

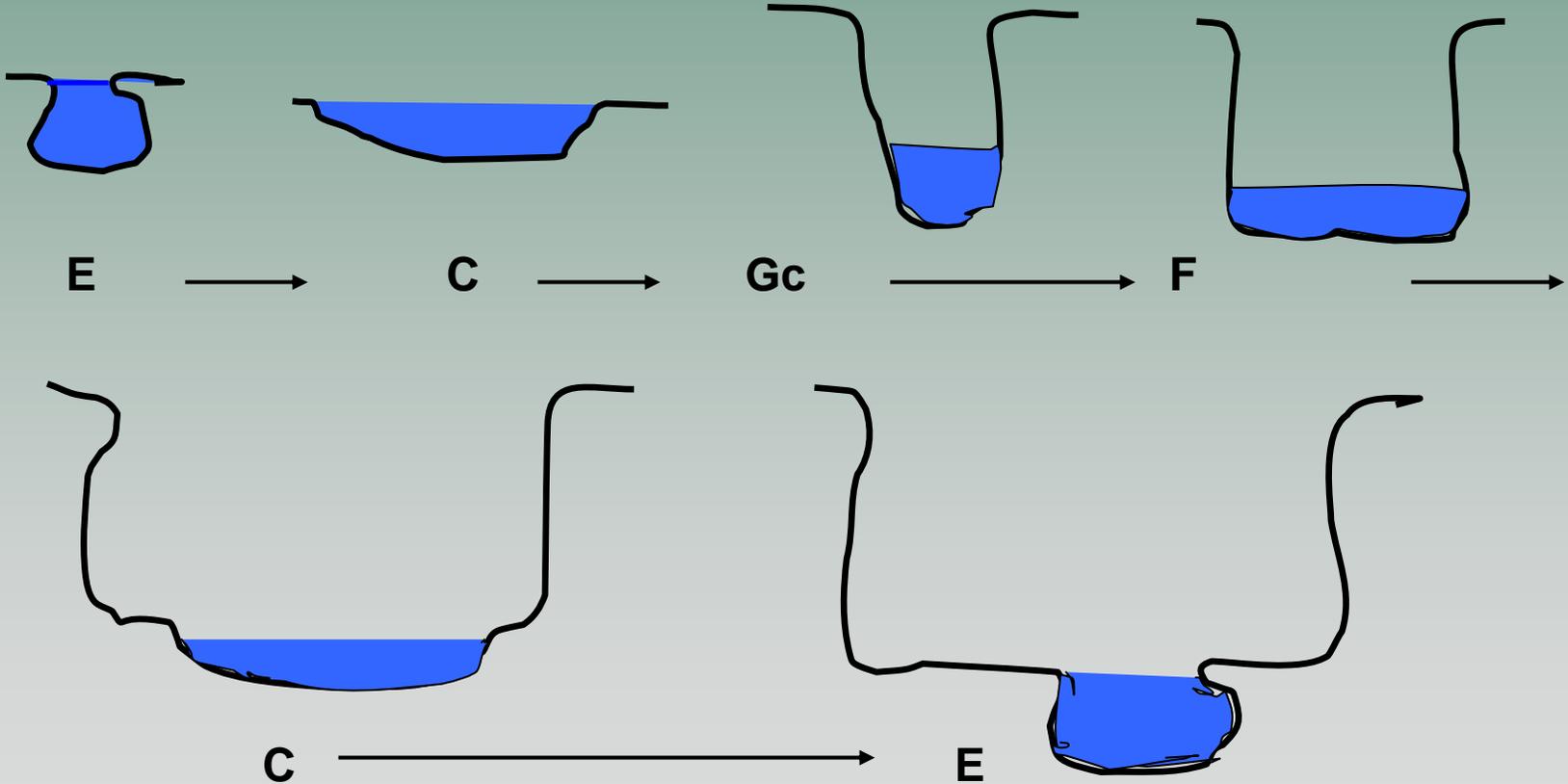
# **Channel Succession**

## **Riparian Plant Community Dynamics**

