

Welcome to the workshop-

Ecological Considerations for Wetland Management in Nebraska



Overview of Wetlands across Nebraska

Ted LaGrange – NGPC Wetland Program Manager

Jessi Tapp – NGPC Wetland Biologist



- **Summarize why wetlands are important**
- **Talk about wetland dynamics**
- **Visit a variety of wetland types found across Nebraska**
- **Discuss wetland classification and assessment**
- **Make a tie to how this all relates to wetland management**

Nebraska has a diversity of wetland types





Photos by Platte Basin Timelapse Producers





Photo by Amber Schiltz, NGPC

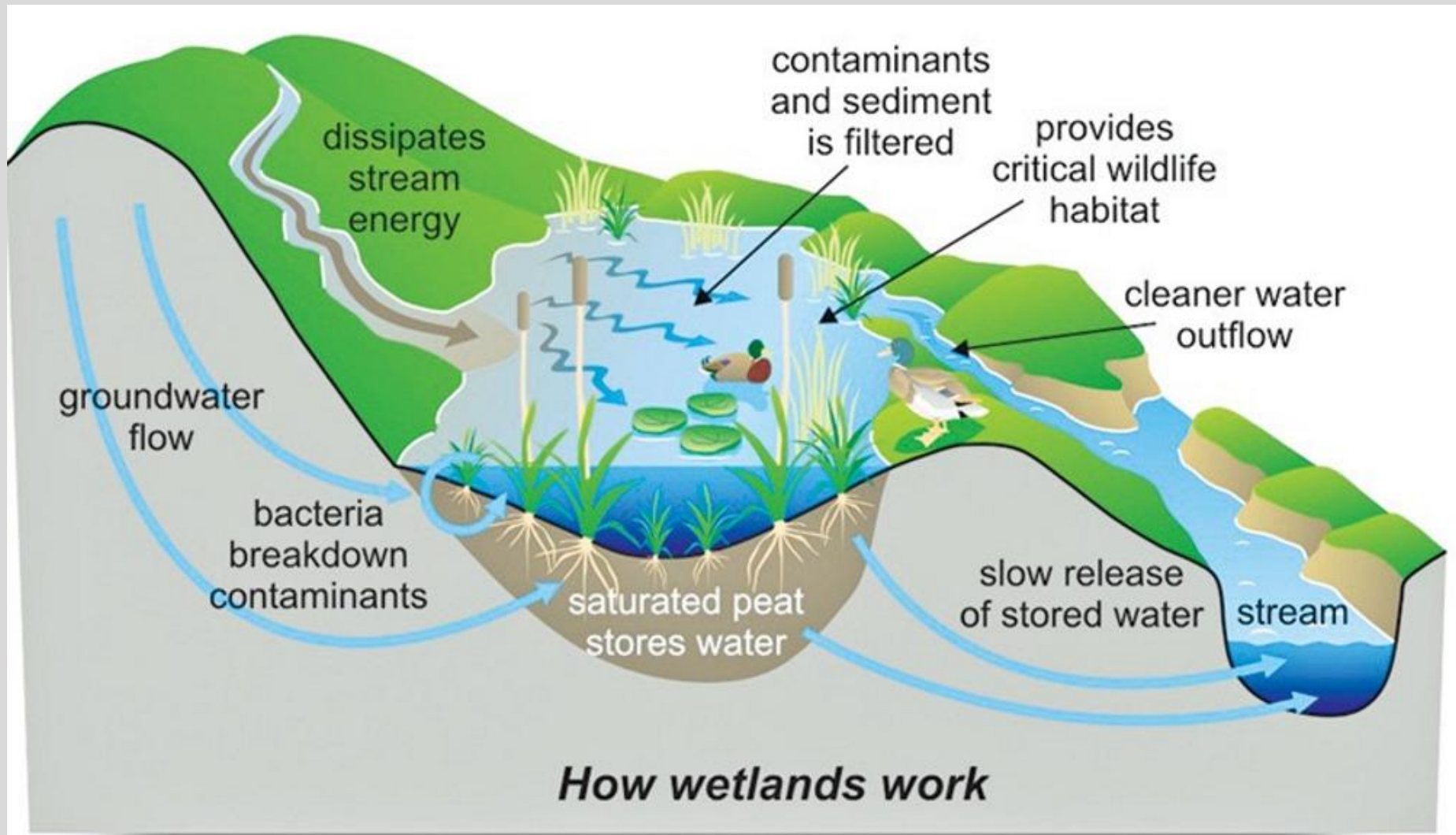


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Wetland Benefits

- **Improve Water Quality**
- **Reduce Flooding and Soil Erosion**
- **Supply Water**
- **Store Carbon**
- **Produce Food and Fiber**
- **Provide Habitat for Fish, Wildlife, and Plants**
- **Provide Recreation and Education**



Credit: Public Employees for Environmental Responsibility, PEER.org

Provide Habitat for Fish, Wildlife and Plants

- Wetlands are the most productive natural system in Nebraska

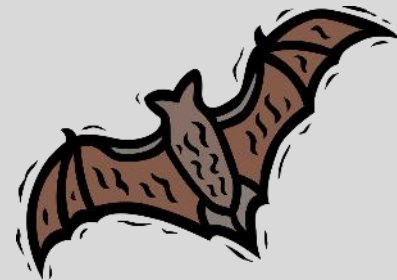
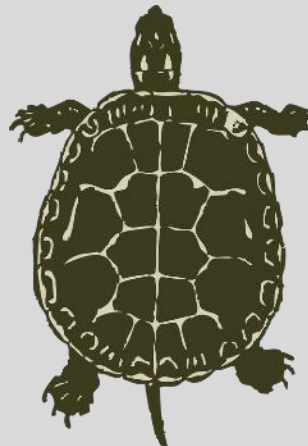
50%

100%

38%

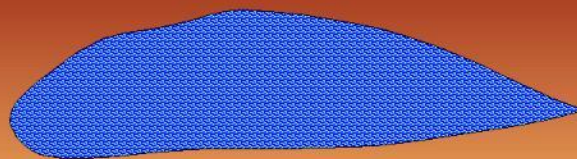
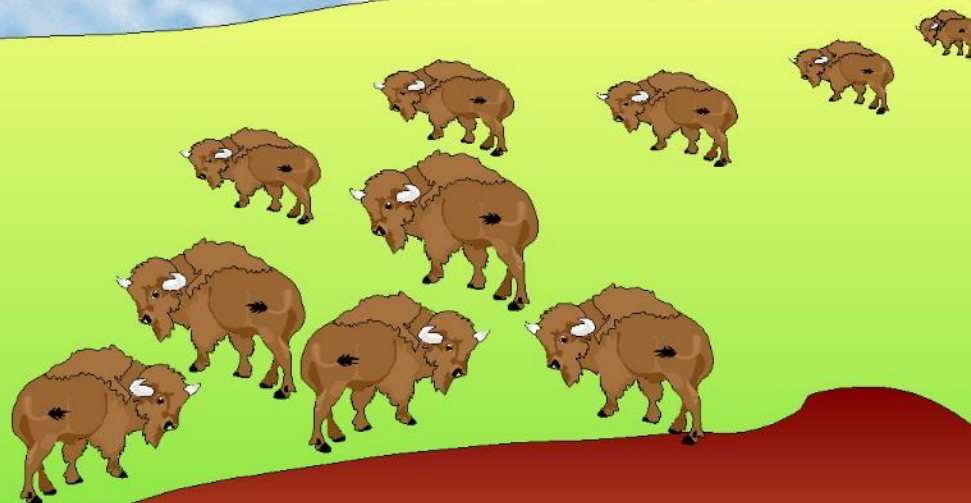
50%

