

Wetlands of Nebraska



What is a wetland?

The state of Nebraska has adopted the federal definition of wetlands...

“Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils.

What defines a wetland?

Three environmental characteristics define wetlands:

1. Vegetation

2. Hydric Soils

3. Hydrology

What defines a wetland?

1. Vegetation: wetlands have a prevalence of water loving plants which are adapted to growing in saturated soils.

Examples include:
swamp milkweed, cattails, bulrush,
arrowhead, smartweed, water lily,
and bladderwort.



What defines a wetland?

2. Hydric soils: soils that developed under saturated conditions which limit the amount of oxygen available to soil development.

In general, wetlands produce two types of soils... Gleyed soils and organic soils.

Hydric Soil Types



Gleyed Soils are produced when mineral rich or inorganic soils are exposed to anaerobic conditions (i.e. they are saturated). This allows a reduction of the iron in the soil creating a grey color.

Hydric Soil Types

Organic Soils are produced when there is a high amount of vegetation, and yet, because of anaerobic conditions, there is very little decomposition creating an build-up of organic material. An example of this is peat or bogs.



What defines a wetland?

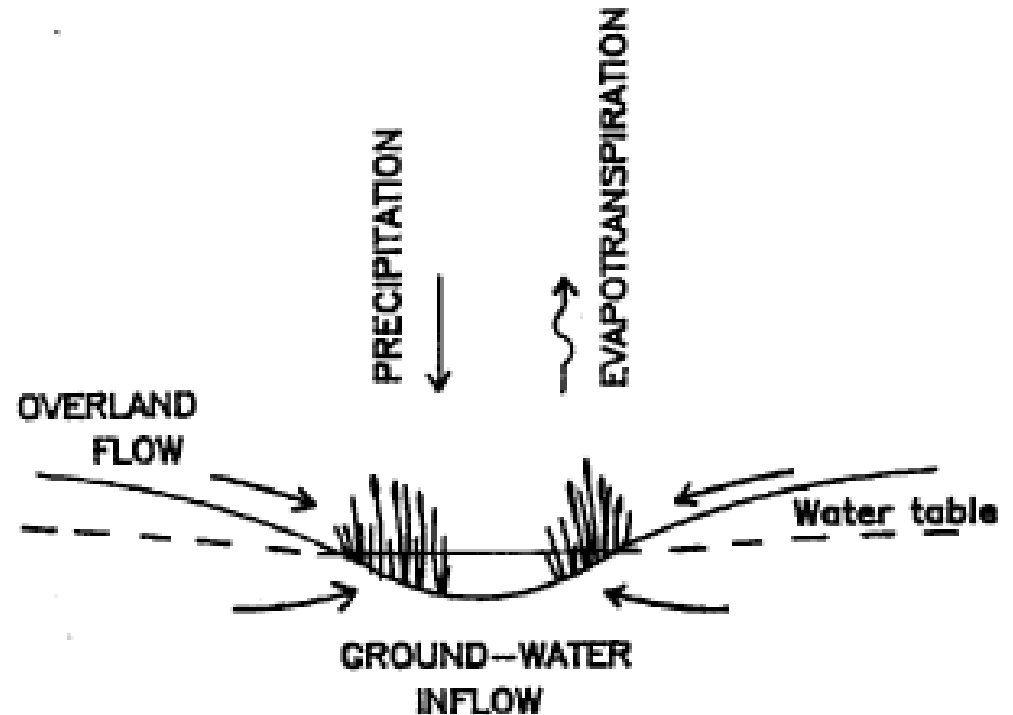
3. Hydrology: area is saturated by water at some point during the growing seasons of plants.

Some wetlands are saturated year-round; others may only be saturated for one month.

Wetland Hydrology

- Groundwater influenced.
- water table ABOVE wetland.

