

Colorado & Wyoming AFS



Low-tech Process-based Restoration Workshop



Workshop Agenda

1. Introductions & Goals
2. Background - Scope of Problem & Principles
3. Assessment, Uncertainty, and Approaches
4. Science & Policy
5. Open Discussion/ Q & A



2. Background - Scope of Problem

- What's been lost
- How it was lost
- Importance of structure



Definitions



LOW-TECH PROCESS-BASED RESTORATION

OF

RIVERSCAPES

DESIGN MANUAL

Low-tech is not new



Heter (1950)

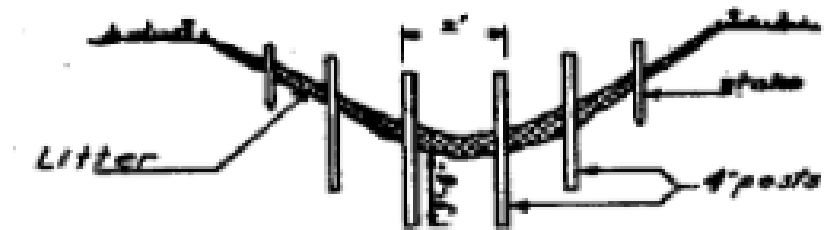
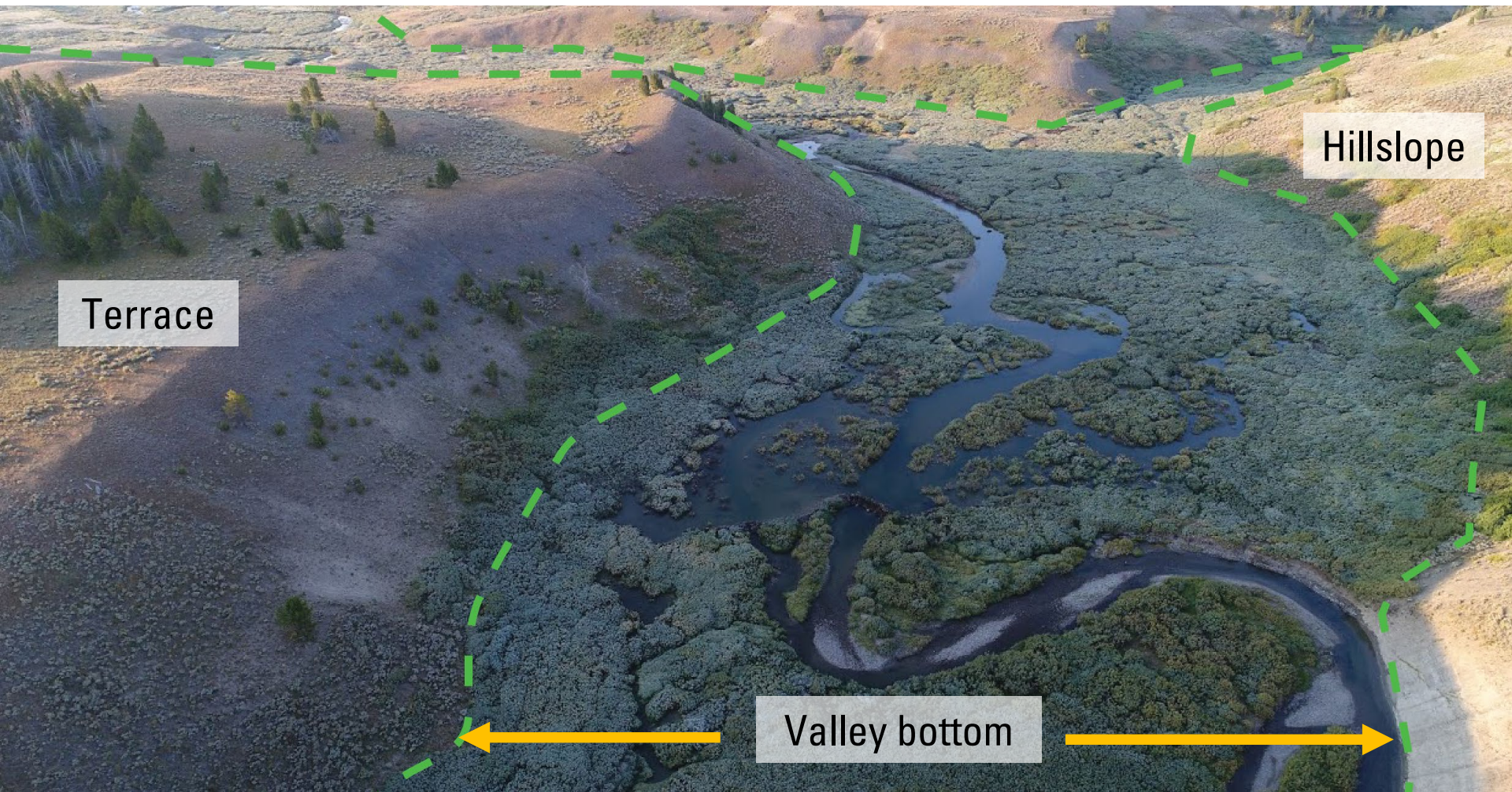