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**75% of the Endangered and Threatened species
depend on wetlands**





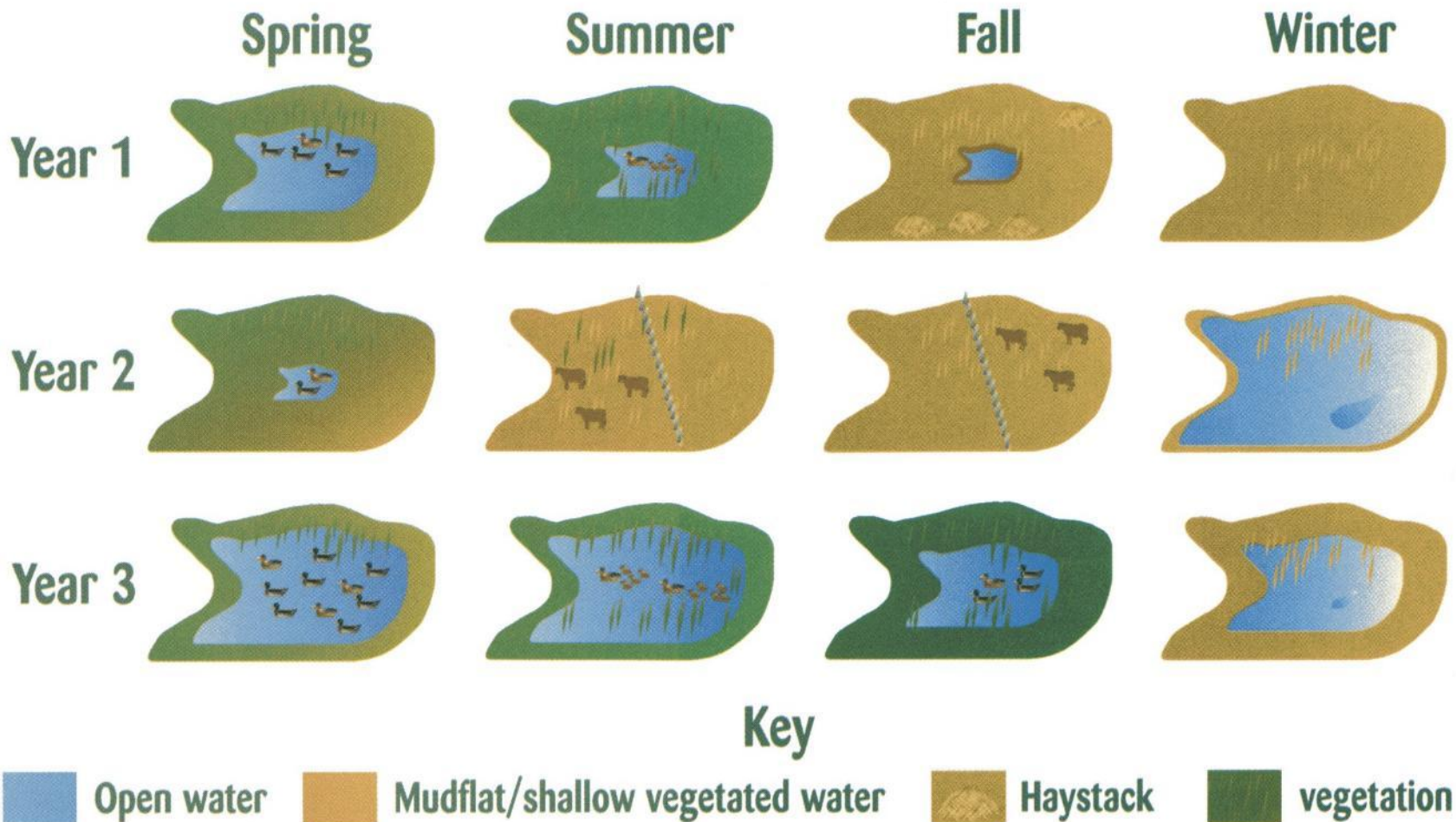
WETLANDS ARE DYNAMIC!





