



United States Department of Agriculture



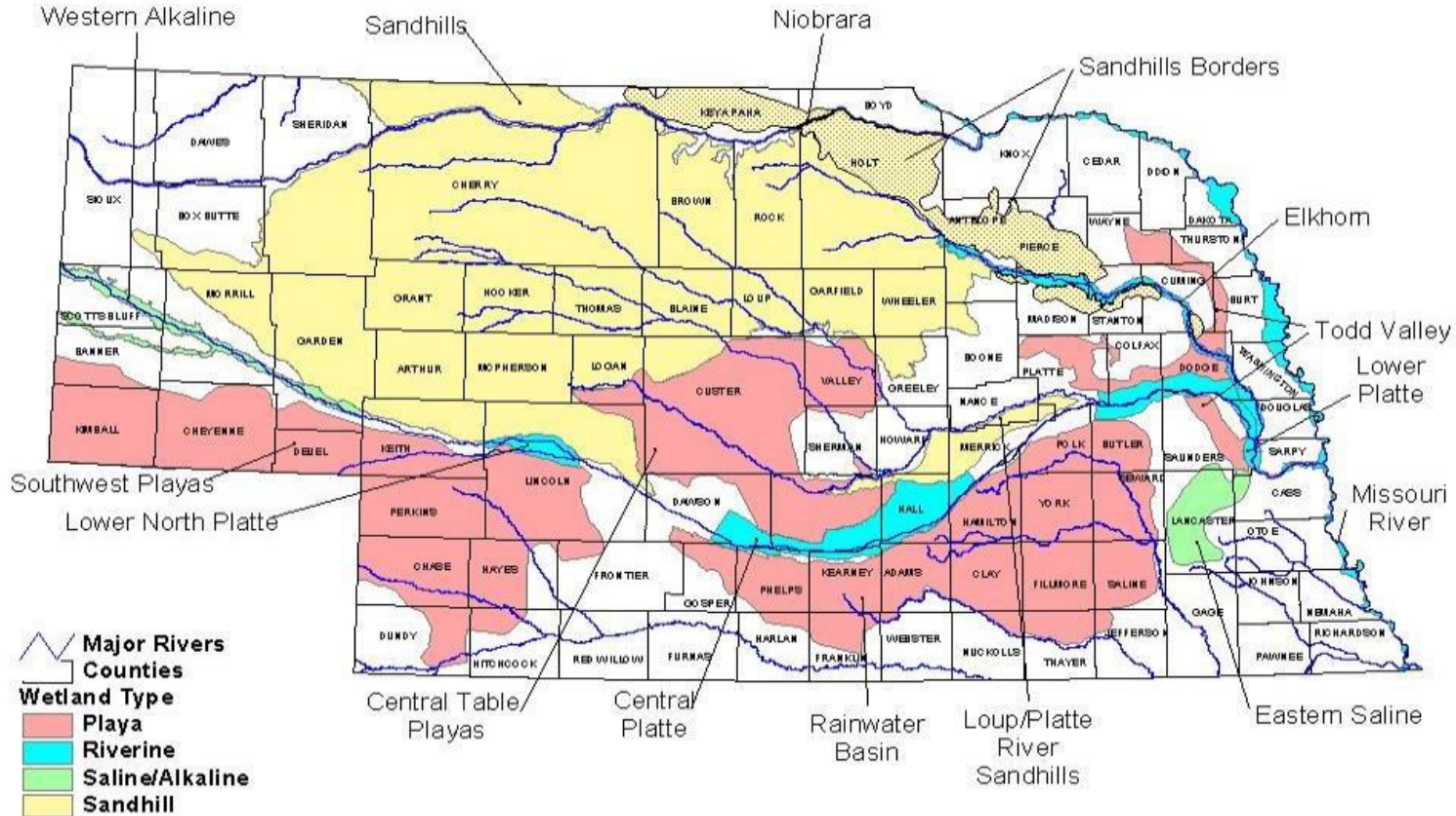
# Know your Wetland