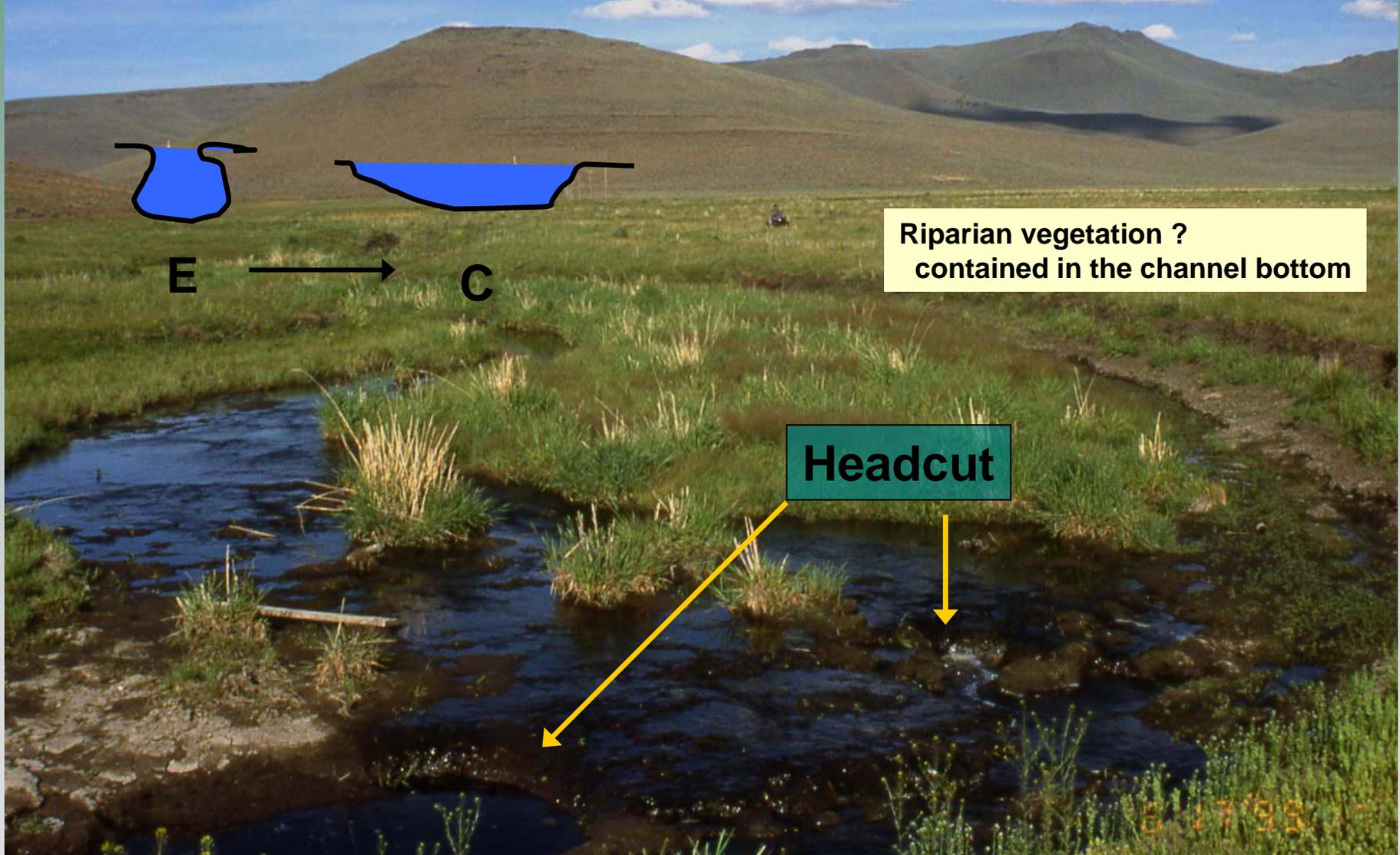


# Channel Evolution Model

(Schumm 1984, Rosgen 1996)



