Natural Resources and Functions of Coastal and Riverine Floodplains

(aka Natural and Beneficial Values)

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Natural Resources and Functions of Floodplains

"A naturally functioning floodplain, or restoring a floodplain to a nearly natural state, provides numerous economic, environmental, and societal benefits."

A Unified National Program for Floodplain Management

Natural Resources and Functions of Floodplains

Water Resources

Biological Resources

Cultural Resources

Water Resources

Naturally functioning floodplains:

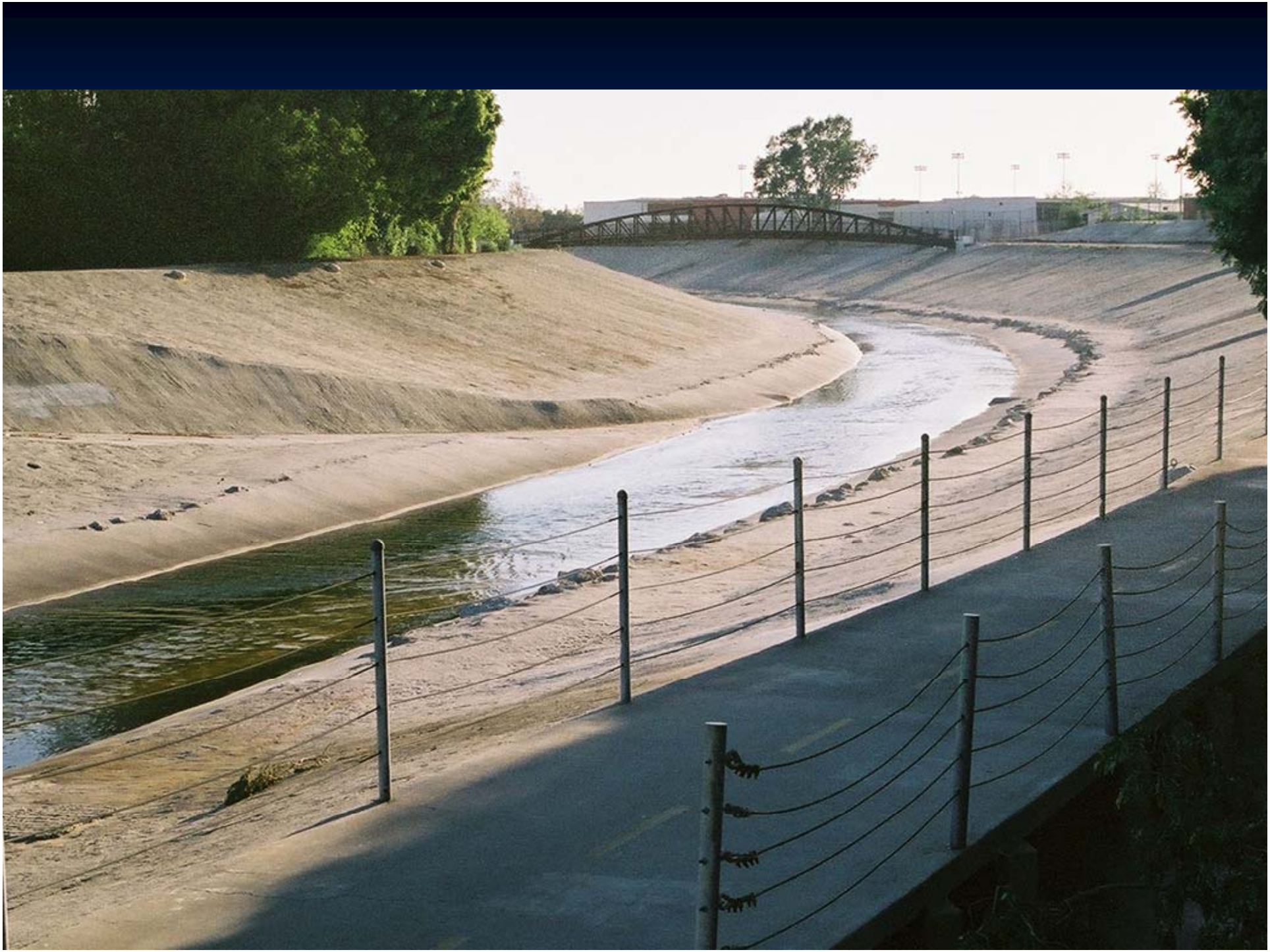
- Provide flood storage and conveyance ("green infrastructure");
- Improve water quality by filtering nutrients, reducing sediments, etc.;
- Facilitate groundwater recharge replenishing drinking water aquifers, reducing the frequency and duration of low surface water flows, etc.

