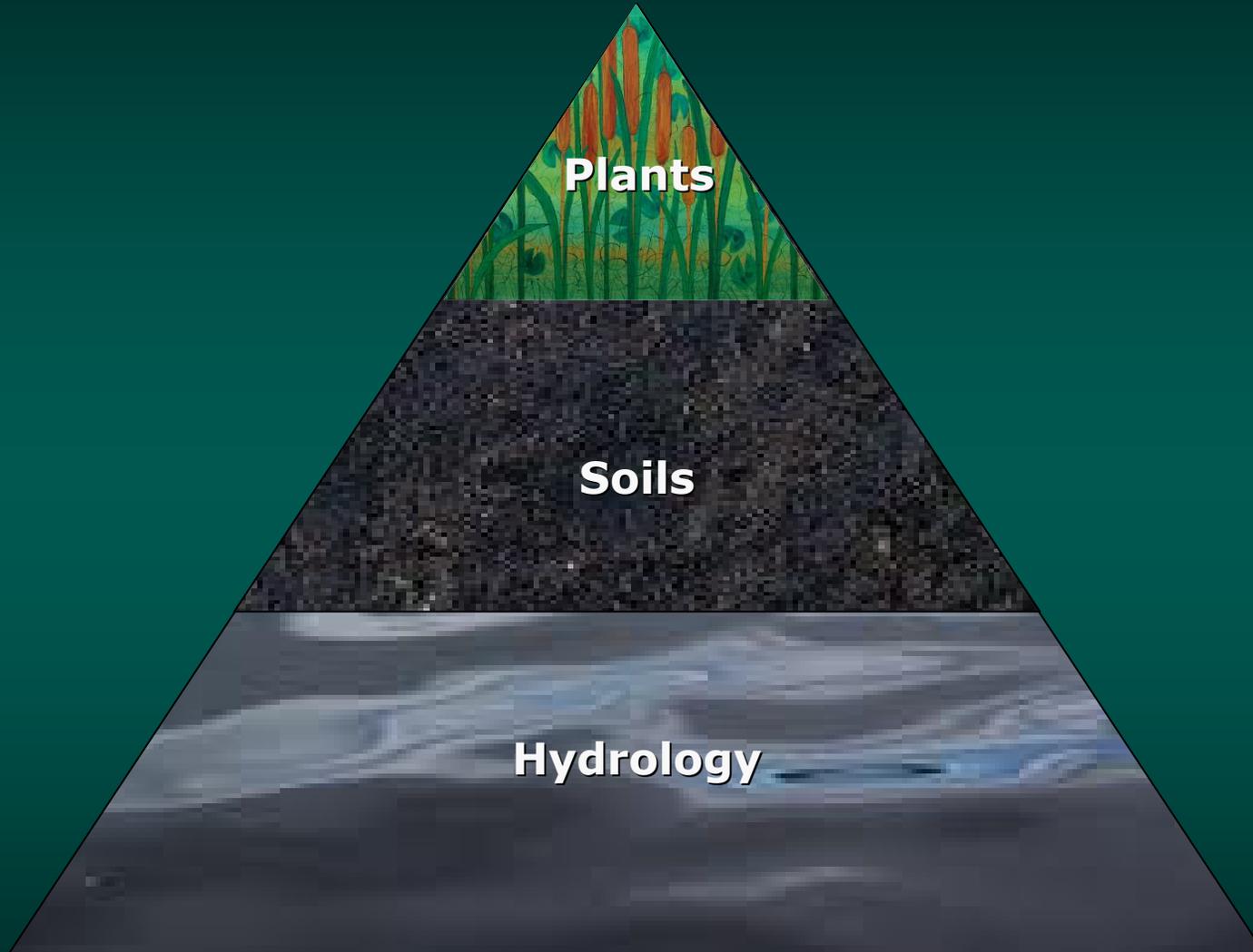


MONTANA'S WETLANDS



MONTANA
Natural Heritage
Program

WHAT IS A WETLAND?



WETLAND DEFINITIONS

Scientific Definition:

“...lands...where the water table is at or near the surface or the land is covered by shallow water...Wetlands must have one or more of the following three attributes 1) hydrophytes; 2) hydric soils; and 3) saturated or covered by shallow water.”

Legal Definition (CWA):

“...those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support...vegetation adapted for life in saturated soil conditions.” Note: hydrophytes, hydric soils, and hydrology must ALL be present

IS THIS A WETLAND?



IS THIS A WETLAND?



IS THIS A WETLAND?



IS THIS A WETLAND?