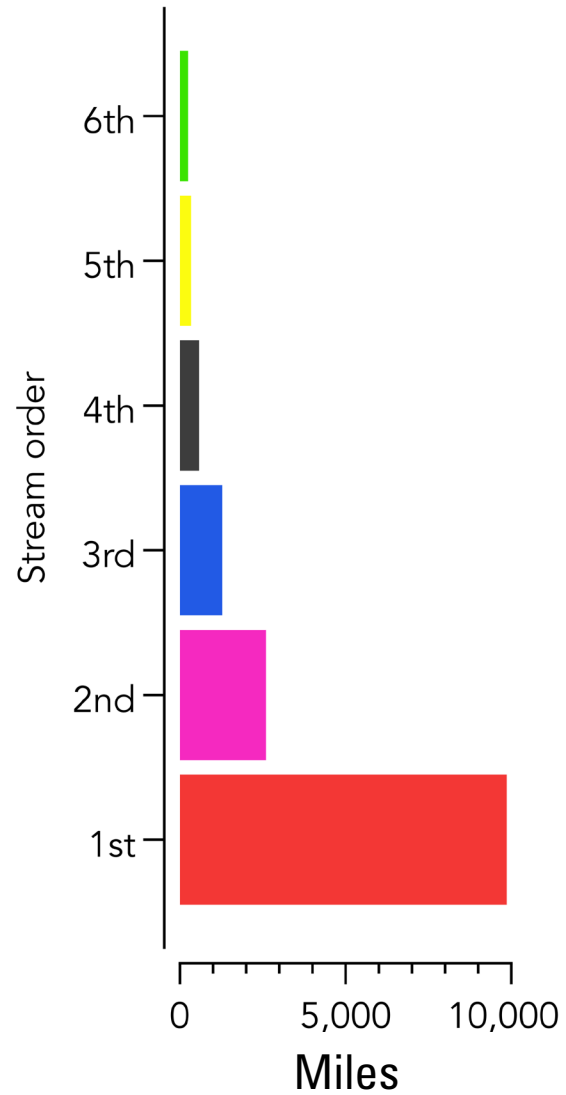
Figure 21
Elevation of gully after banks have been dug back. The posts have been set, and the layer of litter has been placed.

