ECOLOGICAL SITES IN RIPARIAN AREAS
ALBUQUERQUE, NEW MEXICO
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ECOLOGICAL SITES

- **Landform / Physiographic Features**
- **Soil Properties**
- **Average Annual Precipitation**

To Describe

- **Plant Community Composition & Production**
- **Interpretations for use & management**

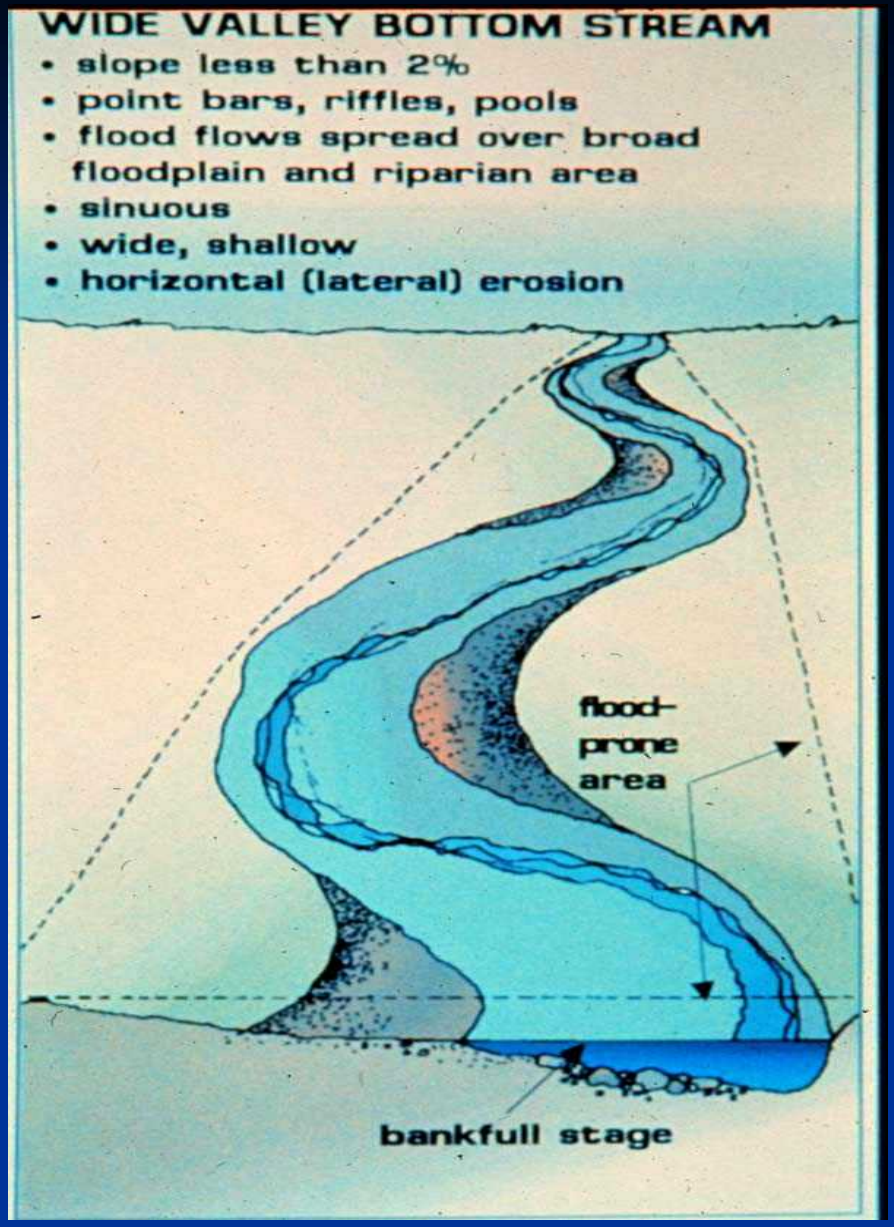
Ecological Sites
Riparian Areas

- Landform / Geomorphic Features

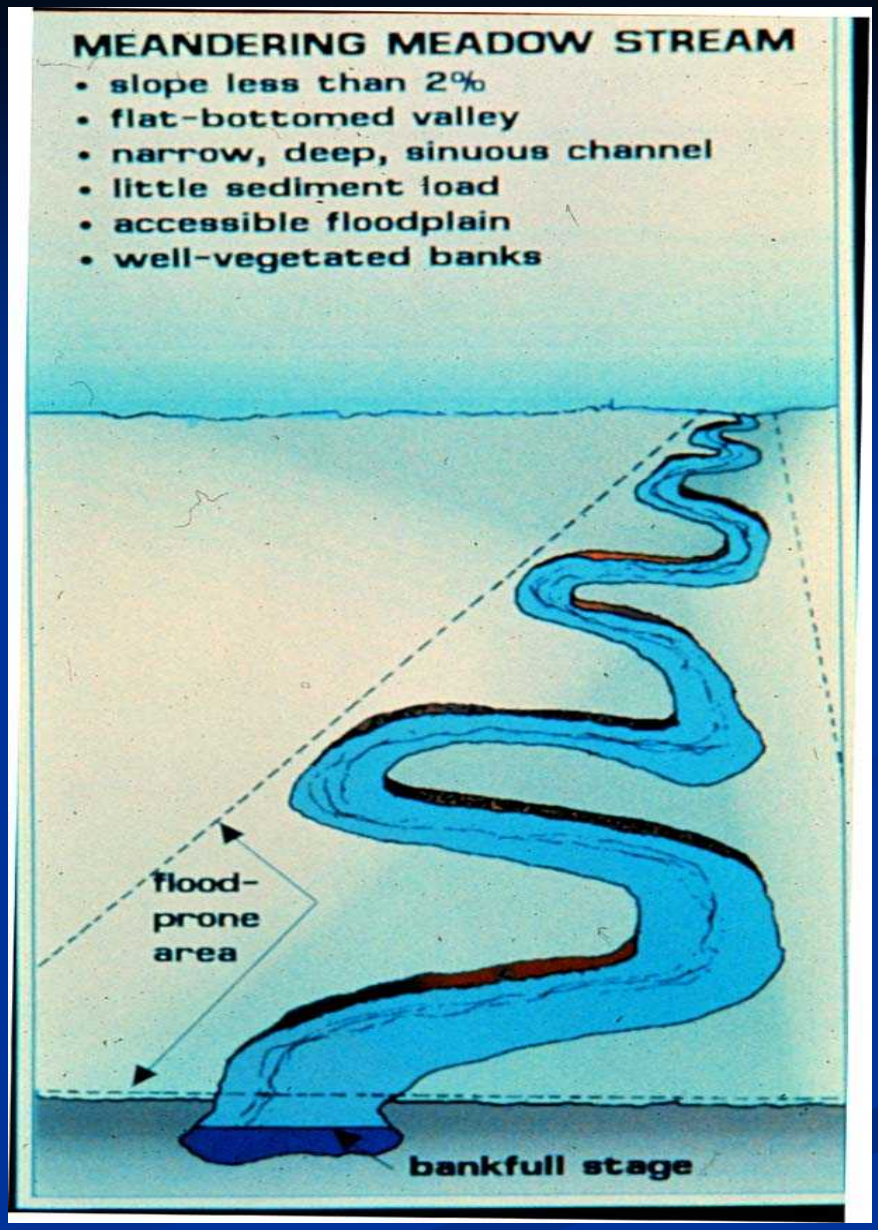
  (Rosgen Stream Type)
- Soil Properties
- Climate