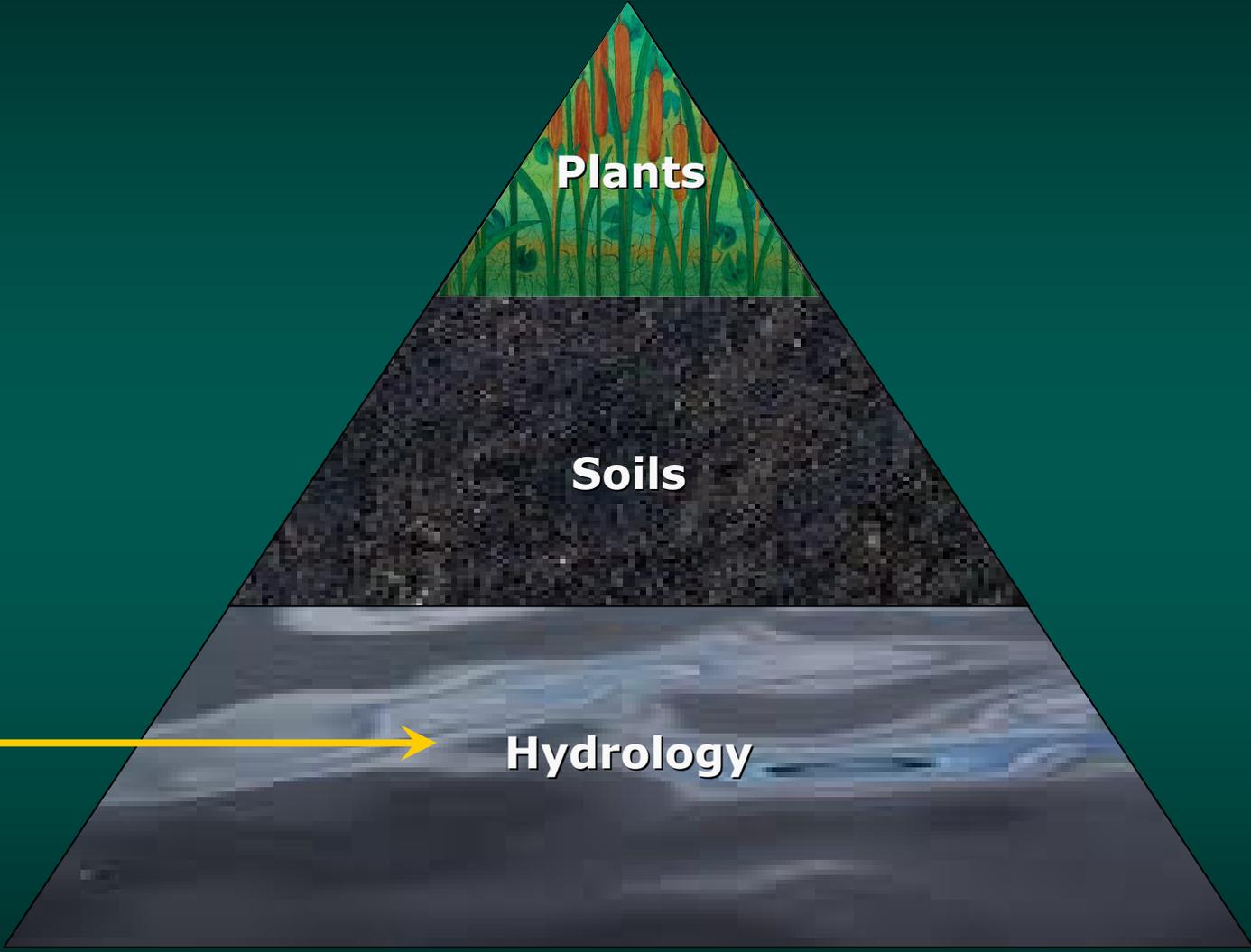


IS THIS A WETLAND?



YES!!!