Kraebel & Pillsbury (1934)

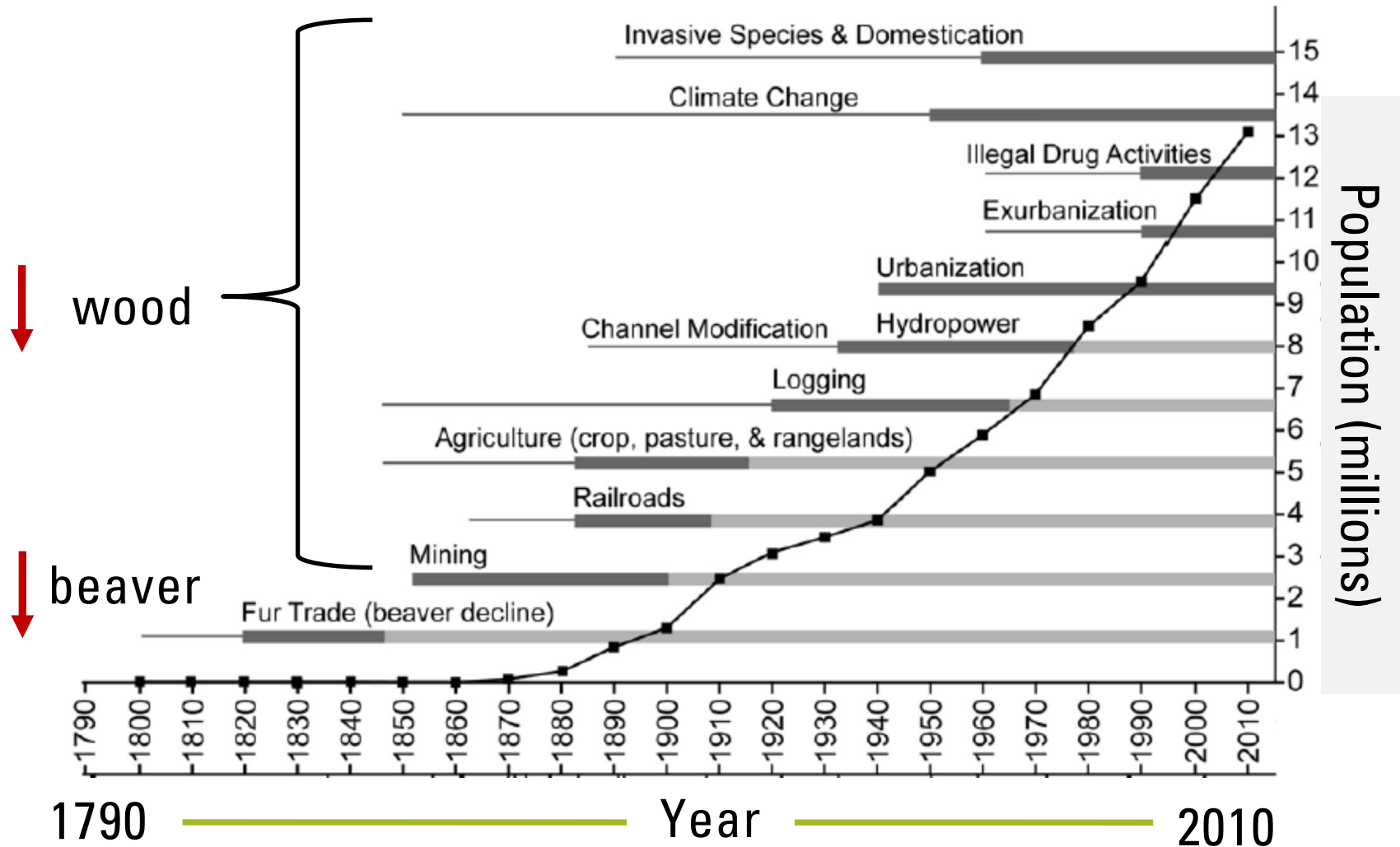
Definitions: Riverscapes



Definition: Wadeable Streams



What's been lost - Structural Starvation Hypothesis



Development (bars) and population change (line) in the Columbia River Basin. Dark bars = peak development; light bars = continued effects (Rieman et al. 2015).