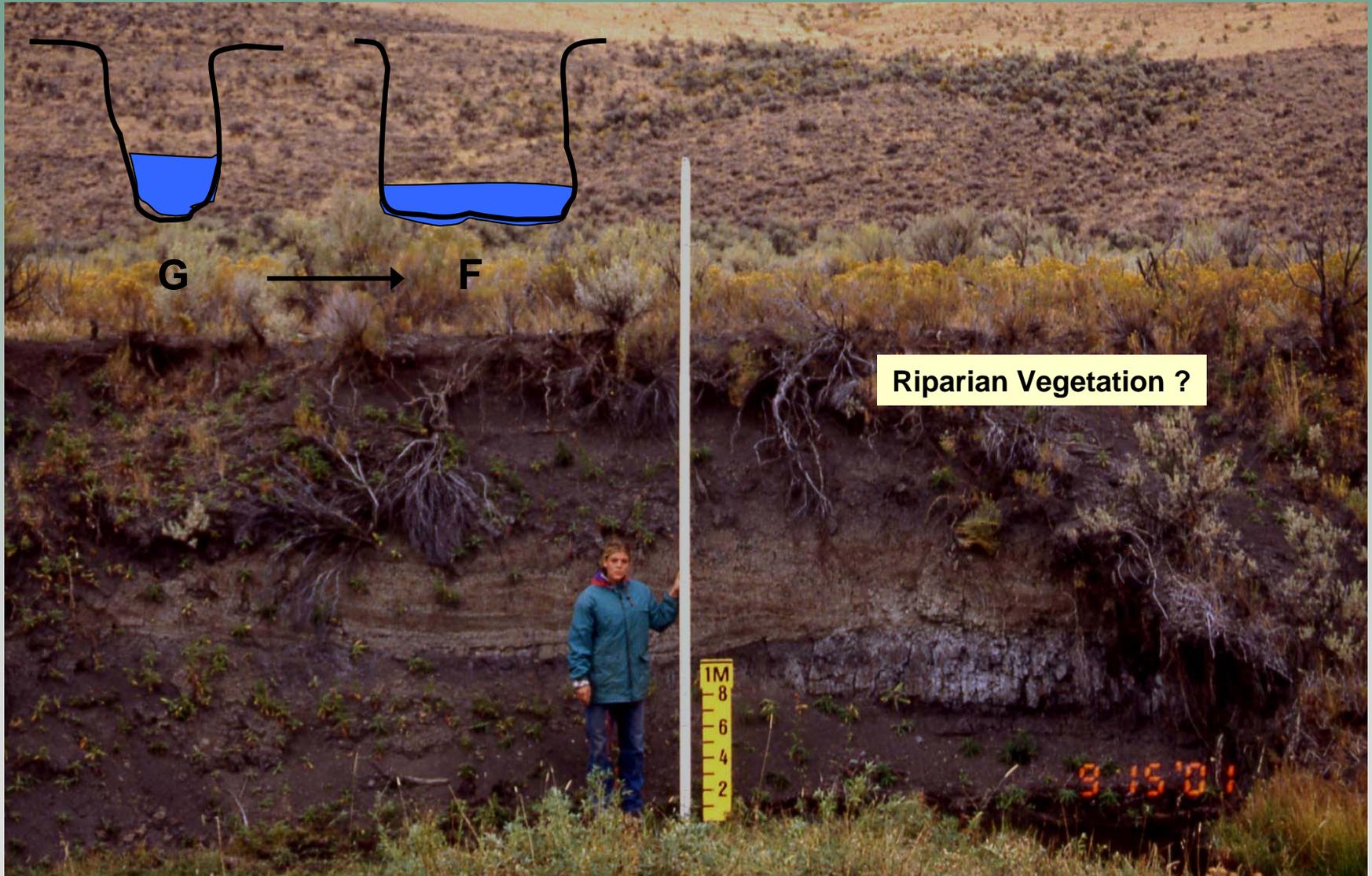
# Channel Evolution: E to C