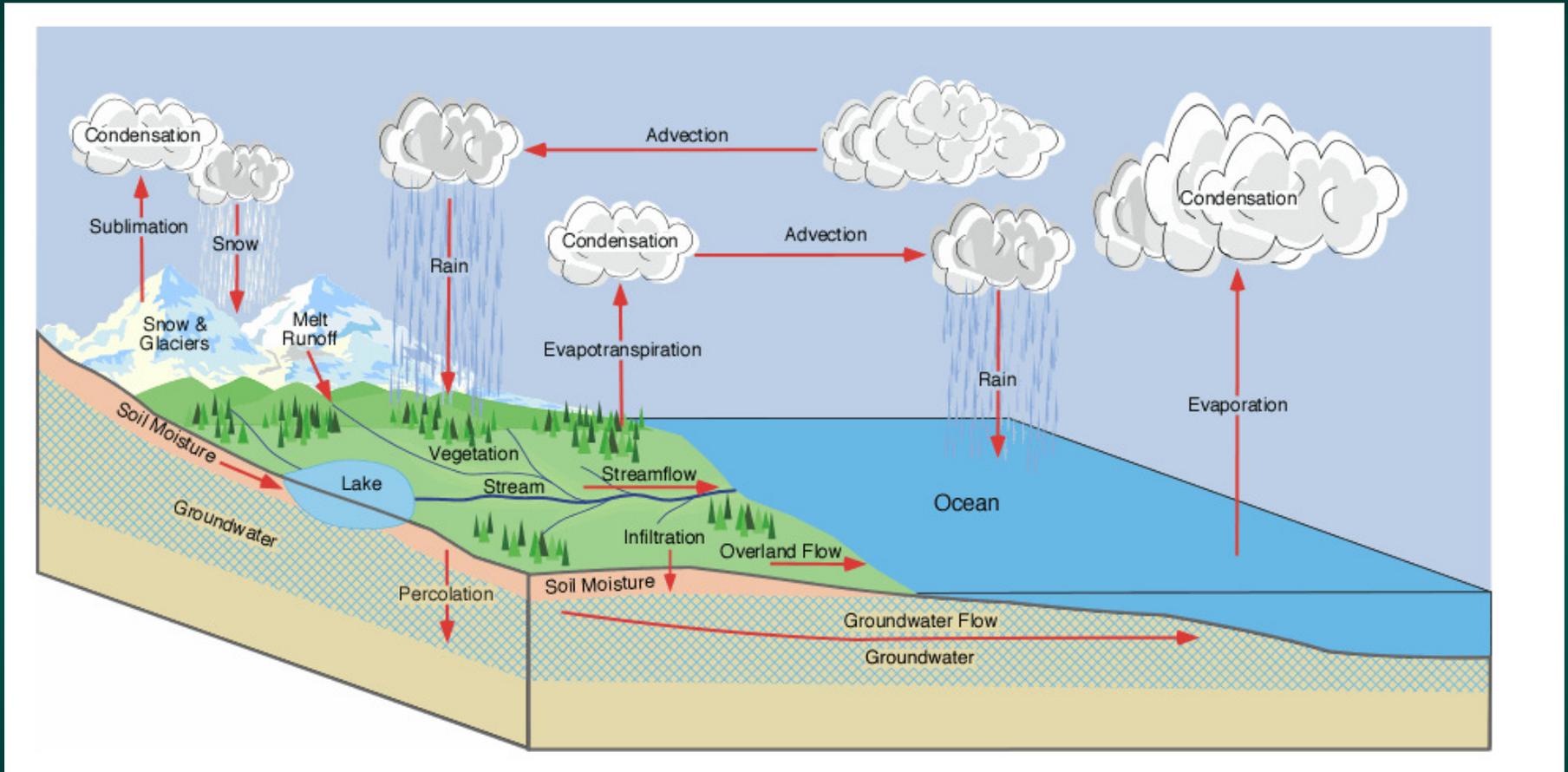


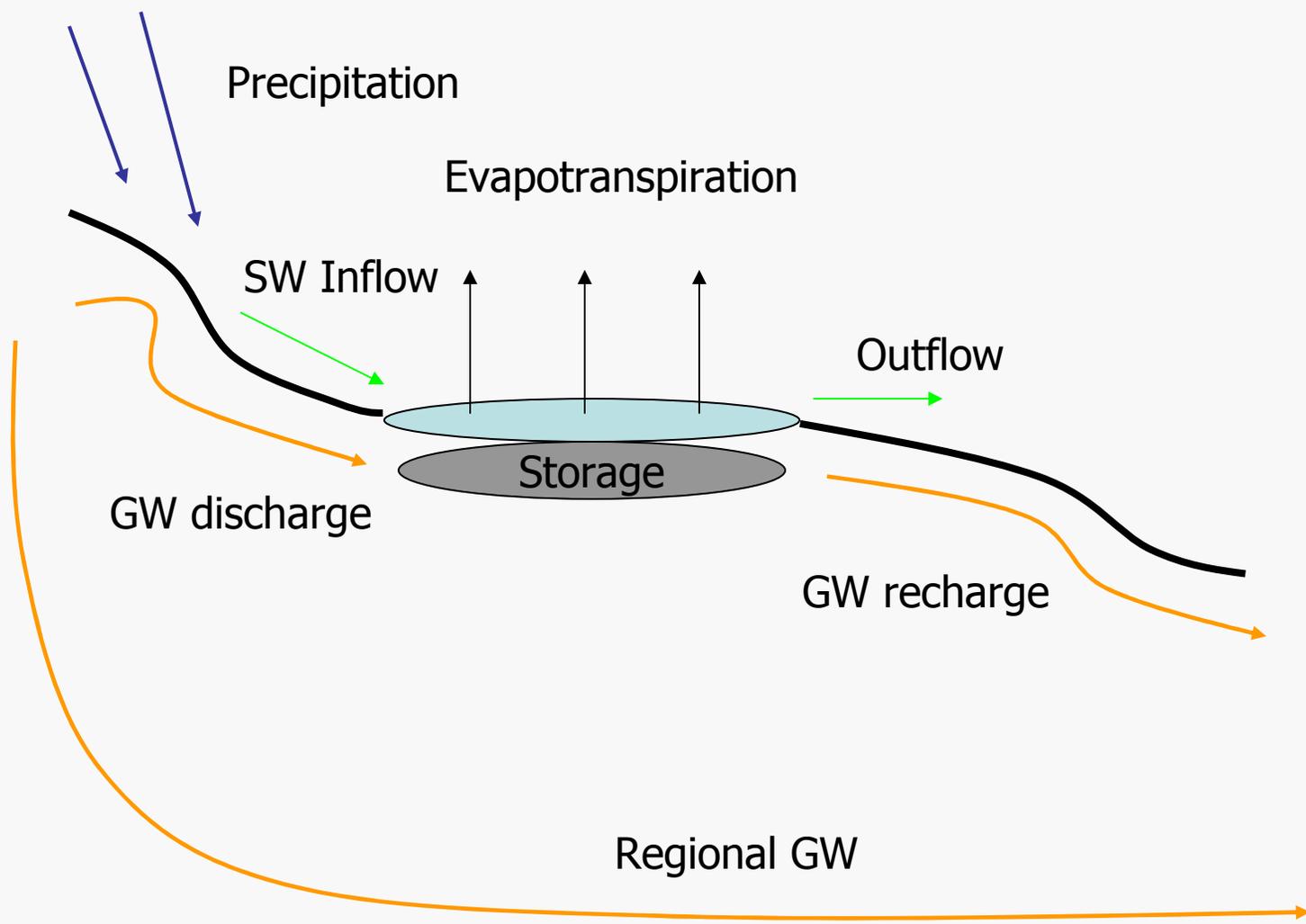
Plants

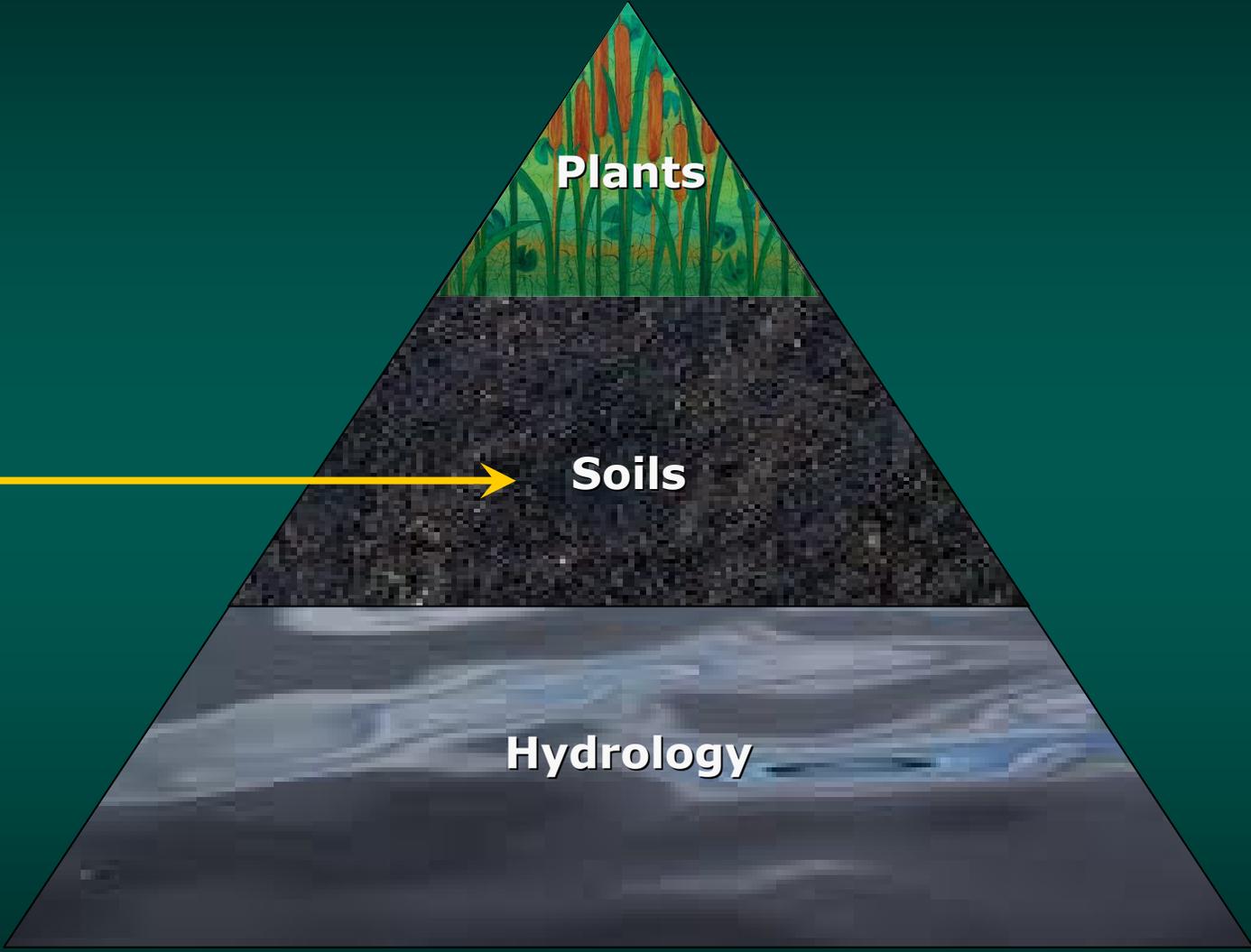
Soils

Hydrology

WATER CYCLE







Plants

Soils