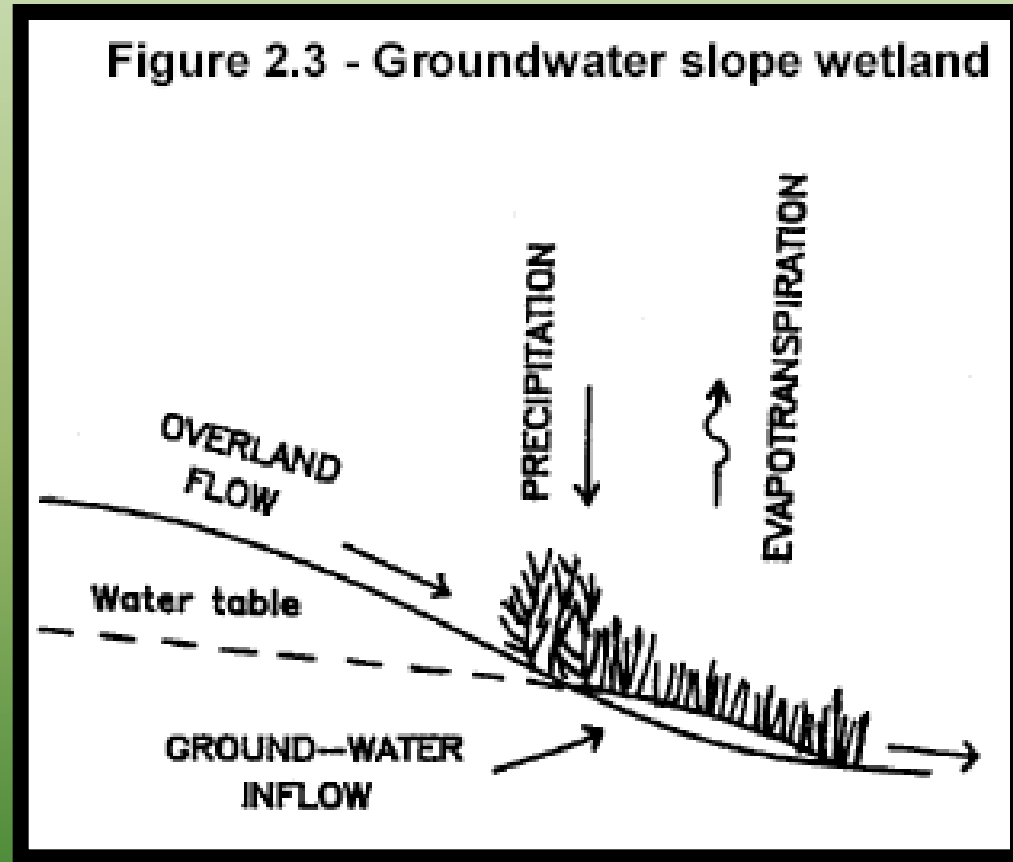
Figure 2.4 - Groundwater depression wetland



- longer lived wetlands due to constant inflow of groundwater.

Wetland Hydrology

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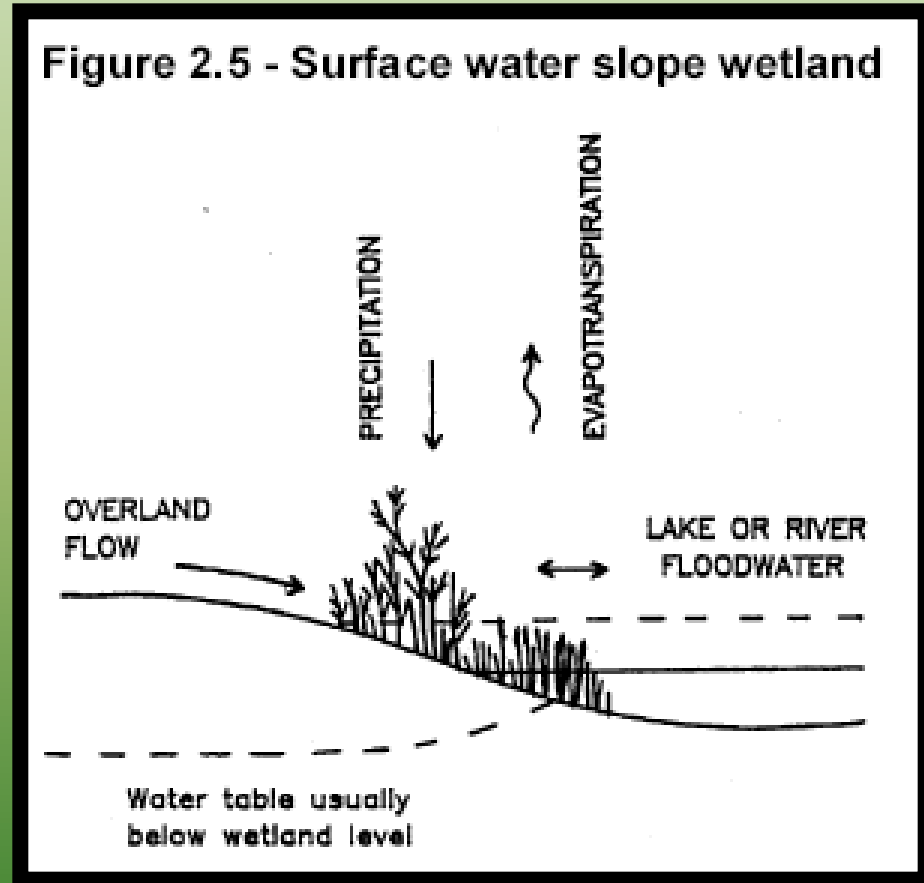
- longer lived wetlands due to constant inflow of groundwater.