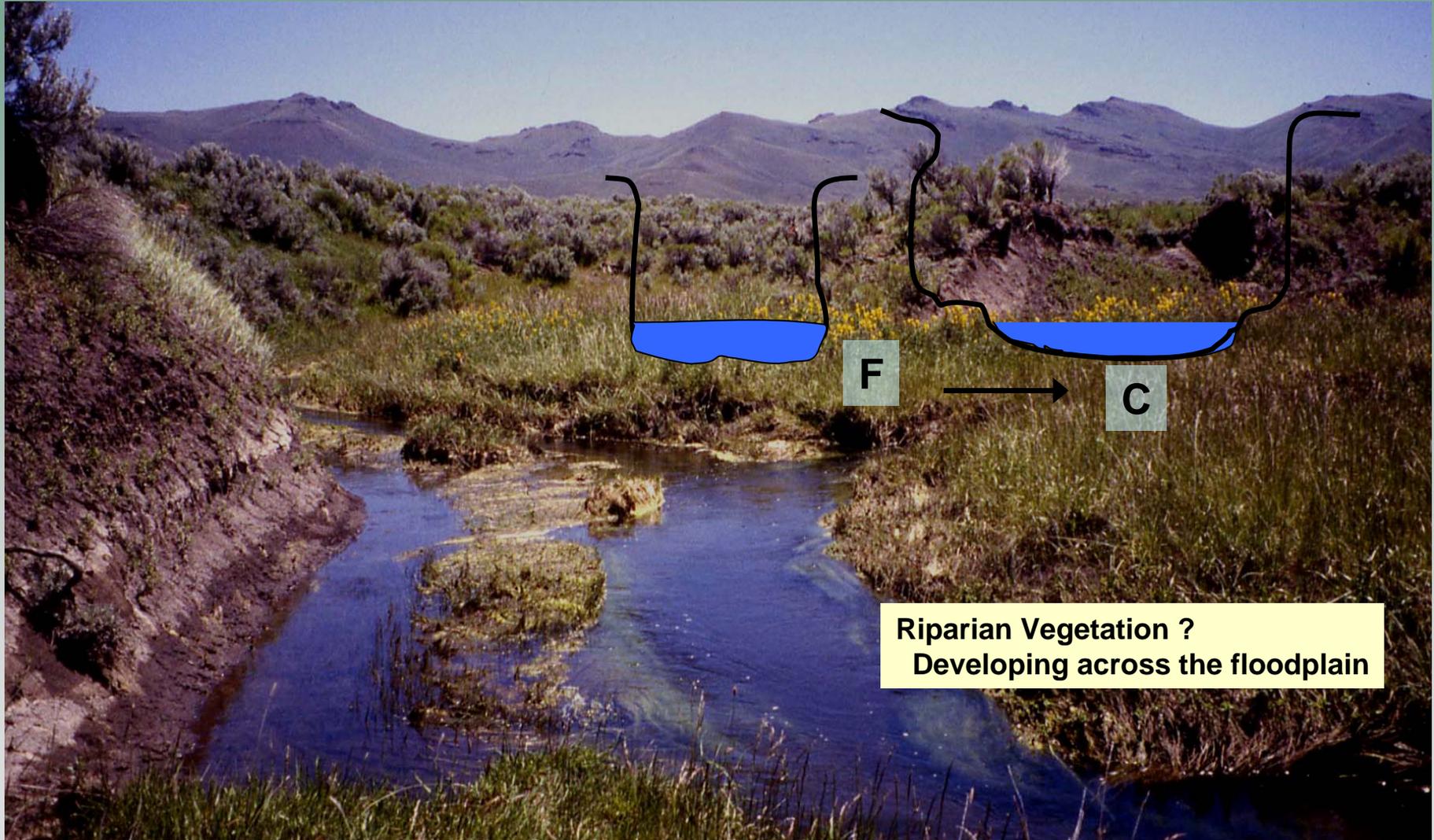
# Channel Evolution: E to C to G



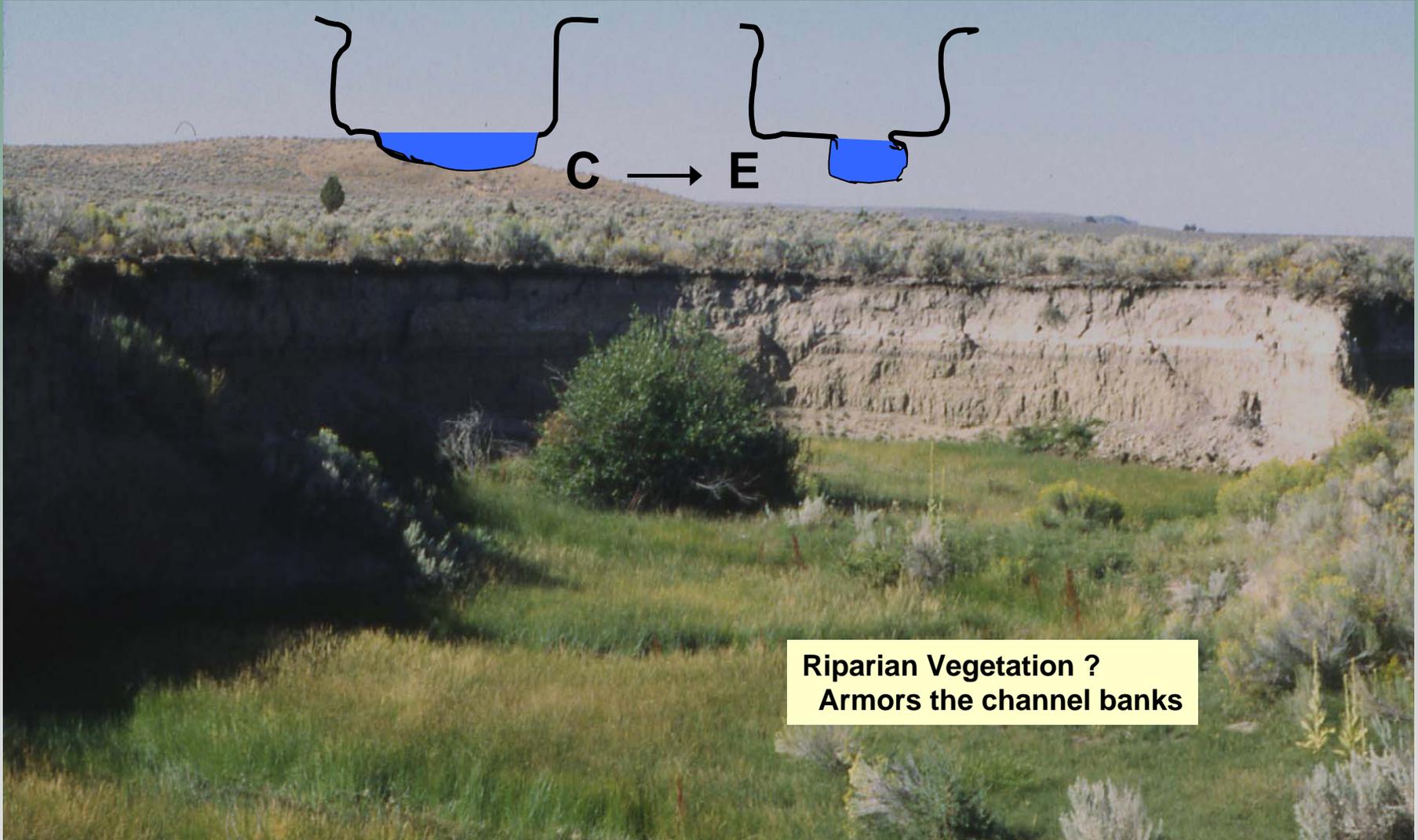
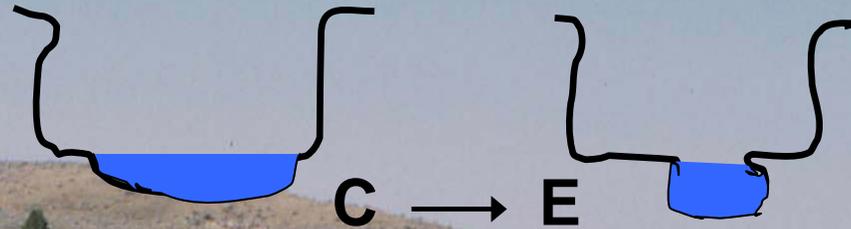
# Channel Evolution: E to C to G to F