Wetlands

Aren't Always Wet



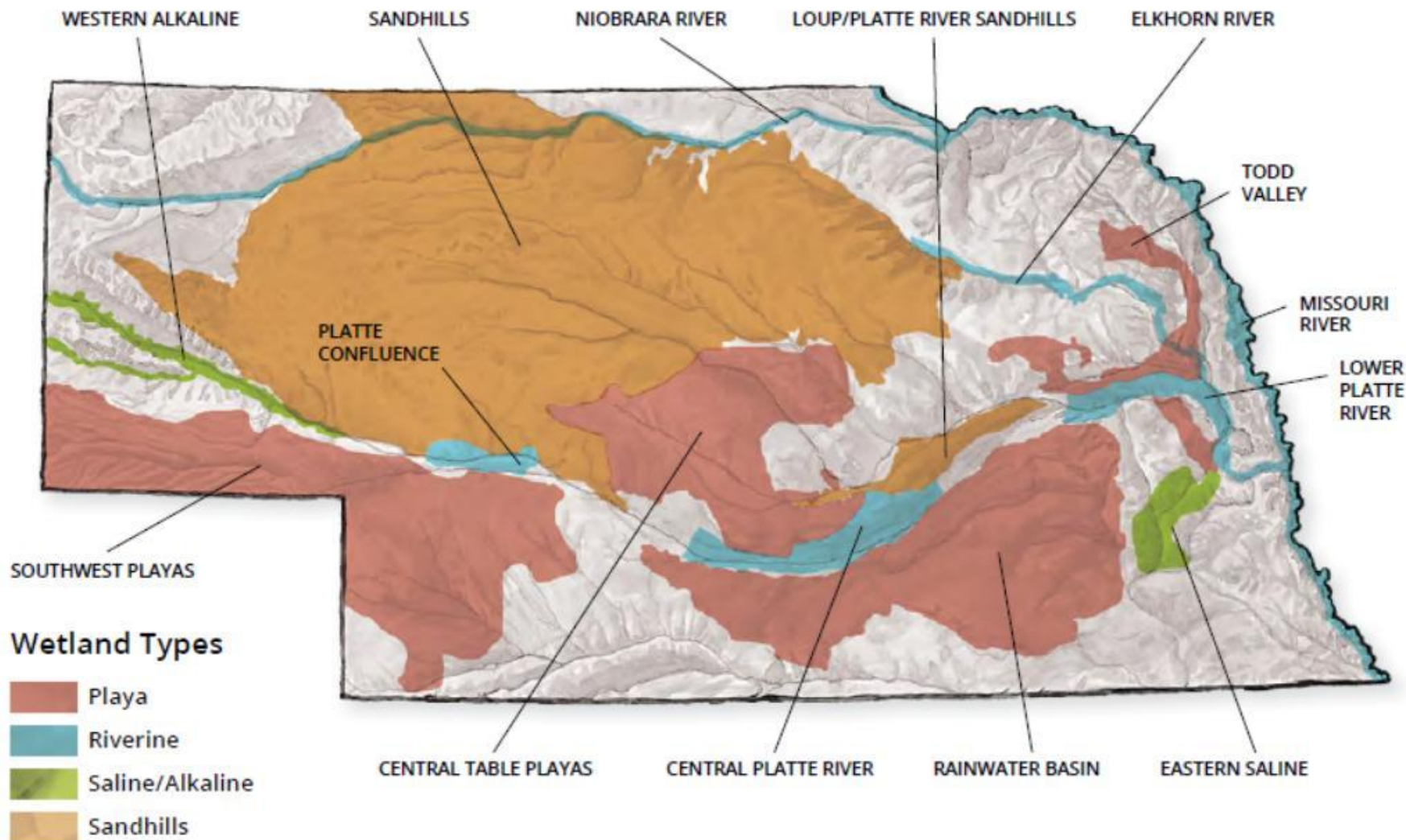




Platte River wet meadow wetland dynamics

Mormon Island on Crane Trust property near Grand Island

**Video provided by Platte Basin Timelapse
(note- the embedded video was too large to share)**



Nebraska's regional wetland complexes consist of four types of wetlands: Playa, Riverine, Saline/Alkaline and Sandhills. Even if a wetland is not located within one of these four complexes, it still is an important component of our ecosystem. TIM REIGERT, NEBRASKALAND



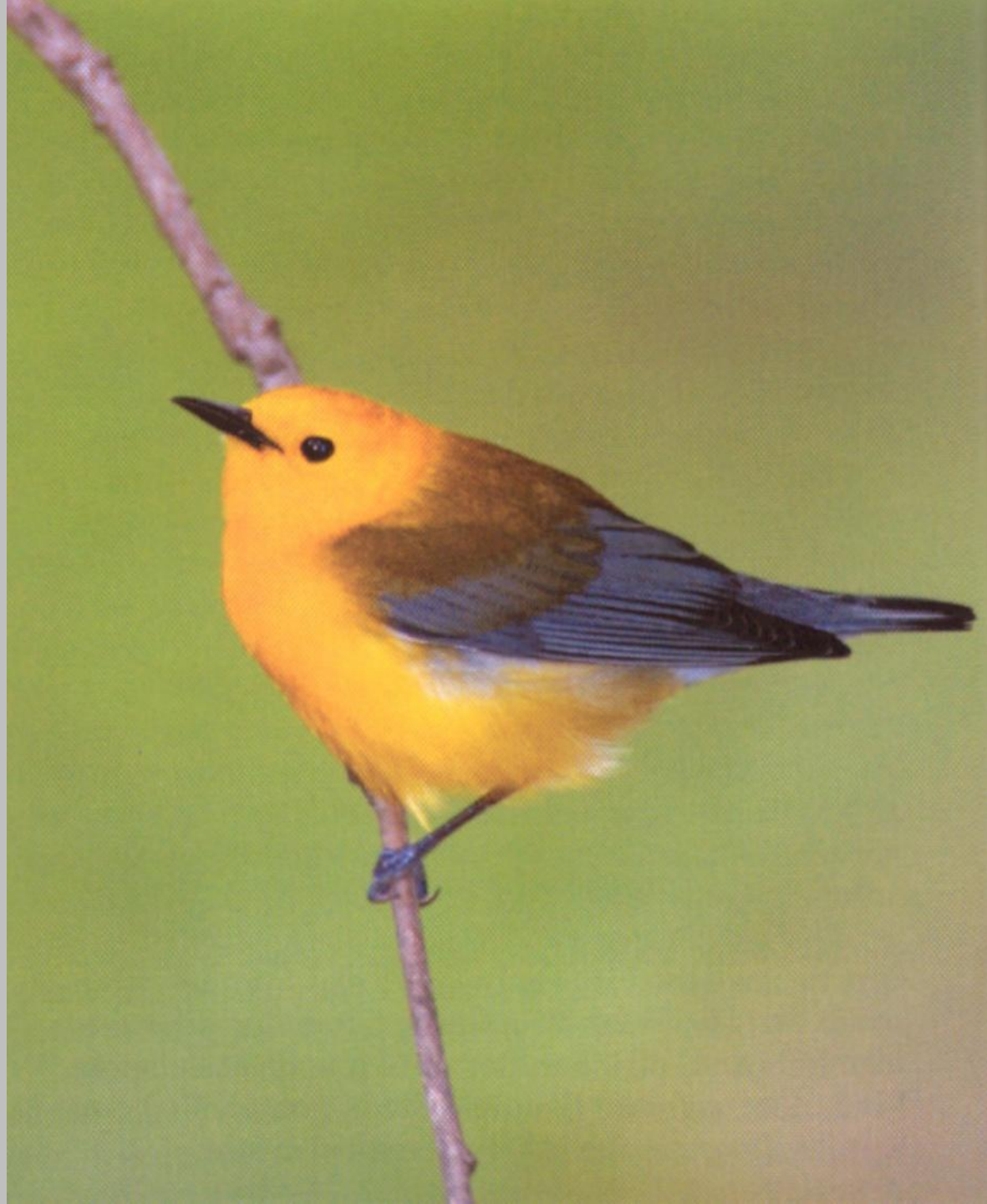
Riverine

Missouri River









Platte River



NEBRASKAland

NEBRASKAland

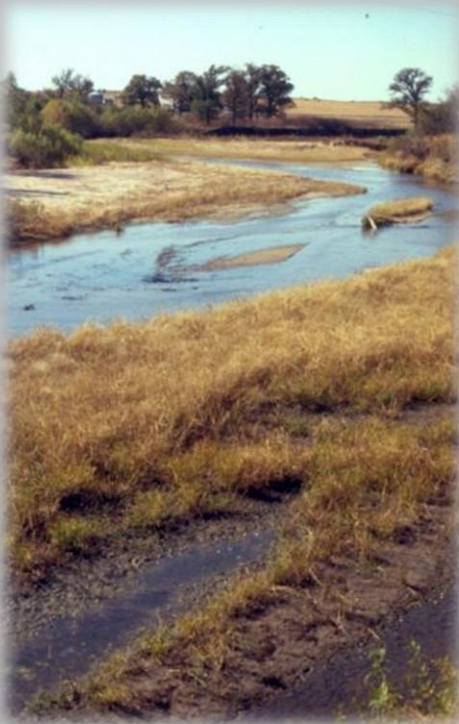
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Elk Horn