To Describe

- **Plant Community Composition & Production**
- **Interpretations for use & management**



C TYPE CHANNEL



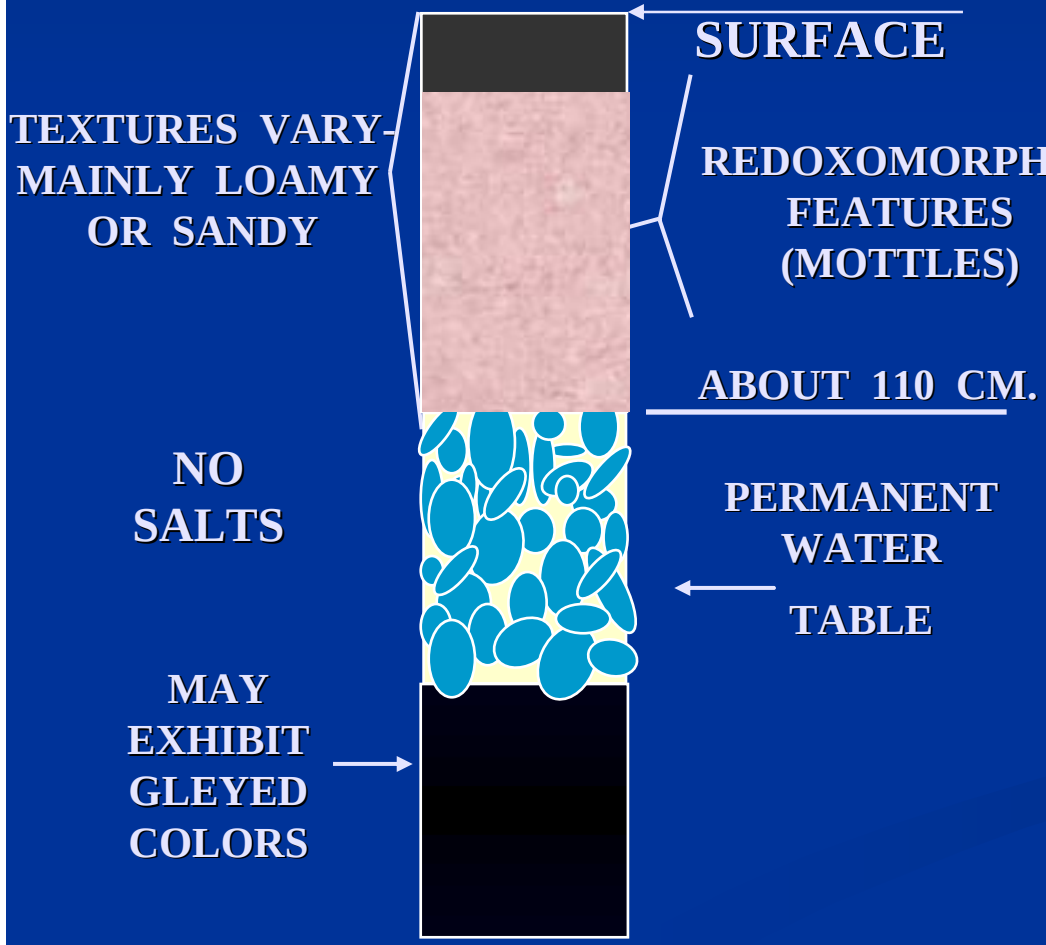
E TYPE CHANNEL

C Channel Type

E Channel Type