Hydrology

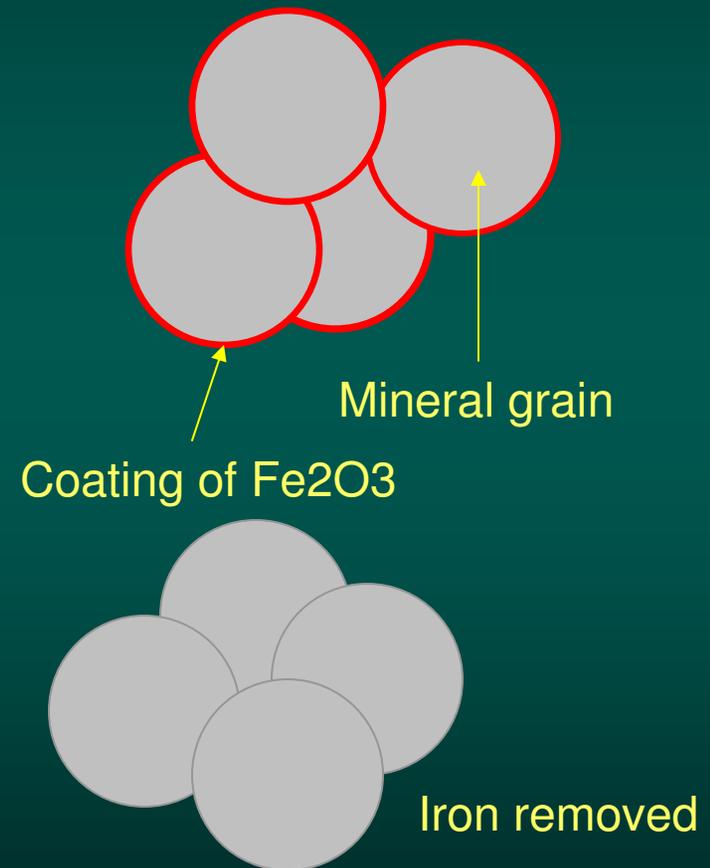
WETLAND SOILS

Which soil is a wetland soil?



Soil Color and Redox Reactions

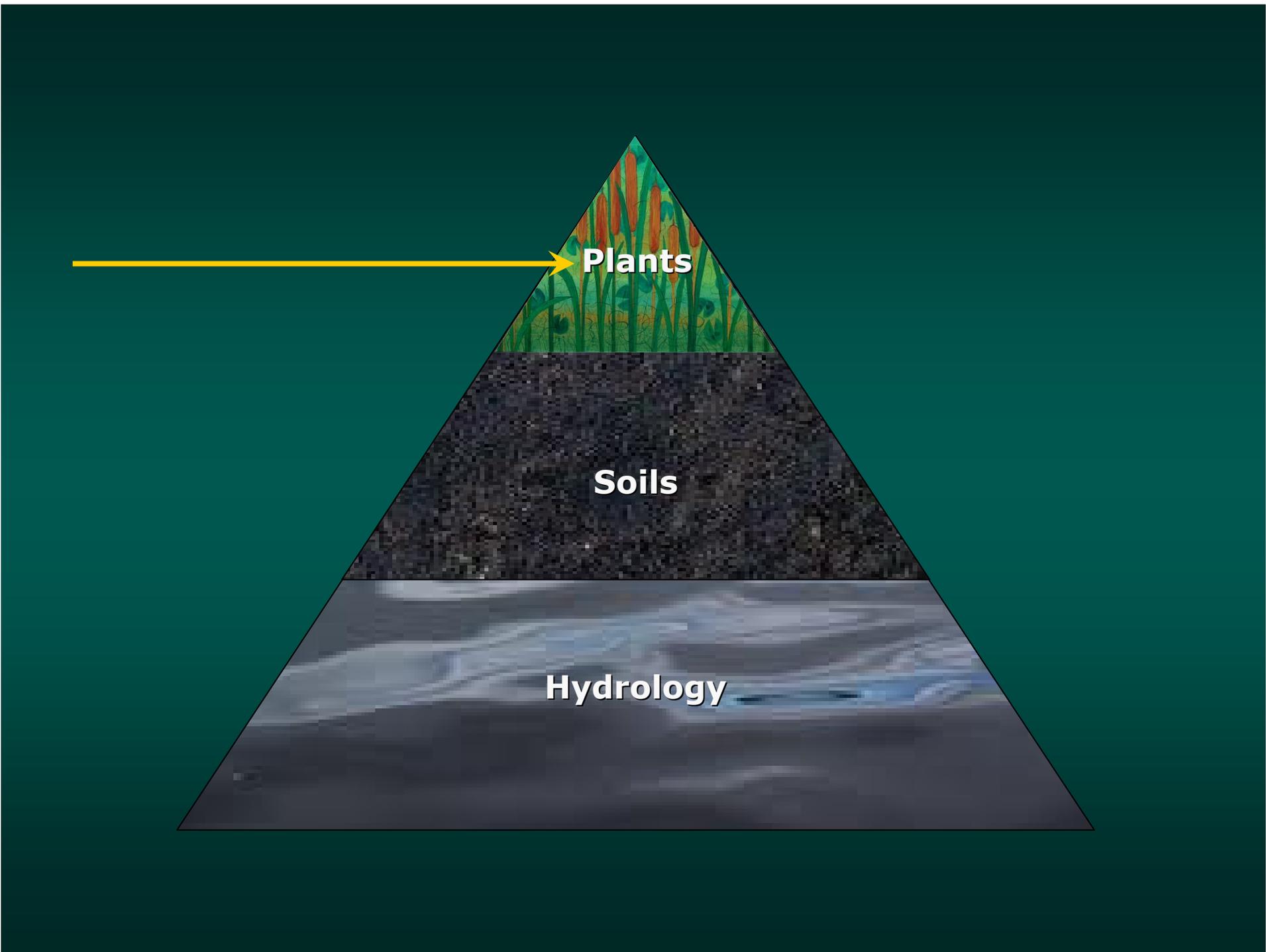
- Fe and Mn oxides give soils their characteristic brown, red, yellow colors.
- When reduced, Fe and Mn are mobile and can be stripped from the soil particles, leaving the characteristic mineral grain color.