Scope of degradation – What's been lost



Anastomosing (Stage 0)

Scope of Problem

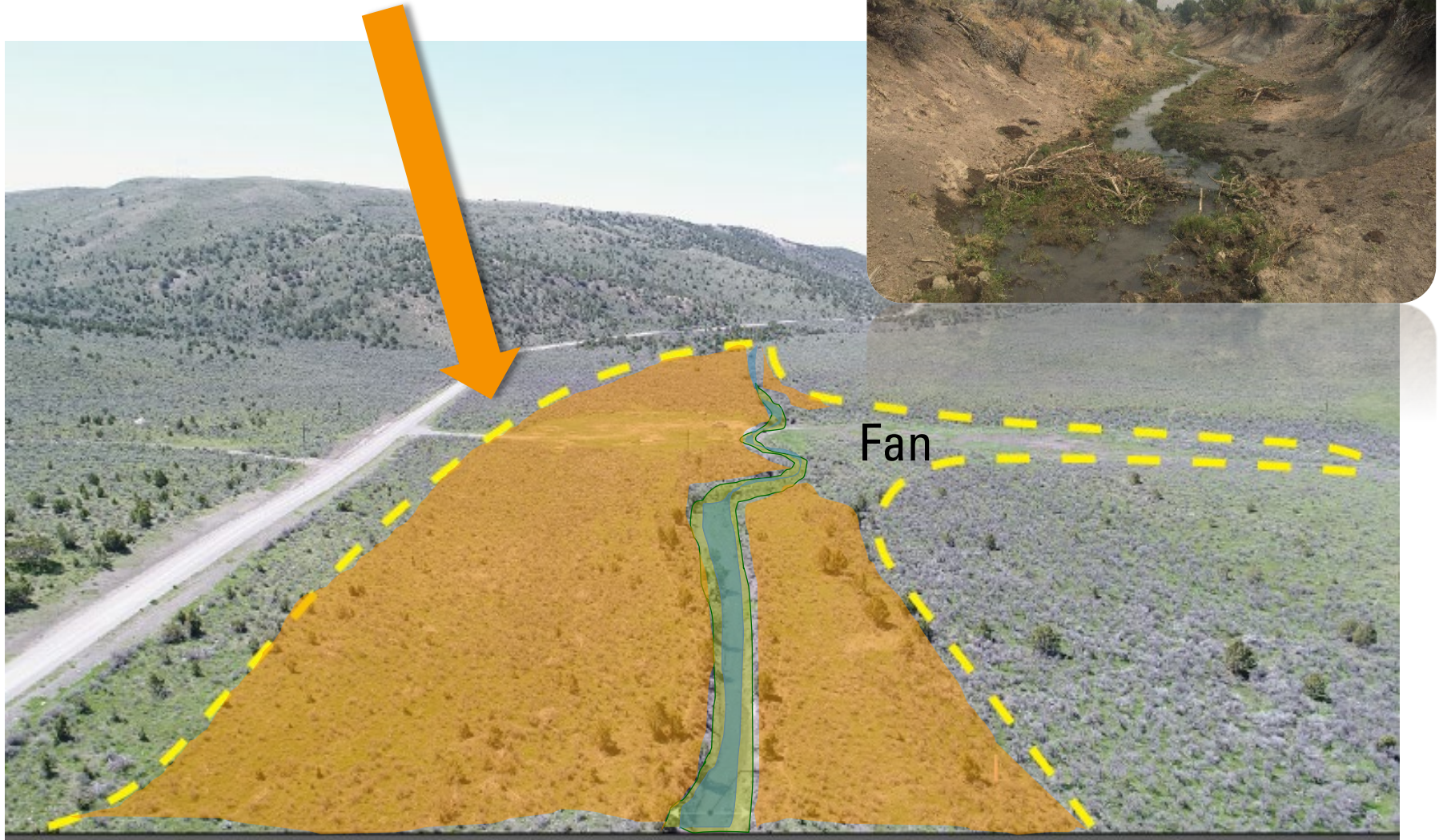
What's increased

Incision



Any Old Forgotten Creek, Western US

What's been lost



Valley bottom