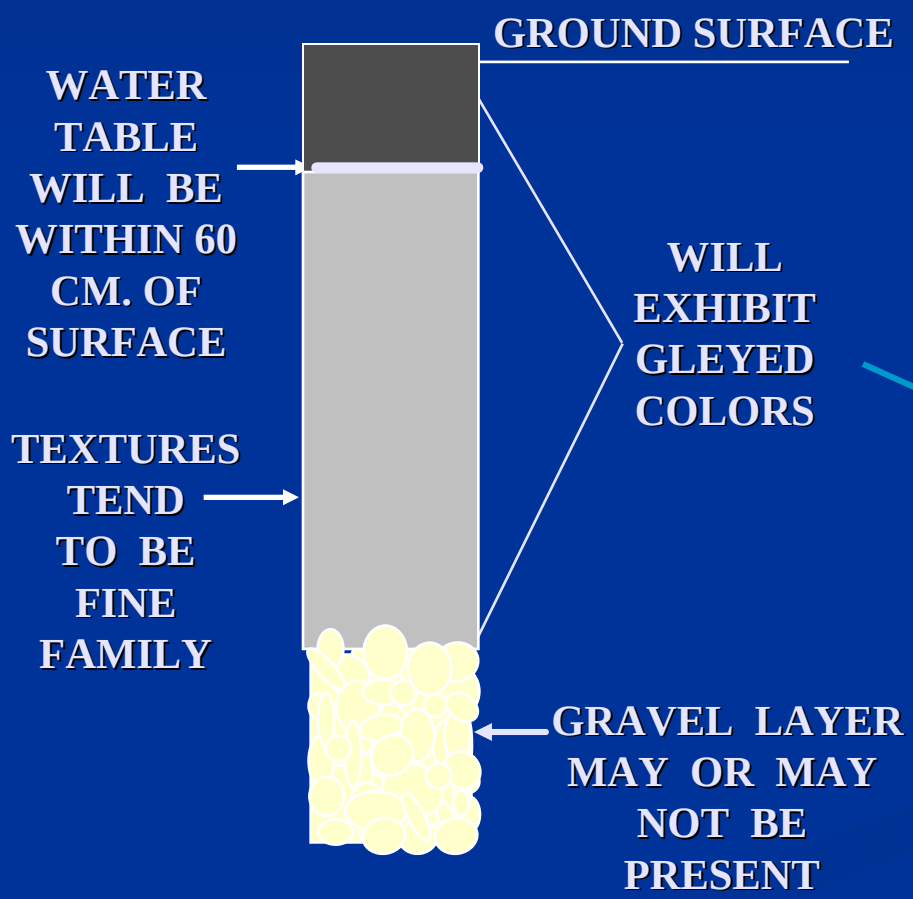
E Channel Type

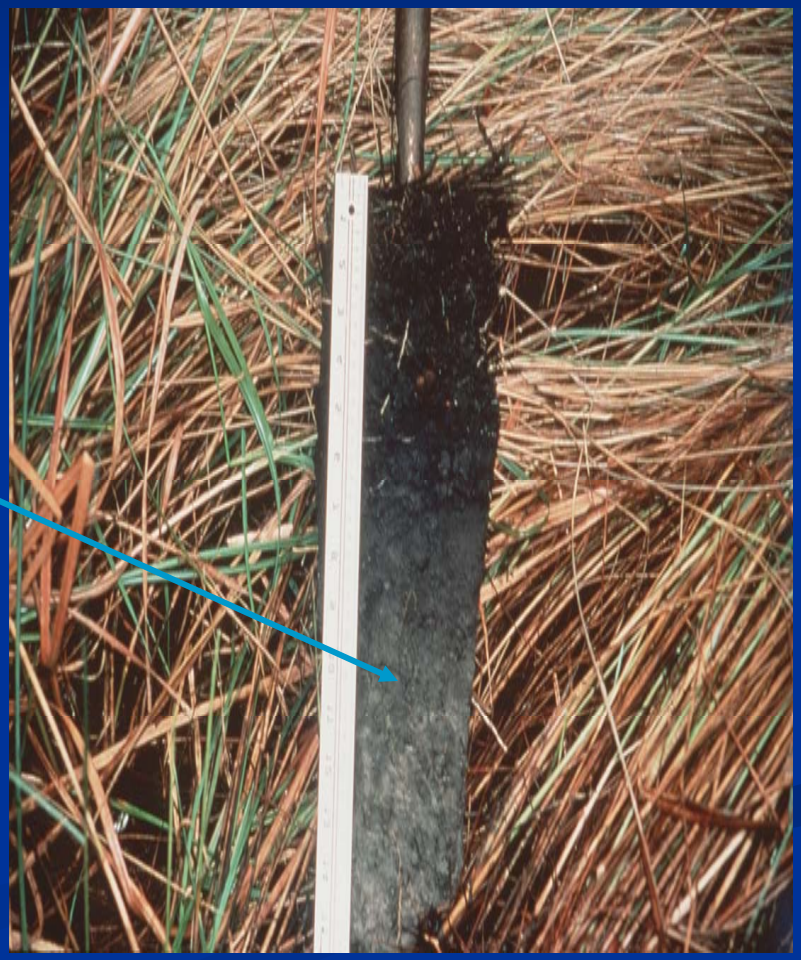
SOILS
C Stream Type

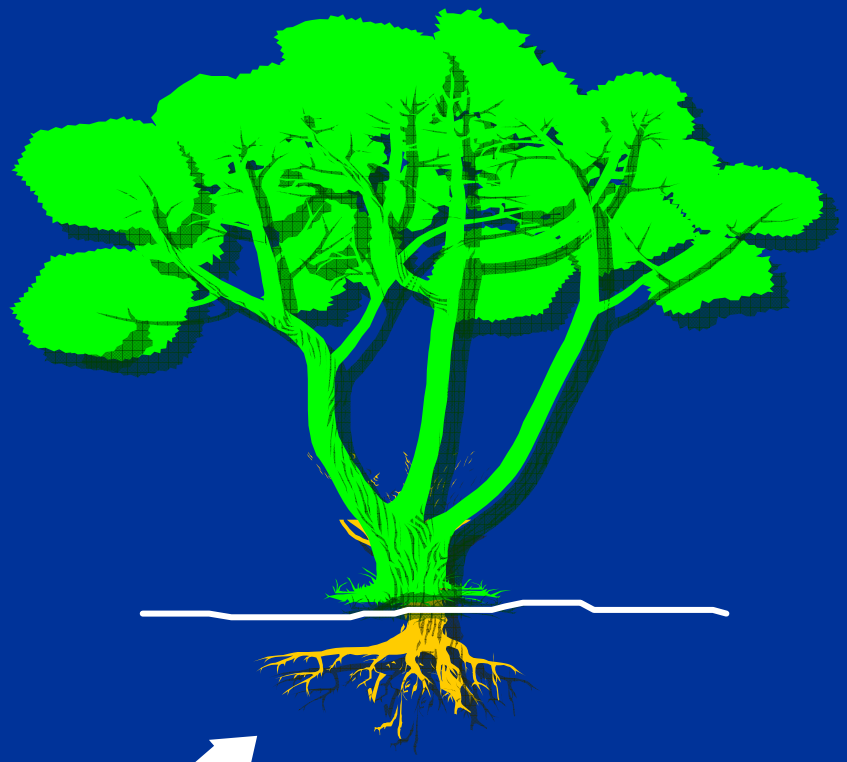


SOILS

E Stream Type