Niobrara



Streams



Playa

Rainwater Basin



Ryan Askren



Other Playa Wetlands



Sandhills

Alkali

Fens











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Western Alkaline



Saline

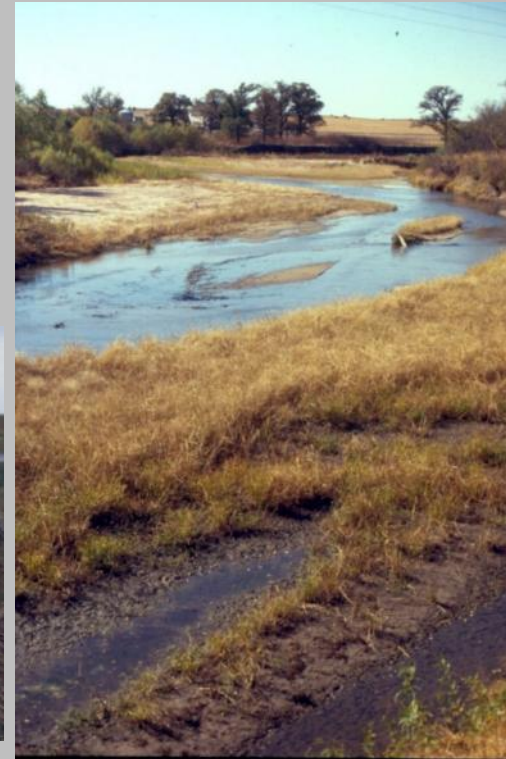
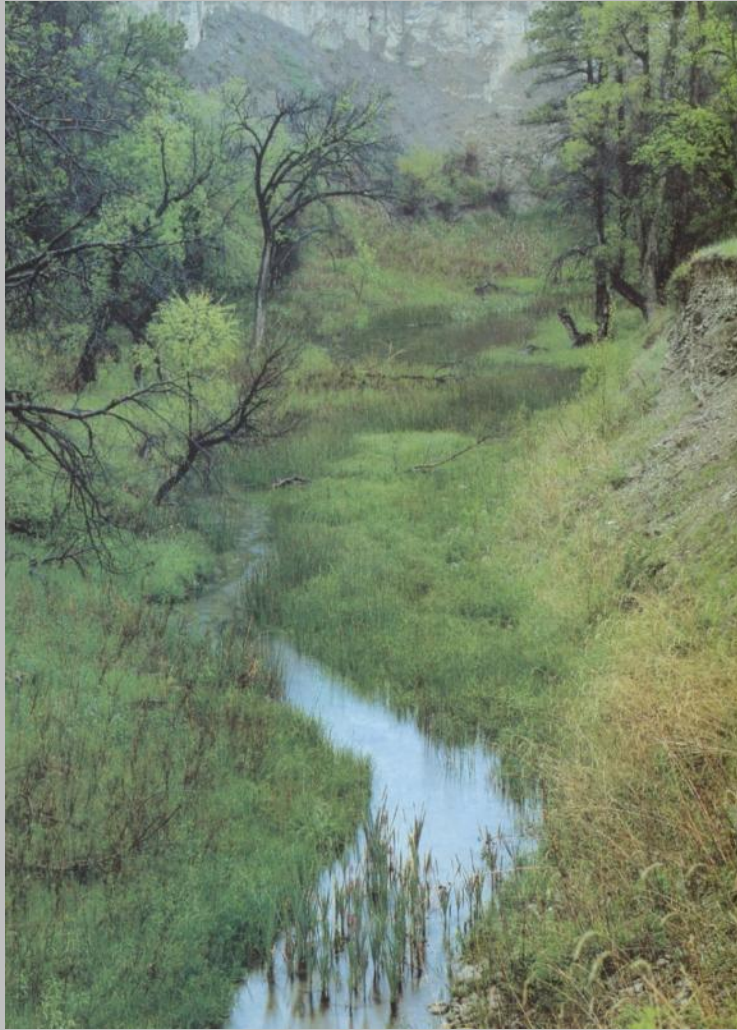


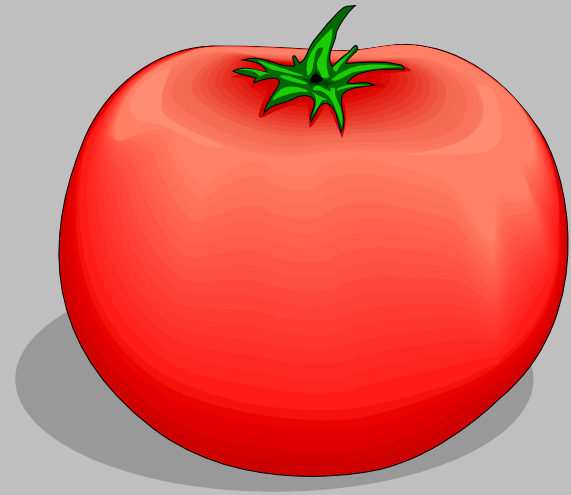
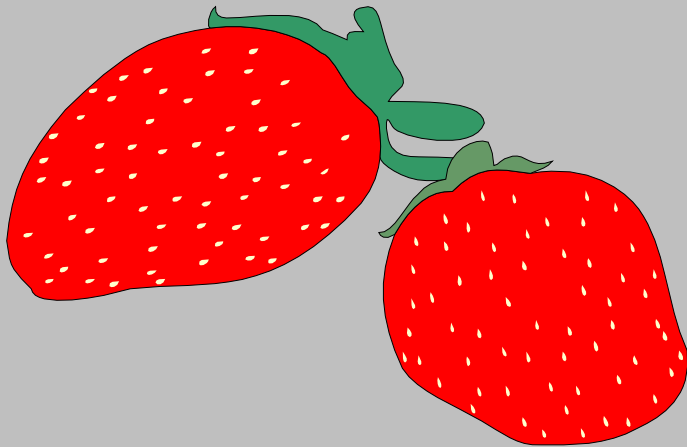
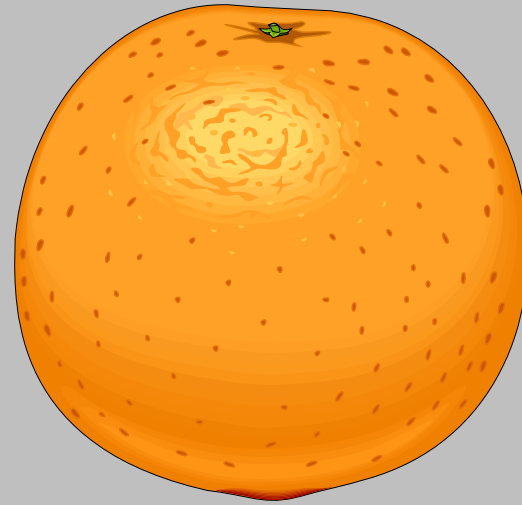
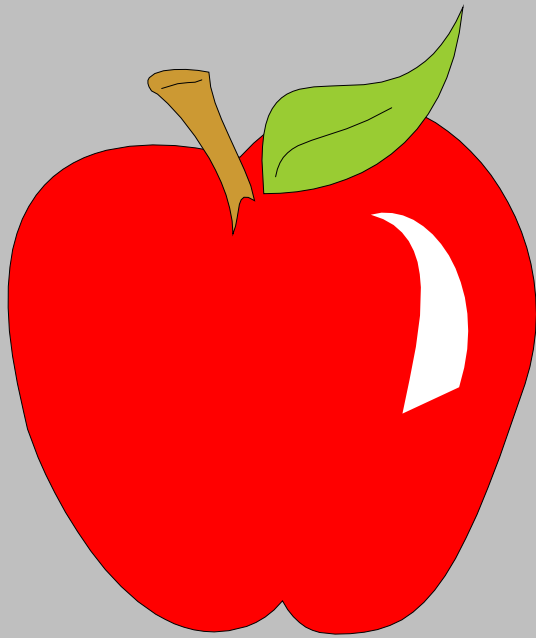