WETLAND SOILS

Which soil is a wetland soil?





Plants

Soils

Hydrology

WETLAND PLANTS

HYDROPHYTES

HYDRO = WATER; PHYTES = PLANTS



COMMON WETLAND PLANTS OF MONTANA

Aquatic plants – submerged or float on the water surface



COMMON WETLAND PLANTS OF MONTANA

Emergent plants – cattails, grasses, lilies, sedges



COMMON WETLAND PLANTS OF MONTANA

Shrubs and trees – willows, aspen



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COMMON WETLAND PLANTS OF MONTANA

The “Toughies”

Sedges, Rushes, Grasses

Sedges have edges

Rushes are round

Grasses are hollow

Right up from the ground



WHY ARE WETLANDS IMPORTANT?

- HABITAT
- GROUNDWATER RECHARGE
- TRAP SEDIMENT
- IMPROVE WATER QUALITY
- RECREATION



HOW ARE WETLANDS PROTECTED?

Clean Water Act (CWA) - 1972

- “.....restore and maintain the chemical, physical, and biological integrity of the Nation’s Waters.”
- Regulates the discharge of pollution into “navigable waters”.
- “Navigable waters” = “waters of the United States”

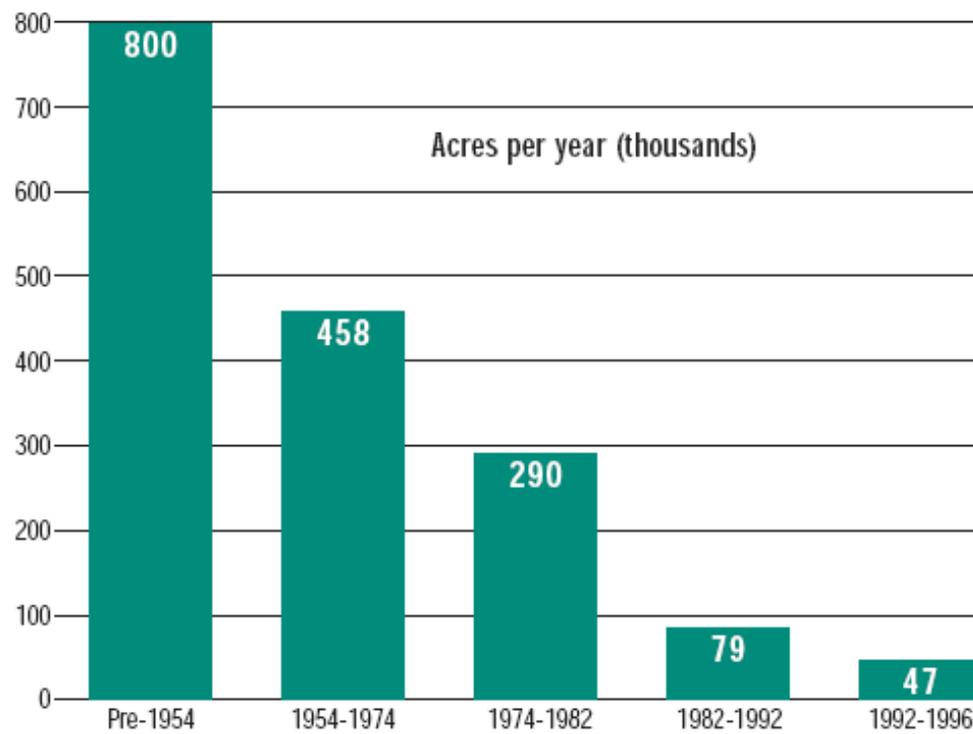
Section 404 of the CWA:

- “regulate the discharge of dredged fill material into navigable waters...”.



Figure 1

Estimated Net Annual Conversion Rates of Wetlands in the 20th Century



Note: Totals do not include wetland restoration by private conservation organizations or state or local governments.