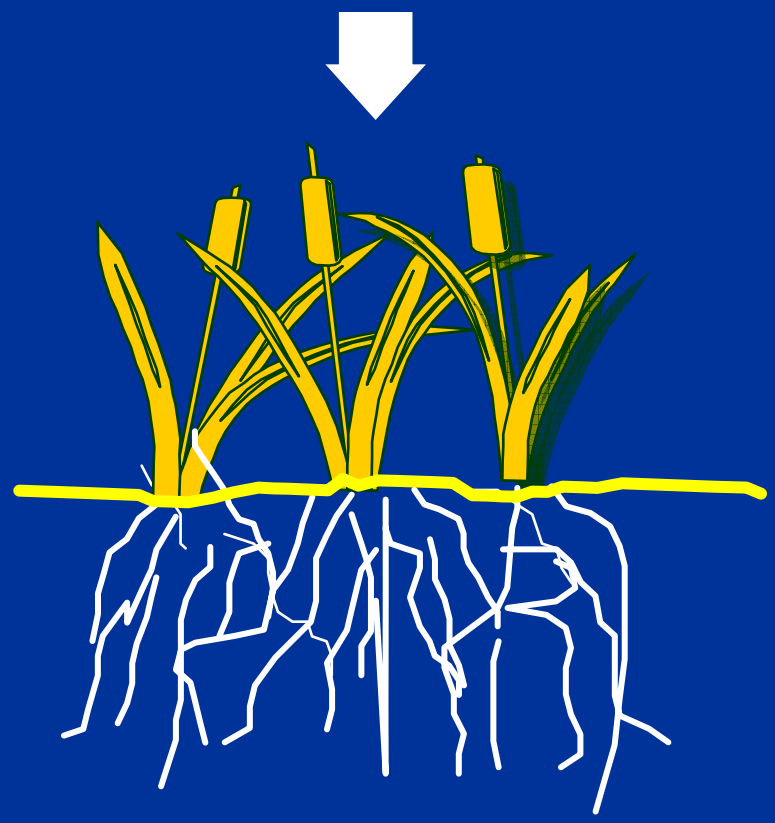


NEEDS OXYGEN

WATER
ABSORPTION
ROOT GROWTH

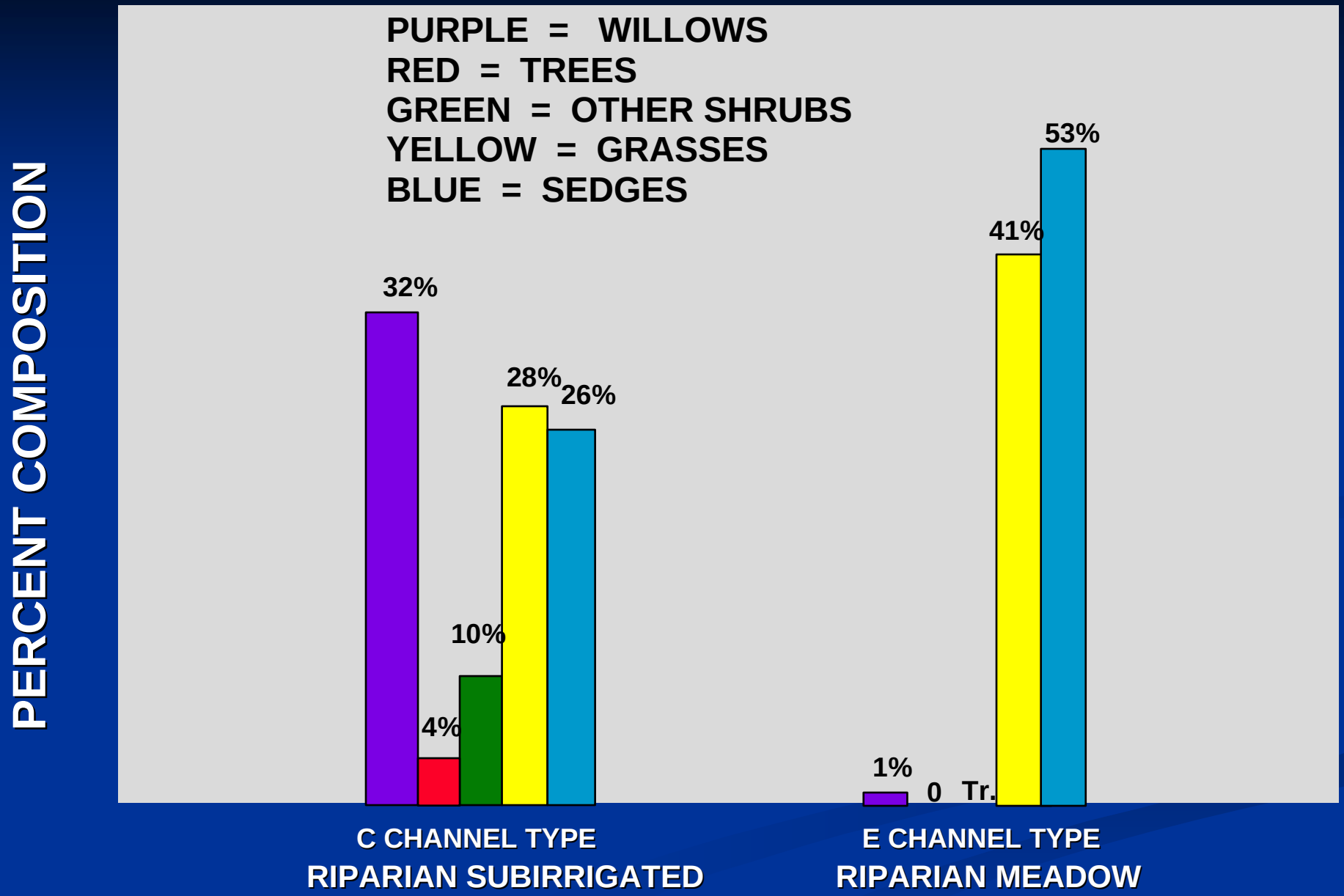
AERATED SOIL

OXYGEN



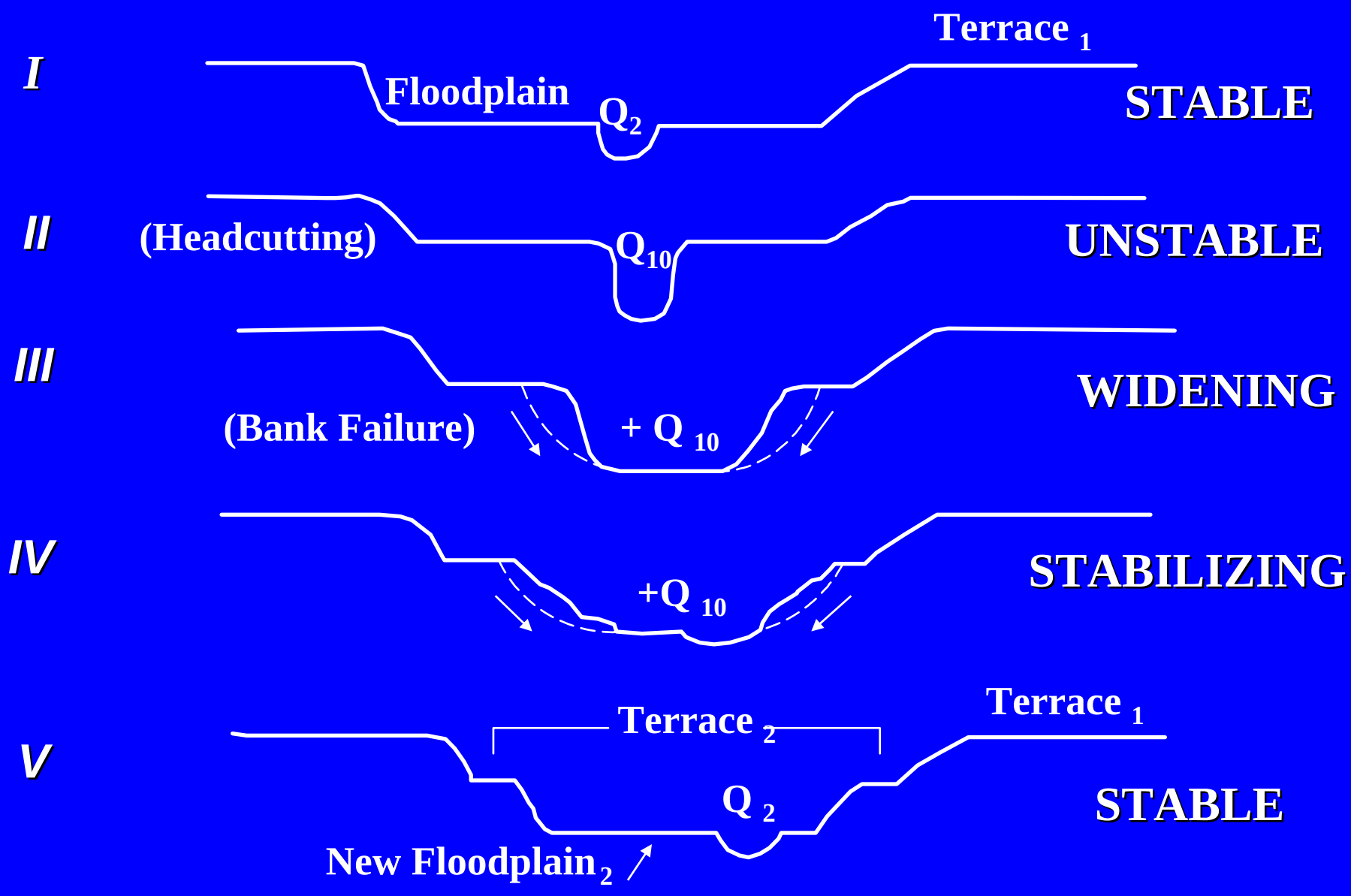
SATURATED SOIL
(POORLY AERATED)