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Wetlands are everywhere





Which of these things is not like the other -----?





Assess the wetland and watershed to determine restoration and management needs



Classification of Wetlands and
Deepwater Habitats of the
United States

Soil Surveys

Natural Plant Communities

Cowardin et al. Wetland Classification

Functional Assessment (HGM, RAM)

File Edit View History Bookmarks Tools Help

National Wetlands Inventory Web Soil Survey

https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Google CNN - Breaking News,... Lincoln, NE Weather F... KOLNKGIN (1) Facebook Home Page - NGPC NGPC Wetlands Page Gmail NPR radio e-mail Outlook Web A... NWS - Lincoln

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Intro to Soils Suitabilities and Limitations for Use **Soil Properties and Qualities** Ecological Sites Soil Reports

Search

Properties and Qualities Ratings

Open All Close All

Soil Chemical Properties

Soil Erosion Factors

Soil Health Properties

Soil Physical Properties

Soil Qualities and Features

Water Features

Depth to Water Table

Flooding Frequency Class

View Description View Rating

View Options

Map ☒

Table ☒

Description of Rating ☒

Rating Options ☒

☐ Detailed Description

Advanced Options

Aggregation Method Dominant Condition

Component Percent Cutoff

Map - Flooding Frequency Class

Scale (not to scale)

Map Legend

Layer Properties Menu

- ☒ Area of Interest (AOI)
 - ☒ Area of Interest (AOI)
 - ☒ Location Marker
- ☒ Soils
 - ☐ Soil Survey Areas
 - ☐ Soil Map Unit Polygons
 - ☐ Soil Map Unit Lines
 - ☐ Soil Map Unit Points
 - ☒ Soil Rating Polygons
 - None
 - Very Rare
 - Rare
 - Occasional
 - Frequent
 - Very Frequent
 - Not rated or not available
- ☒ Soil Rating Lines
 - None
 - Very Rare
 - Rare
 - Occasional
 - Frequent

Terrestrial Ecological Systems and Natural Communities of Nebraska

(Version IV – March 9, 2010)

By

Steven B. Rolfsmeier
Kansas State University Herbarium
Manhattan, KS 66506

and

Gerry Steinauer
Nebraska Game and Parks Commission
Aurora, NE 68818

A publication of the

NEBRASKA NATURAL HERITAGE PROGRAM
NEBRASKA GAME AND PARKS COMMISSION
LINCOLN, NEBRASKA



6 Wetland Forest/Woodland Communities
2 Wetland Shrubland Communities
25 Wetland Herbaceous Communities
2 Wetland Sparsely Vegetated Communities

Classification of Wetlands and Deepwater Habitats of the United States



By
Lewis M. Cowardin¹, Virginia Carter², Francis C. Golet³, and Edward T. LaRoe⁴
U.S. Department of the Interior
Fish and Wildlife Service
Office of Biological Services
Washington, D.C. 20240