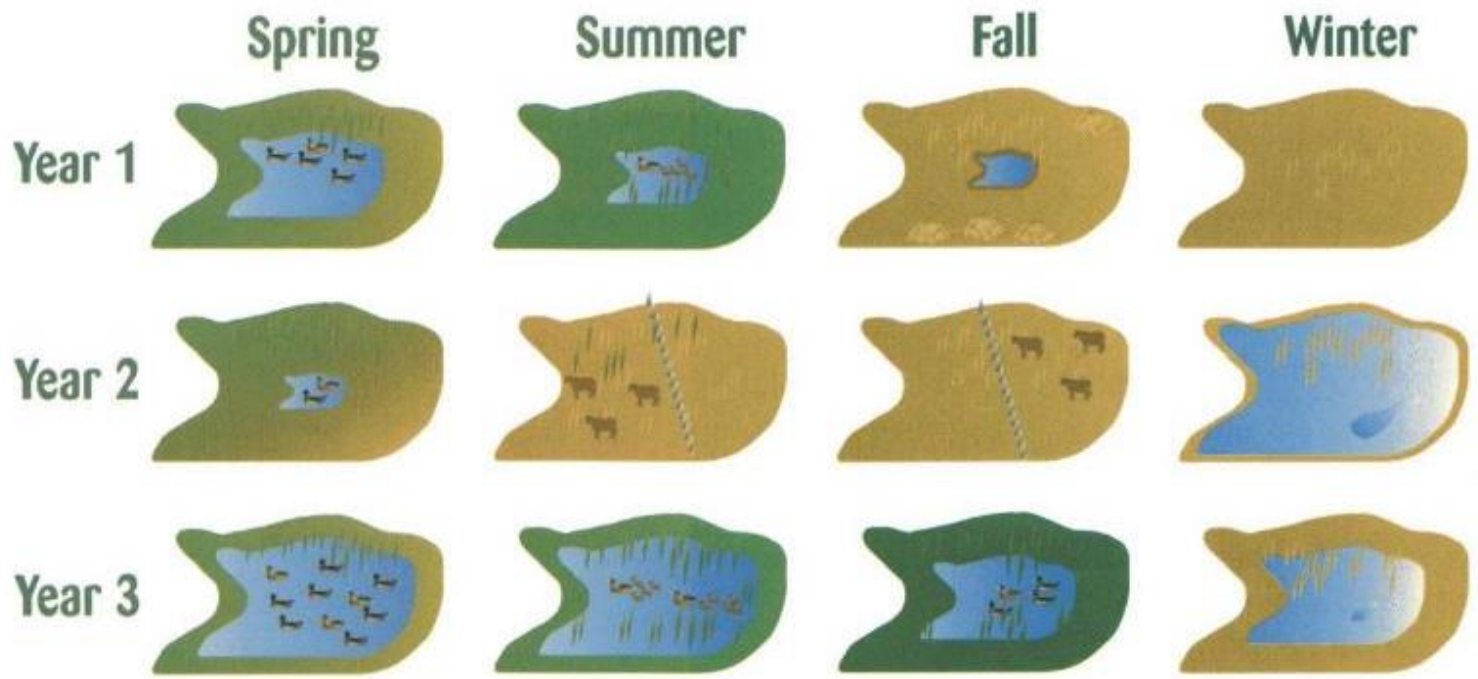
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# Nebraska's Wetland Complexes



