result in a listing
  - Except for special studies the MPCA rarely has sufficient data to list wetlands for impairment due to Cl
  - Data collection by external parties has the potential to increase the number of samples collected