Cowardin Classification

Hierarchical

System

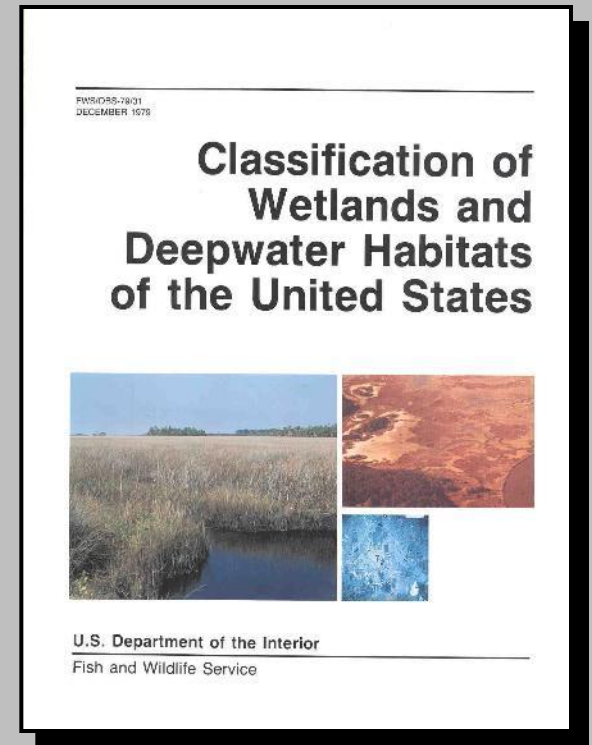
Subsystem

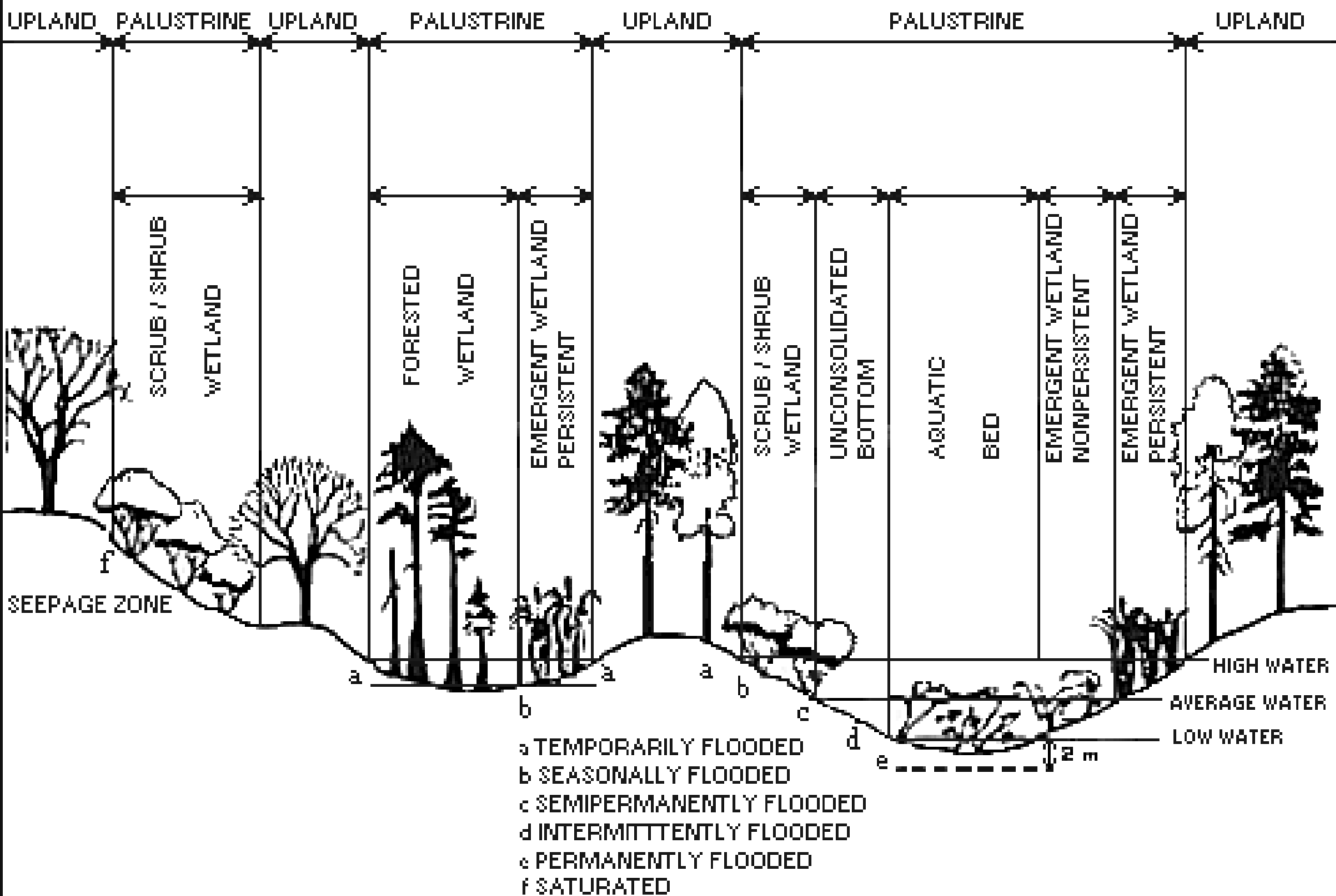
Class

Subclass

Water Regime

Special Modifiers





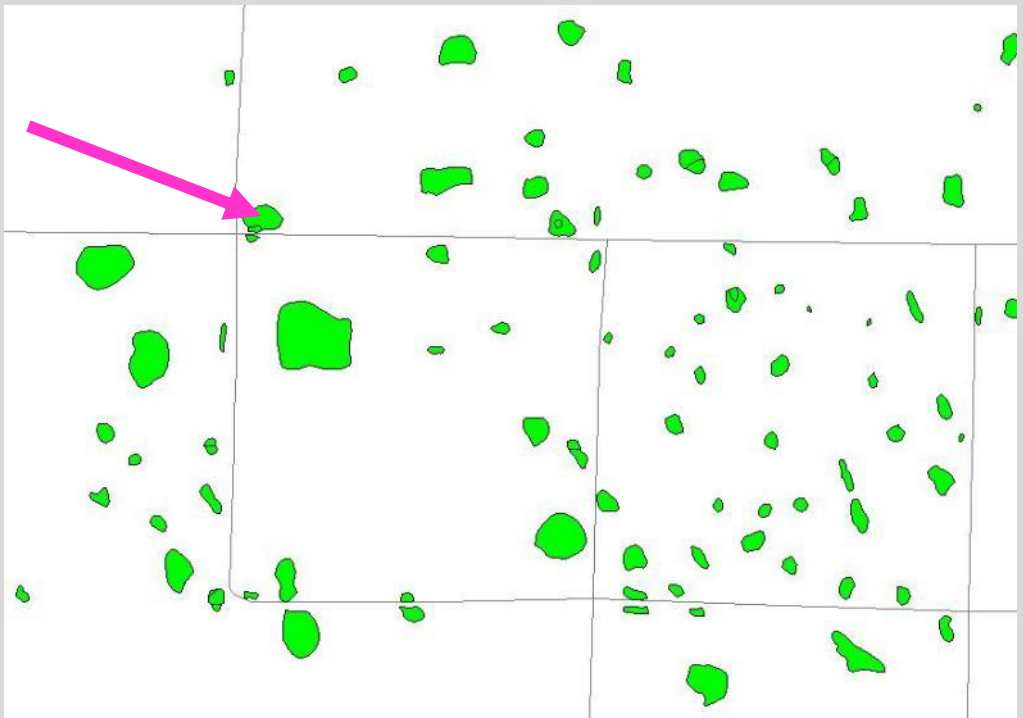
PEMAd

P-Palustrine

EM-Emergent

A-Temporarily flooded

d-Partially drained/ditched



Major HGM Classes:

Depression

Fringe (tidal)

Fringe (lacustrine)

Slope

Flat (mineral soil)

Flat (organic soil)

Riverine



US Army Corps
of Engineers
Waterways Experiment
Station

Wetlands Research Program Technical Report WRP-DE-4

A Hydrogeomorphic Classification for Wetlands

by Mark M. Brinson



17 HGM Wetland Subclasses for Nebraska

Riverine Channel

Riverine Floodplain Rapid Permeability, w/minimal out of bank flooding

Riverine Floodplain Rapid Permeability, w/regular out of bank flooding

Riverine Floodplain Moderate to Slow Permeability, w/minimal out of bank flooding

Riverine Floodplain Moderate to Slow Permeability, w/regular out of bank flooding