Flood Storage and Conveyance

Improve Water Quality

The purpose of the Clean Water Act

"… to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."



Biological Resources

- Fertile alluvial soils promote vegetative growth leading to high biological productivity, biodiversity, etc.
- Fish and wildlife habitats including breeding, feeding, and resting areas, vernal pools, shallow backwaters, etc.

Natural Resources and Functions of Floodplains

"Flood events shape stream channels, move natural materials (e.g. trees, rocks), and recharge wetlands, side channels, and streamside meadows thereby creating the pools, cover, and other habitats important to fish and wildlife."

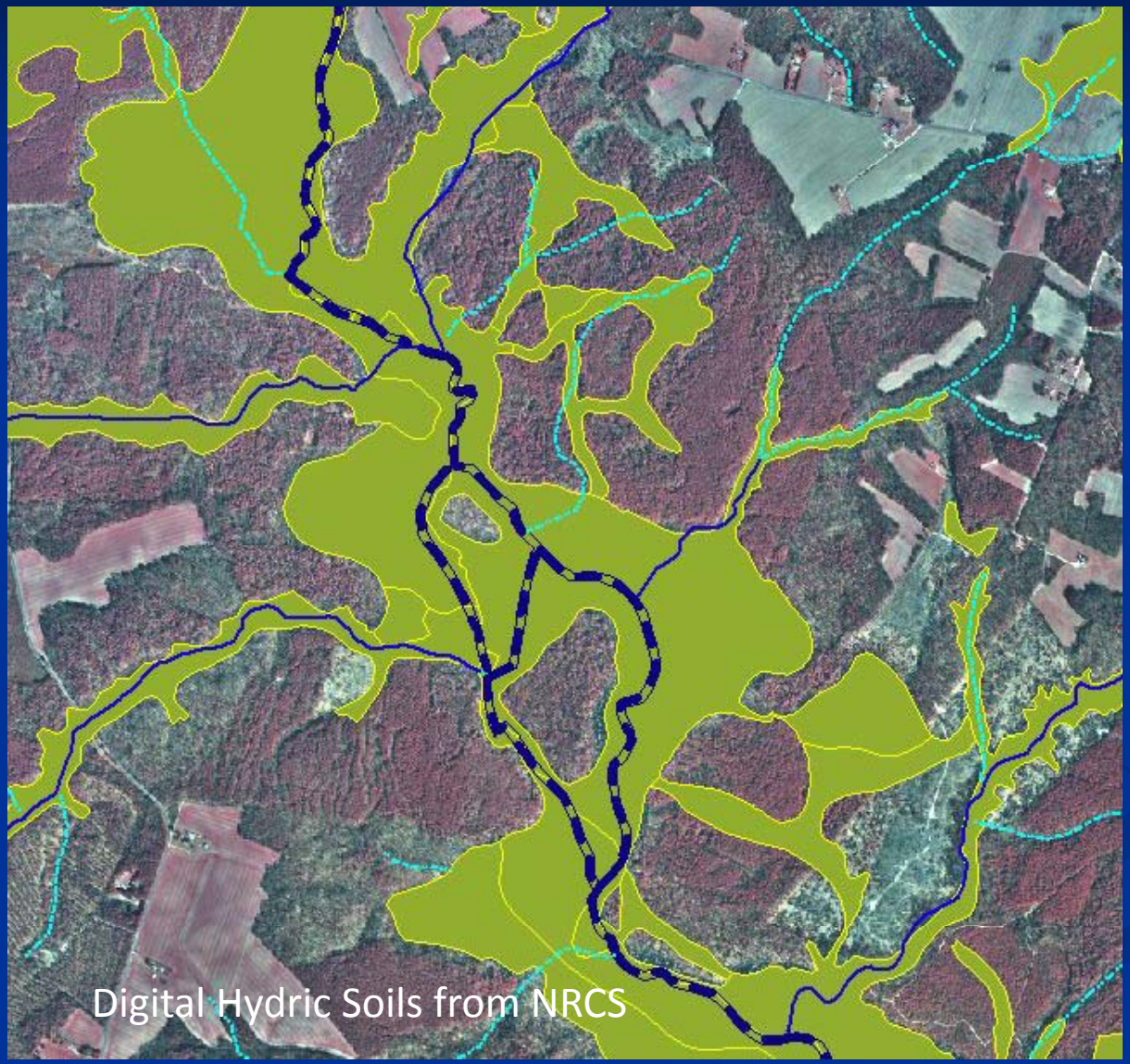
Ken Bierly, Freshwater Magazine

Wetlands

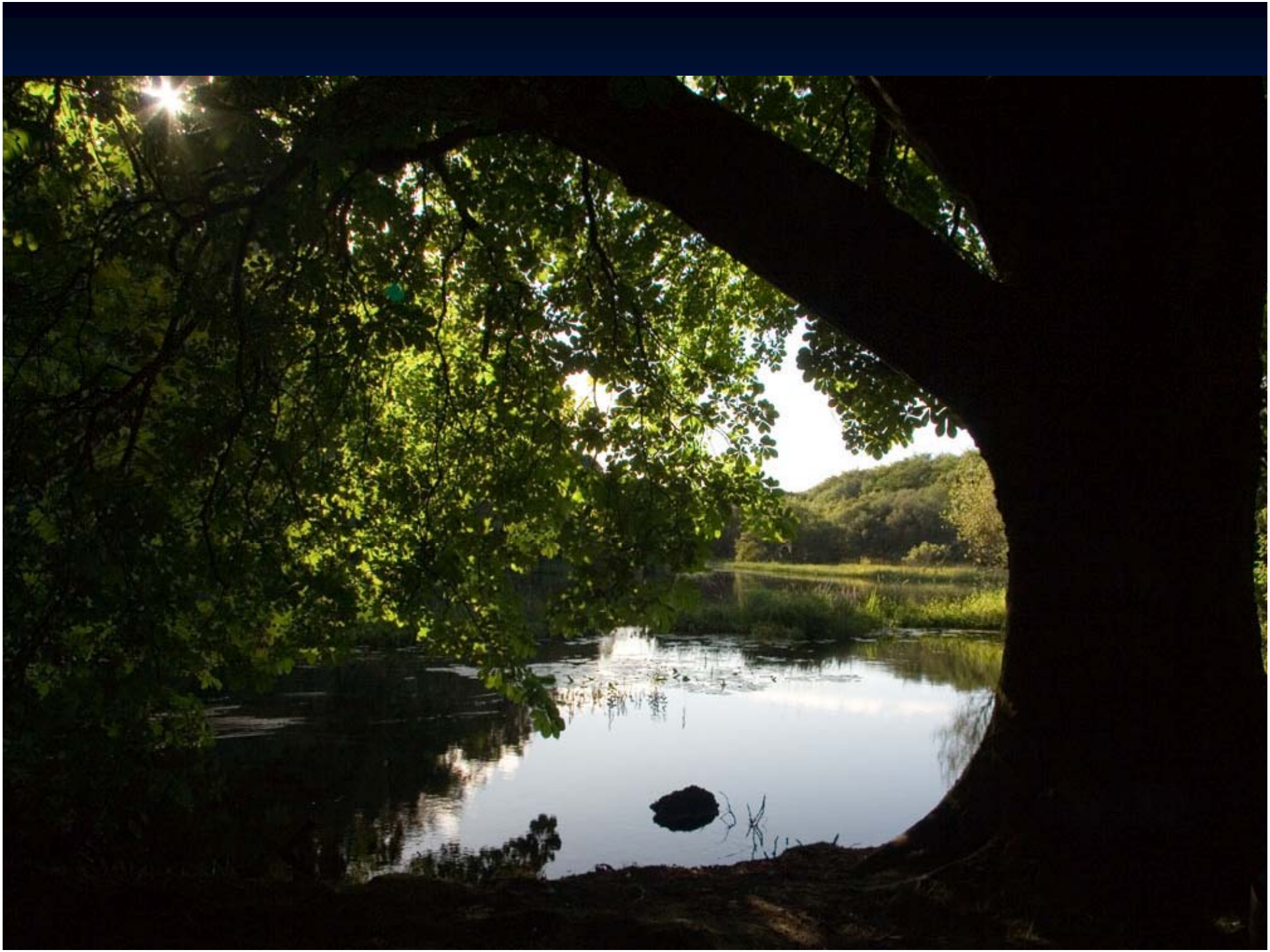
- Have both biological and water resource values.
- Ecologically productive, provide critical habitats, improve water quality (“world’s best filters”), buffer storm surge, etc.;
- 70% of wetlands are found within coastal and riverine floodplains.