Active channel

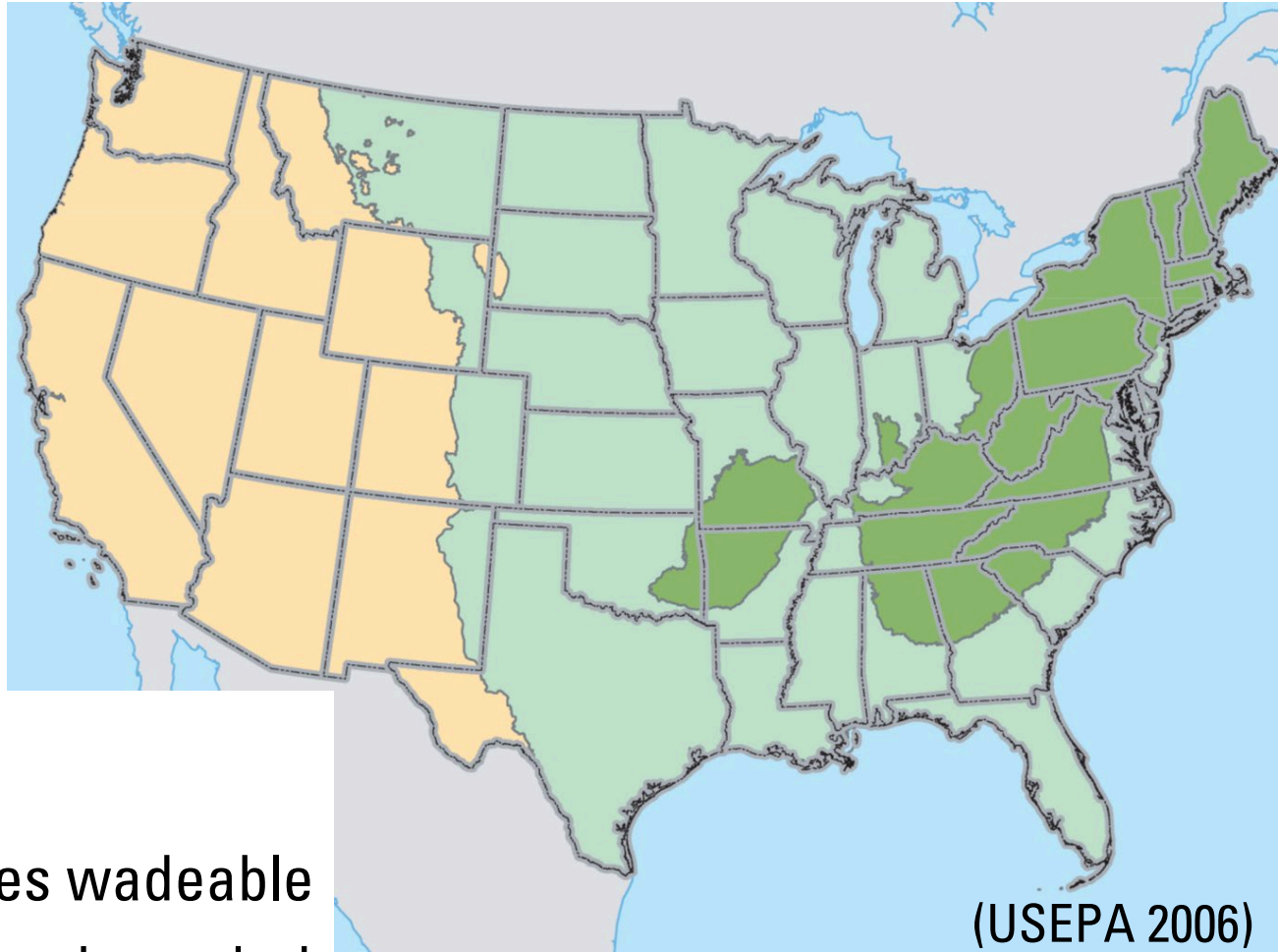


Active floodplain



Inactive floodplain

Scope of problem – perennial wadeable streams



West Region

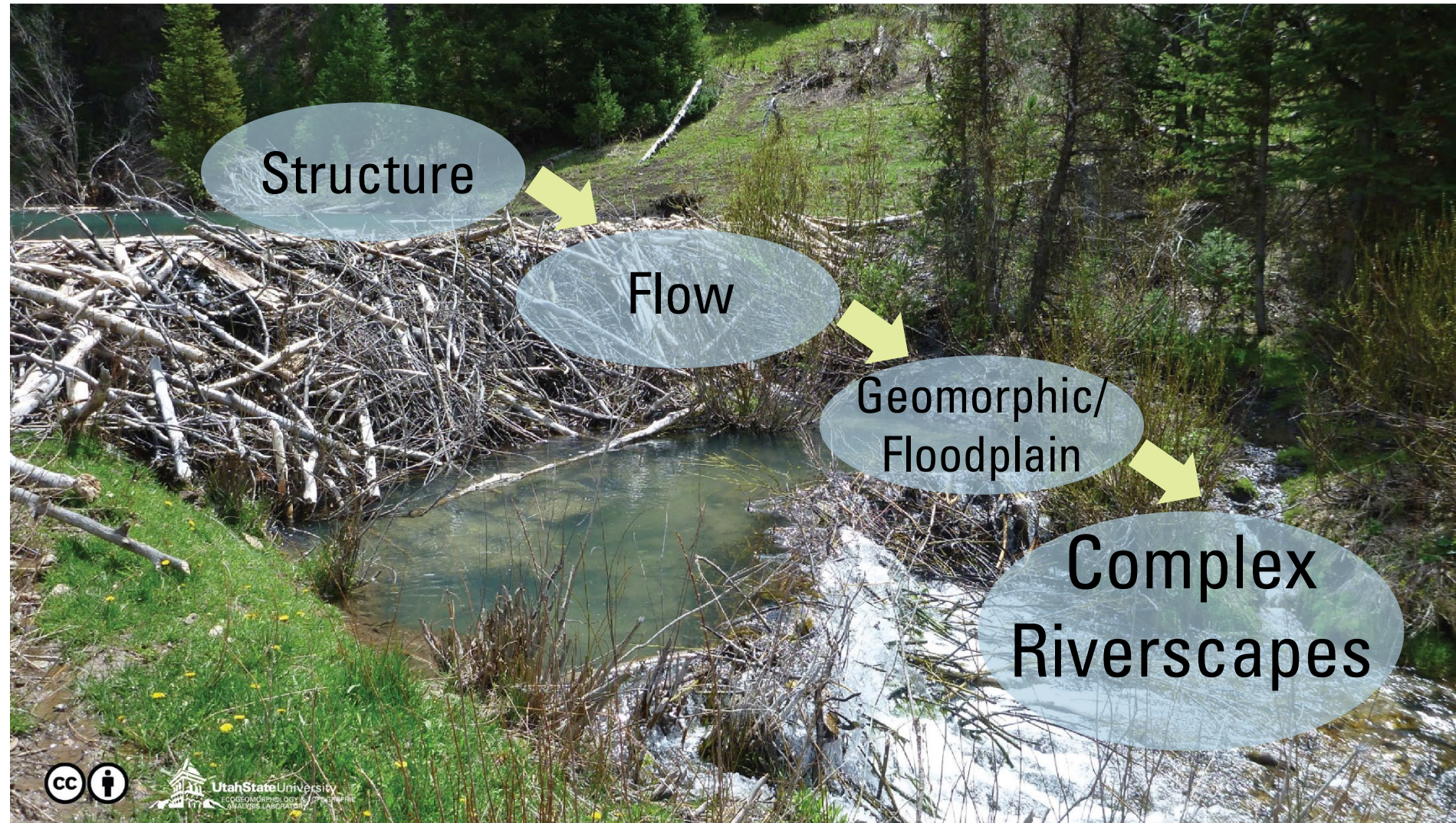
- 150,000 miles wadeable
- 81,000 miles degraded

Scope of problem – legacy effect of loss of structure



Wohl et al. (2019), Wohl (2020)

Scope of the problem - structure creates complexity



Scope of the Problem – Questions/Discussion?