ECOLOGICAL SITES



Leinard, unpublished data

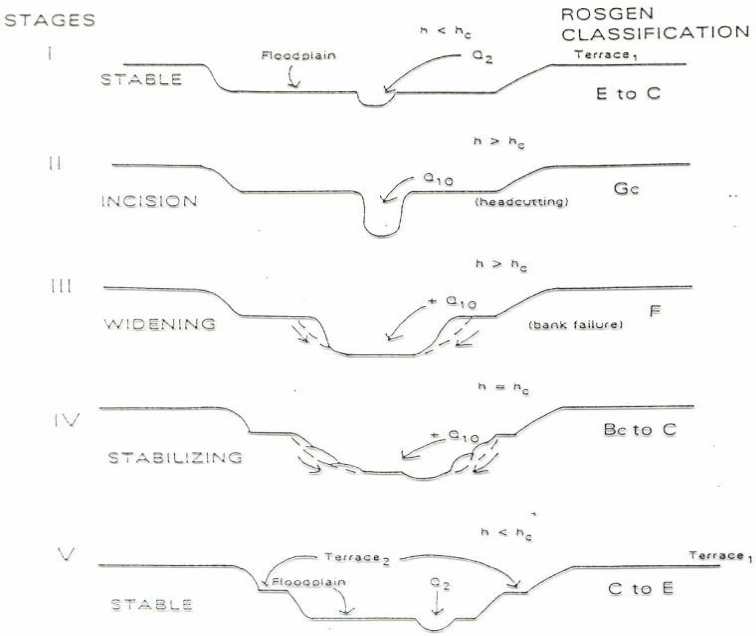
SCHUMM'S MODEL



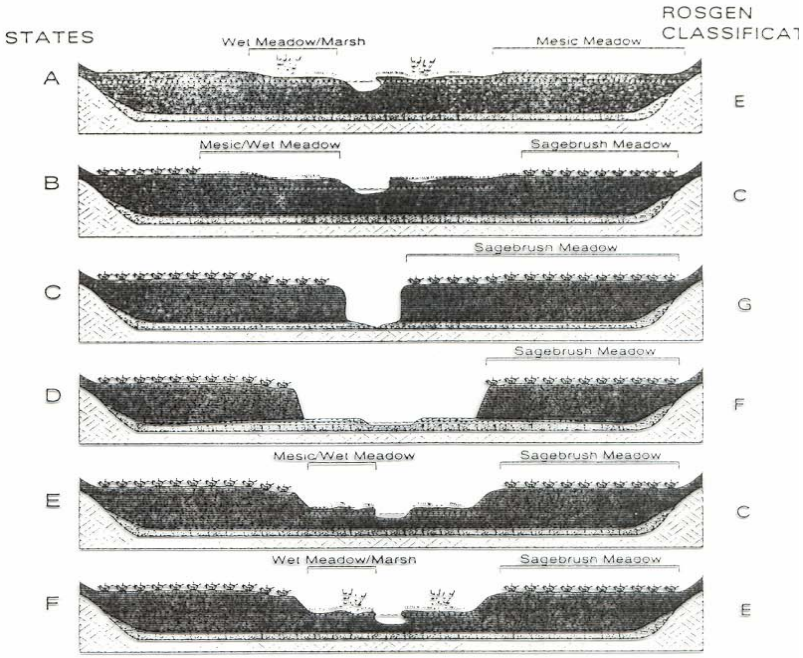
Schumm, Harvey, & Watson 1984

EXAMPLES OF SCHUMM'S MODEL