# Channel Evolution: E to C to G to F to C



# Channel Evolution: E to C to G to F to C to E



**Riparian Vegetation ?  
Armors the channel banks**

# Management Change: Passive or Active?

- ✓ Active Fix

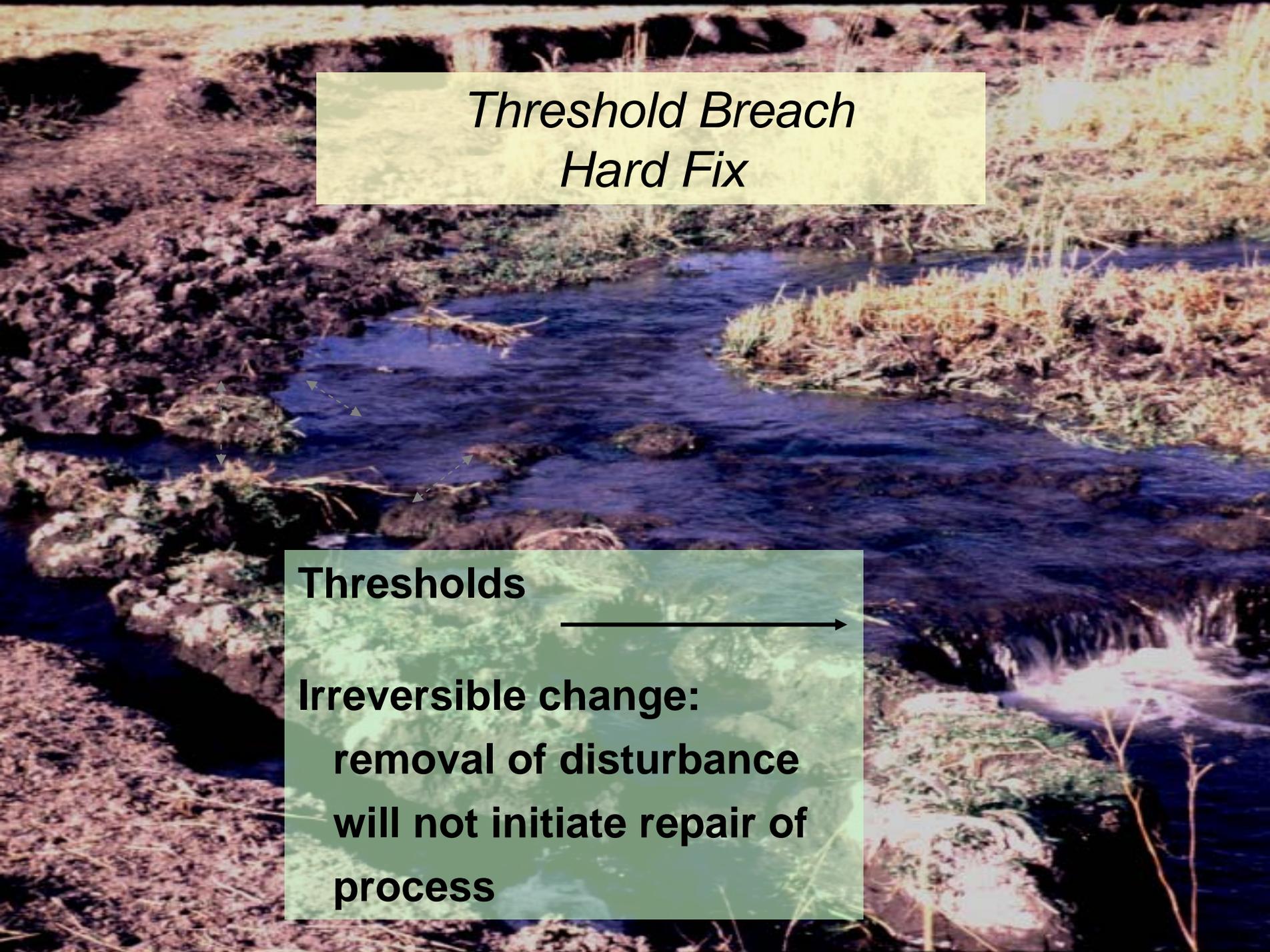
*Crossed a threshold?*

*Engineering solution*

- ✓ Passive Fix

*Transitioning toward a threshold?*

*Vegetation solution*



*Threshold Breach  
Hard Fix*

**Thresholds** →

**Irreversible change:  
removal of disturbance  
will not initiate repair of  
process**



Stabilized

*Vegetation addition?*





## E type channel degraded to C

laterally unstable

incised – access to meadow limited

pointbars active – annual revegetation

willows removed 40 years ago

fragmented sedge communities

# Restoration: Soft Fix



## Needs:

- ✓ vegetation to catch sediment leading to pointbar stabilization and channel narrowing
- ✓ choose vegetation to promote channel succession and function  
NOT *necessarily* CLIMAX SPECIES
- ✓ planting in stages (sedges then willows)