Source: U.S. Department of Agriculture

WHAT WE DO AT MTNHP

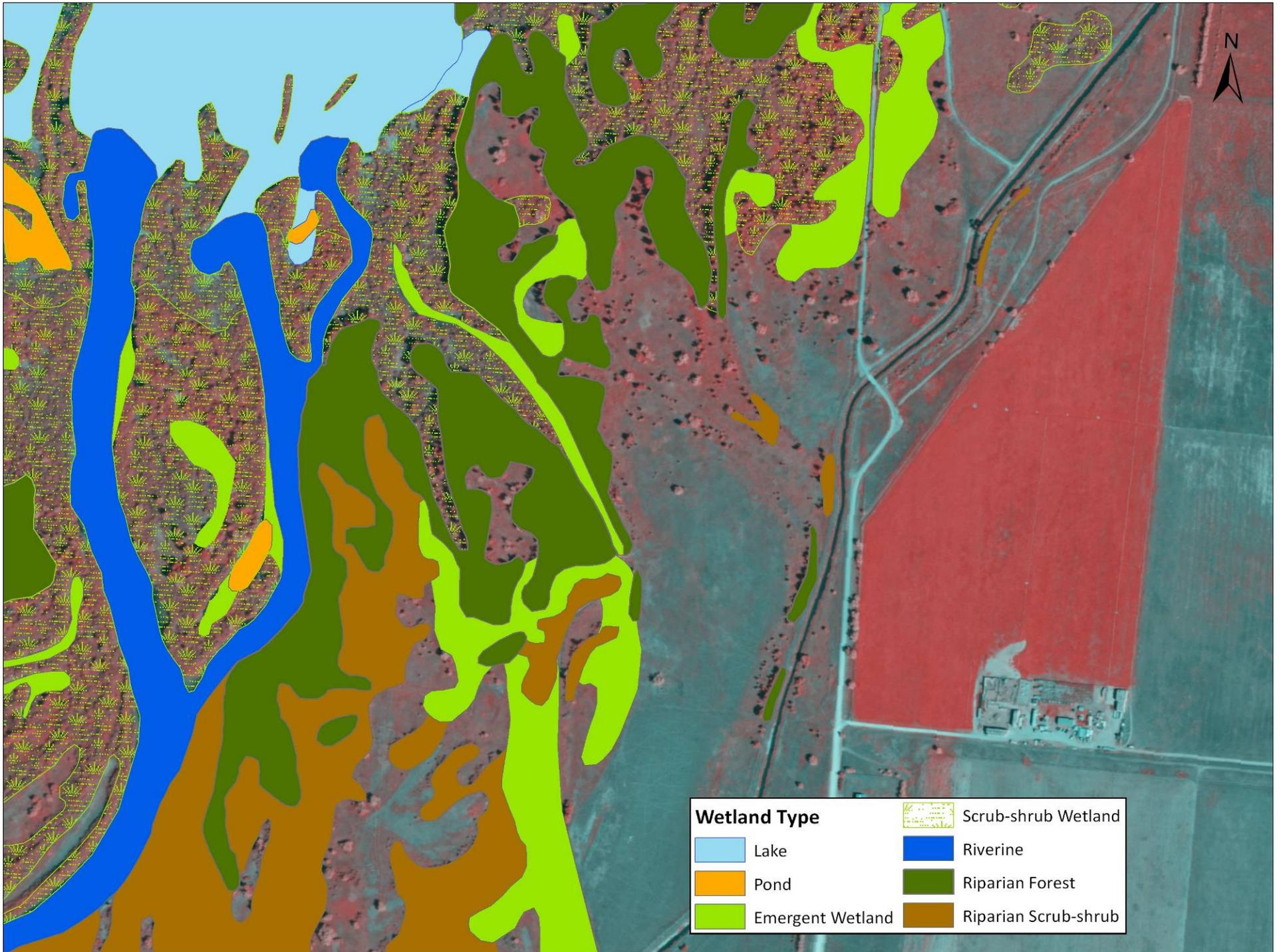
- **Where are the wetlands?**
- **What kinds of wetlands do we have?**
- **What condition are Montana's wetlands in?**









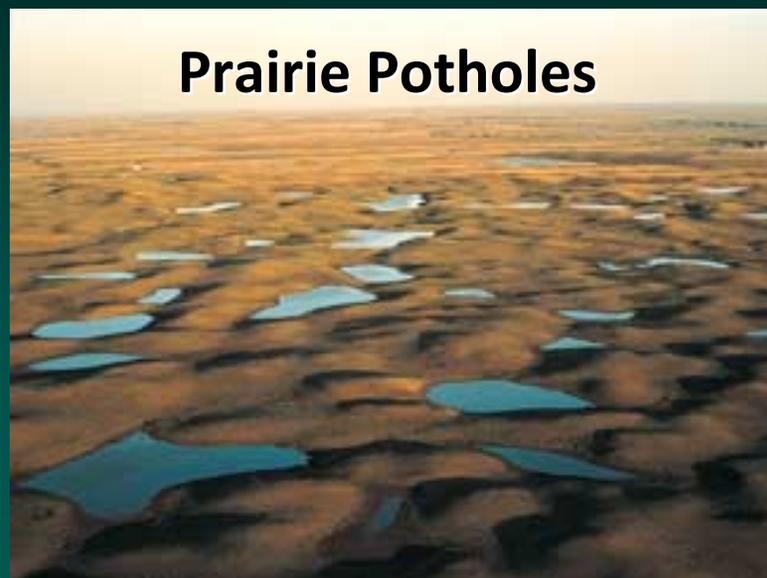


WHAT WE DO AT MTNHP

- Where are the wetlands?
- What kinds of wetlands do we have?
- What condition are Montana's wetlands in?