# Not Always Wet



## Key

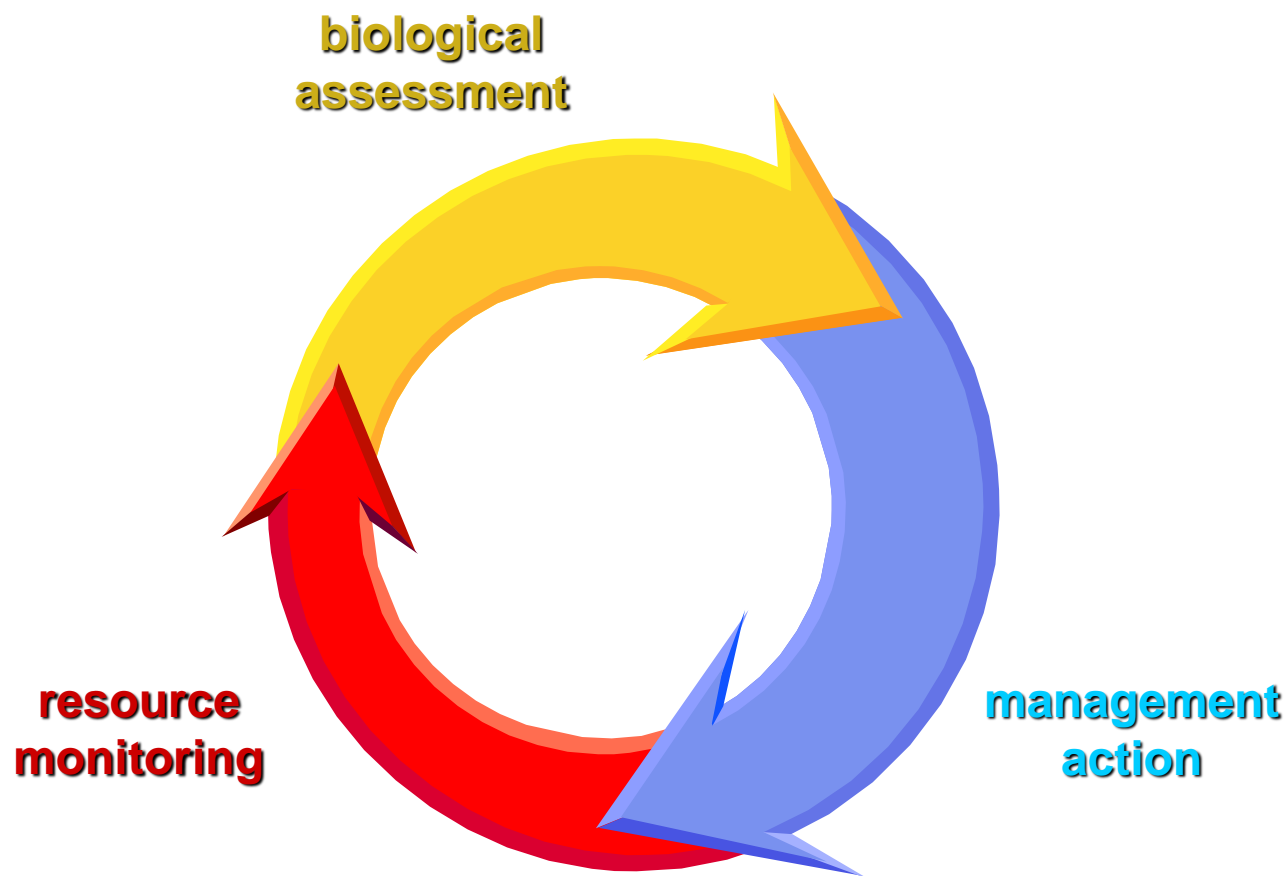
- Open water
- Mudflat/shallow vegetated water
- Haystack
- vegetation

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# Adaptive Management



# What are we Managing Against/For

- **Reduce Reedcanary Grass**
- **Reducing Cattails**
- **Reducing/eliminating Phragmites**
- **Reducing/eliminating smooth brome**
- **Reducing Trees that are invaders of uplands/wetlands**
  
- **Increasing native species**
- **Increasing desirable upland vegetation**
- **Increasing desirable wetland vegetation**