Saline Depressions

Playa Depressions

Floodplain Depressions

Sandhill Depressions, episaturated

Sandhill Depressions, endosaturated

Western Alkaline Floodplain Depressions

Sandhill Alkaline Depressions

Mineral Soil Flats

Organic Soil Flats

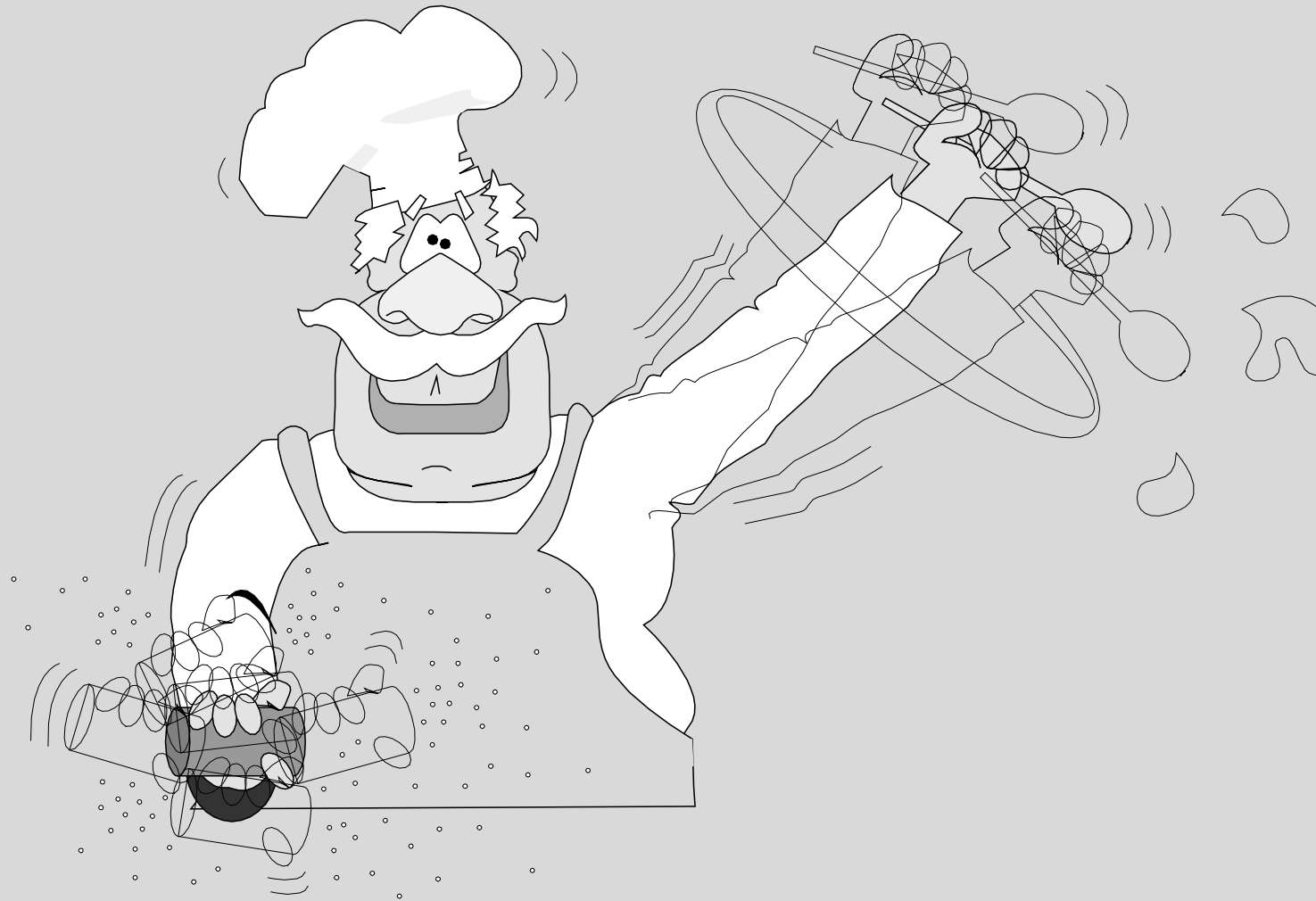
Slope Wetlands

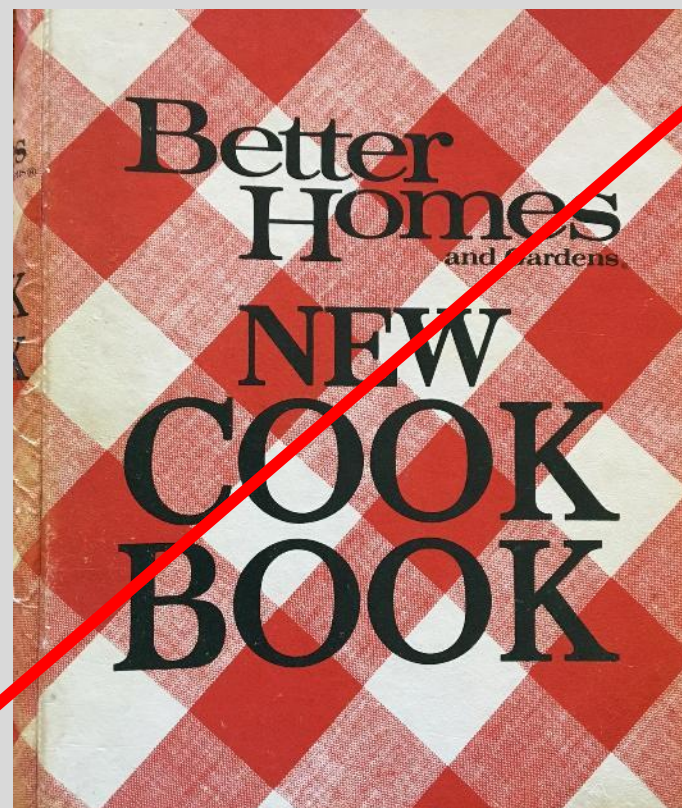
Slope Wetlands, Canyon Springs

Slope Wetlands, Sandhill Springs

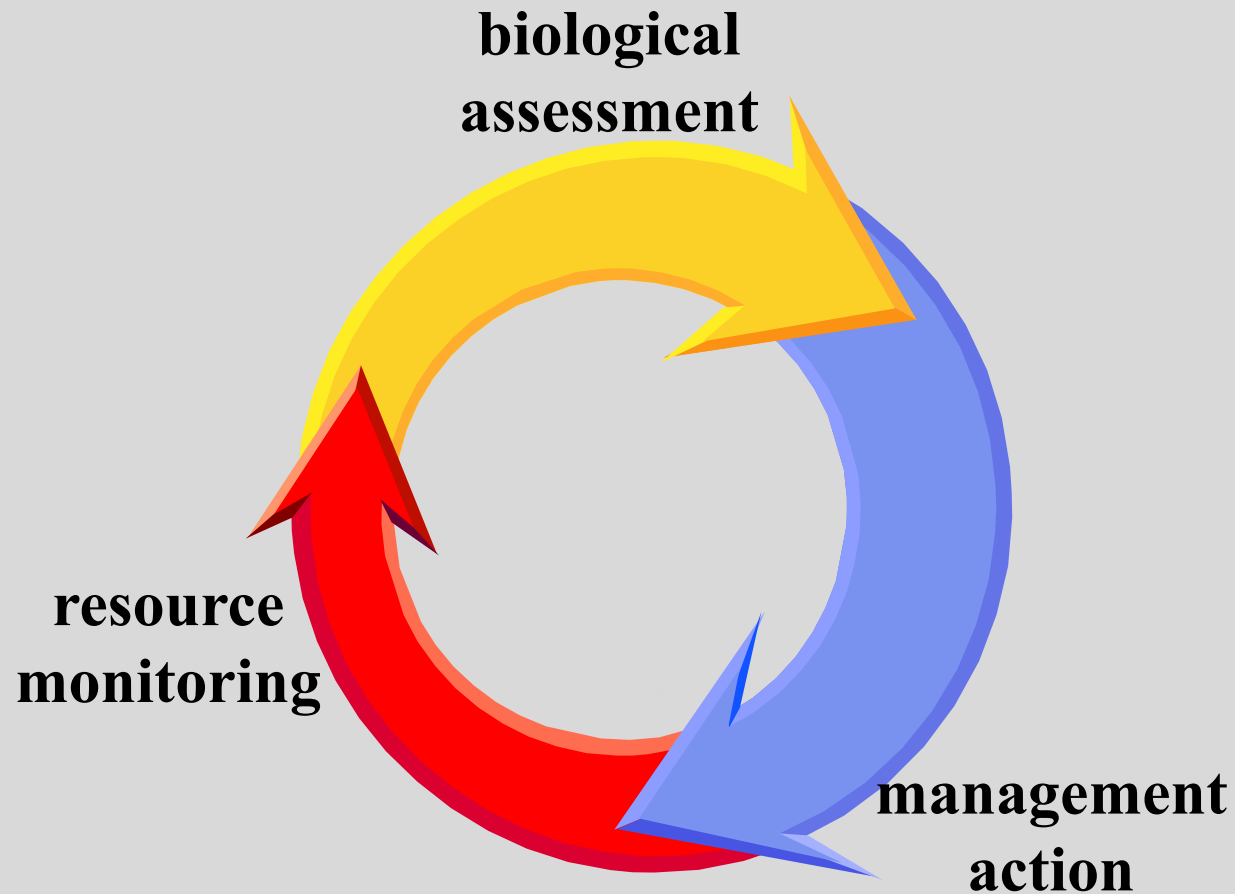


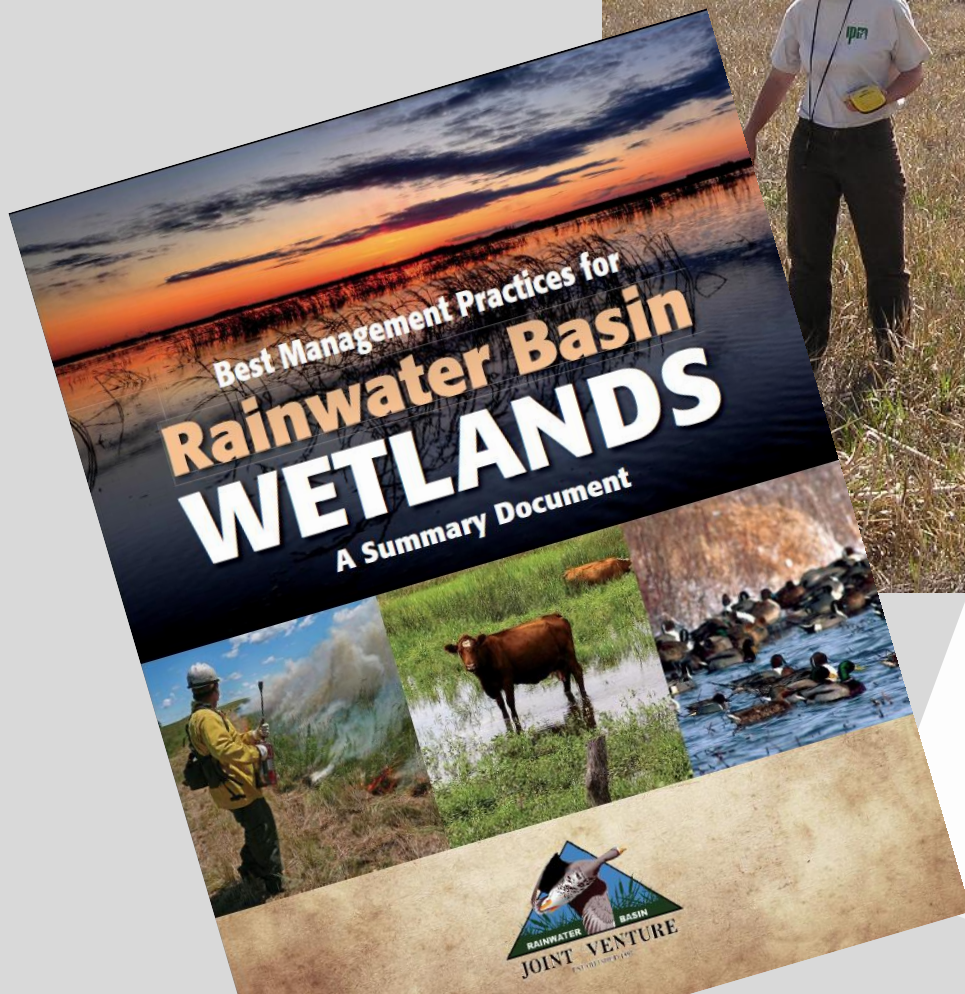
Management





Adaptive Management





**Wetland Management Guidelines for
Nebraska's Wildlife Management Areas**

By Ted LaGrange and Randy Stutheit
Nebraska Game and Parks Commission

April 15, 2011

http://outdoornebraska.gov/wp-content/uploads/2017/01/Wetland-Program-Plan_Nebraska_2015_Final.pdf, appendix D

<http://rwbjv.org/wp-content/uploads/2017/04/Best-Management-Practices-for-RWB-Wetlands-Summary.pdf>

**Best results are usually achieved by
applying management treatments over
multiple years and using several
different management treatments.**

No silver bullet exists and there is no finish line (Tim Horst, DU)

Be adaptive and try different treatments over several years



**Prairie wetlands are resilient.
As a general rule, it is better to
take management action than
to do nothing.**



Ongoing need for evaluation and/or research





“Every wetland tells a story”



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Thank You!

For more information visit:

NebraskaWetlands.com