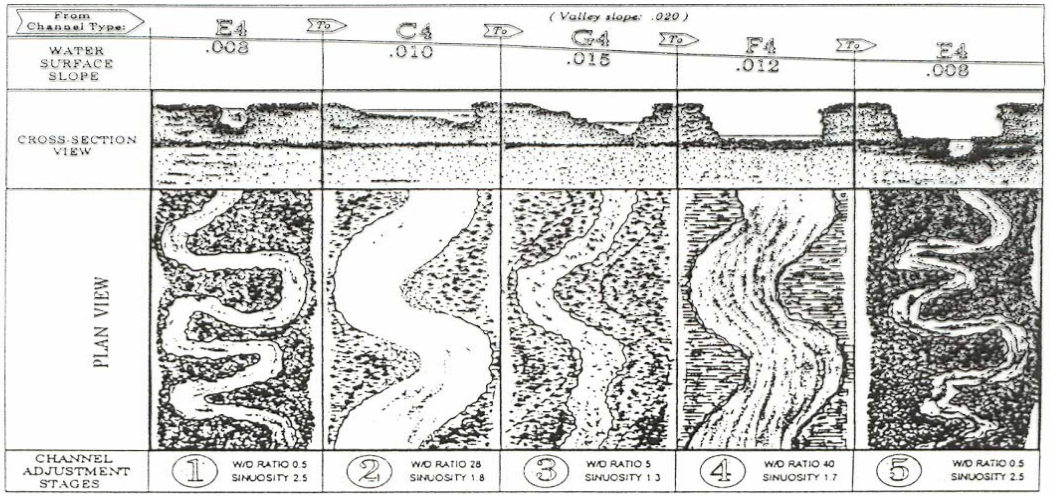
CHANNEL EVOLUTION MODEL COMPARISON



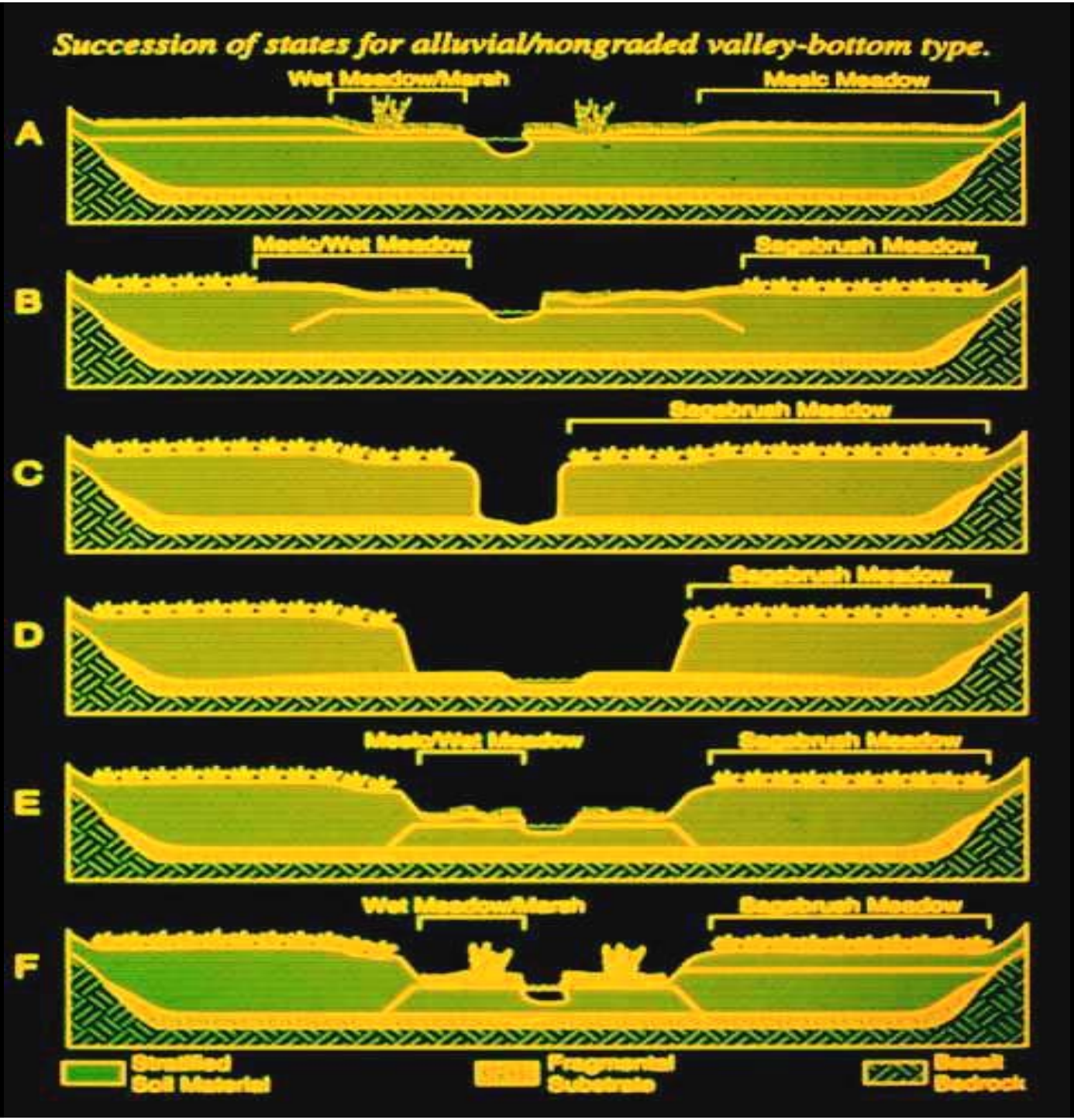
SCHUMM (1984)



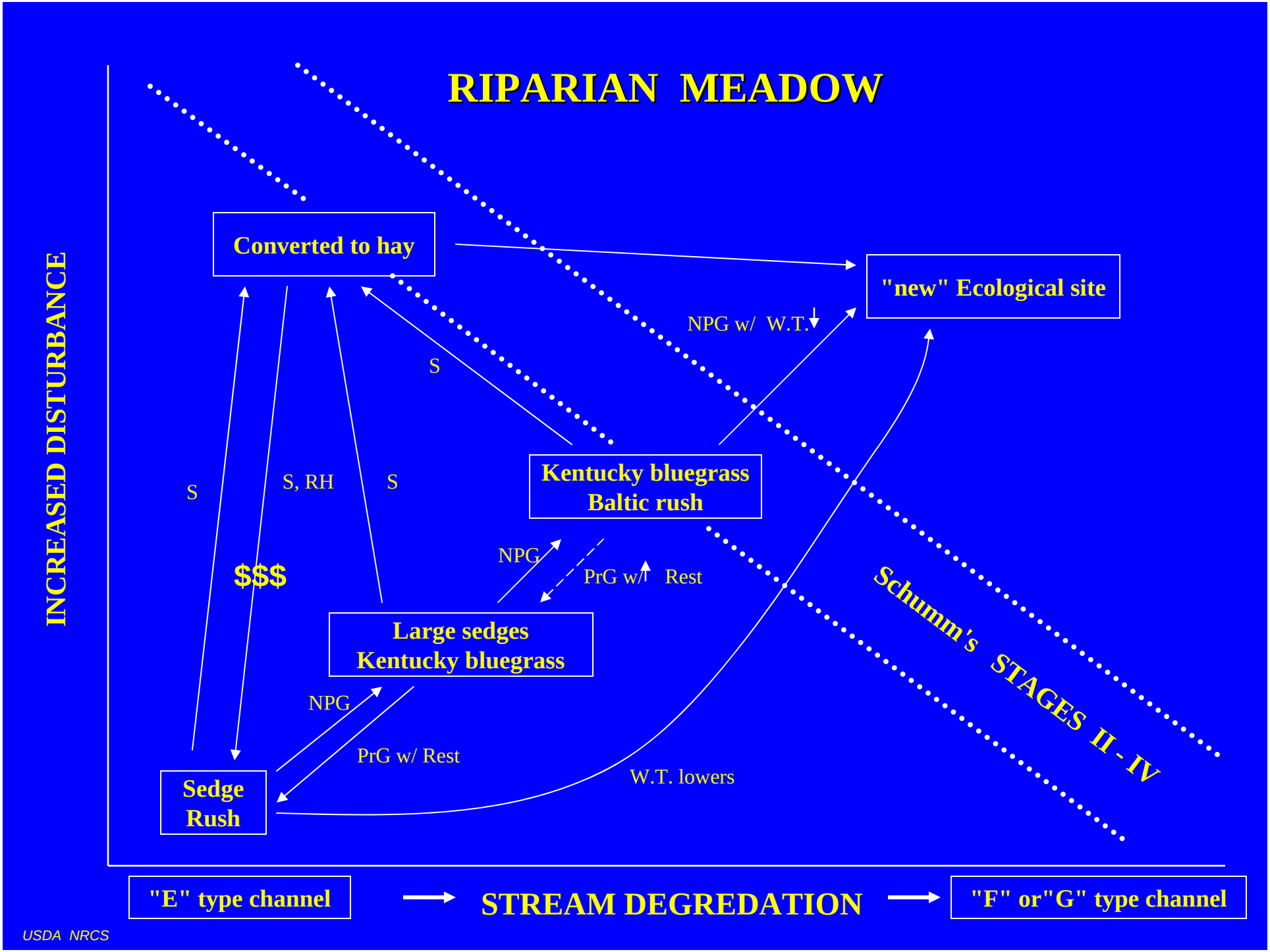
JENSEN (1992)