# Wetland Invaders



***Purple Loosestrife***



***Phragmites***



***Trees***



***River Bulrush***



***Hybrid Cattail***



***Reed Canary Grass***



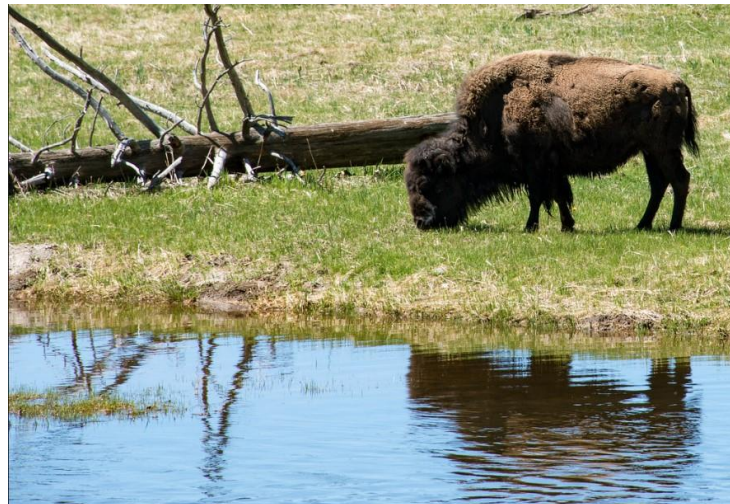
***Smooth Brome***



# Historic Disturbance



- **Utilized by different grazing animals to drink, cool off and eat**
  - Buffalo, elk, deer, pronghorn, etc.
  - Distribution was different
- **Had frequent fire return intervals**
  - Tree Rings
- **Had more frequent & severe flood events**
- **At one point they were disturbed, and still need disturbance**





# Management Techniques Used

- **Grazing**
- **Burning**
- **Herbicide Treatment**
  - Wetlands
  - Uplands
- **Brush Management**
- **Haying**
- **Water Control Structures**
- **Disking**
- **Reseeding**
- **Pumping**
- **Bridges, Flotation Tires & VRI**



# Grazing



- **Trampling of wetlands that create openings and exposed mud flats that some wildlife species desire**
- **Graze during the months of April - November**
  - Depending on producer and easement
  - Continuous VS Rotational
- **Higher stocking rate on wetland acres**
- **Effective at reducing plant stand height, as well as creating structural and species diversity**
- **Reduce cover/root systems of invasive species**



# Grazing



- **Trampling can create seedbed for annual plants**
- **Grazing can make other management tools more effective**
- **Grazing has an income benefit**
- **Timing considerations for nesting birds and T&E Species**
- **Need CUA Agreement**
- **Focus Grazing on Invasive/Noxious weeds**
  - Fencing out these areas
  - Higher stocking rate or Longer time during important timeframes



# Management of Phragmites



**March-April**

Land manager recommendation: Flood site before draw down to encourage *Phragmites* growth

**May 1-June 1**

Typical time Utah land managers begin grazing

**2-4 weeks post-grazing**

**4a. Rest and leave dry**

Mid July to August: Remove cattle early to prepare for spraying.

**30 days**

**4b. Re-flood**

**After 30 days of flooding**

**4c. Spray herbicide**

Recommended adjustments for herbicide integration



# Prescribed Burning



- **Reduce/Eliminate invasive species**
- **Remove excess thatch that's been building up**
- **Recycle nutrients back into the system**
- **Need other management to be effective long lasting**
- **Help reduce woody species**
- **Tool to use ahead of grazing or spraying**



# Management with Prescribed Burning

- **Use of fire will treat the areas of phragmites that are thick and have dense dead stems**
  - Help locate & spot treat regrowth
  - Herbicide treat before burning
    - Due to fires encouraging rhizome growth
- **Multiple management techniques are needed**
  - Herbicide, grazing, burning, Flooding



# Herbicide Treatment



- **Need to consider potential impacts to other plants, crops and wildlife**
- **Follow label directions and over water use instructions**
- **Very efficient for control of monotypic stands of invasive plants if the right chemical is applied at the right time and at the right concentration**
- **Can be expensive**



# Brush Management



- **Timing considerations for nesting birds and T&E Species**
- **Fire, Grazing and Haying can help control small brush**
- **Easier to treat woody invasion when plants are smaller**
- **Smaller woody plants can be shredded or sheared**
- **Herbicides can be used, especially in uplands for help with brush management.**
- **Larger trees will need to be cut/grinded and the stumps treated.**
  - For cedars, no stumps need to be treated