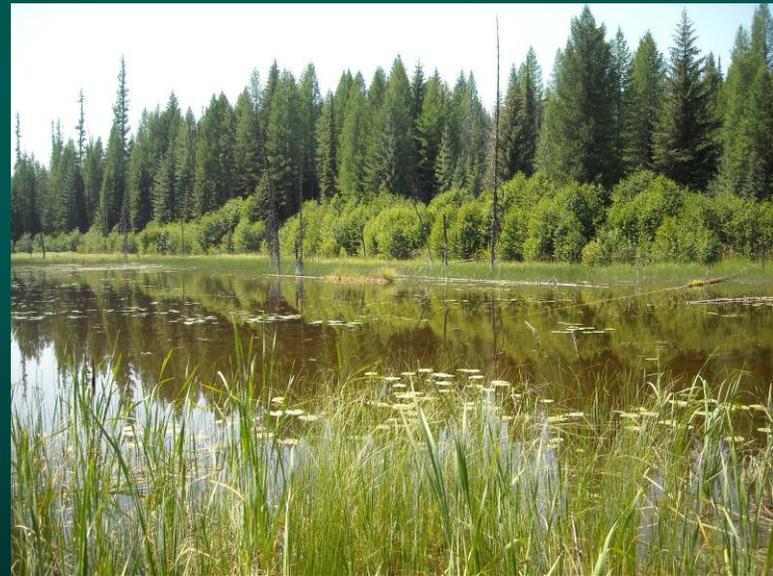


COMMON MONTANA WETLAND TYPES



WHAT WE DO AT MTNHP

- Where are the wetlands?
- What kinds of wetlands do we have?
- Are Montana's wetlands healthy?



Wetland Condition

Excellent
Condition

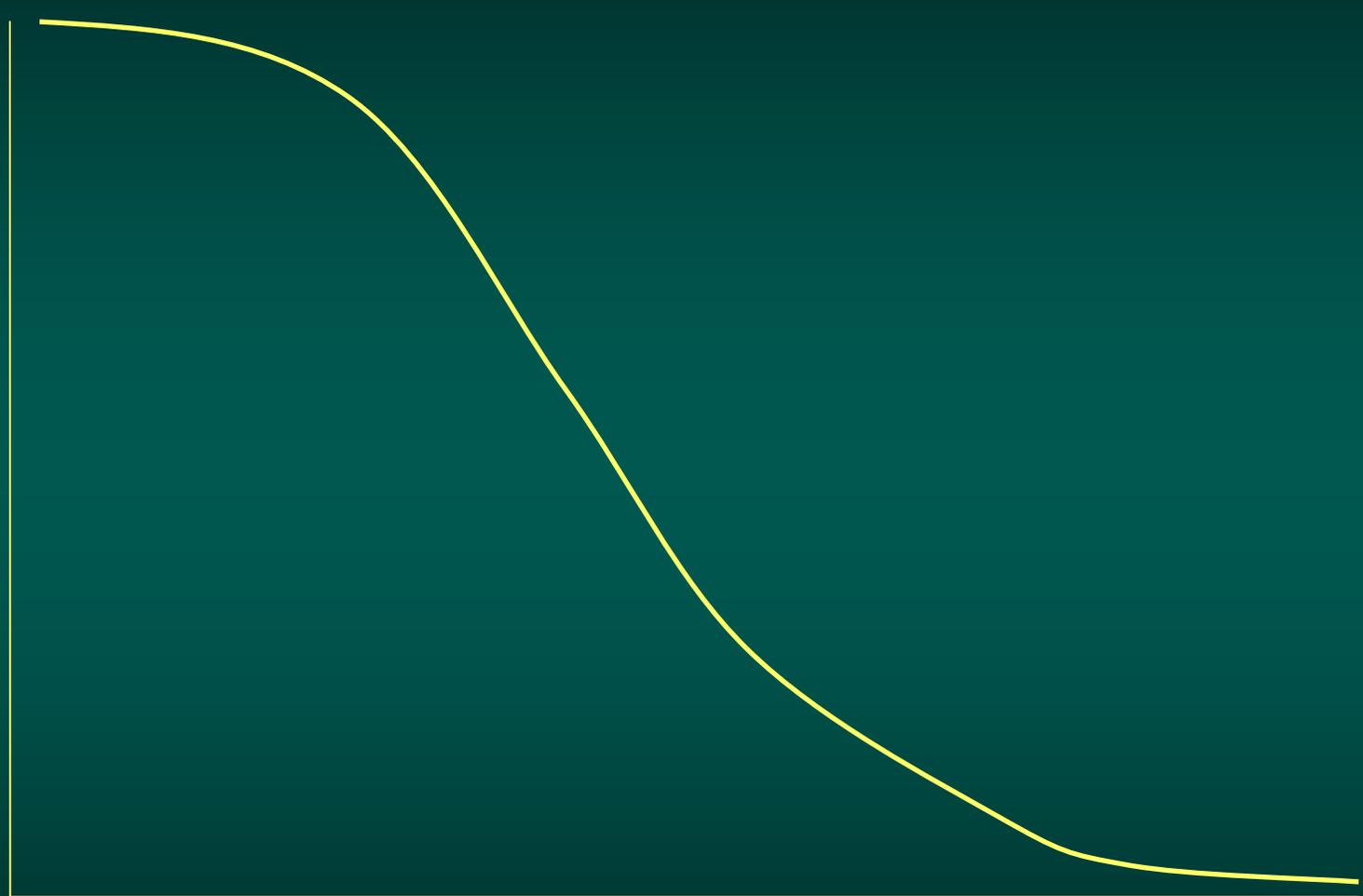
Wetland Condition

Poor
Condition

Not Disturbed

Human disturbance

Very Disturbed



Questions?