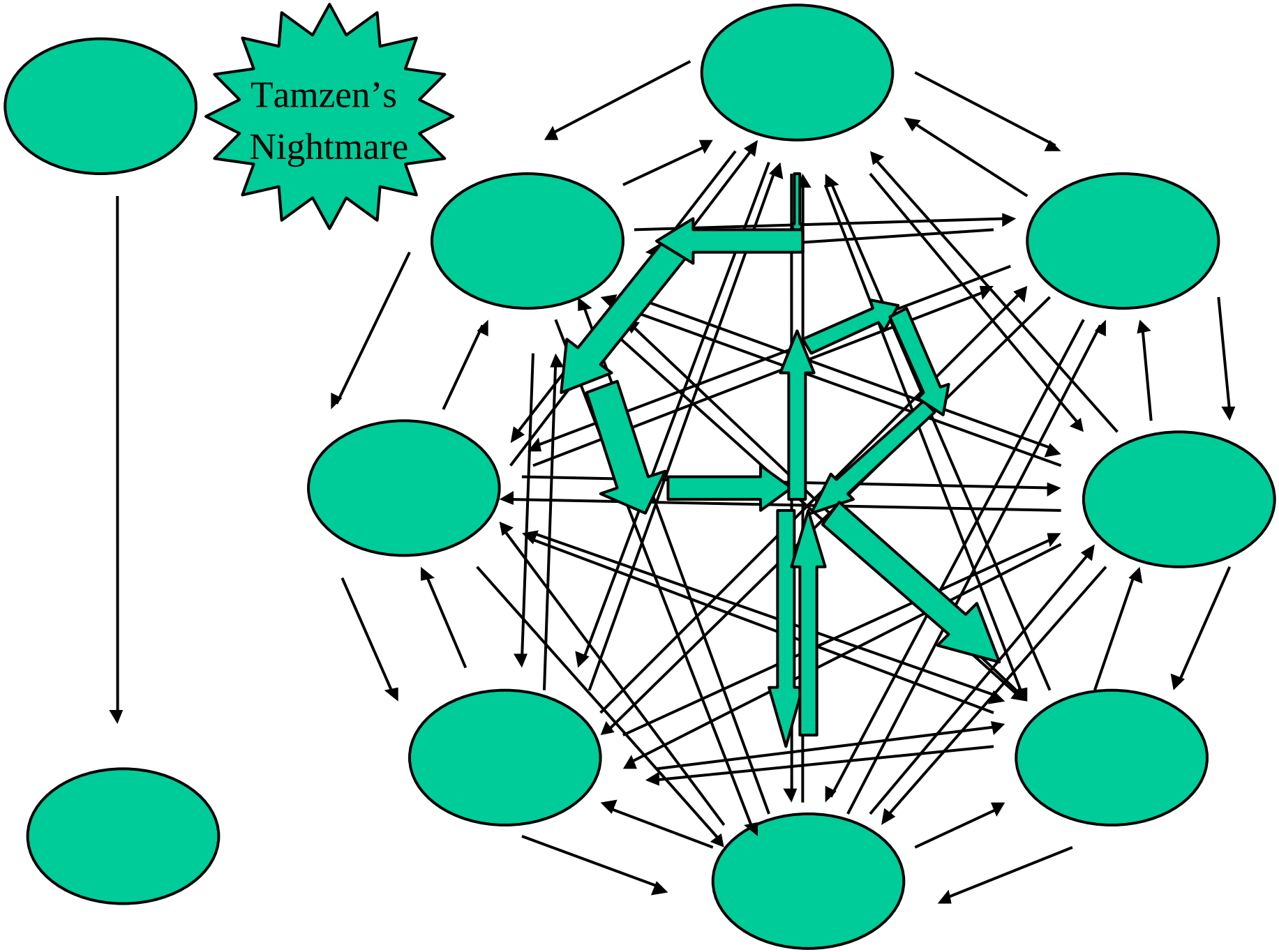


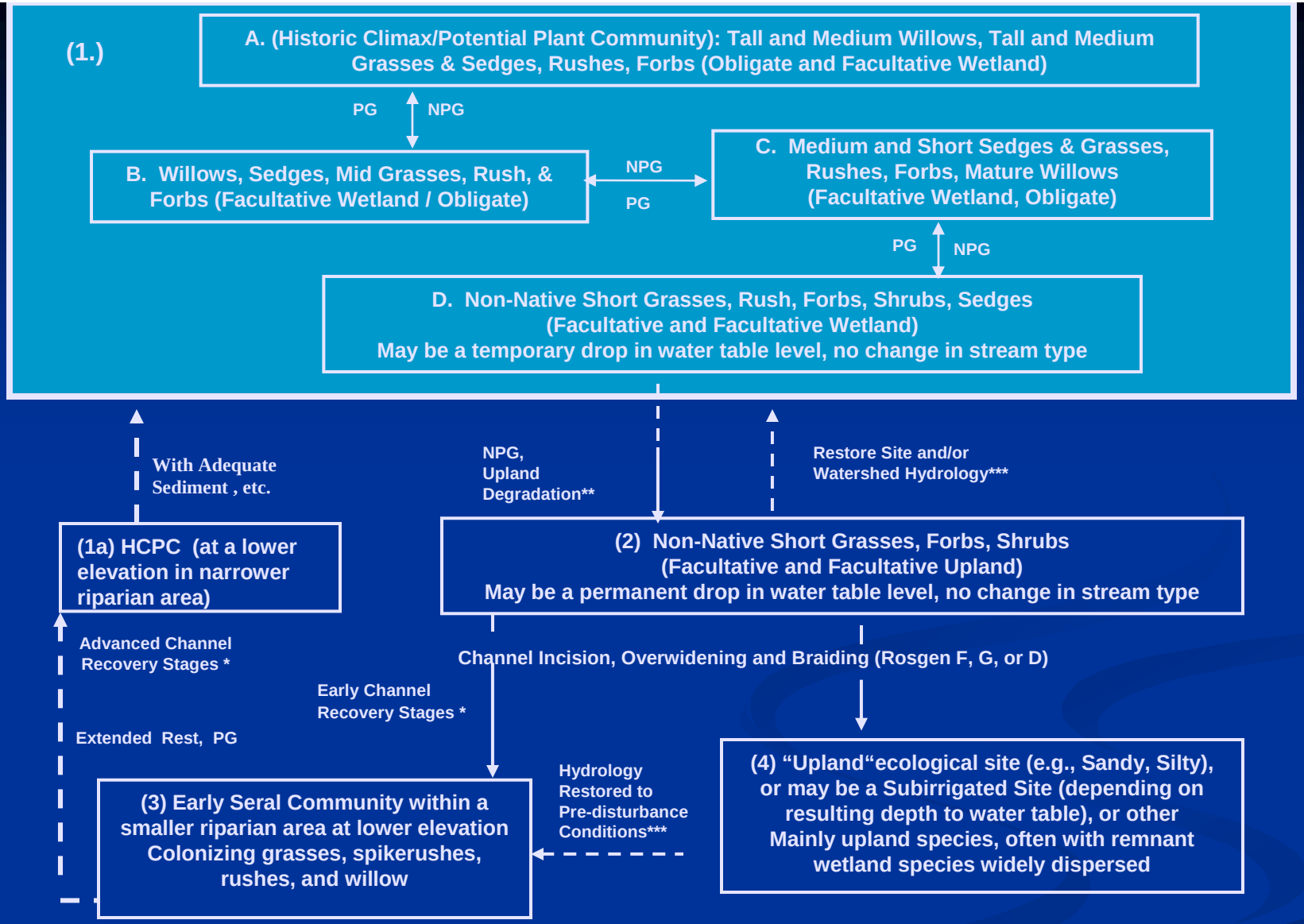
ROSGEN (1994)