# Haying



- **Timing considerations for nesting birds and T&E Species**
- **Limited removal on invasive herbaceous plants, but will reduce woody plant invasion.**
- **Can make other types of management more effective.**
- **Haying/Shredding will affect the plant community**
- **Has a benefit of creating income.**



# Water Control Structures

- **Wetlands are not supposed to be wet 365**
- **Well adapted to wet/dry cycles – simulate through water level management**
- **Should be done in conjunction with other treatments**
- **Can manipulate vegetation**
- **Draw-downs are needed for wetland seeds to germinate**
- **Structures need constant maintenance**



# Management with WCS

- **Phragmites are intolerant of persistent flooding**
  - Increase in water level alone is not effective in controlling
- **Draw-downs should be in late summer**
  - (mid/late July early August)
  - Maintain and promote native vegetation
  - Avoid reestablishment of Phragmites



# Disking

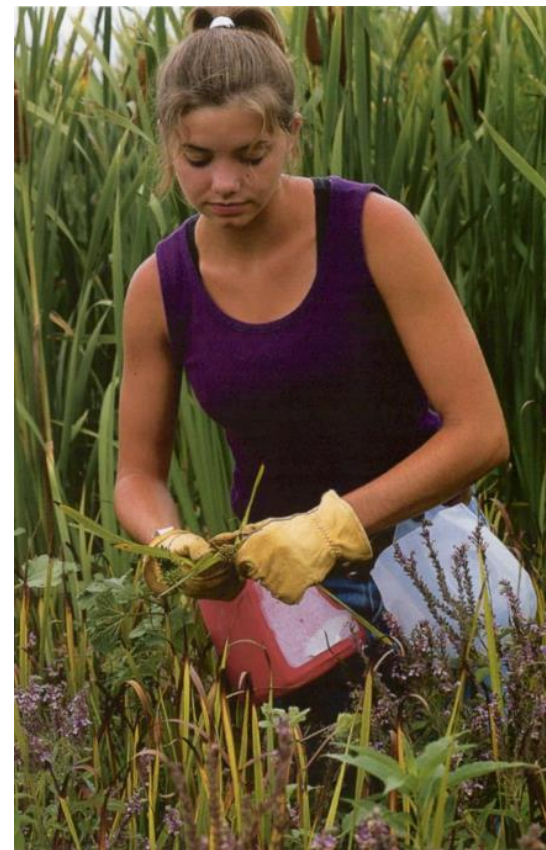


- **Used when dealing with an extreme amount of invasive plants**
  - Never to be done in natural wetlands
- **Not a tool to use if the plant community is desirable**
  - Other management treatments will help
- **Creates bare ground for moist soil, helps plants with germination**
- **Can be effective alone if followed by hot/dry weather**
- **Can be expensive as it needs multiple passes**
  - Multiple times of reseeding during dry conditions



# Reseeding

- **Native seed collection**
- **Reseeding areas for Management**
- **Cattle on headed out grassed areas**



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# Pumping



- **Useful when a watershed has been altered and the original hydrology has been limited**
- **Pumping can be used to achieve desired plant community**
  - Flooding out invasive species
  - Create moist soil profiles
- **Can provide water at critical times when water or access to food may be limited**
  - Migration
- **Can enhance the landowners property for hunting**
  - As long as it doesn't inhibit desired vegetation
- **Can be expensive**
  - Wetlands are not always wet
- **New WEDs prohibit any ground disturbance for utility lines**
  - If well/line was previously there it can be utilized



# Bridges, Flotation Tires, VRI

- **Pivot bridges**
  - Allow there to be a fence for grazing
  - Complete circle
  - Machinery crossings (4 wheelers/UTV)
- **Flotation Tires**
  - No ruts
  - No flat tires
  - Increased traction
- **VRI**
  - Maximize irrigation efficiency within fields that contain wetlands
  - Eliminate inputs over wetland acres



# What's the End Goal?

- **Desired vegetation**
- **Productivity for wildlife**
- **Easy management for Producer/NRCS**
- **Managing invasive and noxious weeds**
- **Controlling tree growth**