Floodplains and Wetlands

Wetlands



Floodplains and Wetlands



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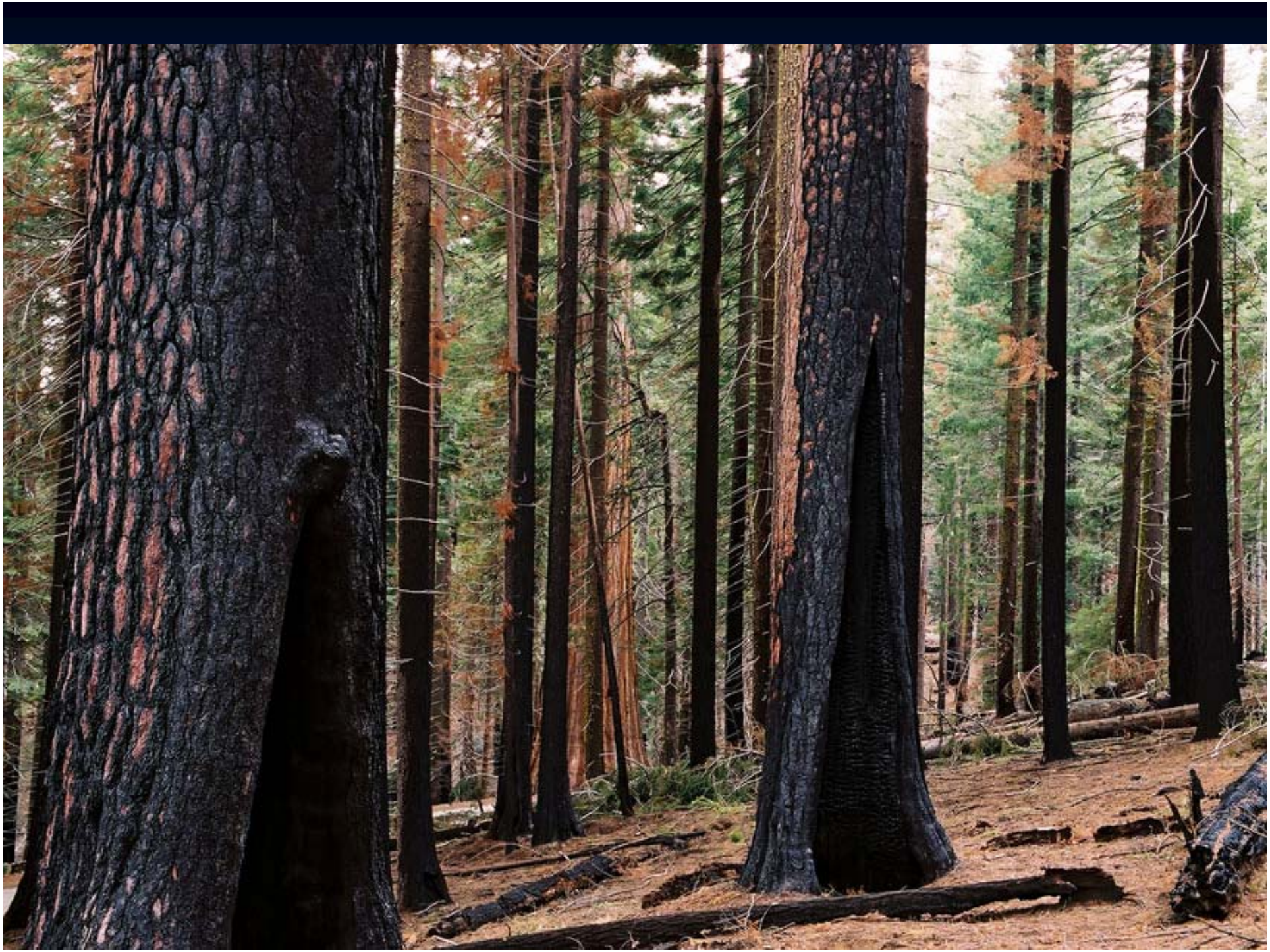
Natural Resources and Functions of Floodplains – Cultural Resources

- Agriculture originated in floodplains, “the cradle of civilization.”
- Floodplains contain rich alluvial soils and generally have flat terrain.
- USDA programs – more requests than funds to establish floodplain and riparian and easements.



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Questions?