Succession of states for alluvial/nongraded valley-bottom type.
Wet Meadow/Marsh
Mesic Meadow
A
Mesic/Wet Meadow
Sagebrush Meadow
B
Sagebrush Meadow
C
Sagebrush Meadow
D
Mesic/Wet Meadow
Sagebrush Meadow
E
Wet Meadow/Marsh
Sagebrush Meadow
F
Stratified Soil Material
Fragmental Substrate
Basalt Bedrock

Hydraulic mining at Confederate Gulch. —Montana Historical Society, Helena

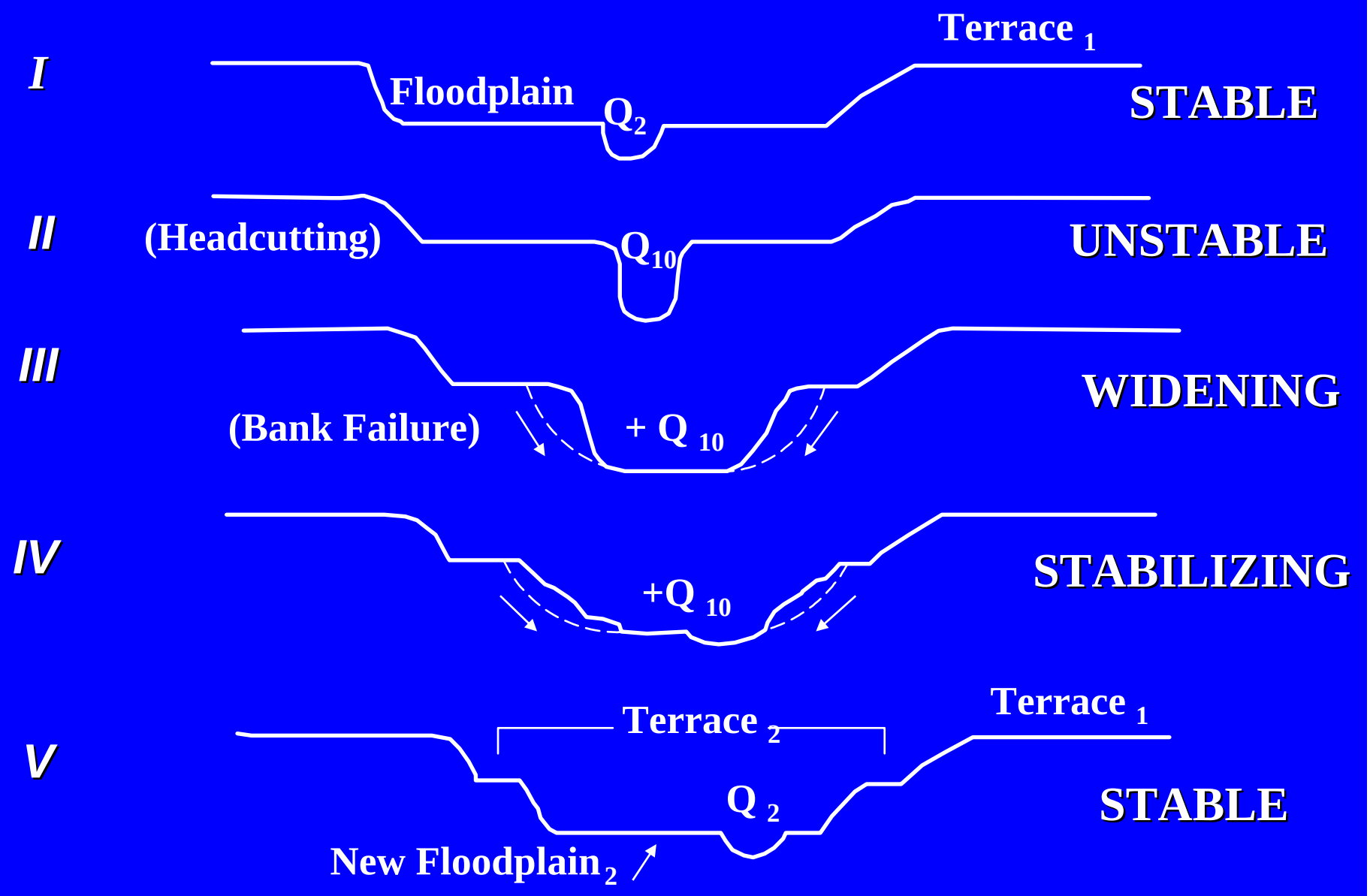

RIPARIAN MEADOW
INCREASED DISTURBANCE
Converted to hay
"new" Ecological site
NPG w/ W.T.↓
S
S
S, RH
S
Kentucky bluegrass
Baltic rush
NPG
PrG w/↑ Rest
$$$
Large sedges
Kentucky bluegrass
NPG
PrG w/ Rest
W.T. lowers
Sedge
Rush
Schumm's STAGES II - IV
"E" type channel
STREAM DEGREDATION
"F" or"G" type channel
USDA NRCS


Tamzen's
Nightmare



* Refer to the appropriate channel evolution/recovery model (e.g., Schumm et. al., 1984, Jensen 1992) for details. This recovery may occur over many years.
** Upland degradation may occur from de-watering, lack of fire, conifer encroachment, or drought.
*** Restore hydrology by prescribed fire, timber harvest/thinning, adjust irrigation system or change in grazing management with accelerating and/or facilitating practices.

SCHUMM'S MODEL



Schumm, Harvey, & Watson 1984

For More Information:
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QUESTIONS ?