Wetland Hydrology

- NOT groundwater influenced.

- water table
BELOW wetland.

- Generally shorter lived due to lack of constant groundwater inflow.



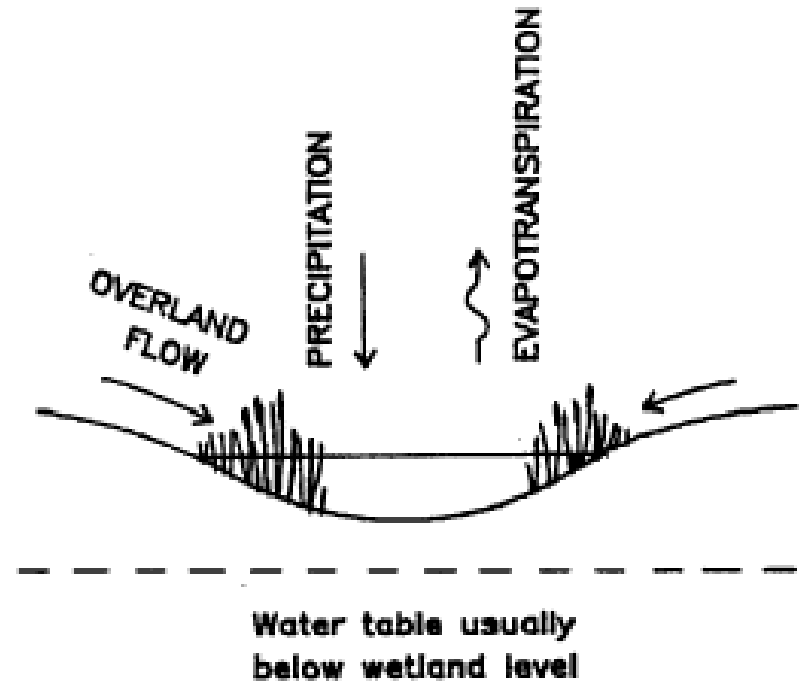
Wetland Hydrology

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Figure 2.2 – Surface water depression wetland



Why are wetlands important?

Improve water quality

Provide habitat for wildlife

Reduce flooding

Prevent soil erosion

Supply water and recharge groundwater

Produce food

Recreation and education opportunities

Types of Wetlands in Nebraska

Nebraska has 4 different types of wetlands.

Playa lakes/Playa wetlands

Sandhills wetlands

Saline wetlands

Riparian wetlands

Playa Lakes/Playa Wetlands

Definition: Wind-formed, nearly circular small depressions with a layer of clay coating the bottom. The clay prevents water from seeping into the ground.

Location: Across much of the southern half of Nebraska with some small areas in north-eastern parts of the state.



Playa Lakes/Playa Wetlands

There are 4 major complexes of playas in Nebraska:

Rainwater Basin

Central Table Playas

Southwest Playas

Todd Valley Playas



Sandhills Wetland

Definition: Mostly freshwater wetlands which include wet meadows, shallow marshes, and open lakes. Fed by groundwater... namely the Ogallala Aquifer.

Location: North-central Nebraska; though out the Sandhills regions.

Unique characteristics:
Highly alkaline wetlands are located in the western portion of the region.



Saline Wetland

Definition: shallow wetlands which form from inflows of groundwater. The groundwater passes through the bedrock which contains salts making the water highly saline.

Location: Occur only in Lancaster and Saunders counties in Nebraska.



Riparian Wetland

Definition: Wetland areas closely associated with rivers, streams, and lakes.

Location: Along all major rivers and streams across Nebraska; especially the Elkhorn, Platte, and Missouri Rivers.

